Title: Charging for water and sewerage infrastructure within new development **IA No:** Defra 1383 **Lead department or agency:** Defra **Other departments or agencies:** Ofwat, CLG	**Impact Assessment (IA)** **Date:** 18/06/2012 **Stage:** Final **Source of intervention:** Domestic **Type of measure:** Primary legislation **Contact for enquiries**: Peter Jiggins 0207 238 5897

Summary: Intervention and Options

RPC Opinion: N/A

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, One-Out?**	**Measure qualifies as**
N/A	N/A	N/A	Yes	Zero Net Cost

What is the problem under consideration? Why is government intervention necessary?

Recent reviews have identified difficulties in the way water and sewerage companies recover the cost of the additional infrastructure needed to support new developments. Developers and water and sewerage companies find the current charging framework complex and unclear. The system is inefficient, adding costs for all parties, and a barrier to greater competition. Existing arrangements have led to a large volume of disputes on charges with many cases being referred to Ofwat for determination. Government intervention is necessary as water companies are regulated regional monopolies with a rigid charging framework set in primary legislation. This limits the scope for resolving charges through normal market negotiation.

What are the policy objectives and the intended effects?

The policy objectives are to provide a new charging framework that will provide transparency, improved cost reflectivity, more efficient use of resources and fair competition. The new charging framework should improve clarity and coherence with other related charging schemes. This should enable a reduction in overall administrative burden of charging for new development. The new charging framework needs to be adaptable to enable change in the light of review and market reform. The policy also aims to provide an incentive for development to be located in areas where there is capacity in existing infrastructure or where the cost of providing additional infrastructure is less.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Alternative approaches to regulation have been considered. Option 1 involves attempting to resolve problems by the regulator (Ofwat) issuing further guidance. This approach has already been attempted but problems remain. Many of the problems relate to detailed provisions which are set in primary legislation where there are very limited opportunities for change. It is considered that a more fundamental change is now required. Option 2 is to replace the current primary legislation with a power to make regulations which would set out a detailed charging framework. Option 3 (the preferred option) is to put a duty on Ofwat to introduce rules on a charging framework. This impact assessment sets out the case for change; it is envisaged that primary legislation will be amended in the water bill to require Ofwat to produce rules setting out a new charging framework for WaSCs and developers.

Will the policy be reviewed? It will not be reviewed. **If applicable, set review date:** Month/Year

Does implementation go beyond minimum EU requirements?			N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** Yes	**< 20** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible SELECT SIGNATORY: Richard Benyon Date: 9 June 2013

Summary: Analysis & Evidence

Policy Option 1

Description: No primary legislative change but further attempts to issue new guidance

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: N/A	**High:** N/A	**Best Estimate:** N/A

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised costs by 'main affected groups'

At this stage costs have not been monetised - we would expect Ofwat to consider these in the development of new guidance.

Other key non-monetised costs by 'main affected groups'

There will be some further one-off administrative costs associated with amending the provisions in the licence conditions and the issuing of additional non-statutory guidance on infrastructure charging framework and requisition charging.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised benefits by 'main affected groups'

At this stage benefits have not been monetised - we would expect Ofwat to consider these in the development of new guidance.

Other key non-monetised benefits by 'main affected groups'

Attempts to date to clarify the current charging provisions to improve transparency have had limited success due to persistent ambiguities in the framework set in legislation. This will limit the benefits from further action without legislative change. Revising the provisions in company licensing conditions alongside new guidance may go some way to clarify any ambiguities in the current framework, but is difficult to achieve as Ofwat can only change a company licences individually and by negotiation.

Key assumptions/sensitivities/risks

Discount rate (%) n/a

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: N/A	**Benefits:** N/A	**Net:** N/A	No	NA

Summary: Analysis & Evidence

Policy Option 2

Description: Amend primary legislation to provide a power to set the charging framework in secondary legislation.

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: N/A	**High:** N/A	**Best Estimate:** N/A

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised costs by 'main affected groups'

At this stage costs have not been monetised - we expect that these would be considered in the Impact Assessment that would accompany secondary legislation.

Other key non-monetised costs by 'main affected groups'

There will be some one-off administrative costs associated with developing the legislation (primary and secondary), but overall the proposal will lead to cost savings for Ofwat, water and sewerage companies and developers (see below).

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised benefits by 'main affected groups'

At this stage benefits have not been monetised - this would be considered in a detailed Impact Assessment for the secondary legislation, which will be subject to separate consultion.

Other key non-monetised benefits by 'main affected groups'

By modifying primary legislation to reflect key charging principles only, and delegating detailed arrangements to subordinate legislation, more transparent charging arrangements will be able to be established in due course which save admin costs and secure other benefits such as better market signalling. Savings would accrue to developers (from having to devote less effort to understand and potentially dispute opaque charging schemes), WaSCs and OfWAT (from less involvement in disputes).

Key assumptions/sensitivities/risks — **Discount rate (%)** n/a

There is a presumption that new charging arrangements can be devised which are more transparent and cost reflective, thereby realising admin savings for all parties, removing impediments to competition, and also incentivising more rational development decisions which take account of true water network costs in different areas. Work on detailed arrangements is developing: early indications are provided in this IA.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: N/A	**Benefits:** N/A	**Net:** N/A	Yes	Zero net cost

Summary: Analysis & Evidence

Policy Option 3

Description: Amend primary legislation to put a duty on Ofwat to introduce rules on the charging framework.

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: N/A	**High:** N/A	**Best Estimate:** N/A

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised costs by 'main affected groups'

At this stage costs have not been monetised - we expect that these will be considered by Ofwat in the development of the rules on the charging framework.

Other key non-monetised costs by 'main affected groups'

There will be some one-off administrative costs associated with developing the legislation and rules. These are likely to be similar in magnitude as those for Option 2, but with the development of secondary legislation replaced with the working up of rules by OfWAT.,Overall, however, the proposal will lead to cost savings for Ofwat, water and sewerage companies and developers (see below).

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A		N/A	**N/A**
High	N/A		N/A	**N/A**
Best Estimate	N/A		N/A	**N/A**

Description and scale of key monetised benefits by 'main affected groups'

At this stage benefits have not been monetised - this will be considered in a detailed Impact Assessment for the eventual statutory rules, which will be subject to separate consultion.

Other key non-monetised benefits by 'main affected groups'

By modifying primary legislation to reflect key charging principles only, and delegating detailed arrangements to statutory rules developed by OfWAT, more transparent charging arrangements will be able to be established in due course which save admin costs and secure other benefits such as better market signalling. As for Option 2, savings would accrue to developers, WaSCs and OfWAT. However, Option 3 has the further benefit of providing increased flexibility.

Key assumptions/sensitivities/risks — **Discount rate (%)** n/a

There is a presumption that new charging arrangements can be devised which are more transparent and cost reflective, thereby realising admin savings for all parties, removing impediments to competition, and also incentivising more rational development decisions which take account of true water network costs in different areas. Work on detailed arrangements is developing: early indications are provided in this IA.

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: 0	**Benefits:** 0	**Net:** 0	Yes	Zero net cost

Evidence Base (for summary sheets)

1. Glossary

Adoption: the process by which assets owned by a developer are transferred to water and sewerage companies (WaSCs).

Assets: assets relating to charges for new connections will primarily concern water mains, service pipes, sewers and lateral drains, but may also include other infrastructure such as pumping stations, service reservoirs and tanks.

Asset payment: A current payment paid by the WaSC to a developer on adoption of assets owned by the developer (within section 51A to 51E of Water Industry Act 1991)

Connection charge: A current charge paid by the developer to the WaSC when a premise makes a connection to the water main (within section 45(6) of the WIA91) or sewer (within section 107 of the WIA91) to recover the cost of connection.

Contestable: work that may be undertaken by organisations other than WaSCs such as Self Lay Operatives (SLOs see below) which is generally on-site.

Developer : Any business or individual whose new buildings or premises require water or drainage services.

Infrastructure charge: A current charge paid by the developer to the WaSC when a premise is first connected to the water main or sewer (within Licence Condition C of the companies' licences) to provide a contribution towards the costs of developing local networks to serve new customers.

Local distribution network assets: This term is used to define the assets used to distribute water (for example service reservoirs, pumping stations and mains) and the network to dispose of sewerage (for example pumping stations and sewers). This does not include assets relating to resource and treatment.

New Appointees and Variations (NAVs): A new appointment or variation provides the opportunity for a limited company to provide water and sewerage services or water only services for a specific area in place of the former provider.

Network reinforcement: work required to the existing network (off-site) that is necessary as a result of the connection of a new development. The cost of network reinforcement can be included within the requisition charge (see below) or the self-lay charge (see below) for water supply.

On-site: within the boundary of the development site.

Off-site: outside the boundary of the development site.

Requisition: A process where a developer issues a notice to a WaSC requiring that company to provide certain infrastructure for the purpose of enabling a supply of water (within sections 41-44 WIA91) or drainage (within sections 98-101 WIA91) to premises.

Requisition charge: A current charge paid by the developer to the WaSC where the costs of provision of the assets exceed the income from the premises over a 12 year period (within sections 41-44 WIA91 for water supply and sections 98-101 WIA91 for drainage).

Self lay charge: A current charge paid by the developer to the WaSC for the costs it incurs for network reinforcement of the water network required as a result of incorporating the self-laid infrastructure into the WaSC's supply system, or a proportion of the costs incurred in providing additional capacity in a main previously requisitioned or adopted by the WaSC (within section 51C WIA91).

Self lay operatives (SLOs): licensed operatives who can lay the required assets rather than have the infrastructure laid by the WaSC. The developer can obtain an **asset payment** (see above) for water assets (but not for sewerage assets) on adoption.

Sustainable drainage systems (SuDS): systems such as retention ponds, permeable paving areas and swales designed to provide lower rates of surface water discharge than conventional drains.

Service pipe: the pipe that connects premises to the water main.

Water and sewerage companies (WaSCs): companies appointed by the Secretary of State (Defra) or by Ofwat (including water only companies).

WIA91: The Water Industry Act 1991.

2. Problem under consideration

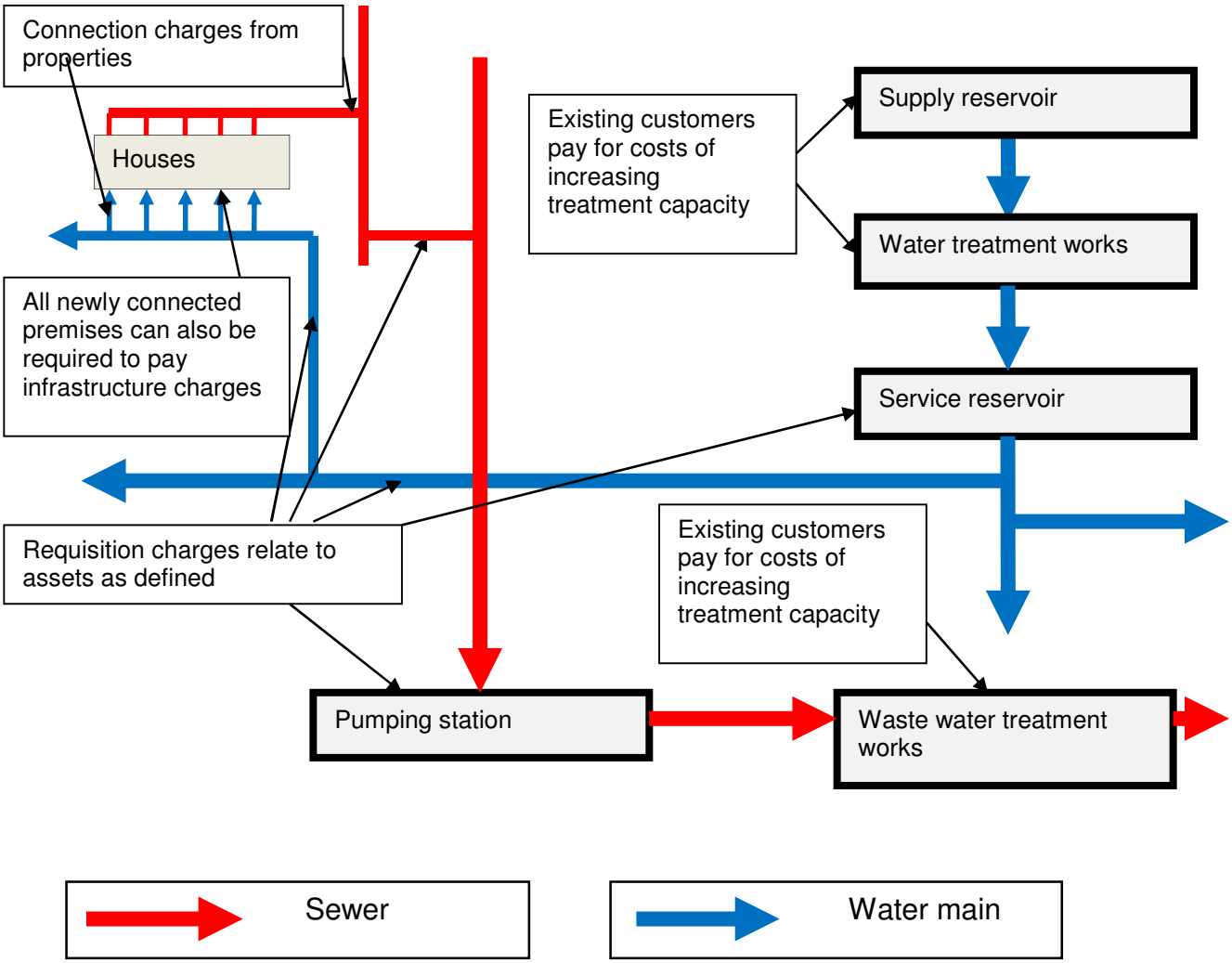
Overview of funding water and sewerage infrastructure

Water and Sewerage Companies (WaSCs) have a duty to provide connections to their existing water and sewerage networks. The connection of new premises to the existing networks in some cases results in additional costs associated with the extension of the existing network and/or increasing the capacity of the existing network. Increasing the capacity of the existing network can apply to both the distribution network and to treatment capacity. At present these costs are met by a combination of developer contributions and through the water bills of new and existing customers. Developer contributions are intended to contribute towards the **cost of extending the existing network and increasing the capacity of the network** where this is required to meet the needs of new development. The **costs of increasing treatment capacity and water resource capacity** are recovered through the annual charges for water and sewerage services, which are paid for by all customers connected to the system.

The current charging framework has been set in legislation (Water Industry Act 1991, Water Act 2003). This is because the Water and Sewerage Companies are regional monopolies (formerly publically-owned and privatised in 1989). Their natural monopoly power, which arises because of the characteristics of their supply and infrastructure networks, means that they are subject to economic regulation by OfWAT. This also means that pricing cannot be determined as for normal, competitive markets. As such, the scope for developers and Water and Sewerage Companies (WaSCs) to negotiate pricing arrangements is necessarily limited. If developers and WaSCs were allowed to negotiate freely in an unregulated environment, WaSCs would tend to set prices higher and service levels lower than would be economically optimal.

The current framework involves the collection of developer contributions which allow WaSCs to recover some of the costs that arise from the connection of new development to the existing network. The relationship between the principal charges is shown in Figure1.

Figure 1 Overview of water and sewerage charges



Connection charges are paid by the developer to the WaSCs and are intended to enable the recovery from the developer of the reasonable expenses of the WaSCs in making the water and sewerage connection from the premises in question to the water main or public sewer.

Requisition charges are paid by the developer to the WaSCs and are intended to enable recovery of the costs incurred in providing assets to serve the new development where the costs exceed income received for the development over 12 years. Requisition charges are site specific and can also include the cost of network reinforcement where work is required to provide additional infrastructure as a result of the demands of the new development. Many developments and connections to individual premises will not require a requisition and in those cases will only be subject to connection and infrastructure charges (see below).

Infrastructure charges can be raised where premises are connected to the WaSCs water supply or the sewers for the first time. Infrastructure charges are intended to provide a contribution towards the costs of developing local networks to serve new customers. The method for calculating the infrastructure charge for premises is set out in condition C of the WaSCs licence and is the same for all companies. The condition provides for an averaged amount per property and subject to a maximum standard charge for domestic properties set by Ofwat, subject to certain exceptions. The amount is capped and is the same for all water and sewerage companies. The exceptions apply, in the case of a house (which includes flats), where there is a common billing agreement or, in the case of premises that are not a house, where the supply pipe is larger than the current size used by the WaSCs for new connections to houses.

In addition to these charges since 2003 changes were made in the WIA91 to allow competition in the provision of assets and additional charges and payments were introduced in relation to the transfer of these assets from developers to WaSCs.

Self lay Self lay operatives (SLOs) may lay assets as well as WaSCs. SLOs are either developers, or contractors who work on behalf of developers, that provide the infrastructure required to supply water or provide drainage at the development site instead of the existing WaSC. In practice, for water supply, the SLO will generally undertake the on-site work within the development site and the developer will ask the WaSC to undertake the off-site work outside the development site.

Asset payments On adoption by the WaSC of self-laid water supply assets the developer may be entitled to an asset payment. Note this applies to water supply assets only.

Self-lay charge The WaSC may be entitled to make a charge to the developer for the costs it incurs in providing infrastructure, or using additional capacity, to supply a development where some of the assets are self-laid but some of the assets are required to be provided by the WaSC. This charge applies to water supply assets only.

There is an inconsistency in the current arrangements for asset payments. Whilst asset payments are paid by WaSCs on the adoption of self-laid water supply assets there is no equivalent asset payment for self laid sewerage assets. WaSCs are not entitled to make a self-lay charge to developers for costs incurred in providing infrastructure where sewage assets are self-laid. The rationale for asset payments is that because WaSCs obtain a long term benefit from the additional charges from the new consumers in new development they should help meet the costs of extending their supply network within developments . Where WaSCs adopt self laid water supply assets the payment to the developer reimburses the cost developer incurs in self- laying the assets.

Other charges for development

There have been recent changes in the way in which drainage is provided in new developments and the responsibility for private sewers that were not adopted by WaSCs. It is important that any new charging framework takes account of the costs and charges in relation to these changes.

To overcome the problem of surface water flooding the Government plans to consult on new legislation to require all development to have sustainable urban drainage where practicable. The cost of installation of sustainable drainage systems (SuDS – include retention ponds, permeable paving areas and swales) is met by developers. Our evidence suggests that the installation cost of SuDS is considered to be comparable to the cost of laying conventional separate drainage systems.

The Government has also introduced changes that have transferred private sewers that connect to the public sewerage system to the WaSCs. The transfer took place on 1 October 2011. The transfer of

private sewers has removed a burden from householders that has long been viewed as unfair and unreasonable. The ten WaSCs were responsible for approximately 323,000km of public sewers in England and Wales. Before transfer, there were a further 184,000km of private sewers and 36,000km of private laterals that connected to and affected the public system but are not the responsibility of the WaSCs. The result of this change is that all such private sewers and lateral drains came within the WaSCs' planned operational regime on 1 October 2011. Defra consulted on 20 December 2011 regarding proposals to implement the requirements for SuDS in new and redeveloped sites and measures to ensure that all sewers installed by developers will be built to common standards and be adopted by WaSCs.

3. Rationale for intervention

There is considerable evidence that the existing charging framework is unduly complex and results in:

Uncertainty – results from a lack of clarity and transparency regarding the scope of charges and the interactions between requisition and infrastructure charges

High administrative cost – arises from the complex charging framework, lack of transparency and high level of challenge to charges

Disputes – arise from uncertainty over scope of costs and a lack of transparency between charges

Barrier to strategic network planning – difficulty in allocating requisition costs between developers

Risk of inappropriate cost subsidy - between water customers and developers

Barrier to competition – costs, delays, uncertainties and lack of transparency on the costs for infrastructure provision combine to hamper competition through self lay and the provision of water services in new developments

Lack of incentives for sustainable development – little financial incentive to encourage development in sustainable locations

Lack of adaptability – current charges set in primary legislation with limited opportunity to update

Further details on the causes and implications of these impacts are given in Section 6 - Problems with current provisions.

4. Baseline impacts and costs

The range of activity, costs and revenues associated with the delivery of the new water and sewerage Infrastructure required to support new development is detailed in Annex 1. The data available relates to the number of new connections, WaSC capital expenditure on the local distribution network assets and the revenues from requisitions and infrastructure charges.

This section is intended to provide a high level overview of the main types of direct and indirect impacts associated with the 'do nothing' option. This will provide the baseline against which alternative reform options will be assessed.

It is helpful to begin by identifying those affected by the current developer charging framework, and those who could be affected by changes to those arrangements. For the purposes of this initial assessment, we have considered affected parties under the following headings:

- Developers;
- Self-lay organisations (SLOs);
- New Appointees (NAVs);
- Incumbent water only and water and sewerage companies;
- Ofwat;
- Water and sewerage customers to be connected on the new development; and
- Existing water and sewerage customers.

The order of the above list is intended to reflect the proximity to the developer charging framework. That is, developer charges will – in the first instance – involve charges being paid by and/or to: developers, SLOs, NAVs and incumbent water and sewerage companies. Where the charging framework is in dispute, this can generate costs for Ofwat. In addition, and more generally, Ofwat's regulatory decisions will influence the extent to which the costs associated with developer charging framework are recovered from water and sewerage customers that are to be connected on the site of a relevant new development, and the existing customers within the relevant incumbent's area of appointment.

The above list focuses on those parties that are directly affected by developer charges. It is important to recognise that the developer charging framework can also give rise to indirect impacts in a number of ways, including impacts on the environment and on economic development/growth.

Direct costs

The current arrangements create significant costs for all parties that could be involved in the provision of new connections. Incumbent WaSCs face direct costs associated with undertaking a full evaluation of all offsite and onsite costs, as well as forecasting revenues, before being able to generate an offer that the developer can consider.

SLOs and NAVs will also face costs in developing their own offers both in terms of evaluation of onsite costs and engagement with the incumbent for the provision of offsite infrastructure.

Where there is a dispute over any of these costs (either from the developer in relation to the requisition offer or from entrants in relation to the offsite infrastructure) Ofwat may be required to determine disputes resulting in internal and external costs (e.g. legal costs, consultants) for all parties involved.

Finally the effect of these complexities is likely to include costs for the developers resulting from delays to planning processes to start construction work for the development.

Indirect costs

The indirect costs of the current arrangements follow from their complexity as the substantial effort required to generate and compare offers diverts the attention of all parties away from more productive activity.

These costs will fall on different parties initially; however, ultimately they will pass through to customers. There are also potentially harmful environmental implications where the current arrangements do not

provide sufficient incentives for more innovative sustainable options. Within the current charging framework there is no incentive to encourage development within areas where infrastructure has spare capacity or where additional capacity could be provided with minimal environmental implications. This contributes to the overall problem of unsustainable abstraction particularly in the south east where significant new development is planned.

An example of these indirect costs is the extent of variation between WaSCs in the calculation of requisition charges and asset payments for on-site water infrastructure. This work was undertaken to provide evidence to address concerns from self lay organisations about inconsistency in the estimation of asset payments. There are various factors which affect the calculation of these costs which include the scope of work included and the various cost elements used. In 2009 Ofwat undertook an exercise to estimate the extent of variation between WaSCs in the calculation of the requisition payment and asset payment for a specified hypothetical development. Fifteen WaSCs responded to a request to provide the requisition payment (calculated by the mandatory "discounted aggregate deficit method") and asset payment for a hypothetical development of 150 properties where the mains layout had been specified. The exercise demonstrated that there was considerable variation in the range of requisition charges (£0-£6,700) and asset payments (£21,646-£96,800) which clearly indicate that there are considerable differences between the water and sewerage companies' approach in calculating these sums.

In cases where water and sewerage companies are estimating a requisition charge that is lower than the true cost or an asset payment that is higher than the true cost customers may be providing a subsidy to developers or self lay organisations. Conversely where water and sewerage companies are estimating a requisition charge that is higher than the true cost or an asset payment that is lower than the true cost developers or self lay organisations may be providing a subsidy to customers.

Another indication of the extent of indirect costs associated with infrastructure charges is given by technical and legal consultants who provide services to support many developers. They claim that they have assisted their developer clients in reducing infrastructure charges claimed by WaSCs by some £5.5m. The main issue of contention in these charges relates to the methodology used to make the infrastructure charge assessment on redeveloped sites. In addition to the direct cost indentified there are administrative costs that are incurred by both WaSCs and developers in developing their respective cases regarding the disputed charges. Cases that cannot be resolved between developers and WaSCs will be referred to Ofwat for determination.

Monetised costs

This impact assessment is to provide support for the case for change to the charging framework associated with new connections. At this stage it does not attempt to calculate costs and benefits (including to business), as the proposed option will make no change to the existing charging framework until a new charging framework is developed and introduced. The proposed way forward is to include a clause within the Water Bill that would require Ofwat to produce rules setting out the charging framework that WaSCs and developers would have to comply with. Further option development and full public consultation would be required prior to the introduction of statutory rules or subordinate legislation. This impact assessment presents some indication of the range of costs and some indication of the qualitative benefits that the introduction of a new charging framework could provide.

Costs associated with the administration of the charging framework scheme

There are two issues of costs associated with WaSC routine collection of charges from developers. Firstly there are the costs involved in the work to identify the various charges (connection, infrastructure, self-lay and requisition) and collection of payment. The estimation of cost for the connection charge for "standard" operations is relatively simple. For infrastructure charges the maximum amount of charges for domestic premises are set by Ofwat and are straightforward. However, the position is complicated where developments are on brownfield sites and WaSCs have to assess past site usage.

Consultants who provide developers with technical and development services claim that they have assisted developers in securing agreement to reductions or refunds of some £5.5m of infrastructure charges that WaSCs have claimed in respect of development on brownfield sites. This indicates that there are significant costs to both developers and water and sewerage companies in the resolution of infrastructure charges. Often such cases are referred to Ofwat for determination.

Requisition charges and asset payments are more complex to calculate and there are many variable factors and assumptions that will influence the calculation of the charge or payment. Although Ofwat publish data on the total revenue from requisition charges it includes the contribution from connection charges but does not include data on the number of requisitions. Limited data from one WaSC indicates that in relation to water supply requisition charges are made in relation to the majority of developer schemes (around 80% of schemes). This results in the calculation of a requisition charge (commonly the discounted aggregated deficit) for around 300 schemes per annum (for this one company). In relation to sewerage, requisitions are the exception (around 3% of schemes only) so the calculation of the requisition charge is required for around 10 schemes per annum for the same company. As indicated elsewhere the provision of self lay operations is variable but for some WaSCs this will require the calculation of asset payments for water mains in up to 50% of developments.

Costs associated with determinations

One of the major problems identified with the current legislative provisions is that they are overly complex, have areas subject to potential overlap, and some provisions are open to interpretation. This has resulted in instances where developers and WaSCs have taken different views on what might be permitted under the WIA91. Such instances have often been referred to Ofwat for a determination under the powers granted to it by the WIA91.

Given the problems with the current legislative provisions identified above, and also the fact that they are overly prescriptive and inflexible (see further below), the making of determinations is complicated and time-consuming.

As of October 2011, there are twenty cases pending determination with Ofwat[1]. The breakdown of these cases by age (years since referral to Ofwat) is shown in Table 1.

Table 1 Breakdown of pending disputes on requisition and self lay by age (Oct 2011)

Age (years since referral to Ofwat)	Number of disputes
Less than 1 year	5
1 – 2 years (2010)	1
2 – 3 years (2009)	3
3 – 4 years (2008)	2
4 – 5 years (2007)	None
5 – 6 years (2006)	8
6 – 7 years (2005)	1
Total	20

Source: Ofwat – age at October 2011

Ofwat has estimated the cost associated with dealing with disputes relating to requisitions and self lay arrangements. The costs incurred in the 12-month period prior to July 2011 are shown in Table 2.

Table 2 Cost incurred by Ofwat in dealing with disputes on requisition and self lay

Cost type	Amount (£)
Staff costs – Legal	£43,500
Staff costs – Economics	£32,250
Staff costs – Case work	£105,250
Total	£181,000

Source: Ofwat – costs in the 12 month period to July 2011

Information is not available on the costs incurred since 2005 but an indication can be estimated from the average case cost and length:

[1] Note that since October 2011 some cases have been closed, and as of June 2012 the pending total was 10 cases. However, cost data is only available for 2010/11 and for consistency this has been applied to cases in force in that period to determine the average cost per case.

Average annual cost per case in 2010/11 (£181K divided by 20 cases)	£9,000
Average case length (so far)	3.33 yrs
Estimated total cost per case (£9k/yr x 3.33yrs)	£30,000
Estimated total cost of disputes (£30k/case x 20 cases)	£600,000

This is likely to be a conservative estimate as none of the cases have yet been fully determined and therefore further work will be required to conclude them.

It has not been possible to determine the associated costs incurred by developers and water and sewerage companies as a consequence of these disputes. It would seem reasonable to assume that water and sewerage companies (as a group) and developers (as a group) had at least similar levels of costs associated with disputes. If this were the case the total cost of disputes would be around £1.8m or £0.26m per annum.

There are additional costs associated with the determination of connection charges. Ofwat has published determinations for 127 cases since 1998. Apart from the administrative costs of progressing these determinations, there are likely to be significant costs to developers as a result of delays and the associated uncertainty. Data on these costs may be collected by Ofwat in the development of rules on the charging framework.

Costs associated with barriers to competition

One key effect of the current arrangement is the effect it has on competition to provide new infrastructure and new connections in relation to new developments. The current arrangements allow for competition in the provision of on-site infrastructure through self-lay provisions and competition in the provision of water services to new developments through NAVs. The current charging framework has the effect of dampening competitive pressures as a result of costs, delays, uncertainties, lack of transparency and the discretion afforded to the incumbent WaSCs in relation to their role as the provider of offsite infrastructure. Uncertainty surrounding what charges a developer is liable for under requisition and self-lay options may hamper competition from a NAV who may be more efficient than the existing WaSC in serving a site. Hampering competition in this way may result in limited improvements in cost efficiency, service performance and innovation improvement as well as sending poor economic signals.

Costs associated with increasing treatment capacity and water resource capacity

The current charging framework allows WaSCs to recover contributions from developers (on behalf of new customers) towards the cost of extending the existing local distribution network assets only (termed “shallow” costs). Currently the cost associated with increasing treatment capacity and water resource capacity (termed “deep” costs) that arise from new development are currently met by the existing customer base.

There are a number of problems that arise with this principle. As indicated in Section 6 there are difficulties in defining the boundary between the “shallow” and “deep” costs with some determinations that have arisen where developers have challenged the WaSCs who are attempted to recover contributions towards the cost of strategic water mains that serve multiple developments within an area.

Increased treatment capacity and the need for water resource capacity arises from both new development and increased demand from existing consumers (or increasing the security of supply to existing customers). Ofwat does not have data to indicate the relative distribution of costs between these two elements of increased demand.

This impact assessment makes the case for a change in the methodology for charging framework for the costs associated with new connections. Further consideration of the current balance of costs between new customers (who contribute to the shallow costs through developer charges), and existing customers who meet the deep costs, will be required in the development of a revised framework.

Besides the above costs, the current framework for charging is also subject to the following disadvantages:

- **Uncertainty and impact on strategic planning**. As an example of this, Welsh Water identified the problem of overloading existing sewers within a Unitary Development Plan and objected to a proposed development in 1999. In 2005 they objected to a revised planning proposal on similar

grounds and were proceeding on the assumption that if the development were to proceed, Barratt Homes (the developer) would fund the upgrading of the public sewer or requisition a new sewer. In 2007 Barratt Homes proceeded with an application to connect to the sewer under Section 106 of the WIA which does not require the developer to fund any upgrading of the public sewer. (A more detailed assessment of this case is provided in Section 5).

- **Lack of adaptability**. The methods for calculating payments for requisitions and adoptions are set out in primary legislation, the WIA91 which limits their adaptability. The rules on the calculation of payments in the case of water mains requisitions contain elements that date back to the Water Act 1945.
- **Delays in resolving disputes**. When developers and WaSCs fail to agree terms under the current arrangements, the matter may be referred to Ofwat for determination. However, the complexity and ambiguity of the current legislative provisions governing developer charging framework, together with the overly prescriptive and inflexible nature of these provisions, means that the making of determinations is complicated and time-consuming.
- **Potential conflicts with cost-reflectivity**. There are concerns that the current arrangements may result in charges that do not reasonably reflect the costs of providing infrastructure at new developments. For example, the imposition of infrastructure charges on top of requirements for requisition payments raises serious risks of double-charging given the ambiguity that still exists in the scope of these charges (despite attempts and proposals by Ofwat to clarify this). To quote the earlier example from Wales (see "Uncertainty and impact on strategic planning"), the option that Barratt Homes took avoided the cost of upgrading the existing public sewer (£200,000) and the cost associated with the alternative approach of requisitioning a sewer to connect the development to another (further) point on the public sewer. A contribution to the cost is provided by the sewerage infrastructure charge but the remaining cost would fall to existing customers. These arrangements may result in charges that do not reasonably reflect the costs of providing the infrastructure to support new developments.
- **Potential harm to competition**. There are concerns that existing arrangements may distort competition in markets involving self-lay organisations and also in terms of competition to be selected to serve a new site through an inset appointment. In part, these concerns reflect the lack of transparency and clarity about the financial arrangements for new water mains, new sewers and new connections.
- **Lack of incentive**. There are no "signals" within the current charging framework to encourage development in areas where there is sufficient capacity within the current networks or where it is more cost efficient to provide additional capacity. In the Welsh example above, the development was planned in an area where the local public sewer was already overloaded. In other cases development may be planned where there are adverse environmental impacts from the discharge of additional treated sewage or from increased water abstraction for water supply. The current right to connection provides a perverse incentive for development to proceed in close proximity to existing networks (where the cost of connection is minimised) regardless of impact on the existing network capacity.
- **The primary legislation is too prescriptive and rigid and has been differently interpreted**. Parts of the existing primary legislation include precise rules on what costs may be recovered by WaSCs and how certain charges are to be determined. These arrangements may not always be appropriate or cost-reflective in every case (as expanded on below). The lack of flexibility in the arrangements may lead to perceptions of over- or under-charging for services or assets provided.

5. Problems associated with the general charging framework: a case study

A number of stakeholders have identified problems with the current provisions for charging framework in relation to new development. Issues have been identified by the house building industry, WaSCs, self lay organisations and Ofwat.

There is a broad consensus that the current provisions do not provide an effective charging framework. Ofwat has taken steps to try and provide additional guidance on some of the charging framework, but in one case additional guidance was subsequently withdrawn. The lack of certainty regarding assumptions about the extent to which costs can be recovered from developers has hampered WaSCs in the development of their plans for infrastructure provision particularly the assumptions about the extent to which developer requisition charges will contribute to the overall cost of improving strategic mains and sewers that are remote from individual developments in terms of location and time.

Uncertainty about the financial arrangements for requisitions, self-lay and infrastructure charges makes it more difficult for companies to forecast revenues and, in turn, the net expenditure on which their price control determination is based. Furthermore, during a five-year price control period, any changes to the rules (or the interpretation of the rules) that reduce the revenues that companies can collect from connection charges could leave a WaSC worse-off and may prevent it from earning a fair return on capital — unless Ofwat allows a modification to its price control.

These problems are not related solely to the legislation. The obligations and restrictions that WaSCs face stem not only from primary legislation, but also from each WaSC's instrument of appointment (the "licence"). Condition C of the licence restricts the levels of "infrastructure charges" that a WaSC can impose for the connection of new premises to the system. Developers claim there is ambiguity about the scope to recover payments in relation to the powers in the primary legislation and the provisions for infrastructure charges specified within the licence conditions and the associated Ofwat guidance letters).

A recent judgement by the Supreme Court on Barratt Homes Limited v Welsh Water (Dwr Cymru Cyfngedig) (Dec 2009) illustrates some of the problems within the current charging framework for new development.

This case was about the right of a property owner to connect his private drain or sewer to a public sewer and in particular whether it is the property owner or the WaSC who is entitled to determine the point at which the connection is made. Barratts were in the process of building a development of 98 houses and a primary school on a greenfield site to the East of Llanfoist village in Monmouthshire. Barratt Homes constructed a private sewer to receive the sewage from the development and claimed a statutory right to connect their private sewer at a point of their choosing close to the new development.

The point of connection was not satisfactory to Welsh Water who considered that there was a potential harm arising from sewer flooding from the connecting manhole (the combined sewer overflow CSO). Welsh Water considered that there would be potential damage to the environment or to health as a result sewage flooding because the proposed point of connection was upstream of a section of sewer of smaller diameter which constrained the capacity of the upstream system. Such overflow of the CSO would result in Welsh Water committing criminal offences of strict liability under the Water Resources Act 1991and the Urban Waste Water Treatment Regulations 1994.

Welsh Water considered that Barratt Homes should either pay the £200,000 cost of replacing the smaller diameter sewer or requisition a parallel sewer to link the development to the larger diameter sewer under section 98 of the WIA91. However, the judgement confirmed that right to connect to a public sewer afforded by section 106 of the WIA91 was an "absolute right" and that the burden of dealing with the consequences of additional discharges to the public sewer falls upon the WaSC and the consequent expense is shared by all who pay sewerage charges to the WaSC.

The judgement points to the planning regime as the means to prevent this type of problem. The Town and Country Planning Act 1990 provides for a planning authority to make planning permission conditional upon there being in place adequate sewerage capacity to prevent ecological damage. The planning authority has the power of preventing a developer from overloading a sewerage system before the WaSC has taken steps to upgrade the system. In this case planning permission was granted subject to conditions including that development shall not take place until a sewerage scheme is approved by the Local Planning Authority and completed. The Local Planning Authority then considered that the connection under section 106 proposed by Barratt Homes discharged this condition.

Additional problems associated with specific charges are detailed in Annex 4.

6. Policy objectives

The overall objective of this work is to review the current charging framework for water and sewerage infrastructure and identify options for improvement to these arrangements. There is a range of policy objectives that have been considered during the review.

Transparency, clarity and coherence
The objective of any change to the existing charging framework would be to provide a new system that provided transparency, clarity, certainty and was coherent with other charging framework provisions (such as SuDS and bulk supplies). The provision of a scheme that provides transparency and clarity should help reduce the existing uncertainty that exists in the assumptions that WaSCs, developers, new appointees and self lay operators are currently making.

Reducing admin burdens
Government is committed to reducing the extent of administrative burdens on businesses. The current charging framework appears to impose considerable administrative burdens in terms of the complexity of the calculations required to estimate requisition and asset payments. Furthermore, when developers, new appointees or self lay organisations challenge the basis of these charges there is a considerable administrative burden to these organisations and on Ofwat and the water and sewerage companies. A revised charging framework should provide clarity, reduce these associated burdens and allow timely resolutions.

Cost reflectivity
Charges should reflect transparently the costs reasonably associated with the provision of the relevant services, this follows from the importance of the economic signals that the charging framework provides. A number of key issues arise in this context:

> The infrastructure costs of serving new developments can vary significantly by location. That is, it may be possible to provide additional capacity at relatively low cost in some locations, while others may require much more significant network upgrades. It is important that the charging framework adequately reflects these differences so as to signal these cost differences, such that they can be taken into account in new development location decisions.
>
> The costs of reinforcing existing infrastructure can depend – and sometimes to a significant extent – on the decisions made by the developer. SuDS provide a clear example of this, as a significantly higher level of investment (than under more traditional approaches) will typically be undertaken "on-site", with that investment resulting in a lower (than otherwise) level of "offsite" infrastructure costs. In order for the charging framework to provide incentives for efficient responses by developers, it will be important that the charges that would apply when developers take different decisions adequately reflect the costs of those different decisions.
>
> The average per unit and per customer costs of reinforcing and extending existing infrastructure can be significantly higher than the average costs of funding infrastructure provision through existing customer bills. The current developer contribution arrangements can be understood as seeking to capture this by requiring a direct payment from the developer in addition to expected charges from future customers on the new development (although it is suggested that the current arrangements do not reflect relevant costs in a transparent or coherent manner).

Charges that facilitate the efficient use of resources
The factors addressed by this principle are closely related with the cost-reflectivity principle discussed above. Charges should adequately reflect relevant costs in order to provide incentives for efficient resource use – as noted above, where the developer's decisions (with respect to location, their own investment decisions, etc.) can impact on "offsite" costs, it is important that these costs are adequately signalled to the developer.

Charges that facilitate fair competition
In order to facilitate more effective competition that promotes efficiency and economy, market participants will need to face appropriate incentives through the charging framework. Again, this points to the importance of cost reflectivity. However, facilitating effective competition also highlights the importance of ensuring a "level playing field" in the context of competing offers. Central to this, in the context of new developments, is the importance of clarity over the onsite/offsite boundary, and over

which costs and charges should be associated with the provision of onsite and offsite services. This follows from the fact that the provision of onsite services is a contestable activity (these services can be provided by competitors of the incumbent), while in order to provide these onsite services a competitor to the incumbent is likely to need to secure offsite services from the incumbent (i.e. to also be a customer of the incumbent).

Providing a charging framework that can be adapted in the light of market reform
It is considered that the limited opportunity to make changes to primary legislation has hampered the efforts to make substantive changes to the existing provisions. Although Ofwat has made efforts to improve the transparency of the methodology through the issue of guidance, this has not overcome the acknowledged complexity and difficulty in understanding the relationships between the infrastructure and requisition charge. In addition there has been development in competition provision in the water industry which has resulted in new appointees and self lay organisations competing with incumbents in the provision of services to new developments. There are a number of areas where the charging framework has not kept pace with developments in competition. Any new charging framework system should be delivered within a framework that provides a means to review and make changes to the provisions on a regular basis.

Consistent with discharge of relevant duties and obligations of the relevant supplier
The charging framework should be consistent with the relevant duties and obligations that the relevant Supplier must meet.

It can be seen that there are a number of policy objectives, many are complementary – developing a simple clear methodology with well defined boundaries is likely to reduce administrative burdens and reduce uncertainty associated with the existing provisions. However, in order to provide cost reflectivity and send signals on the most effective use of water resources some more detailed provisions are likely to be required. It is likely that there will be a need for compromise on the chosen methodology to provide the most effective balance between policy objectives.

For example the current infrastructure charge for water and sewerage is very simple. It is set as a single pre-determined charge so developers know with certainty the cost in advance (in relation to domestic premises on Greenfield sites). It is the same charge for all WaSCs and the same charge is specified for water and sewerage. However, in terms of cost reflectivity it does not reflect the actual costs involved in providing infrastructure to the development by the water and sewerage companies, the differences in costs between different WaSCs or the differences in costs between the provision of water infrastructure and sewerage infrastructure.

7. Description of options considered (including do nothing)

The following paragraphs provide a description of options to change the current charging framework.

Option 0: Do nothing
Under this option, there would be no changes to legislation and the way in which Ofwat uses its powers. This option is included to allow comparisons with the other options. Given the strong consensus between Ofwat, WaSCs and developers that there are significant problems with the current charging framework and the weight of supporting evidence it is considered that do nothing is not a viable long-term option.

Option 1: No primary legislative change but issue new guidance.
This would involve no change to the charging framework within primary legislation. Ofwat could take steps to address the problems with the current framework (i.e. to address the lack of clarity). Ofwat could revise the framework for the infrastructure charge by amending the provisions in the licence conditions and issuing additional non-statutory guidance on infrastructure charging framework and requisition charging. The amendments and additional guidance would need to provide a clear position on those aspects of the framework considered ambiguous. In particular, it would need to set out more clearly the basis for determining the WaSCs' costs and the circumstances in which Ofwat considers that WaSCs can levy infrastructure charges in addition to requiring payments for requisitions. Ofwat may also be able to take action within existing legislation to reduce competition barriers.

There are a number of reasons why this option is not favoured. Although Ofwat has made changes to licence condition C that deal with infrastructure charges (in 1995) the process to make a change to the Licence conditions is not simple. Ofwat does not have powers to make changes to companies' licences without their individual agreement. In the absence of agreement from companies, licence modifications might be possible following a reference to the Competition Commission. A Competition Commission reference would be limited to changes to licence conditions, rather than changes to the financial terms for requisitions and adoption in primary legislation.

Ofwat has issued additional guidance on infrastructure charges as detailed in Table 3. In addition Ofwat has attempted to provide clarification on the financial arrangements for self lay and requisitioning agreements but this guidance was subsequently withdrawn due to continued uncertainty over the scope of these charges.

Table 3

Origin and Date	Reference	Subject
1989 Department of the Environment	MD	Setting and operation of the infrastructure charge
Ofwat 1991	FD46	Infrastructure charges (credits and allowances)
Ofwat	RD 2/95	Infrastructure charges (scope of charge)
Ofwat (March 2009)		Guidance on Financial Arrangements for Self Lay and Requisitioning Agreements
Ofwat (October 2010)		Guidance withdrawn
Ofwat (November 2011)		Charges for new connections – a consultation our policy principles

Despite these attempts to improve clarity of the charging framework by the issue of additional guidance the core problems identified largely remain. Additionally it has not proved possible to address the core problems that have been identified with the methodology for the calculation of requisition charges and asset payments as these are set out in detail within primary legislation.

Option 2: Amend primary legislation to provide a power to set the charging framework in secondary legislation

This option involves amending *primary* legislation to provide powers for *secondary* legislation (regulations) to set out the methodology (the detailed means of how charges should be calculated and what costs they are intended to recover).

In making any changes to the conditions within the legislation, regard should be had to the impact of any changes on the charges imposed on consumers and other parties, such as developers; and the conditions within the legislation should continue to meet these objectives in the context of changing industry conditions.

Option 3: Amend primary legislation to put a duty on Ofwat to introduce rules on the charging framework

This option involves amending primary legislation to require Ofwat to introduce rules on the charging framework. Requirements would be set out by OfWAT in a methodology statement (the detailed means of how charges should be calculated and what costs they are intended to recover). Unlike Option 2, this option does not involve secondary legislation (i.e. regulations), but it does involve a primary duty on OfWAT to issue a formal methodology statement. The principal benefit of Option 3 compared with Option 2 is flexibility and adaptability since legislation would not be required to alter charging arrangements. The duty would however include provision of a statutory process for consulting relevant persons prior to adoption. This option would also include a new power for the Secretary of State and Welsh Ministers to issue statutory guidance to Ofwat about the making of rules. WaSCs would be required to ensure that any charges or payments in relation to new connections were compliant with the rules.

It is intended to apply a parallel charging framework for the access price (for NAVs), end user customer charging and bulk supply charges. There are advantages in having a coherent framework for charging across these areas.

Analysis of the options against the policy objectives is summarised in Table 4.

Table 4 Comparison of options against policy objectives

	Option 0 Do Nothing	Option 1 Issue guidance	Option 2 2ry legislation	Option 3 Ofwat rules on charges
Cost reflective	Not fully	Improve partially	Yes	Yes
Efficient use of resources	No	Improve partially	Yes	Yes
Fair competition	No	Improve partially	Yes	Yes
Clarity and coherence	No	Improve partially	Yes	Yes
Reducing administrative burdens	No	Reduce partially	Yes	Yes
Adaptable in light of market reform	Not readily	Improve partially	Improve partially	Yes
Consistent with other duties and charges	Not fully	Not fully	Improve partially	Yes

At this stage, Option 3 is provisionally preferred, as it provides the most flexibility and adaptability. The cost of Option 3 is essentially that of the one-off exercise to put in place the new primary legislation and rules and as such is likely to be similar to Option 2 (where the exercise to introduce rules would be replaced with the introduction of regulations). **The key conclusion is that there is a strong case for changing the existing primary legislation to permit Option 3. In the meantime, the following sections set out initial thinking on what the eventual detailed charging framework may include.**

Issues to be considered in the development of options for new charging framework
There is a range of factors that require consideration in the development of a new charging framework which would require decisions on a number of aspects including:

(a) The categories of costs (if any), that are to be recovered in part through one-off charges when new users connect to the water and sewerage systems, rather than through the annual charges levied on all customers.

(b) Whether a distinction is drawn between the treatment of costs that relate to contestable activities and the costs that relate to non-contestable activities. Contestable costs are the activities that are not reserved for the WaSCs. A distinction between contestable and non-contestable costs might help reduce the risks of competition from self-lay organisations being distorted.

(c) If payments for requisitions are calculated by offsetting costs against some measure of the revenue expected to be raised from the supply of water and sewerage services to the new premises, what revenues should be used in this calculation (e.g. over how many years should forecasts of revenues relate).

(d) Whether the WaSC should make a payment to the person requesting new water mains or sewers in cases where the costs of the new infrastructure is very low compared to the revenues expected to be collected from customers connected to that main or sewer.

(e) Whether payments in relation to requisitions and adoptions are calculated on a case-by-case basis or are set up front (e.g. using standard amounts).

(f) How the payments in relation to requisitions and adoptions would relate to infrastructure charges in the case where properties are connected by a new water mains or sewer. For example, whether it is permissible to charge standard infrastructure charges in addition to making requests for requisition payments.

(g) How the charging framework could provide an incentive for development to take place in locations where there is existing capacity in the current network or where the costs of providing additional capacity are lower. This would encourage development in locations where the environmental impact of water resources and sewerage discharges were less.

A slightly different model for charging has evolved in Scotland. It has similar elements of connection charges, infrastructure charging and requisition charging. The main differences are that Scottish Water does not lay on-site mains or sewers (all laid by SLOs and transferred with asset payment) and that developers may receive a financial contribution where the income from new development exceeds the scheme cost. Further details of the Scottish charging framework system are provided in Annex 5.

Alternative options

A number of alternative options for the basis of requisition and infrastructure charging have been suggested:

(a) the separation of contestable (largely on-site) which would be recovered by a site specific requisition charge and non-contestable (largely off-site) costs which would be recovered by the infrastructure charge.

(b) the development of a pre-determined charges scheme to cover off-site costs which would provide incentives for development in areas where network capacity and resources are available.

(c) a simplified methodology to estimate the typical on site-costs to derive an on-site cost per premise which could be used as the basis for a pre-determined on-site requisition charge.

These may be further assessed by Ofwat in its development of the rules on the charging framework. There are clearly some options which will offer improved clarity and simplicity at the expense of fair cost recovery. It will be important to develop a scheme that provides a balance between these policy objectives.

8. Proposed changes to the charging system

Our preferred option is to amend primary legislation (the Water Industry Act 1991) to put a duty on Ofwat to introduce rules on the charging framework. This will bring about changes to the mechanisms of the charging system, to meet the policy objectives set out in section 6, but will not propose any changes to the actual costs set out within the charging framework.

We consider that the costs currently covered by the infrastructure charge under Ofwat's regime may be met through the requisition and connection (and ancillary) charges regime. In view of this we are proposing, through the water bill, to remove the relevant clauses of the Water Industry Act in relation to connection and requisition charging (see table 5) and insert a clause requiring Ofwat to produce rules on this. The rules will set out details on the new charging framework which developers will need to adhere to.

Table 5 Proposed amendments to the Water Industry Act 1991

Water Industry Act Section number	**Purpose of the provision**
Section 42	Puts financial conditions of compliance on the water undertaker duty to comply with section 41 requisition. This includes financial conditions to pay either the "relevant deficit" or the "discounted aggregate deficit" payment (**the requisition charge**).
Section 43	Sets out the mechanism to calculate the "relevant deficit" payment (**the requisition charge**).
Section 43A	Sets out the mechanism to calculate the alternative "discounted aggregate deficit" payment (**the requisition charge**).
Section 45(6)	provides the power for WaSCs to recover reasonable expenses in relation to the duty to connect to the main (**the connection charge**)
Section 51(A) to (E)	deals with the agreements to adopt a water main or service pipe at a future date (**the asset payment**).
Section 99	puts financial conditions of compliance on the water undertaker duty to comply with section 98 requisition. This includes financial conditions to pay either the "relevant deficit" or the "discounted aggregate deficit" payment (**the requisition charge**).
Section 100	sets out the mechanism to calculate the "relevant deficit" payment (**the requisition charge**).
Section 100A	sets out the mechanism to calculate the alternative "discounted aggregate deficit" payment (**the requisition charge**).
Section 107(3)	deals with the right of sewerage undertaker to undertake the making of connections with public sewers. This is commonly known as the **connection charge**.

9. Conclusions and summary and preferred option

Responses to recent reviews and feedback from stakeholders have identified various difficulties in the way WaSCs recover the cost of the additional water and sewerage infrastructure needed to support new developments. Developers and WaSCs find the current framework for establishing the amounts that developers must pay complex, lacking transparency and unclear. This results in uncertainty, unnecessarily high administrative cost, disputes and a risk of cross subsidy. The charging framework is considered a barrier to both strategic network planning and competition and provides no incentive for development in sustainable locations.

The policy objectives are to provide for a new charging framework that will facilitate improved transparency, cost reflectivity, more efficient use of resources and fair competition. The new framework should improve the clarity and coherence with other related charging schemes which should result in a reduction of administrative burdens and an increase in efficiency. The new framework needs to be adaptable to enable change in the light of review and market reform. The policy also aims to provide an incentive for development to be located in areas where there is spare capacity in existing infrastructure or where the cost of providing additional infrastructure is less.

Alternative approaches to regulation have been considered. The first option considered whether the problems could be resolved by the regulator (Ofwat) issuing further guidance. Ofwat has attempted to resolve difficulties this way previously but problems remain. Many of the problems relate to the detailed provisions set in primary legislation which have very limited opportunities for change. It is considered that a more fundamental change is required. The preferred option is to provide Ofwat with a power to introduce rules on a charging framework, the detailed requirements would be set out in a methodology statement.

This impact assessment sets out the case for the change which is envisaged: that primary legislation will be amended in the Water Bill to require Ofwat to produce rules setting out the charging framework that WaSCs and developers would have to comply with.

This impact assessment considers the case for change to the charging framework associated with new connections. At this stage it does not set out monetary costs and benefits (including to business) as the proposed option will make no change to the existing charging framework arrangements until a new charging framework is developed and introduced. This impact assessment provides an indication of the range of costs and some indication of the qualitative benefits that the introduction of a new charging framework could provide.

Annex 1

Range of costs and revenues across water industry

The following data is provided to provide some context on the range of activity and costs associated with the delivery of the new infrastructure required to support new development. These data are aggregates for England and Wales and have been compiled from annual June Return submissions made by water and sewerage companies to Ofwat. Each table is followed by relevant extracts from Ofwat's guidance documents that explain the contents of that table.

Numbers and costs of new connections

Table 6 sets out the number of new properties connected to water and sewerage networks across England and Wales, split between household and non-household properties.

Table 6 Number of new properties connected in England and Wales, household and non-household

Year	Number of new household properties connected	Number of new non-household properties connected	Total new properties connected
2007/2008	196,697	19,965	216,662
2008/2009	165,019	15,215	180,234
2009/2010	113,649	11,025	124,674
2010/2011	128,769	9,033	137,802

Source: June returns Table 7
Household properties connected during the year: "The number of new household properties added for each period within the company's area of supply during the report year, previously not connected for water supply."
Non-household properties connected during the year: "The number of new non-household properties added for each period within the company's area of supply during the report year, previously not connected for water supply."

This confirms that numbers of new household connections have fallen from almost 200,000 since 2007/08 with current levels of connection around 130,000. The trend has been reflected in connections of non-household properties which make up about 9% of all new property connections.

The capital expenditure incurred by WaSCs to accommodate new customers is set out in Table 7. This expenditure relates to the local distribution network only.

Table 7 Capital expenditure to accommodate new connections (local distribution network assets only), England and Wales

Year	Water £ million	Sewerage £ million	Total £ million
2007/2008	165.3	54.3	219.7
2008/2009	149.7	54.4	204.2
2009/2010	106.0	53.6	159.7
2010/2011	136.3	40.1	176.4

Source: June Returns
Table 35: Capex - new development: "The gross capital costs associated with the provision of local distribution assets for water service to provide for new customers with no net deterioration of existing levels of service."
Table 36: Capex - new development: "The gross capital costs associated with the provision of local distribution assets for sewerage services to provide for new customers with no net deterioration of existing levels of service."

From the above tables it is possible to estimate the average capital expenditure per new connection which is shown in Table 8. Unfortunately the costs of expenditure to accommodate new connections are not available for domestic and non-domestic properties separately.

Table 8 Capital expenditure to accommodate new connections (local distribution network assets only), England and Wales per new connected property

Year	Water £	Sewerage £	Total £
2007/2008	763	251	1014
2008/2009	830	302	1132
2009/2010	850	430	1280
2010/2011	989	291	1280

The results show that the average capital cost of the local distribution assets to accommodate each new connected property is around £1180. The actual cost of the infrastructure to provide sewerage services to a new connection is considerably higher than the cost of the infrastructure to provide water services (typically 70% for sewerage and 30% for water). However, the table above indicates the reverse position with WaSC capital expenditure on water accounting for around 73% of the total average cost and sewerage 27% of the total average cost. This is because the majority of the on-site sewerage infrastructure to support new development is provided though self lay and subsequently adopted by the WaSC (asset payments paid are included in Table 7). Expenditure on water infrastructure is higher because on-site self lay is less common. Note also that the above table does not differentiate between expenditure between domestic and non-domestic properties.

Water company revenue from new development

WaSCs annual revenue from infrastructure charges which are made for each newly connected property is set out in Table 9.

Table 9 Annual revenue from infrastructure charges, (local distribution network assets only) England and Wales

	Annual revenue from infrastructure charges (£, million)			Annual revenue from infrastructure charges as a percentage of total turnover
Year	Water	Sewerage	Total	
2007/2008	68.4	63.6	132	
2008/2009	53.8	48.3	102.1	1.05 %
2009/2010	38.7	33.3	72	0.71 %
2010/2011	44.1	37.3	81.4	0.81 %

Source: June returns
Table 35: Infrastructure charge receipts - new connections: “Capital contributions in the form of water infrastructure charges received during the year for new connections.”
Table 36: Infrastructure charge receipts – new connections: “Capital contributions in the form of sewerage infrastructure charges received during the year for new connections.”

WaSCs annual revenue from requisition and connection charges (combined, also including grants) is set out in Table 10.

Table 10 Estimated annual revenue from requisitions from developers (local distribution network assets only) England and Wales

	Annual revenue from requisitions *(£, million)			Annual revenue from requisitions as a percentage of total turnover
Year	Water	Sewerage	Total	
2007/2008	80.7	14.2	94.9	
2008/2009	60.5	15.3	75.8	0.78 %
2009/2010	51.5	12.9	64.4	0.64 %
2010/2011	58.8	13.3	72.1	0.72%

Source: June Returns
Table 35: Enhancement requisitions, grants and contributions: "Capital contributions other than from infrastructure charges."
Table 36: Enhancement requisitions, grants and contributions: "Capital contributions received during the year by the company for the sewerage service assets other than from infrastructure charges. This should include capital contributions resulting from the connection of non-domestic supplies."
*includes connection charges, grants and contributions.

Balance between capital cost and revenue from new development

It is possible to compare the cost of accommodating new development and the revenue to water and sewerage companies from infrastructure and requisition charges. The overall capital cost and revenue for both water and sewerage is shown in Table 11.

Table 11 Capital expenditure and revenue associated with water and sewerage infrastructure in new development, (local distribution network assets only) England and Wales

Year	Capital expenditure to accommodate new connections £ million	Revenue from enhancement requisitions* from developers £ million	Revenue from Infrastructure charges £ million	Combined revenue £ million	Difference £ million
2007/2008	219.7	94.9	132	226.9	-7.2
2008/2009	204.2	75.8	102.1	177.9	26.3
2009/2010	159.7	64.4	72	136.4	23.3
2010/2011	176.4	72.1	81.4	153.5	22.9

*includes connection charges, grants and contributions.

This indicates that there is a broad balance between the capital cost of new connections (in relation to the provision of local infrastructure which excludes water resource and treatment infrastructure) and the revenue that WaSCs receive from developer contributions. The table indicates that in the last three years there has been a small deficit between revenue and cost of around 13%. Revenue from the infrastructure charge contributes around 50% of the capital cost (for water 36% and for sewerage 90%), whilst the revenue from the requisition and connection charges combined contribute around 40% of the capital cost (for water 45% and for sewerage 28%).

Whilst the table above indicates that there is a reasonable balance between the cost of capital expenditure on the local water and sewerage infrastructure to support new development for the combined water industry there is variation across individual WaSCs.

Note that any shortfall or excess in revenue does not imply loss or excess profit to water and sewerage companies (at least over time), because their returns are regulated in practice. Ofwat carries out a periodic review of WaSC price controls every five years. At each review, Ofwat makes an assessment of companies' expenditure requirements and of the revenue needed to provide investors with a fair return on capital, drawing on company's business plans and its own analysis.

As part of this work, Ofwat has sought forecasts from companies of their expected expenditure to accommodate growth in demand (e.g. from new households connecting to the network) after making deductions for forecasts of the revenues that companies expect to receive from connection charges (including requisition payments and infrastructure charges). These net expenditure forecasts feed through to affect the price limits set for water and sewerage services.

Under this approach to price controls, the scale of one-off charges such as requisition payments and infrastructure charges does not necessarily affect the level of companies' profits over the longer-term, but will affect the balance between these charges for new developments and the annual charges that all consumers face for water and wastewater services.

In practice, any longer term imbalance results in a transfer between developers and water customers. For example, where the revenue from developer charges was seen over time to exceed costs, this excess would in fact be passed back to customers through a lower price review settlement than might otherwise be the case. Clearly however, any persistent transfer of this nature may not be desirable and is an argument to make the current developer charges regime more closely cost-reflective (see later section on rationale for intervention).

Revenue from new customers

In addition to the above new customers provide a source of revenue to WaSCs.
The extent to which new household customers contribute to overall revenue is shown in Table 12. The income is estimated by reference to the number of new properties connected and average bills.

Table 12 Estimated annual revenue from new connected household properties, England and Wales

	2010/2011
Estimated annual revenue from new household properties connected*	£39.0 million
Annual revenue from new household properties as a percentage of total turnover (June Return Table 20: "Total appointed business revenue")	0.39 %

* Estimated based on average water and sewerage bills per household

Use of requisitions in development

There is no water industry wide data on the extent of developments that are subject to requisition charges for water or sewerage. Information has been collected from two WaSCs to provide an indication of the position. The data indicates that there is a significant difference in the application of requisition between water and sewerage schemes. For water most developments requiring new infrastructure to provide a supply are requisitioned (around 80-90%) by developers with a relatively small proportion (around 10-20%) being provided by self lay organisations. There is regional variation between WaSCs. The opposite position occurs in relation to sewerage infrastructure – where few developments are subject to requisition (less than 5%) and the majority of infrastructure is provided by self lay organisations (over 95%) with connection made through section 106 WIA91.

Annex 2

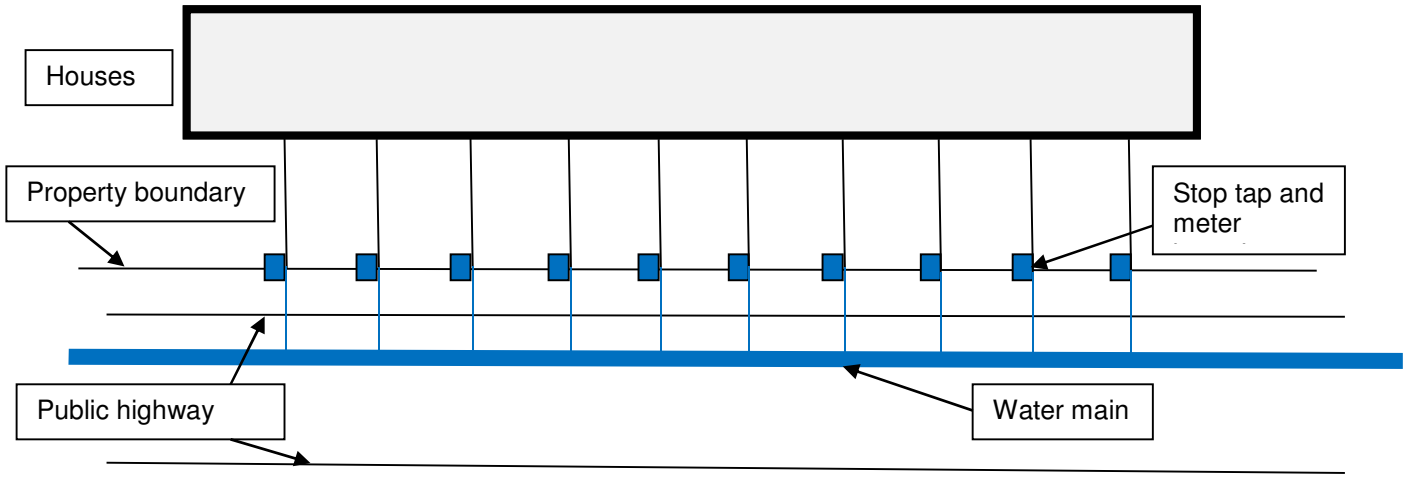
Water Infrastructure – current charging framework provisions in relation to a typical development

Developers may be subject to the following charges in specified circumstances:

Connection charges are paid by the developer to the WaSC and are intended to enable the recovery from the developer of the reasonable expenses of the WaSC in making the water connection from the premises in question to the water main. The charge relates to the expenses the WaSC incurs in making the actual connection but may also include the expenses incurred in carrying out any ancillary works to enable the connection. WaSCs set out their charges for making water connections in their Developer Services Charges based on a standard charge per property with adjustments for additional costs where appropriate. WaSC connection charges are not subject to Ofwat approval. Water connection charges are made by WaSCs under their powers within Section 45(6) of the WIA91. However any dispute about the expenses reasonably incurred can be referred to Ofwat for determination.

Typical water connection charges range from £264 and £433 per property.

Figure 2 Water connections



Houses within new development are normally connected to the public water main through individual connections. The customer responsibility for the supply pipe ends at the property boundary (normally at a stop tap/meter) and is shown in black. The water company is responsible for the pipe between the property boundary and the water main normally in the public highway and is shown in blue. The connection charge relates to cost of providing the connection from the property boundary to the water main and normally includes the cost of the meter installation.

Infrastructure charges are paid by the developer to the WaSC and are intended to provide a contribution towards the cost of developing local networks to serve new customers. The charge can be raised where premises are connected to the WaSC's water supply for the first time. The supply must be being provided for domestic purposes. This charge normally relates to off-site work as the on-site costs are reflected in connection charges and requisition charges.

WaSCs are entitled to require all new premises connected to the water network to pay the infrastructure charge irrespective of whether a requisition charge is made to recover the cost of extending or enhancing the water supply network to a specific development.

The method for calculating infrastructure charges is set out in Condition C of the WaSC's licence and is the same for all companies. Condition C of each WaSC's condition of appointment (the licence) restricts the maximum infrastructure charge that it can impose. The Condition provides for an averaged amount per connection which is referred to as the Standard Amount. The amount is capped and is the same for all WaSCs. The maximum standard amount for the infrastructure charge for 2011/12 is £312 per property for water supply.

There are exceptions to applying the standard amount. These exceptions apply, in the case of a house (which includes flats), where there is a common billing agreement or, in the case of premises where the supply pipe is larger than the current size used by the WaSC for new connections to houses.

Requisition charges are paid by the developer to the WaSC and are intended to enable recovery of the costs incurred by the WaSC in providing assets to serve the new development where the costs exceed income received from the development over 12 years.

A requisition consists of a notice from a developer to a WaSC requiring that company to provide a water main to enable the supply of water for domestic purposes to the developer's premises. In certain circumstances, additional assets (other than the water main) may be required to be provided by the WaSC to enable the supply of water.

The requisition charge can relate to both the on-site and off-site costs were the mains are laid by the WaSC or just the off-site costs where the on-site mains are laid by SLOs (although it is unusual to requisition off-site assets for the supply of water as the self-lay provisions provide for the costs a WaSC may incur).

Requisition charges are made by WaSCs under their powers within Sections 41-43A of the WIA91. Not all developments will be subject to requisition charges but where they are made the typical water requisition charges range between £92 and £996 per property (these are calculated on a site-by site basis).

The cost of the requisition is calculated by one of two methods, either a relevant deficit payment (paid in each of 12 years following the provision of the mains or the discounted aggregate deficit (a single payment). In both cases the requisition charge is made in relation to individual developments. The charge is calculated by using the cost of providing the main and (if using the discounted aggregate deficit, estimating) the income from the development (through water charges) over a 12 year period. The requisition charge paid by the developer is the (estimated) net "deficit" to the WaSC from providing the main after the (estimated) income over the 12 year period has been deducted.

An example of how the relevant deficit calculation is made for a development of 150 properties where the costs of providing the infrastructure is £35,000 is given in Tables 13 and 14.

Table 13 Example variables and assumptions for a Relevant Deficit calculation

Variables and assumptions	
Total scheme cost to the water and sewerage company	£35,000
Number of properties	150
Basic average income per property (before inflation and capital charges taken into account)	£110
Borrowing interest rate	6.50%
Discount rate (must be same as rate of interest for borrowing)	6.50%
Long-term annual inflation	3.0%
Number of applicable years	12
Annuity factor	8.15873
Annual repayment (total scheme cost/annuity factor)	£4,289.89

For the following relevant deficit calculation it is assumed that the cumulative occupancy is 10 properties in year 1, 75 properties in year 2 and 150 properties in years 3 to 12.

Table 14 Example Relevant Deficit calculation

Calculation of the relevant deficit for the installation of water and sewerage infrastructure			
Year	Revenue	Annual repayments of loan	Relevant deficit
1	£1,100.00	£4,289.89	£3,189.89
2	£8,497.50	£4,289.89	£ –
3	£17,504.85	£4,289.89	£ –
4	£18,030.00	£4,289.89	£ –
5	£18,570.90	£4,289.89	£ –
6	£19,128.02	£4,289.89	£ –
7	£19,701.86	£4,289.89	£ –
8	£20,292.92	£4,289.89	£ –
9	£20,901.71	£4,289.89	£ –
10	£21,528.76	£4,289.89	£ –
11	£22,174.62	£4,289.89	£ –
12	£22,839.86	£4,289.89	£ –
Total	£210,270.99	£51,478,63	£3,189.89

In this example it can be seen that a relevant deficit payment from the developer to the WaSC was only payable in the first year when the revenue is less than the annual repayment on the loan.

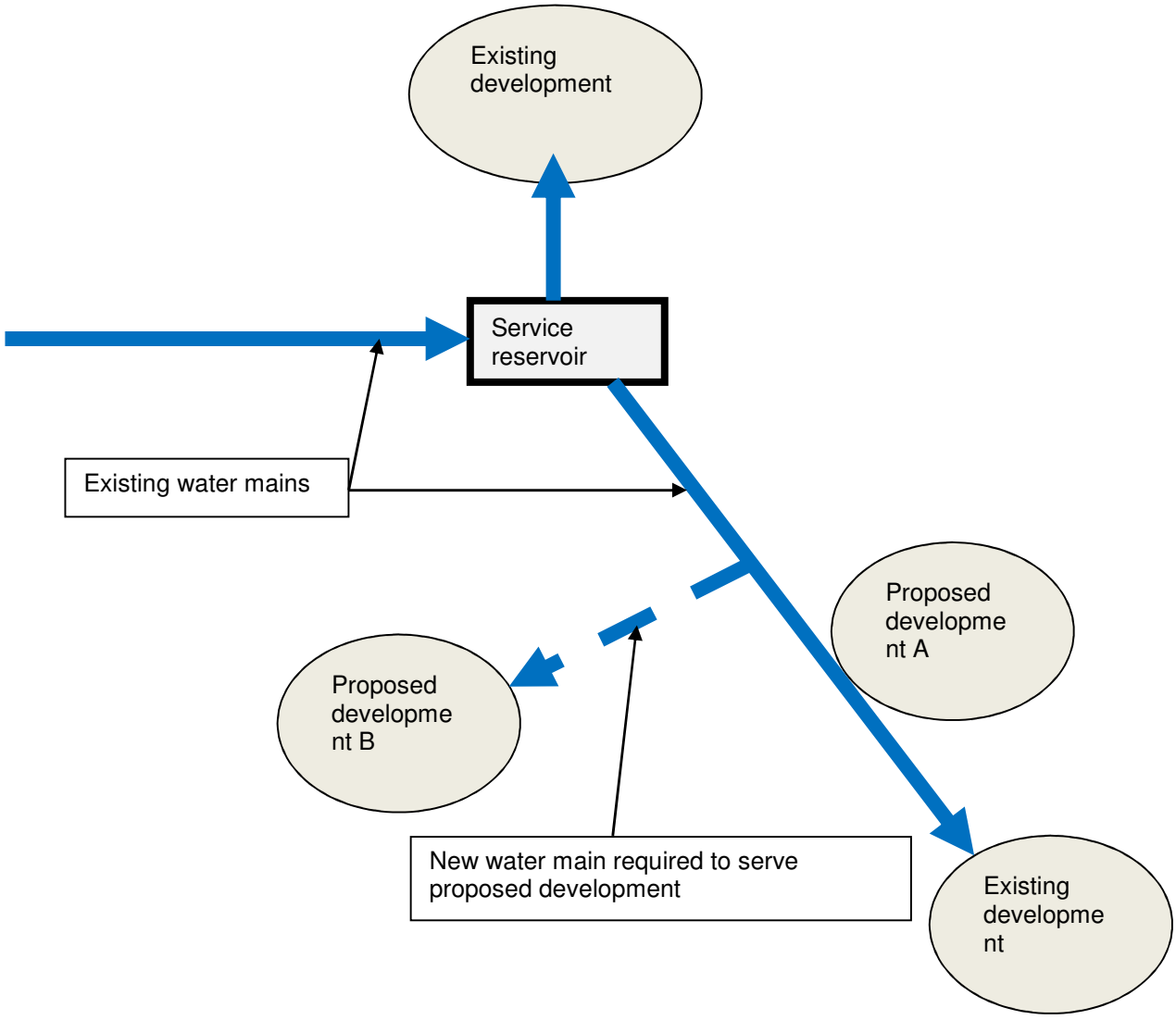
The alternative option uses the discounted aggregate deficit calculation which is shown in Table 15. In this option all the projected relevant deficits over the twelve year period are paid as a single sum in the first year.

Table 15 Example Discounted Aggregate Deficit calculation

Calculation of the discounted aggregate deficit payment (also known as the statutory commuted sum)			
Year	(Projected) relevant deficit	Discount factor	Statutory commuted sum
1	£3,189.89	0.93897	£2,995.20
2	£ –	0.88166	£ –
3	£ –	0.82785	£ –
4	£ –	0.77732	£ –
5	£ –	0.72988	£ –
6	£ –	0.68533	£ –
7	£ –	0.64351	£ –
8	£ –	0.60423	£ –
9	£ –	0.56735	£ –
10	£ –	0.53273	£ –
11	£ –	0.50021	£ –
12	£ –	0.46968	£ –
Total	£3,189.89	8.15873	£ 2,995.20

A simple example where a developer may requisition water assets is illustrated in Figure 3.

Figure 3 Water requisition charging



Proposed development A has an existing water main adjacent to the site, no requisition of water mains, pumping stations or service reservoirs would be required unless reinforcement work was necessary to maintain the required level of service to the existing developments.
Proposed development B has no existing public water main so requisition of the water mains (shown in broken line), pumping stations or service reservoirs would be required to provide the water supply infrastructure to serve the site (and for any reinforcement work necessary to maintain the required level of service to the existing developments).

Asset payments since 2003 changes in the in WIA91 have allowed self lay organisations SLOs to lay assets as well as WaSCs. SLOs are developers or contractors who work on behalf of developers who provide the assets required to provide water to the development site instead of the existing WaSC.

In general, the practice appears to be that the SLO will undertake the on-site work within the development site and the developer will ask the WaSC to undertake the off-site work outside the development site. On adoption of the asset(s) by the WaSC, the developer may be entitled to an asset payment for the transfer of the on-site asset(s) to the WaSC.

The basis for the calculation of the asset payment is set out in Section 51C of the WIA91. The WaSC is required to pay to the developer, either the estimated revenue over the 12 years following adoption of the asset(s) or the annual borrowing costs of a loan over a 12 year period, whichever is the smaller amount.

The asset payment for the same development of 150 properties where the costs of providing the infrastructure is £35,000 is calculated by reference to the revenues calculated in the relevant deficit payment as shown in Table 16.

Table 16 Example calculation of Asset Payment

Asset payment for self laid water mains			
Year	Income allowance	Discount factor	Asset payment
1	£1,100.00	0.93897	£1,032.86
2	£4,289.89	0.88166	£3,782.22
3	£4,289.89	0.82785	£3,551.38
4	£4,289.89	0.77732	£3,334.63
5	£4,289.89	0.72988	£3,131.11
6	£4,289.89	0.68533	£2,940.01
7	£4,289.89	0.64351	£2,760.57
8	£4,289.89	0.60423	£2,592.08
9	£4,289.89	0.56735	£2,433.88
10	£4,289.89	0.53273	£2,285.33
11	£4,289.89	0.50021	£2,145.85
12	£4,289.89	0.46968	£2,014.89
Total	£48,288.74	8.15873	£32,004.80

Adoption of water mains

Where the WaSC lays the water mains and connects the service pipes within a development the WaSC is able to recover the cost through the requisition charge and the connection charge respectively. Where someone other than the WaSC (usually self lay operatives) lays the water mains and service pipes the WaSC may agree to take over ownership of them (adoption). On adoption, the WaSC will be required to make an asset payment to the developer. The extent of self lay activity varies between WaSCs. The estimates we have seen range from between 5 and 50% of developments using self-lay.

A WaSC may need to provide assets, in addition to those provided by an SLO, or may need to use additional capacity in a main requisitioned or adopted in the previous 12 years, to enable the supply of water to the site. In such circumstances, the WaSC may require a payment from the developer (the self-lay charge) to cover the costs, or a proportion of the costs, it has reasonably incurred.

Sewerage Infrastructure – current charging framework provisions

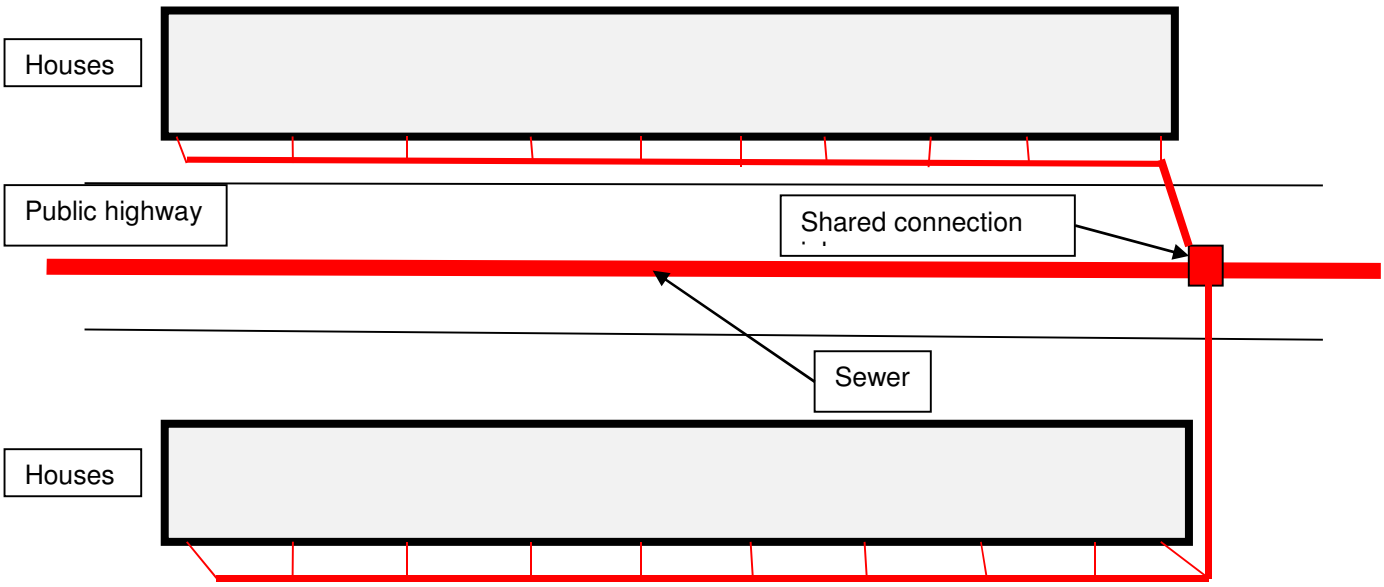
The current system of charging for sewerage infrastructure to accommodate the requirements of new developments broadly parallels that for water infrastructure and involves a combination of connection charges, infrastructure charges and in some cases requisition charges. However, there are some important differences. The power to make these charges is specified in various different sections within the WIA91 and in the case of infrastructure charges additional information regarding the basis of the charge is specified within WaSC licence conditions (Condition C).

Developers may be subject to the following charges in specified circumstances:

Connection charges are paid by the developer to the WaSC and are intended to enable the recovery from the developer of the reasonable expenses of the WaSC in making the sewer connection from the premises in question to the public sewer. The charge relates to the expenses that the WaSC incurs in carrying out the work to communicate the premises with the public sewer. WaSCs set out their charges for making sewerage connections in their Developer Services Charges based on a standard charge per property to make a contribution towards the cost of processing and assessment of the connection. WaSC connection charges are not subject to Ofwat approval. Sewerage connection charges are made by WaSCs under their powers within Section 107 WIA91. However, any dispute about the expenses reasonably incurred can be referred to Ofwat for determination.

Typical sewerage connection charges are around £350 per connection. However connections are often made to groups of houses within developments (typically up to 200 properties) so the cost per property varies considerably between a few pounds (where many houses share a single connection) and £350 (where a single house requires an individual connection).

Figure 4 Sewer Connections



Houses within new developments may be connected to the public sewer through a shared connection.

Infrastructure charges are paid by developers to the WaSC and are intended to provide a contribution towards the costs of developing local networks to serve new customers. The charges can be raised where premises are connected to the sewerage company's public sewer for the first time. The sewer being connected must be used for the drainage for domestic sewerage purposes. This charge normally relates to off-site work as the on-site costs are reflected in connection charges and requisition charges.

WaSCs are entitled to require all new premises connected to the sewerage network to pay the infrastructure charge irrespective of whether a requisition charge is made to recover the cost of extending or enhancing the sewerage network to a specific development.

The method for calculating infrastructure charges is set out in Condition C of the WaSC's licence and is the same for all companies. Condition C of each WaSC's condition of appointment (the licence) restricts the maximum infrastructure charge that it can impose. The Condition provides for an averaged amount per connection which is referred to as the Standard Amount. The amount is capped and is the same for all WaSCs. The maximum standard amount for the infrastructure charge for 2011/12 is £312 per property for sewerage services.

Requisition charges are paid by the developer to the sewerage company and are intended to enable recovery of the costs incurred by the sewerage company in providing assets to serve the new development. In the case of a requisition for a public sewer (as opposed to a lateral drain) the charge can be raised where the costs exceed income received from the development over 12 years.

A requisition consists of a notice from a developer to a sewerage company requiring that company to provide a public sewer or lateral drain to enable drainage for domestic purposes from the developer's premises. In certain circumstances, additional assets (other than the public sewer or lateral drain) may be required to enable drainage.

The requisition charge can relate to both the on-site and off-site costs where the public sewers or lateral drains are laid by the sewerage company or just the off-site costs where the sewers on-site are laid by SLOs.

The cost of the public sewer requisition is calculated by one of two methods, either a relevant deficit payment (paid in each of 12 years following the provision of the public sewer) or the discounted aggregate deficit (a single payment). In both cases the requisition charge is made in relation to individual developments. The charge is calculated by using the cost of providing the sewer and (if using the discounted aggregate deficit, estimating) the income from the development (through drainage charges) over a 12 year period. The requisition charge paid by the developer is the (estimated) net "deficit" of providing the public sewer after the (estimated) income over the 12 year period has been deducted. Requisition charges are made by water and sewerage companies under their powers within Sections 98 to 100A of the WIA91.

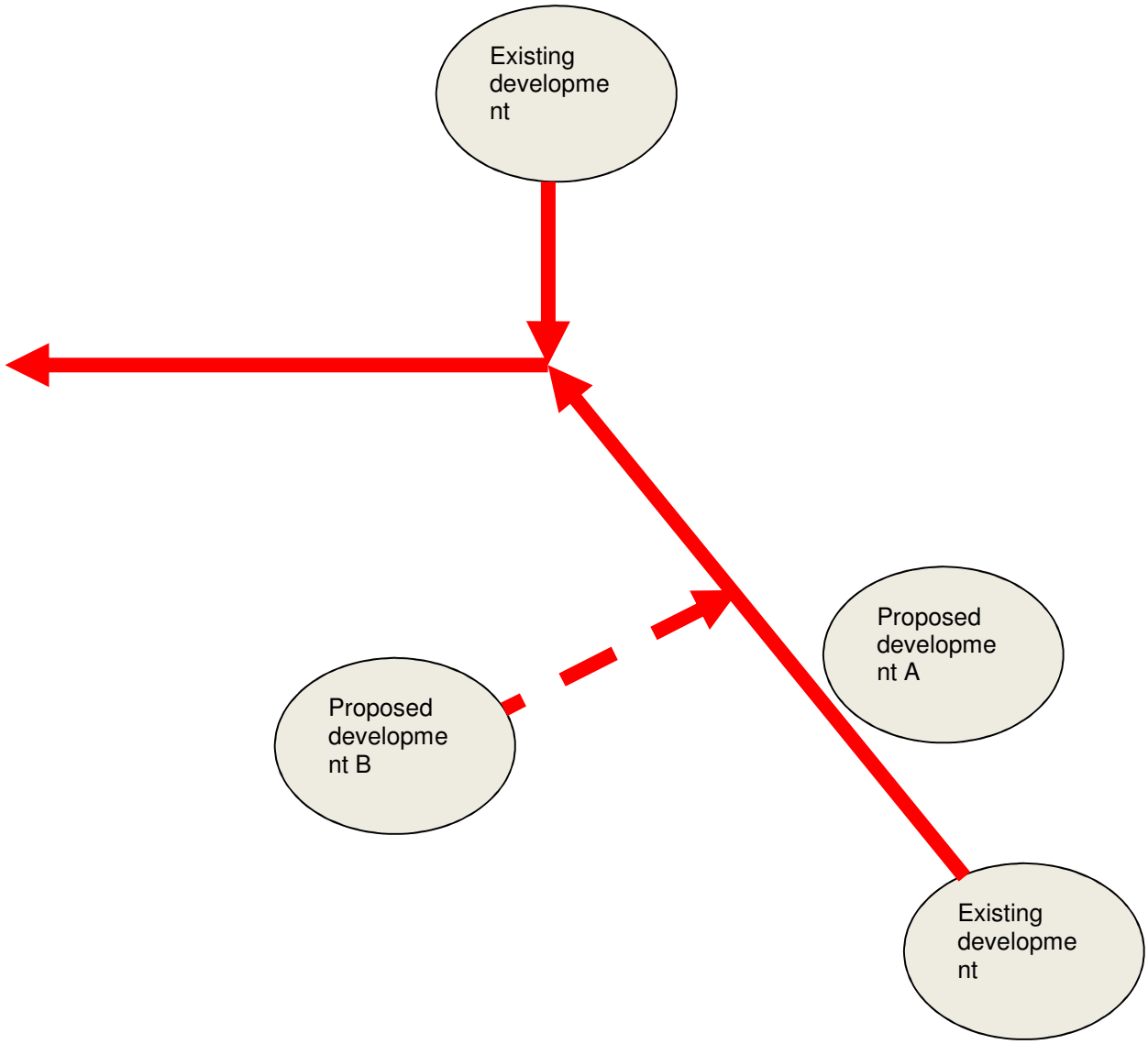
Not all developments will be subject to requisition charges but where they are made the typical public sewer requisition charges range between £364 and £2,540 per property.

Self-lay provisions for public sewers, lateral drains and sewage disposal works (sewerage assets)

Where the WaSC lays the sewerage assets and undertakes the connections required for a development the cost is recovered by the requisition charge and connection charge respectively. Where someone other than the WaSC (usually SLOs) lays the sewerage assets the WaSC may agree to take over ownership of the relevant assets (i.e. adopt them). Self-lay of sewerage assets is common practice across WaSCs' areas, estimated at over 95% of developments. There are no provisions, equivalent to those for water main self-lay, for payment by the sewerage company for the assets upon adoption or by the developer for the costs of any enhancement of the existing sewer network required as a consequence of the adoption of sewerage assets. The provisions for sewer adoptions are set out in Sections 104 and 105 of the WIA91.

A simple example where a developer may requisition sewer assets is illustrated in Figure 5.

Figure 5 Sewer requisition charges



Proposed development A has an existing sewer adjacent to the site, no requisition of sewers or pumping stations would be required unless reinforcement work was necessary to maintain the required level of service to the existing developments.
Proposed development B has no existing sewer so requisition of the sewer (shown as broken line) and pumping stations would be required to provide the sewer supply infrastructure to serve the site (and for any reinforcement work necessary to maintain the required level of service to the existing developments).

Annex 3

Case study to illustrate developer charges

The extent to which developers contributions contribute to the overall cost of providing the required additional infrastructure to serve the development will vary depending on the size of the development and the extent to which an existing network serves the site location. The relative breakdown of costs between connection, infrastructure and requisition charges for a real large development provided by a WaSC is shown in Table 16. For water provision the requisition charge represented the most significant proportion of the overall cost at 46% followed by the connection charge at 32% and the infrastructure charge at 22%. For sewerage provision the requisition charge represented the most significant proportion of the overall cost at 89% followed by the infrastructure charge at 11% and the connection charge at <1%. The relatively small sewerage connection cost is because a large group of houses benefit from a single connection whereas for water houses require individual connections.

Table 17 Case study example to illustrate developer costs

Development 5,500 dwellings	Water	Sewerage	Total
Scheme cost (£)	7,441,486	14,441,486	22,184,676
Total connection cost (£)	2,381,500	10,500	2,392,000
Connection cost per dwelling	£433	£2	
Relative contribution %	**32**	**<1**	**11**
Total infrastructure cost (£)	1,639,000	1,639,000	3,278,000
Infrastructure cost per dwelling	£298	£298	
Relative contribution %	**22**	**11**	**15**
Total requisition cost (Relevant deficit) (£)	3,420,986	13,101,509	16,522,495
Requisition cost per dwelling	£622	£2382	
Relative contribution %	**46**	**89**	**74**

The breakdown of costs for development will vary considerably, in some cases requisition charges will not be applicable but self-lay charges may apply. The revenues from developer charges across all WaSCs are indicated in Table 9 (infrastructure charges) and Table 10 (requisition and connection charges combined). These indicate that infrastructure charges contribute to around 56% of the revenue (of this 56% water makes up 53% and sewerage 47%) and that requisition and connection charges contribute around 44% of the revenue (of this 44% water makes up 82% and sewerage 18%). The much higher percentage of revenue associated with the requisition charge for water reflects the fact that requisition of water infrastructure is significantly more common than requisition of sewerage infrastructure (which is normally installed through self-lay).

Annex 4

Other problems associated with specific charges

Connection Charges

WaSCs have identified that the current charging framework has a lack of clarity on whether commercial premises are eligible to apply for a connection under Section 45 of the WIA91. Under Section 45 WIA91, a WaSC can only recover the costs of making a connection to a water main. A problem can arise when landowners apply under Section 45 WIA91 for water connections to supply water to large non-domestic buildings (hotels etc.) and campsites that can accommodate several thousand temporary residents. Connections may require the WaSC to upgrade parts of its network but the current legislation does not allow these upgrade costs to be recovered through the connection charge.

A similar problem to the above exists in relation to sewer connections. However additional problems arise from the right to connect to the public sewer within Section 106 of the WIA91. This section provides a right to connect for the owner and occupier of any premises and the owner of a private sewer which drains premises. This means that a developer has a right to connect a private sewerage network from a new development to the nearest public sewer regardless of the impact on the existing public sewer network. The use of the Section 106 WIA91 right to connect enables the developer to avoid the cost of network reinforcement to the existing public sewer network that would be payable if the developer were to make a requisition for a sewer to connect the private sewer network within Section 98 of the WIA91.

Infrastructure Charges

It is evident that connection charges and requisition charges alone might not be sufficient to recover the full cost of meeting the demand from new development – as many individual and small developments would not require requisition of mains or sewers but their cumulative impact would eventually require work to increase the capacity within the network. For this reason in 1990 the infrastructure charge was introduced as a means to allow WaSCs to better reflect the costs associated with the demand from new development. The charge was set by considering the total average capital expenditure needed to service new development across all WaSCs, the revenue from requisitions and the estimated average number of new premises. The initial infrastructure charge included the cost of capital expenditure associated with increasing capacity at water treatment works and sewage treatment works (though there has since been a change of philosophy to collect this through customer charges). The charge was first introduced in April 1990.

In the determinations for price setting for 1995-2000 Ofwat confirmed that infrastructure charges should relate to local distribution costs only, rather than increases in resources and treatment capacity. It considered that with the level set for the infrastructure charge between 1990-1994 new customers were providing a cross subsidy to existing customers. As a means to avoid the cross subsidy Ofwat determined that the infrastructure charge should be set at £200 based on 1995/96 prices.

As requisition charges can include recovery of some of the off-site and network reinforcement costs which infrastructure charges also arguably cover, there is some potential overlap. There is continued uncertainty and dispute as to whether companies can charge the full infrastructure charges in addition to requiring requisition payments and as to the extent that requisition payments should be reduced to take account of the value of any infrastructure charges demanded. In its consultation on “Charges for new connections – a consultation on our policy principles” Ofwat states that: -

> “*When calculating the requisition charge, asset payment or the self-lay charge, infrastructure charges should be subtracted from the costs attributed to the provision of off-site infrastructure for the site in question*”

This means that where off-site costs exceed the amount of infrastructure charges, only the excess of the off-site costs not covered by the infrastructure charges should be included in the requisition charge, asset payment or self lay charge. Ofwat’s consultation has now closed and Ofwat are considering next steps in this work in the light of the consultation responses.

Developers have also raised concerns about the mechanism for WaSCs to provide credit to developers where sites are being redeveloped or modernised (brownfield sites). In some cases these sites may need no additional infrastructure for the proposed development because the capacity of the existing

infrastructure to the original site may be sufficient. Developers remain concerned about the variation in approach between WaSCs in the calculation of credits for infrastructure charge payments in redeveloped sites. Since the 1990's there has been an increasing proportion of development on brownfield sites and it is estimated that they accounted for some 76% of development in 2010. WaSCs have concern that the method for estimating the infrastructure charge for non standard premises (including non domestic properties) does not reflect the cost of network reinforcement that is required as a consequence of connection. Developers are critical of infrastructure charges because they feel they are being double charged if they contribute to reinforcements as part of a requisition or self lay. WaSCs are critical of infrastructure charges because they do not reflect actual costs.

Requisition Charges

There are a number of issues that cause uncertainty in the calculation of requisition charges:

Complexity of large multiple phased developments: The calculation of the requisition charge is more straightforward for an individual site developed over a few years. However, for large sites that are developed over several years the calculation of estimated revenue is difficult to assess due to a range of reasons including:
(a) phased planning approval (often full planning approval is only granted for the initial phase)
(b) planned phases of development are often changed
(c) plots within the development are often sold to different developers
(d) development sites may be presented as single phase but subsequently developed in several phases
(e) concurrent sites – where several sites are developed at the same time by different developers which need to share infrastructure no clear mechanism to deal with allocation of costs between sites
(f) pre-development requisitions – no mechanism to deal with requisitions to provide infrastructure to the boundary of a large site which may be sold later as plots to different developers (prior to approved planned development)

In addition to the above there is uncertainty regarding the definition of water supplied for "domestic purposes" and whether non-residential premises are allowed to requisition a water main. The Home Builders Federation (HBF) consider that the use of the 12 year period in the asset calculation is arbitrary and that developers are disproportionally contributing to the WaSC revenue. This range of issues illustrates the increasing complexity of the fair allocation of costs between developers.

Adoption charges

Water

The problems identified with the calculation for water mains requisitions (Sections 41 to 43A WIA91) are also relevant to the calculation of asset payments. Asset payments are sensitive to assumptions on the growth path of occupancy rates. If occupancy rates assumptions are too pessimistic (i.e. low compared to out-turn), the discounted offset amount (the asset payment) would be lower than what it would have been otherwise. Conversely, if the assumptions are too optimistic, the WaSC may end up paying more in asset payments. The criticism of the arbitrary nature of the 12-year period in calculating requisition payments also applies in the calculation of the discounted offset amount

Sewerage

One criticism of these provisions from developers is the lack of asset payments for sewer assets transferred to the WaSC. The HBF claim that on completion of a development house builders 'gift' the newly constructed sewerage assets to the WaSC, which are income generating for the WaSC in perpetuity - the house builder derives no share of any such income. WaSCs have raised the concern that Section 104 WIA91 allows owners of sewers or drains to apply to the WaSC to adopt these assets without being exposed to any costs that may be incurred by the WaSC as a consequence of that adoption (for example, necessary upgrades to sewage treatment works).

Annex 5

Charging framework provisions in Scotland

In Scotland, Government policy defines Scottish Water's responsibilities by dividing the network infrastructure into four parts. The responsibility for the four parts and the circumstances in which Scottish Water make a financial contribution is set out in Table 18.

Table 18 Charging framework approach in Scotland

Infrastructure parts	Responsibility	Financial contribution paid from Scottish Water
1 The connection from the premises to the water main or sewer	Customer	No
2 The water mains or sewers that connect developments e.g. a street of houses to the trunk mains and trunk sewers and some sustainable urban drainage systems (SuDS)	Customer	Yes – subject to reasonable cost contribution
3 The local infrastructure, such as trunk mains and trunk sewers, water service reservoirs, waste water pumping systems and some SuDS		
4 The strategic assets such as raw water sites, water impounding reservoirs, raw water pumping stations and aqueducts, and water and waste water treatment works	Scottish Water	Not Applicable

The responsibility for funding parts 2 and 3 are subject to a "reasonable cost limit", which relates to the expected revenues from the newly connected property over the medium term, and is specified in legislation. Scottish Water's contribution to developers are the lower of the actual costs relating to parts 2 and 3, and the reasonable cost limit.

Asset payments for adoption would also be determined in the same way, i.e. the lower of the estimated costs relating to parts 2 and 3, and the reasonable cost limit. Asset payments would only be payable "where it is not practicable at reasonable cost for Scottish Water to extend its network so as to allow a new connection to be made but the developer has agreed to meet the full cost of providing the connection". Separate "infrastructure charges" are payable in addition to developer charges determined as above. The key differences between the charging framework arrangements that apply in England and Wales and the arrangements that apply in Scotland are shown in Table 19.

Figure 6 Overview of charging in Scotland

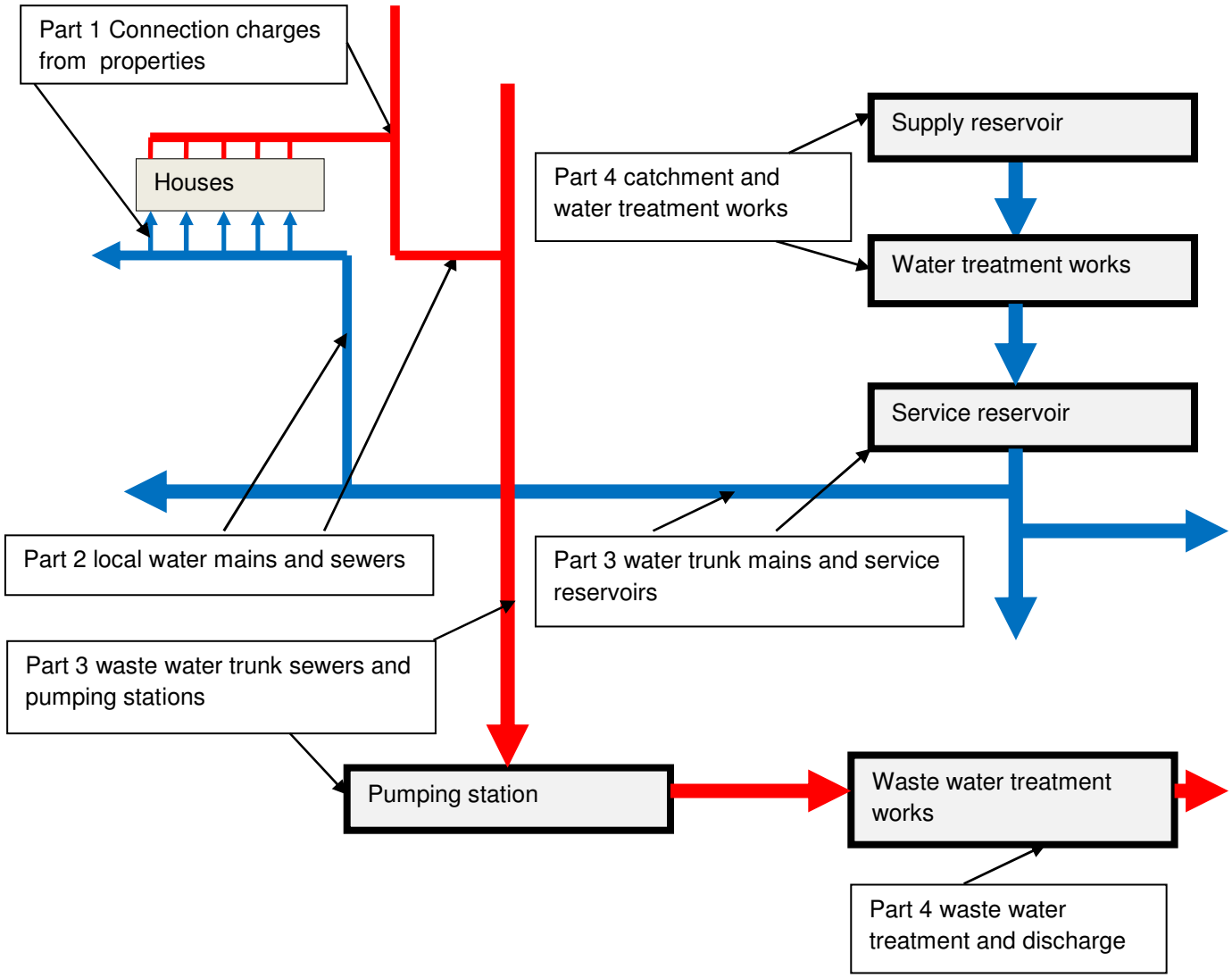


Table 19 Key differences between the charging framework arrangements that apply in England and Wales and the arrangements in Scotland.

Charging provision	England and Wales	Scotland
Connection charge	Charge to enable the recovery of reasonable expenses incurred in providing the connection – no water and sewerage contribution/subsidy	Same
Infrastructure charge	Charge to contribute to the costs of developing local networks required by new development (excludes treatment/resource costs). Paid on all properties not previously connected. Proposal to take into account in the calculation of the requisition charge, asset payment and self-lay charge	Same Paid on all properties on connection
Requisition charge	Charge to contribute to the cost of on-site and off-site infrastructure where infrastructure is requested by	Same

	developer. Calculation subtracts (estimated) income from the new developments from the costs but no contribution to developers where income exceeds cost	
Asset payment	Paid by the WaSC to the developer where assets are provided by an SLO and adopted by the WaSC	Same but Scottish Water provide asset payments for adoption of water mains and sewers up to the lower of the reasonable cost limit or the cost of asset.
Self–lay charge	Charge paid by the developer to the WaSC for the cost of off-site network reinforcement or additional capacity required as a result of the new development	Same, but the income from the development is taken into account in determining the charge.