



Protocol for correctly classifying Culverted Watercourses and Sewers



INTRODUCTION

Understanding who has responsibility for drainage assets is key to ensuring that they can be properly maintained.

Water and sewerage companies for example only have legal powers to maintain assets which are defined as “sewers”. Assets which are not sewers are likely to be the responsibility of the landowner whose land is crossed by the pipe, culvert or other asset.

Despite extensive mapping of drainage assets, errors can occur with sewers classified as watercourses and vice versa. These errors can cause uncertainty and delay in resolving problems which arise with such assets.

In conjunction with a wide range of interested parties, Water UK has developed this protocol in order to avoid disputes in cases where the correct classification of an asset is unclear.

Water and sewerage companies have agreed to comply with the protocol with effect from 1 February 2019.

The protocol will be reviewed after being in operation for two years.

Publication details

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Protocol for correctly classifying Culverted Watercourses and Sewers

1. Purpose

This protocol has been developed to support the correct classification of culverted watercourses and sewers on statutory records and to facilitate the subsequent change in records to reflect that classification. It describes how parties should approach the task of distinguishing between culverted watercourses and public sewers and the steps to be undertaken in cases of possible re-classifications between these two categories of assets. The ultimate aim is to ensure that the correct legal position is reflected on statutory sewer maps and other asset registers so that those with responsibility for the particular asset can be identified.

This protocol has been prepared by Water UK on behalf of water and sewerage undertakers (water companies) and takes account of comments made following consultation with a range of interested parties, including LASOO (the Local Authorities' SuDS Officers Organisation), ADEPT Flood and Water Management Group, LODEG (the London Drainage Engineers Group), South West Flood Risk Managers Group and the South East Local Lead Flood Authority group.

Both ADEPT and LODEG have kindly indicated their support for this protocol.

2. Context

While re-classification of an asset may result in water companies taking on or relinquishing responsibility for the particular asset, it is recognised that particular problems may arise where the owners of the properties through the land of which the watercourse runs (the riparian owners) find themselves responsible for the maintenance and repair of the asset. LLFAs and district councils are also concerned where assets, not on their land, are re-classified as culverted watercourses as they are not funded to maintain watercourses but will often be expected to use their powers to intervene to deal with maintenance, blockage clearance etc.

In recognition of these potential problems, this protocol focuses on cases where the water company ultimately relinquishes responsibility for an asset. However, it is clear that re-classification could also lead to the water company assuming responsibility for an asset.

Water companies are sympathetic to the concerns that have been expressed about the burdens that can arise where a sewer is re-classified as a watercourse and will approach potential re-classification sensitively. They do however have a responsibility to their customers not to take or continue to take responsibility for assets over which they have no statutory powers or duties.

This protocol does not reflect any change of policy on the part of water companies and it is not intended that this protocol will change the numbers of cases where a re-classification takes place. However, it is hoped that the use of the protocol will reduce the numbers of disputes and avoid the risk of court proceedings to determine the status of particular assets.

3. Who is it for?

The protocol is intended for use by all parties with responsibilities for managing and regulating watercourses and other drainage infrastructure¹: water companies, other Risk Management Authorities², Natural Resources Wales, railway authorities and riparian land owners.

4. Introduction

Historically, many watercourses and land drainage channels were culverted or piped and then concealed, as areas became urbanised. Water bodies were constrained in artificial channels for a variety of reasons including:

- to allow land above the watercourse to be used for other things such as driveways and school playgrounds
- to allow infrastructure such as roads and railways to cross streams
- to control flooding within a development, by constraining a stream within a culvert or pipe
- to combat problems arising from a lack of maintenance or deliberate blockage of open channels
- to deal with Health and Safety concerns caused by pollution.

The practice is now discouraged, other than in exceptional circumstances,³ but there is a large legacy population of culverted and concealed watercourses, dating from the 19th and 20th centuries. Since these structures were built, changes to the governance of drainage have resulted in many assets being transferred between authorities and in the process, records becoming corrupted and lost. There is often uncertainty surrounding the legal status and responsibility for maintenance of culverts.

This can be a significant obstacle to the proper stewardship of the structures – ownership and responsibilities are unclear, risk is poorly understood and opportunities for environmental improvements through river restoration cannot be acted on. Increasingly, these watercourses are the subject of flood investigations and disputes over their ownership and legal status.

The following sections compare the legal definitions for the various asset types and explain how they affect the stewardship of them.

5. Why does the legal status matter?

It is important to establish the correct legal status of culverted and piped drainage systems, as this will affect:

- **Maintenance** – The responsibility for a watercourse normally rests with the riparian owner, ie, any landowner whose holding is in actual contact with a stream whether or not he owns the soil beneath that stream.⁴ Water companies on the other hand have

¹ <https://www.gov.uk/government/collections/flood-and-coastal-erosion-risk-management-authorities>

² Risk Management Authorities or RMAs comprise the Environment Agency, Local Lead Flood Authorities (LLFAs), district councils, Internal Drainage Boards (IDBs), water companies and highway authorities

³ CIRIA culvert design and operation guide

⁴ https://www.ciria.org/Resources/Free_publications/Culvert_design_and_operation_guide.aspx

⁴ See *Lyon v Fishmongers' Co* [1876] 1 App CAs 662

statutory responsibilities to maintain sewers. Lack of clarity regarding ownership can result in “everyone and no-one” maintaining an asset;

- **Understanding of risk** – Culverted sections of watercourse may drain large, upstream catchments that extend far beyond the urban area. Such a situation may not be clear from drainage records and if it is not appreciated, can lead to understatement of the flood risk as well as concealing potential upstream solutions. It may also be the case that appropriate design standards were not applied to pipe sizing at the time of construction;
- **Legal powers and duties to maintain assets** – Different asset types are governed by various pieces of legislation that afford specific powers to different agencies.
 - Sewerage undertakers’ powers and duties are given in relation to “public sewers”⁵ and only a sewerage undertaker has powers to enter private property to maintain such sewers;
 - The duty to undertake works on rivers rests with the land owner;
 - the Environment Agency has powers to undertake works on main rivers and does so in some prioritised high-risk areas. Works on main rivers require the appropriate permits from the Environment Agency;
 - The Lead Local Flood Authorities also have powers to undertake works subject to the application to the appropriate enforcement powers under the Land Drainage Act and the second-tier local authorities have powers to carry out works on ordinary watercourse;
 - Damming or culverting works on ordinary watercourses require a consent from the Lead Local Flood Authority
- **Enforcement** – Equally, only certain Risk Management Authorities have enforcement powers. They can, after giving notice, require owners to carry out works on the specific assets for which they have responsibility;
- **Funding** – Funding for different types of drainage comes from differing sources e.g. sewerage investment is funded from customer bills, while certain land drainage functions (not normally maintenance) may benefit from a combination of local taxes and levies and central government grants.
 - The Environment Agency as the lead on main rivers has access to some funding prioritised into works in high risk areas; but
 - There are no funding streams provided specifically for maintenance of ordinary watercourse works

If an asset is assigned to the wrong owner, they may not be able to access funds to maintain it.

⁵ See section 94 of the Water Industry Act 1999. Undertakers are ‘to provide, improve and extend such a system of public sewers and so as to cleanse and maintain those sewers as to ensure that that area is and continues to be effectually drained.’

A helpful guide to the rights and responsibilities of riparian owners can be found on the government website “Owning a Watercourse”.⁶ For further advice or clarification, the appropriate body to contact is the local Risk Management Authority.

6. Functions of drainage assets

To establish the legal status of particular assets, it is helpful to identify the different ways in which their classification can be approached.

This section outlines the main areas of drainage activity by considering the function the asset fulfils. The next section explores the legal definitions of the different types of drainage assets before considering the physical attributes that can help to identify the principal purpose of an asset.

Land drainage

Land drainage refers to the management of water on or in the land, in order to improve the land for purposes such as agriculture, development and navigation. In this context⁷ “drainage” includes: defence against water (including sea water); irrigation; warping (deliberately flooding land to improve the soil) and any other practice which involves management of the level of water in a watercourse. Land drainage functions can be performed by local authorities, drainage boards, the Environment Agency, Natural Resources Wales and land owners.

Property drainage

In this context⁸, property drainage refers to the drainage for domestic purposes of premises on which there are buildings or, on which buildings are to be built. Domestic sewerage purposes are defined as the removal of water used for washing, cooking and sanitary purposes. In urban areas, the highways that serve the premises may also drain into the same sewers that drain the premises where this has been agreed with the relevant water company.

Highway drainage

Highway drainage is the management of runoff from highways and the protection of highways from flooding. Statutory highway authorities have the right to discharge runoff from highways into watercourses or onto adjacent land. Highway drainage can be performed by local authorities, Highways England, private owners or private management companies.

Track drainage

Rail track operators manage the flood risk to railway assets such as tracks, stations, depots, sidings, and marshalling yards. They also manage many assets that enable tracks to cross watercourses e.g. culverts and tunnels.

7. Legal and other definitions of Drainage Assets

Table 1 gives the legal or technical definitions of the key drainage structures and features the status and ownership of which are often subject to dispute.

⁶ <https://www.gov.uk/guidance/owning-a-watercourse>

⁷ Land Drainage Act 1991 c.59, section 72.

⁸ Water Industry Act 1991 c.56, section 117.

Table 1 Definitions of Drainage Assets

Feature	Definition
Watercourse ⁹¹⁰	<p>Includes all rivers, streams, ditches, drains, cuts, dykes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991["WIA 1991]) and passages through which water flows except mains and other pipes which</p> <p>a) belong to the Environment Agency, Natural Resources Wales or a water undertaker; or</p> <p>b) are used by a water undertaker or any other person for the purpose only of providing a supply of water to any premises</p> <p>Land Drainage Act 1991 definition: includes all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows.</p>
Ordinary Watercourse ¹¹	A watercourse that does not form part of a main river.
Main River ¹²	A watercourse shown as such on a main river map
Drain ¹³	A drain used for the drainage of one building or of any buildings or yards appurtenant to buildings within the same curtilage.
Sewer ¹⁴	Includes all sewers and drains (not being drains as described above) which are used for the drainage of buildings and yards appurtenant to buildings.
Public Sewer ¹⁵	A sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker by virtue of a scheme under Schedule 2 to the Water Act 1989 or Schedule 2 to the WIA 1991 or under section 179 WIA 1991 or otherwise.
Highway Drain ¹⁶	A drain or barrier in the highway or in land adjoining or lying near to the highway, for the purpose of draining it or of otherwise preventing surface water from flowing on to it. "Drain" includes a ditch, gutter, watercourse, soak-away, culvert, conduit and pipe.
Culvert ¹⁷	A covered channel or pipe designed to prevent the obstruction of a watercourse or drainage path by an artificial construction.

⁹ Water Resources Act 1991 c.57, Section 221 (1)

¹⁰ See also Land Drainage Act 1991 Section 72

¹¹ Land Drainage Act 1991, c.59, Section 72

⁹ Not used

¹² Water Resources Act 1991 c.57, Section 113 (d)

¹³ Water Industry Act 1991 c.56, Section 219 (1)

¹⁴ ibid

¹⁵ ibid

¹⁶ Highways Act 1980 c.66, Section 100 (1), (9)

¹⁷ Land Drainage Act 1991, Section 72

Physical characteristics of Asset Types

The legal definitions in Table 1 do not define the physical characteristics of the different asset types and certain terms are used to describe more than one type. Table 2 below gives the broad physical descriptions of the various asset types and their primary functions. These descriptions are however indicative rather than determinative of the classification of an asset.

Table 2 Comparison of physical asset types

Asset	Features	Functions
Watercourse	Any channel or structure through which water can flow. Can have many different names including sewer (see below).	Drainage, navigation, irrigation, abstraction.
Drain	Any channel or structure through which water can flow. Generally assumed to be man-made.	Drainage
Sewer	Any channel or structure through which water can flow. The term sewer traditionally only applies to closed pipes, culverts or tunnels but some surface assets can also be sewers.	Drainage
Public sewer	A sewer as defined above but which is vested in a sewerage undertaker.	Property drainage
Highway Drain	Any channel or structure in the highway or adjacent to the highway, for the purpose of draining it or of otherwise preventing surface water from flowing on to it.	Highway drainage
Culvert	A covered channel, conduit or pipeline used to continue a watercourse or drainage path under an obstruction.	Drainage, irrigation, abstraction.

The terms watercourse, drain and sewer occur in several pieces of legislation and are applied to more than one type of asset. The only specific exclusion in the legislation is that a public sewer cannot be a watercourse¹⁸. Table 3 below lists the types of asset that each term is applied to in the legislation.

Table 3 Applicability of legal definitions to assets

Physical Asset	Legal definitions that can be applied				
	Watercourse	Drain	Sewer	Public sewer	Highway drain
Watercourse	Yes	Yes	Yes	No	Yes
Drain	Yes	Yes	Yes	No	Yes
Sewer	Yes	Yes	Yes	No	Yes
Public sewer	No	No	No	Yes	See*
Highway Drain	Yes	Yes	Yes	See *	Yes
Culvert	Yes	Yes	Yes	Yes	Yes

¹⁸ Water Resources Act 1991 c.57, Section 221 (1)

*Subject to agreement between them, drains managed by a highway authority can receive surface water from premises drained by a water company and public sewers managed by the water company can receive surface water from roads managed by the highway authority¹⁹.

8. Summary of asset types and legal definitions

- Drainage assets are defined across several pieces of legislation
- The legislation only contains broad, generic descriptions of assets and does not define their physical characteristics
- Assets are often defined according to their function rather than their physical nature
- The only specific exclusion is that a watercourse cannot be a public sewer²⁰

9. Recording of drainage assets

Because drainage assets are managed by several types of organisations, they are recorded in a number of repositories. Table 4 shows the main sources of asset data and the organisations that maintain them. Neither LLFA asset registers or public sewer maps contain complete asset records and the LLFA registers are only required to record assets that are likely to have a significant effect on flood risk, rather than all assets or the whole watercourse for example.

Table 4 Repositories for drainage asset records

Feature	Managed by	Recorded in
Ordinary Watercourse	Riparian Owner ²¹ [or other person with responsibility- eg, tenant]	LLFA asset registers (sometimes)
Main River	Riparian Owner ²²	Main River Map ²³
Drain	Various ²⁴	Various
Sewer	Various ²⁵	Various
Public Sewer	Water and Sewerage undertaker	Public sewer map
Highway Drain	Highway Authority (where adopted)	Highway Authority and LLFA asset registers (sometimes)
Culvert	Various ²⁶	Various

The public sewer map

The starting point in considering whether culverted watercourses and sewers have been correctly identified is the public sewer map.

Sewerage undertakers have a duty under section 199 WIA 1991 to keep records of the location and other relevant particulars of every public sewer, lateral drain or disposal main which is

¹⁹ Water Industry Act 1991 c.56, Section 115 [1]

²⁰ Water Resources Act 1991 c.57, Section 221 [1]

²¹ EA/LLFA have various works powers only

²² EA/LLFA have various works powers only

²³ Water Resources Act 1991 c.57, Section 192 [1]

²⁴ Riparian owner or its appointed maintenance company/adopting authority

²⁵ See note 21

²⁶ See note 21

vested in them. They are required to allow the public to view the information, in the form of a map, free of charge.

Section 200 of the same Act requires sewerage undertakers to provide the same information to local authorities in their area and requires those authorities to provide the public with access to those maps.

Public sewer maps can include a variety of non-water company assets including culverted watercourses and highway drains. So, while the starting point is the sewer map, if there is evidence that an asset has been wrongly classified, this will require the map to be amended to reflect the true legal status of the particular asset.

There is a duty on the sewerage undertaker to modify the public sewer map as soon as reasonably practicable after the completion of the works which make a modification necessary.

Why might a culverted watercourse be shown on the public sewer map as a sewer?

The background to the current allocation of responsibilities for the different types of drainage assets is complex and over time, different legal powers have been used by those installing drainage assets. Two of the most significant pieces of legislation in this area were the Public Health Act 1936 and the Water Act 1973. Until the 1973 legislation that established regional water authorities (that became private water and sewerage companies following privatisation in 1989), local authorities were responsible for the provision and maintenance of public sewerage facilities. In many cases they were also the body responsible for local land drainage, as well as being the highway authority (with responsibility for highway drainage), and significant riparian land owners in their own right.

The statutory responsibility for the maintenance of a public sewer map also rested with the local authority. Errors may have arisen during that period and have been perpetuated by water authorities or their successors. For example, they may have issued sewer build-over agreements in respect of assets that were not in law sewers.

When the responsibility for maintaining and updating the public sewer map transferred to the privatised water companies following the enactment of the Water Act 1989, the maps as previously created by local authorities were passed to those companies.

Further errors and omissions occurred when water companies converted the original printed maps into digital formats.

Consequently, the current public sewer maps contain culverted watercourses that are incorrectly recorded as public sewers. There may also be cases where sewers are incorrectly recorded as watercourses. Note that sewer maps may also incorrectly record highway drains as being sewers such as where a bulk transfer of assets has been undertaken, without distinguishing between specific asset types. These misallocations may become apparent following an event such as flooding or asset failure.

Given the responsibilities on water companies producing accurate responses to water and drainage search requests as part of the house buying process, the need for accuracy in the sewer map has become more important. LLFAs rely on public sewer maps in carrying out flood risk investigations, as required by the Flood and Water Management Act 2010 and this is another driver for the accuracy of the sewer map.

10. What is the legal status of a culverted watercourse?

There have been significant changes and alterations in the roles and responsibilities as well as the organisations responsible for sewerage over hundreds of years. Key legislation includes:

The Rivers Pollution Prevention Act 1876 imposed restrictions on allowing sewage to enter streams;

The Public Health Act 1936 collated previous acts and provided further rights and responsibilities to Local Authorities in managing sewerage.

The Water Resources Act 1991 c.57, Section 221 (1) states that the term watercourse “Includes all rivers, streams, ditches, drains, cuts, dykes, sluices, sewers [other than public sewers within the meaning of the Water Industry Act 1991]”. This means that, while a watercourse may be described as a sewer and may physically resemble a typical sewer (ie, a pipe), it cannot legally be a public sewer, vested in a sewerage undertaker.

In addition, none of the following actions alter the legal status of a watercourse:

- Channelling it in a culvert or pipe - it remains a watercourse even though it no longer flows in a natural channel. This is established in case law;^{27,28,29}
- The discharge of sewage into it;
- A culverted watercourse appearing on the public sewer map as a sewer– this is no proof of vesting as a public sewer.

11. Protocol for correctly classifying culverted watercourses and sewers

Against this background, how in practice should culverted watercourses be identified and how should interested parties approach possible re-classifications of culverted watercourses or sewers.?

Principles of the protocol

The overriding aim of the protocol is to ensure that sewers and watercourses are recognised for what they are and that where doubts arise as to the correct status of an asset, these can be resolved in a harmonious way.

Protocol

A Review of assets by water company

In considering whether a particular asset is a sewer or watercourse, the water company will be carrying out its statutory duty of keeping a record of sewers that are vested in it. In carrying out this exercise, it is not changing the legal status of the asset but rather recording the fact that there has, to date, been an incorrect entry on the public sewer map.

Evidence

Where a water company seeks the re-classification of an asset it shall prepare the evidence for that conclusion based on the factors set out in the Appendix to this protocol.

²⁷ Shepherd v Croft;

²⁸ British Railways Board v Tonbridge and Malling DC

²⁹ Raglan Housing Association v Southampton CC

It will typically provide evidence (particularly photographic evidence) of:

- a continuous flow of a body of water during periods of dry weather, ie flows which cannot be attributed to surface water sewers or groundwater;
- local geographical knowledge which indicates the historic presence of a watercourse at that or a nearby location.³⁰ [note that some watercourses will only have flows in particular circumstances, e.g., winterbournes];
- the purpose for which it was constructed (if known);
- the powers used (if known);
- the sources of funding for construction and maintenance (if known);
- any vesting declaration.

Consulting parties

If it is a water company seeking a change, it will normally first seek further evidence from the relevant Risk Management Authority, Natural Resources Wales, Network Rail or land owner.

These entities are expected to provide such information as may be in their possession and which is relevant to the determination of the status of the asset in question.

In the meantime, the public sewer map should be annotated to indicate that there is uncertainty over the status of the “pipe/culvert” in question.

Consideration should be given by the water company to notifying relevant parties such as those believed to be riparian owners at an early stage where re-classification is being discussed. Recognising the risk of causing unnecessary worry among riparian owners, it may be preferable to wait until such time as any uncertainty has been resolved.

Contesting a proposed re-classification

If information as described above has been provided, the burden of arguing that the entry was in fact correct, and that the asset should not be re-classified, rests on the relevant landowner or local authority which contests the conclusion.

B Reclassification of watercourses

Where a party, whether a landowner, LLFA or other body considers that an asset has been wrongly recorded, or not recorded, on the sewer map it shall first prepare the evidence for that conclusion based on the factors set out in the Appendix to this protocol. Typically, this evidence will demonstrate:

- the nature of the flows within the disputed asset (which may be provided by means of a map of the wider catchment);
- the purpose for which it was constructed (if known);

³⁰ Note however that there may be dry watercourses with only occasional flows (still a watercourse) and surface water sewers with continuous flows due to things like groundwater infiltration (still a sewer)

- the powers used (if known); and
- the original source of funding for the asset;
- the analysis of the nature of the water;
- the source of any foul water found and the age of the properties generating the foul water.

Where available, historical map information and photographic evidence is to be supplied.

Evidence of purpose and of the powers used as well of the original funding source may not be readily available to parties other than water companies. The water companies will therefore provide reasonable assistance to the party questioning the sewer map.

C Next steps

Where there is agreement, the sewer record can be amended and where there is not, the parties concerned shall cooperate to assess what further evidence may be available to assist in the classification.

This further evidence shall be considered by the parties' respective experts who shall endeavour to reach an agreement on the matter within 180 days of the reference in writing to all relevant parties.

During that period, if the case involves potential re-classification of an asset currently shown as a sewer on the public sewer map the sewerage company shall suspend the re-classification procedure. The parties will also discuss in good faith how best to undertake any necessary operational or maintenance works during the period-potentially on a "without prejudice" basis. Where water companies have been maintaining assets for a significant period, they will normally continue to do so during any such period.

If the issue is the possible re-classification of an asset currently shown as a sewer on the sewer map and at the end of that period the matter is not resolved, the water company may re-classify the asset in question, in accordance with their duties under Section 199 of the Water Industry Act 1991. In deciding when the re-classification is to take effect, the water company shall consider the scale of the affected asset and all relevant circumstances. The option of instigating the re-classification to coincide with a change of owner of the affected property will be assessed, noting however that this will not necessarily be feasible where a number of properties are involved.

D After a re-classification decision

Where the re-classification of an asset has been initiated by a water company, it should formally notify the relevant parties in advance about when it will be re-classified. This includes owners and Risk Management Authorities.

It should provide GIS information on the asset to the Risk Management Authorities, to help them fulfil their legal duties.

The asset should remain on the sewer map but be annotated in a way that indicates its correct status, eg, “private” or “culverted watercourse”. Where agreement cannot be reached on the proper classification of an asset, it may be preferable to mark the map to show that the ownership is “unknown” or “disputed”.

If as a result of the re-classification, a riparian owner subsequently takes responsibility for the asset and their property no longer drains to the public sewer, the water company should notify the owner that they can apply to receive a rebate on surface water drainage charges from the water company.

The party initiating the re-classification shall use all reasonable endeavours to provide information about the asset to the owner and will provide reasonable assistance to allow those taking over responsibility for the particular asset to establish new management arrangements involving the various affected parties.

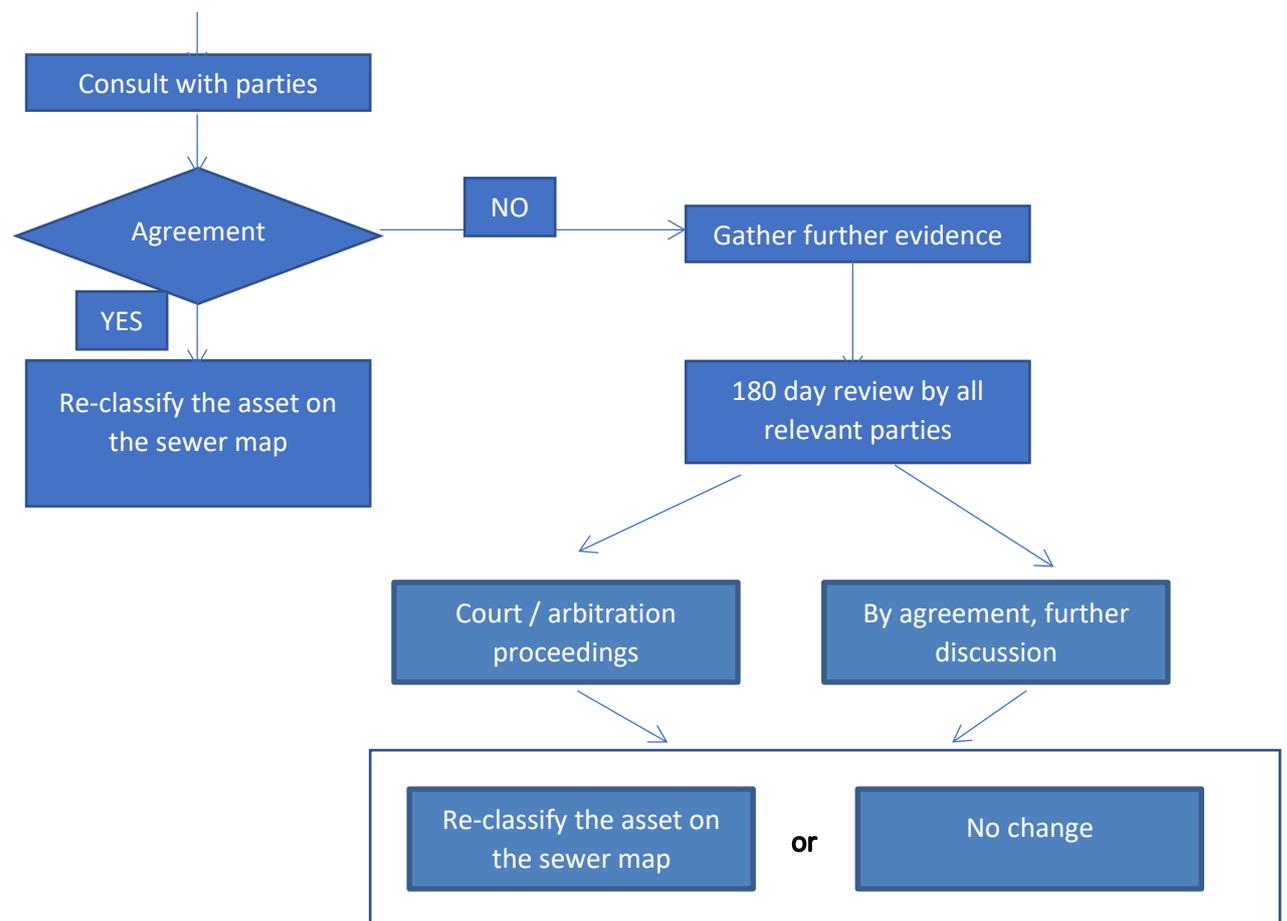
This reasonable assistance for example may involve the water company taking on responsibilities on a contractual basis for continuing maintenance.

That party shall also provide information about how the decision may be challenged.

Review of Protocol

This document will be reviewed within 2 years of its introduction. Water UK will gather feedback from Risk Management Authorities and other interested parties on the way in which this protocol has been applied. The aim will be to determine if the protocol has achieved the purpose set out at the start of this document.

12. A simplified procedure



Appendix

Basis for re-classification of assets

The following considerations should be taken into account when assessing if an asset needs to be re-classified:

The hydrology of the asset

Is a pipe or culvert still hydraulically connected to a natural watercourse upstream and/or a catchment basin that is not entirely a built-up area? In other words, is it performing a significant land drainage function? Sewerage undertakers do not have legal powers for land drainage.

- a) A conduit that connects sections of culverted or open watercourse is likely to be considered as a culverted watercourse.
- b) Culverted watercourses usually follow the route of the former open watercourse reasonably closely and in many cases this is clearly not typical of a planned public surface water sewer layout. A surface water conduit in these circumstances is more likely to be a culverted watercourse than a public surface water sewer.
- c) What is the nature of the **contents** of the flow that the asset conveys? For instance: -
 - does it convey land drainage only?
 - does it convey foul sewage?
 - does it convey surface water from property yards and roofs³¹?

Note that just because a pipe sometimes has discharges of foul sewage in it, or surface water from roofs and yards, it does not necessarily mean it has become a public sewer.

- d) What is the **source** of the flow i.e. where does the flow within the asset first originate?
 - A trace dye could be carried out to check (although the presence of groundwater may make this difficult).

This question specifically refers to the 'head' or 'source' of the flow.
- e) Where does the source ultimately flow?
 - Very often the end of the culverted section will continue along the line of an open watercourse which indicates that the piped section is a culverted watercourse. However, surface water sewers may also discharge to a watercourse and may also connect back into the public sewer. Each case therefore needs to be considered based on its inflow and outflow.

The nature of the flood risk from the asset

Because there are restricted routes of entry for runoff into sewers and they mainly drain impermeable surfaces, the extent of flooding from sewers tends to be localised and of short duration. Watercourses on the other hand, can receive runoff from the entire drainage basin.

³¹ The fact that water from roofs/building/associated paved areas drains into a culverted watercourse or highway drain does not necessarily imply that the assets in question become public sewers and while it is a relevant factor, the payment of a surface water disposal charge does not dictate ownership

As a result, flooding from watercourses can be extensive and prolonged, as the basin slowly drains down.

The nature of sewerage provision in the area

In areas where local sewerage provision is primarily on a combined system basis it would be less likely for a public surface water sewer to also drain that area. A surface water conduit in these circumstances is therefore more likely to be a culverted watercourse or highway drain than a public surface water sewer. This is not always the case and in modern developments, even in a combined system area, there are likely to be separate surface water sewerage arrangements.

Construction specification

Sewerage provision was almost wholly on a combined system basis up until the mid- 20th century, with provision of separate systems not becoming common until the late 1950s. The construction of public surface water sewers is, as such, generally consistent with specifications of the relevant periods. A surface water conduit that is of construction clearly inconsistent with such specifications is therefore more likely to be a culverted watercourse or highway drain than a public surface water sewer.

Power used to construct the asset

The power used to construct the asset will be relevant. If the asset was constructed (or an existing asset was culverted) under public health or sewerage powers (eg, Part II of the Public Health Act 1936), then this suggests the asset may be a public sewer although there may be a question as to whether the appropriate powers and funding were used for the scheme.

Evidence that may be relevant

Is it on the statutory sewer records? If so:

- How long has it been on sewer records?
- How long has it been classified that way on the statutory sewer records?
- Has the ownership classification always been as it is now?

Is it on any old sewer record plans? If so:

- How is the asset ownership classified and shown on the maps?

Is it on current Ordnance Survey maps as a water feature? If so:

- How is it classified / displayed on OS maps?
- How is it classified / displayed on historic OS maps?

Is it on Local Authority or Environment Agency plans / asset registers? If so:

- How is it classified?
- How long has it been classified in this way?

Does a declaration of vesting exist? If so:

- What does it say about asset ownership? Note that such declarations may not exist even where, for example, the asset was constructed before 1973 by a local authority under the bathing waters “Clean Sweep” programme.

References to historic maps or photos can also help.

- What is **connected** to the asset in question?
- Identify all principal sources of flows draining to the asset in question.

How many properties, if any, drain into the pipe?

- CCTV Surveys can show this.
- Dye testing could show this. If properties that drain into the pipe cannot be identified this reduces the likelihood of it being a sewer.

How old is the asset?

- When was the asset constructed?
- What existed prior to the asset being constructed?

Does the water and sewerage undertaker collect a surface water drainage charge from any properties which connect directly or indirectly to the asset in question?³²

Which authority, organisation or individual culverted the asset?

- A private landowner or a statutory authority?
- If it was a statutory authority who culverted the asset, was it culverted in pursuance of their **powers** as a sewerage undertaker or as a land drainage authority?

³² This will not of itself determine ownership