

Developers Guide to the Adoption and Vesting of New Sewers (S104)

April 2024



YorkshireWater

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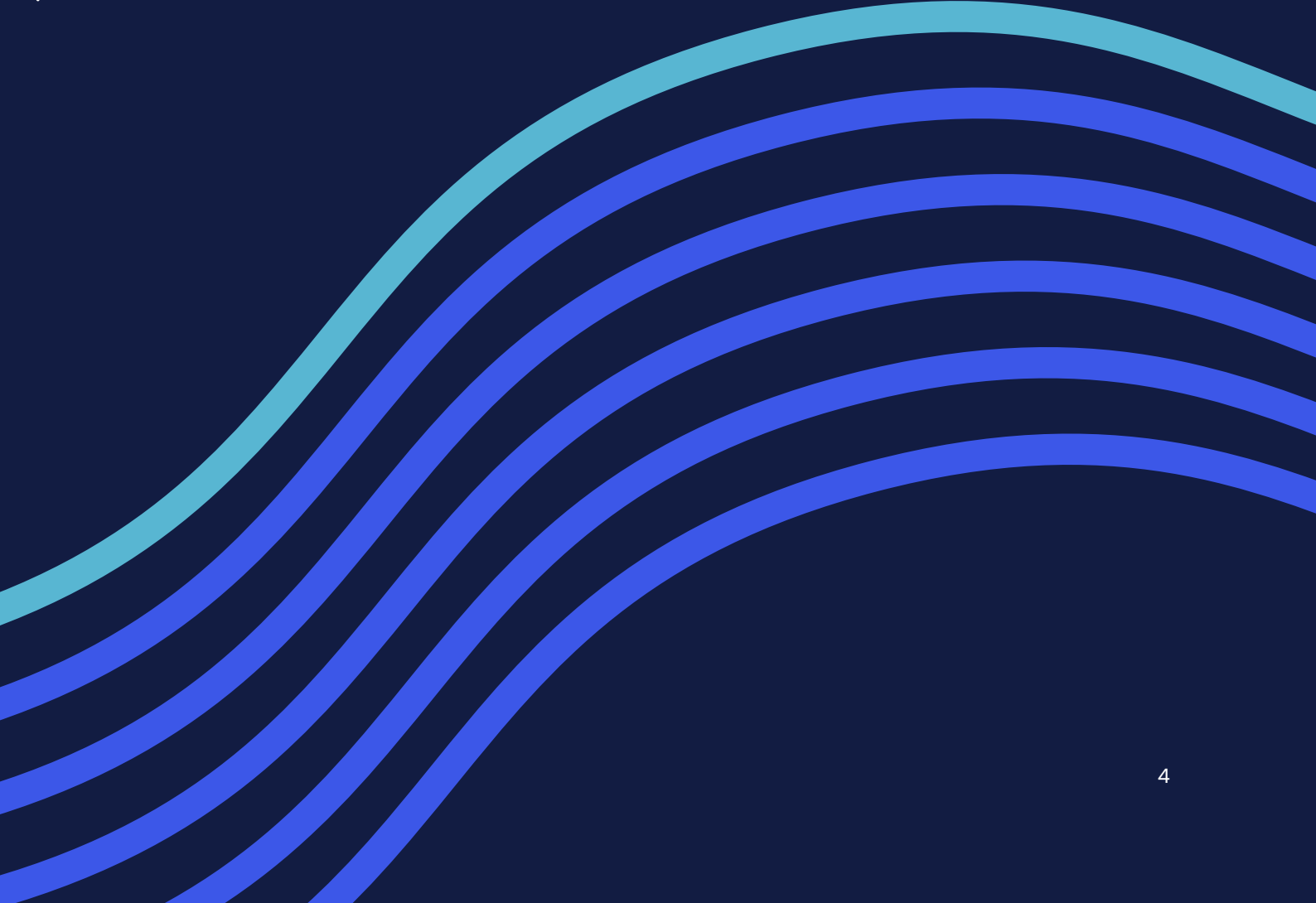
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Introduction



Introduction

The purpose of this document is to provide developers with a guide on how to apply for the adoption of new sewers and to put a drainage system on a development site forward to be formally vested in Yorkshire Water as a public sewerage system.

This guide details the adoption requirements under Section 104 (S104) of the Water Industry Act 1991. Sewerage assets offered for adoption, should be designed and constructed in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

The Sewer Adoption, Diversion and Requisition Team is responsible for undertaking technical assessments on all sites put forward for adoption, through to the issue of Conditional and Technical Acceptance, undertaking of site inspections during construction and issuing the Final Certificate and the Vesting Declaration on adoption of the assets put forward within the S104 Agreement.

The structure of this document is aligned to the Sewerage Sector Guidance procedures:

You can find all of the relevant sewer adoption forms at yorkshirewater.com/developers/sewerage/sewer-adoptions/

Stage 1a

Pre Planning Enquiry – to submit an application, you can either download a form or make an application online.

Stage 1b

Pre Design Discussion for All Sites – to request a pre design discussion with us, please download, complete and return a Request Form to us with all supporting information.

Stage 2

Design of New Sewerage System – to submit an application for the team to assess and accept, you can either download a form or make an application online.

Stage 3

Adoption Agreement – on your instruction we will prepare the Model Sewer Adoption Agreement for your site. However, if you wish to prepare the Model Sewer Adoption Agreement yourself and return it to us for signing.

Stage 4

Construct Gravity Sewerage System – on receipt of Conditional and/or Technical Acceptance for your site, you may request a Pre Start Inspection Meeting by downloading, completing and returning a Request Form to us with all the supporting information.

Stage 5

Maintenance Period – if you would like to request a Pre Maintenance Inspection of your site, please download, complete and return a Request Form to us along with the supporting information.

Stage 6

Final Inspection and Vesting – if you would like to request a Final Inspection of your site, please download, complete and return a Request Form to us along with the supporting information.

Stage 7

Variation of New Sewerage System – if you would like to request a variation to the Technically Accepted drawings contained within the signed S104 Agreement for your site, please submit a written request to the team along with the supporting information.

Sewer Adoption, Diversion and Requisition Team Structure

Sewer Adoption, Diversion and Requisition Manager

Natalie Drake

Sewer Adoptions / Minor Diversions

Senior Engineer

Wendy Mullaney

Technician

Imtiyaz Nadat

Linda Lancaster

Umar Hussain

Tamara Vaughan

George Mulheron

Agent

Barbara Davis

Sarah Riley

Stacey Thorpe

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Major Diversions / Sewer Requisitions / First Time Sewerage

Senior Engineer

Graham Phillips

Project Co-ordinator

Jessica Birch

Developer Services Inspections (Sewerage)

Team Leader – Michelle Shackleton

Asset Technical Support Engineer – Nick Cooper

Senior Inspector – Oliver Escreet

Bill Medlock Daniel Tunnacliffe

Richard Battye Nicholas Brown

Michael Whale Ahsin Imran

George Gilmore

Please email all enquiries to technical.sewerage@yorkshirewater.co.uk, quoting the site reference number in the subject box (if you have one).

Part 1 – Design of New Sewers (S104)



Adoption of New Sewers (S104)

All submissions for new sewers being offered for adoption should be made, via an application form, in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

Adoption Requirements

Sewer Connections

If you are offering new sewers for adoption, you are still required to complete the '*Application for a new connection to the public sewer network*' form and submit this alongside your '*Application for Sewer Adoption including Lateral Drains and Sewers*' form.

For information on how to connect to the public sewer network, please refer to our '*Making a New Connection to Public Sewer*' guidance document and the '*Application for a new connection to the public sewer network*' form on our website. You can also apply online for a sewer connection.

The S106 Sewer Connection application will be assessed and approved separately from the S104 application, providing the criteria for the S106 has been adhered to i.e. planning is approved, type of connection and materials are satisfactory. The payment for the S106 application will be included in the S104 fees which will be invoiced to the developer with the S104 application is issued Conditional and/or Technical Acceptance.

Work cannot be carried out on the public sewer network without written approval from Yorkshire Water for your contractor to do so. Our Developer Services Inspector will monitor the work as it takes place. We highly recommend that you use a suitable qualified and experienced contractor to undertake the works.

Land and Highway Drainage

Yorkshire Water has no legal duty to accept highway drainage from new developments into the public sewer network.

However, we may consider highway drainage as part of the overall surface water drainage strategy for the site. All applications will be considered by the Developer Services Pre-Development team on a site specific basis.

We will not consider land drainage discharges to the public sewer network.

Discharging to a Water Course

If the surface water is discharging to a watercourse, it is the developer's responsibility to obtain permission to discharge, at an agreed rate, from the relevant Authorising Body.

Written confirmation from the landowner with regards to the location for the outfall will be required.

The landowner will need to be party to the S104 Agreement.

Hierarchy of Connection for Surface Water

The guidance to local authorities includes a hierarchy of connection for surface water, which can be summarised as follows:

1. Surface water runoff is collected for use
2. Discharge into the ground via infiltration
3. Discharge to a watercourse or other surface water body
4. Discharge to a surface water sewer, highway drain or other drainage system, discharging to a watercourse or other surface water body
5. Discharge to a combined sewer.

Where a developer proposes to connect surface water to the existing sewer system they should submit evidence to show how the surface water hierarchy has been applied to the site and why the connection to the sewer is the most practical solution. They should also show that this has been accepted by the Local Planning Authority and in the cases of major developments, they should also show that this has been reviewed by the Lead Local Flood Authority.

The location of adoptable drainage components should take account of the need to provide appropriate access to each component for maintenance.

Sustainable Drainage

Here at Yorkshire Water we are very much aligned to the implementation of sustainable drainage systems and we want for the assets that we take ownership of through the adoption process to contribute to our overarching strategies, policies and performance commitments by:

- Managing surface water sustainably on the surface
- Creating resilience to climate change
- Increasing bio-diversity net gain
- Contributing to net zero carbon.

There are four main categories of benefits that can be achieved by sustainable drainage (“SuDS”), referred to as the ‘four pillars of SUDS design’ – water quantity, water quality, biodiversity and amenity. SuDS can take many forms, above and below ground, and SuDS that are designed to manage and use rainwater close to where it falls, tend to provide the greatest benefits.

Surface water should be managed for maximum benefit, now and in the future and as such the established preferred hierarchy for surface water disposal should still be considered in all instances.

We encourage developers to work to the principles contained within The SuDS Manual (CIRIA), which provides the foundations to the Code for Adoption Design and Construction Guidance.

Drainage systems considered at the earliest stages of site selection and design are easier to integrate into developments influencing other aspects of the site such as design, layout and function, and thereby reducing impermeable areas wherever possible.

Here at Yorkshire Water, we encourage early and effective engagement during your planning and pre planning stages of the development, so please come and talk to us so we can work together to help deliver sustainable developments for the future.

We are agile in our thinking and approach to the integration and design of sustainable drainage components within a development site and a key driver for us through the adoption process is the health and safety of our customers and operational colleagues.

Stage 1a: Pre Planning Enquiry

To minimise delays in having your S104 application progressed, it is highly recommended that the developer for a site submits a Pre Planning Enquiry to Yorkshire Water.

We will provide you written observation on:

- the existing public sewer network,
- the restrictions on discharge,
- points of discharge; and
- building near to a public sewer network.

The response also outlines what you need to do to complete your design proposal and highlights any complexities surrounding your site.

On more complex sites, you might also need a hydraulic model check. We'll advise if you need this when we receive your enquiry. There may be extra costs if we need to provide more technical analysis, but we'll let you know an estimate and agree it with you before any extra work is carried out.

As part of the pre-planning process, we now have a requirement to ensure the effective inclusion of different sustainable drainage features and that the management train of features is considered on new development sites. We would therefore like to draw your attention to **'The SuDS Manual'** produced by CIRIA which provides an overview of the concept of SuDS, which components are now adoptable as sewers and the benefits these would bring to your development site and the local environment. By working together, we can integrate surface water management into the design of new developments, thereby protecting our environment and creating high quality places for our customers to enjoy.

You can either apply online or download a form to complete from our website:
[yorkshirewater.com/developers/sewage/pre-planning-sewage-enquiry/](https://www.yorkshirewater.com/developers/sewage/pre-planning-sewage-enquiry/)

The Pre Development Technician will acknowledge receipt of your application and provide a full response to your enquiry.

For further information on the requirements of a Pre Planning Enquiry, please contact the Pre Development team.

You can purchase a copy of The SuDS Manual (C753) at
[ciria.org](https://www.ciria.org)

Stage 1b: Pre Design Discussion

For all sites, a pre design discussion in relation to prospective S104 applications is required under the Code for Adoption.

You can complete and return a **Request Form for a Pre Design Discussion**, alongside the required information, to us and we will arrange a meeting.

The form can be downloaded from our website

yorkshirewater.com/developers/sewerage/sewer-adoptions/

A developer who is planning to construct a sewer and associated assets which will be adopted by Yorkshire Water should ensure that the prospective public sewers are designed and constructed in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

We are happy to offer you technical advice on any prospective sites that you would like to put forward for adoption, prior to submission of your S104 application form. We will discuss your design proposals and any site specific requirements.

We will provide a copy of the notes and main points discussed to you after the meeting.

Stage 2: Design of New Sewerage System

Submission of an S104 Application

You are required to submit a 'complete application' for all sewers being offered for adoption in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

The 'Application for Sewer Adoption including Lateral Drains and Sewers' form must be completed in full and submitted to Developer Services along with all the required supporting information and copies of the relevant drawings, hydraulic calculations and technical specifications detailed on the application form.

You are also able to apply online at developerservices.yorkshirewater.com/sign-up-sign-in and upload all supporting information through our portal.

Acknowledgement of S104 Application

On receipt of your application (by paper or online), your submission will be reviewed by the Adoptions Senior Engineer who will provide you with an 'acknowledgement letter' to advise you if your submission is 'complete', 'substantially complete' or 'incomplete'.

If your submission is deemed to be 'incomplete', we will provide you with a list of missing information. The application will not be assessed until the outstanding information has been provided.

If your submission is deemed to be 'complete' or 'substantially complete' we will provide confirmation of this and pass your submission to an Adoptions Technician to undertake a technical assessment. The acknowledgement letter will also advise which Adoptions Technician will be dealing with the site and the associated timescales for response.

Technical Assessment

The Adoptions Technician will commence their technical assessment of the design of the adoptable sewers and associated assets for the site by using our standard checklist as a guide.

Please note that each site is considered on its own merits and site specific detailed requirements are excluded from our standard checklist. These additional requirements, outside the scope of our standard checklist, will be discussed with you either at a pre design meeting held prior to submission of the application form or following receipt of an application.

If you need guidance when designing the adoptable sewer system, please refer to our drawing packs at [yorkshirewater.com/developers/sewerage/sewer-adoptions/](https://developerservices.yorkshirewater.com/sewerage/sewer-adoptions/). These include:

- Typical Manhole Drawing Details
- Pump Station Drawing Details

Planning

Confirmation that Planning Approval has been granted:

- we require confirmation of permission to discharge surface water, the flow rate and the point of connection
- we require confirmation of point of connection for foul sewerage
- we require confirmation that Highway Drainage to proposed adoptable sewer has been 'agreed'
- we require confirmation of Surety Details, Landowner/Adjacent Landowner details have been received as part of the application.

Developer Programme of Works

We require confirmation of the estimated construction start date and estimated costs of constructing the adoptable sewer network.

Please note – under the Code for Adoption, no sewer works are to start on site until Conditional and/or Technical Acceptance has been issued.

Site Location Plan

Site location plan details must be:

- at a minimum scale of 1:2500
- showing the site boundary edged in green with the location and value of the OS Benchmark used and the OS map reference for the site.

Site Layout Plan

Site layout plan must show:

- the North Point
- site contours
- direction of flow, pipe material, pipe size and gradient on all main drains and sewers
- the proposed sewerage layout is consistent with any agreed Drainage Strategy for the area
- any existing public sewerage assets affected
- that there is no possibility of back flooding from sewers. We require confirmation of private drainage drawing with cover levels shown
- layout drawing drawn at minimum of 1:500 scale
- connections to existing (public) sewers, have the existing invert/soffit level detailed and verified on site
- that manholes are located correctly. Manholes are required at every change in direction, change in pipe size, change in gradient and located to facilitate connection with a public sewer
- the maximum distance between manholes is typically 150 metres
- a 3 metre wide vehicular access to any chambers containing a flow control device and headwall on any detention basins, to within 5 metres of the maintainable asset. This should be to highway construction and surfaced with bitmac or concrete
- a turning area to avoid a 4,000 gallon tanker reversing more than 20 metres
- a protected strip is required over sewers that are not located within the highway; this must be shown coloured yellow and hatched, with the appropriate width highlighted
- kerb lines and service strips/margins are at least 1 metre away from the centreline of the prospectively adoptable sewer and at least 0.5 metre from the outside edge of prospectively adoptable manholes
- any prospectively adoptable sewer is located at least 5 metres away from any proposed planting and is positioned at least 3 metres from an existing tree

- the minimum size and gradient of the gravity sewers to provide a self cleansing regime. This is site dependant but where fall is available we would look for this to be utilised, where it isn't then the 1 in 150 rule would become applicable. Obviously 1 in 120 is better than 1 in 150, but 1 in 80 is even better still
- a manhole being built at every junction of a public/adoptable with a private sewer, serving more than 10 properties.

Please note – we will not accept ground water, land drainage and/or filter drains connected (directly or indirectly) to the (prospective) public sewer network.

Please note – an Access Right in Perpetuity will be required for vehicular access to the maintainable asset.

Please note – a Deed of Grant of Easement will be required for any prospectively adoptable sewers through third-party land located outside the highway and / or which outfalls to a watercourse over a storage tank in a public open space.

Please note – the pipelines which only serve the adoptable highway cannot be adopted under Section 104 of the Water Industry Act. The applicant will need to discuss these pipelines with the Highway Authority and incorporate it into the road adoption agreement. These pipelines must be labelled as 'Highway Drain' on the site layout plan submitted to Yorkshire Water.

Please note – a separate Section 116 Sewer Closure and/or Section 185 Sewer Diversion Agreement will be required for work on existing live public sewers within the site boundary.

Highway Gully Connections

- where there are two separate road gullies into a manhole, remove one of the gullies from the manhole and connect it via a junction pipe to the other gully leg
- road gullies should connect via junction pipes to the existing/adoptable sewers and not directly to manholes (except where they are at a head of a system).

Longitudinal Sections

Longitudinal sections must:

- be drawn at Scales 1 : 100 vertical and 1 : 500 horizontal
- show existing ground level
- show proposed cover and invert levels
- show pipe material, pipe strength, pipe diameter and type S bedding
- have approximately 400mm difference between manholes foul and surface water sewer invert levels (to provide 150mm clearance between sockets at crossovers)
- show gravity sewers connected soffit to soffit, where there is a change in pipe size
- show offline surface water storage laid invert to invert
- show where the depth of cover to top of sewer is less than 1.2 metres in highways and verges (or less than 900mm in none vehicular access areas), a 150mm reinforced concrete slab should be provided above granular bed and surround
- show foundation of plots in relation to the proposed sewers
- eliminate unnecessary crossovers
- show filled ground that has been back filled and consolidated under the supervision prior to any works on the sewer starting.

Manhole Schedule

Adoptable manhole details/schedule must:

- should be constructed in accordance with the Design and Construction Guidance contained within the Code for Adoption
- show kitemarked cover slab
- show the opening in the cover slab, in accordance with Concrete Pipe Systems Association (2004)
- show manhole covers with a clear opening of 600mm and be Class D400 to BS EN 124 with 150mm deep frames in highways
- backdrops should typically be brought up to the top of the benching to avoid silting
- show manholes over 6 metres deep to invert with an intermediate landing with handrails and safety chains fitted around the opening. Two double rung step irons should be set vertically in the chamber walls to act as hand grips when stepping off the ladder onto the landing.

Flow Control Manhole

The flow control manhole details must show:

- the model, the make, the head and the flow rate
- the minimum orifice for a vortex flow control is 75mm
- the penstock details and the manufacturers details
- an emergency drain down galvanised steel penstock must be provided to enable manual drain down of the flow control chamber. The drain down pipe being the same diameter as the outlet pipe
- the minimum diameter of the flow control chamber is 1800mm.
- the width of the sump being a minimum of 450mm from the base ramp to the front of the flow control unit
- the invert level of the outlet/drain down pipe being 50mm lower than that of the inlet pipe (to ensure no standing water over the landing area within the manhole)
- show all cover and invert levels
- the minimum size of opening for an orifice plate is 100mm

- the clear opening of the access point over this access way should be a minimum of 1220mm x 675mm with lockable fall arrest grille and fitted with a double twin D400 cover
- ladders should be provided; step irons are not required
- for maintenance purposes, vehicle access to the chamber (including a tanker) will be required
- flow control chambers located some distance from the highway, a 3 metre wide bitumen macadam or concrete access way with turning head will be required to within 5 metres of the flow control chamber
- Yorkshire Water will require a right of vehicle access in perpetuity over this access way.

Hydraulic Calculations

The hydraulic design calculations submitted must include:

- foul water (where required)
- surface water
- 1 in 1 or 1 in 2 showing no surcharge
- 1 in 30 showing no flooding
- Impermeable area plan (including key)
- Design parameters used
- Model submitted in electronic format (MDX file).

Pump Station Details

Pump station details must include as a minimum:

- General arrangement details
- Wet well capacity/storage/time to spillage
- Rising main capacity
- Surge calculations
- Storage calculations (must provide 4hrs emergency for foul)
- Flotation check
- Pump manufacturers design
- Pump head discharge curve
- Security rating of kiosk.

Please refer to our Local Practice for the Design Specification for the Adoption of Pump Stations for further details.

Underground Surface Water Storage Details

Underground surface water storage details must include:

- For **large diameter surface water storage pipes**, with a diameter of 900mm or greater, the access point must be suitably sized for man access via a winch. The access point should have a clear opening of 1200mm x 600mm and a lockable fall arrest grille with a double twin 600mm x 600mm D400 cover fitted. Ladders/step irons will not be required
- For **surface water storage tanks**, Yorkshire Water requires access points over each inlet and outlet. If the surface water tank is less than 1.8 metres in depth, an access point on each lane is required (this can include the access point over an inlet/outlet). If the surface water tank is equal to or greater than 1.8 metres in depth, four access points are required, one at each corner (this can include the access point over an inlet/outlet). Ladders/step irons will not be required.

Sewerage Treatment Plant Details

These are specialist assets and as such all detailed requirements must be discussed with the Adoptions team in Developer Services.

Adoptable Surface Water Assets

There are many types of surface water assets, which means that sustainable drainage can be delivered anywhere. A developer can choose a number of different SuDS components and tailor the overall composition of the surface water scheme to the local environment.

Yorkshire Water will adopt the following SuDS

- basins – infiltration and detention
- swales
- rills
- bioretention systems
- soakaways
- filter drains
- ponds and wetlands

The assets which are excluded from adoption are – permeable pavements, green roofs, filter strips, rainwater harvesting, water butts and proprietary treatment systems. These components may form part of the drainage design as part of a holistic approach to drainage, provided they are upstream of the adoptable assets.

Your submissions in relation to the adoption of surface water components should be made in accordance with the CIRIA publication C753 **'The SuDS Manual'** and the [Yorkshire Water Sustainable Drainage System \(SuDS\) Design Guidance](#).

We require the following information if you are proposing a surface water scheme as part of the adoptable network:

Scheme Design Statement

You are required to submit a design statement which describes the design approach that has been applied to develop the layout of the surface water system.

Site Layout and Asset Drawings

The adoptable assets shall be labelled using the 'adoptable' asset type names (e.g. label as Bioretention System and not Raingarden). Please refer to Table 2.2. in Appendix D of the Sewerage Sector Guidance which states the asset information that is required and ensure that this is provided with the submission.

Design checklists for each proposed sustainable drainage asset

In order to help us evaluate your application, and also for transparency regarding the evaluation criteria that our Adoptions team will be applying, please submit completed design checklists with your application. Where appropriate to your proposed development site, please download and populate the relevant checklists for the assets that you are proposing for adoption from The SuDS Manual (CIRIA).

Detailed Infiltration Assessment (where applicable)

If any of the assets infiltrate to ground, you must submit a **hydrogeological risk assessment (HRA)** that has been prepared by a competent person, along with the 'Infiltration Assessment Checklist' (Table B6, The SuDS Manual).

The HRA shall include an assessment of geotechnical risk by a qualified ground engineering professional. The independently verified hydrogeological risk assessment shall demonstrate that the proposed infiltration assets are appropriate.

Hydraulic Design Parameters and Model

Please submit the hydraulic modelling file (mdx format) and design parameters to the team for assessment.

CDM risk assessment (operation and maintenance)

The Health and Safety risks associated with any open water should be assessed and managed in accordance with Chapter 36 of The SuDS Manual.

A copy of the Principal Designers **Risk Assessment** must be submitted as part of your application along with a completed '**SuDS Health and Safety Risk Assessment Checklist**' (Table B5, The SuDS Manual).

Construction method statement

You are required to submit a construction method statement and assessment checklists (Table B22, The SuDS Manual) that have been prepared by a competent person.

Scheme Maintenance Plan

You are required to submit a maintenance plan and checklist (Table B25, The SuDS Manual) for the surface water components put forward for adoption on the site. This must be prepared by a competent person.

We also require the following information to be submitted for surface water assets put forward for adoption:

- land ownership details
- body responsible for amenity maintenance
- body responsible for flood risk management

Further Information Requested and Conditional Acceptance

Once the Adoptions Technician has completed their Technical Assessment, they will issue an Initial Assessment Letter that will detail any further information that may be required for them to complete their assessment.

They will also clarify any aspects of the proposed system that has achieved 'Conditional Acceptance'. Once Conditional Acceptance has been issued, the developer can now start the construction of those aspects contained within the approval. Please note, that there is a risk to starting on site because of the partial nature of a site approval (Conditional Acceptance) as changes may be required to the design in order to reach Technical Acceptance, resulting in laid sewers needing to be altered to meet the requirements of the Technically Accepted system.

Technical Acceptance

Once all 'further information' has been resubmitted and assessed by the Adoptions Technician, and deemed to be satisfactory, the Technician will provide full Technical Acceptance for the site.

Technical Acceptance confirms that Yorkshire Water are satisfied the design of the prospective public sewers and associated assets have been designed, and will be constructed, in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

The developer is now able to request a pre-start inspection (Stage 4) and confirm a start on site date. The developer may now also start the preparations around the Engrossed Agreement for the site (Stage 3).

Stage 3: Adoption Agreement

Upon receipt of Technical Acceptance for the site, the developer can now proceed to obtaining an Adoption Agreement.

The developer can either:

1. Request for the Engrossed Agreement to be prepared and issued by Yorkshire Water

If a developer wishes Yorkshire Water to prepare the Engrossed Agreements, they must complete and return a Request Form to Prepare Engrossed Agreement, alongside all required information to us. The form can be downloaded from our website: yorkshirewater.com/developers/sewerage/sewer-adoptions/

Our preference is for the Engrossed Agreements to be issued and signed by all parties electronically. If you'd prefer to receive and sign paper copies of the Agreements, please make this known on your request form.

2. Prepare the Engrossed Agreement themselves

If a developer wishes to prepare the Engrossed Agreement themselves, they must get all copies signed by hand and all drawings to be incorporated into the Agreement signed by hand by all parties. All copies (one for each party to the Agreement) must then be returned to Yorkshire Water for signing. A copy of the Model Sewer Adoption Agreement can be downloaded from our website: yorkshirewater.com/developers/sewerage/sewer-adoptions/

Please ensure you follow our 'Developers Guide to Preparing a Model Sewer Adoption Agreement' when preparing the Engrossed Agreements yourself; you can find this at yorkshirewater.com/developers/sewerage/sewer-adoptions/

A developer is unable to prepare the Model Sewer Adoption Agreement (MSAA) contained within the Code for Adoption, if either of the following apply to the development site:

- if there is a Cash Bond on the site
- if there is a pumping station on the site

Yorkshire Water must prepare these Engrossed Agreements and issue them for signing as the details differ to the MSAA.

With either option, all parties subject to the Agreement must:

- have signed all copies of the documents,
- ensure all copies of the Agreement contain the Technically Accepted drawings and these drawings are initialled or signed by all parties to the MSAA;
- ensure all relevant information required is contained within the Agreement; and
- all outstanding fees must have been paid.

Yorkshire Water will retain one copy of the signed S104 Agreement for the site for our records.

Part 2 – Construction of New Sewers (S104)



Stage 4: Construct Gravity Sewerage System

As a developer, you are in control of the development site and are best placed to advise Yorkshire Water when the site is ready to be progressed towards formal adoption.

Under the Code for Adoption, please do not start any construction works on site until you have received Conditional and/or Technical Acceptance of your design proposals from us. If you do, the works are undertaken entirely at your own risk and cost. You cannot have an inspection from us until Conditional and/or Technical Acceptance has been issued for the site and we are in receipt of a copy of the F10 Notice.

Conditional and/or Technical Acceptance is the confirmation that the works meet the criteria of the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption and that Yorkshire Water will consider the system to be included within a S104 Agreement.

A signed S104 Agreement is the formal confirmation that if a developer constructs the sewers in accordance with the details in the signed Agreement, then Yorkshire Water will adopt the agreed systems.

During the construction phase, at the request of the developer or the contractor, our Developer Services Inspector will undertake a number of inspections to ensure compliance against the Conditionally and/or Technically Accepted drawings and in accordance with the S104 Agreement.

Any changes to the Conditionally and/or Technically Accepted design, during the construction phase, must be brought to the attention of the Developer Services Inspector. These must be agreed in writing and the Conditionally and/or Technically Accepted drawings must be amended where necessary. If the Agreement has been signed, a Deed of Variation may be required (refer to Stage 7).

Pre Start Inspection Meeting

A pre start inspection meeting can be requested once Conditional and/or Technical Acceptance has been issued. Inspections on a site will not commence until Conditional and/or Technical Acceptance has been issued. If any construction works have started on site in relation to the proposed adoptable network, these need to cease until Conditional and/or Technical Acceptance has been issued.

The developer must request a meeting with a Developer Services Inspector to discuss the site proposals and Yorkshire Water's requirements during the construction phase. Once the request has been received, we will arrange the meeting.

Topics discussed will include the relevant standards, design details included on the Conditional and/or Technically Accepted Drawings (to be included within the S104 Agreement), the status of the site, compliance with CDM Regulations 2015, sewer connection details, when further inspections will be required and contact details.

Sustainable drainage assets put forward for adoption, must provide a robust engineering solution, are of sufficiently high quality and can be easily operated and maintained by Yorkshire Water in the future.

If sustainable drainage assets are being installed on site which are part of the adoptable network, the Developer Services Inspector will also review and discuss the construction requirements and programme of construction activity with you at the meeting. They will also review the construction phase health and safety plan for these assets to ensure all construction risks have been identified, eliminated, reduced and/or controlled where appropriate.

The Developer Services Inspector will also need to see the F10 Notice for the site and ensure they are safely inducted onto the site before any site inspections commence.

Following the Pre Start Inspection Meeting, the developer will receive a copy of the meeting notes outlining the main discussion points agreed.

General Inspection

During the length of the construction phase, we require you to remain in contact with us and actively request 'general inspections' of the development site by our Developer Services Inspectors. They will come out to the development site to visually inspect the system being installed and discuss any on site issues.

During the 'general inspections', the Developer Services Inspector will be able to air test the system, view the 'bed and surround' and ensure that the drainage system is being laid in accordance with Conditionally and/or Technically Accepted drawings incorporated within the S104 Agreement for the development site.

If the development site has not had any inspections carried out on it during the construction phase, we will request 'trial pit excavations' to be undertaken, at the developers cost, to confirm the 'bed and surround' used. We will require a full camera survey of the adoptable system and water tests may also be requested, all at the developers cost.

Commission Inspection (Sites with Pump Stations Only)

The commissioning inspection is required at the point that there are enough properties connected to the public sewer network (51% occupancy of the site).

This is an inspection where all of the necessary parties meet to understand if the asset that has been constructed is in accordance with the Technically Accepted Drawings incorporated within the S104 Agreement and also that the system is operating how it is intended to.

Part 3 – Vesting of New Sewers (S104)



Vesting of a Drainage System

All submissions for new sewers being offered for adoption should be made in accordance with the Design and Construction Guidance, Local Practices and Technical Standards contained within the Code for Adoption.

As a developer you have already signed up to constructing the drainage system on a development site, in accordance with the Technically Accepted drawings and specific site details. The site layout plans will also be included within the signed legally binding S104 Agreement.

By doing so, you have also committed to ensuring that you have sought and agreed all consents and legal requirements for the development site.

As the developer for the site, you must understand that if the downstream system, which your system is connected to, is not part of the public sewer network, this will delay the final vesting and adoption of your site until the downstream system is vested.

Vesting Requirements - General

As part of the formal adoption process, Yorkshire Water need to ensure that developers have provided us with the relevant information we require to progress the adoption of a drainage system on a development site and that you have requested Yorkshire Water to inspect the drainage system during the construction period, allowing us to formally take ownership of the agreed system and assets.

For a 'Full Provisional Certificate' or a 'Provisional Certificate with Defects' to be issued we therefore require the following information to be submitted for review:

- **Formal Agreement** – we require a formal Agreement to be in place to allow Yorkshire Water to take ownership of the drainage system and assets. This should be a signed S104 Agreement.
- **Record of Inspections by Yorkshire Water** – during the period of construction, you need to request a number of inspections. Our Developer Services Inspector, will be able to ensure that the system being constructed is in accordance with the Technically Accepted plans included within the S104 Agreement during the construction period.
- **Assets to be Operated and Maintained** – if you are proposing to put forward any assets that will require Yorkshire Water to operate and maintain them following adoption, we need to understand what these are and how they work. As such, we require copies of the Operating Manuals, maintenance plans for sustainable drainage assets, Product Details and any Telemetry information as well as any specific detailed drawings provided at the Technical Acceptance stage. We will require this information for pump stations, network storage, sustainable drainage assets and sewerage treatment works.

Vesting Requirements – As Built Drawings

There are a number of drawings that we require to ensure we can understand what we are taking ownership of and what we need to ensure the safe operation and maintenance of the proposed system in the future. These should be the same set of drawings, updated to reflect what is exactly on site and clearly marked as 'as built', as the set provided for gaining Technical Acceptance and listed within the signed S104 Agreement.

It is your responsibility to provide us with PDF versions of all the 'As Built' drawings required.

Requirements – As Built Site Layout Plan

The following information must be shown on the drawing which reflects what has been constructed on site and proposed for adoption:

- Sewers and laterals coloured (to denote function)
- Sustainable drainage assets
- Line types
- Direction of flow
- Sewer lengths (in metres)
- Manhole numbers
- Sewer diameter
- Sewer materials
- Sewer gradients
- Confirmation that the drawings are marked as 'as built'
- Confirmation that the sewers shown on the Site Layout Plan reflect those included within the S104 Agreement plan
- Adoptable laterals should be coloured from demarcation chamber to demarcation chamber or demarcation chamber to manhole
- Flow control details – flow rate, head flow characteristics and model number.

On the Site Layout Plan, please do not:

- Colour the existing sewers which are already public sewers
- Colour gullies
- Colour sewer lengths serving highway drainage only
- Colour watercourses
- Colour private drainage.

Requirements – As Built Manhole Schedule

The following information must be shown on the drawing which reflects what has been constructed on site:

- Manhole cover type
- Manhole cover size
- Chamber type
- Chamber size (diameter)
- Chamber depth
- Chamber material
- Cover level
- Invert level
- Confirmation that all the manholes are shown on the drawing.

Requirements – As Built Flow Control Device

These details provided must reflect those that were issued Technical Acceptance for the site and you must ensure these specific devices are installed. If a different device is installed, to that which was issued Technical Acceptance, we must receive a copy of the hydraulic modelling calculations so checks can be made that the asset installed is fit for purpose. Each model works in different ways and will have different head flow characteristics (and minimum orifice) which will need checking.

You will be responsible and charged for additional time spent in assessing the changes. If the product is not sufficient then you will be responsible for changing the flow control device to the previously agreed flow control device. This will be done at the developers own risk and cost.

Requirements – As Built Manufacturer Details for an Asset

We require the manufacturers details for the following maintainable assets:

- Flow control devices
- Penstock details
- Flap valves
- Outfall structures
- Storage systems.

In addition to the drawing requirements above, we also require a camera survey (and supporting report) of the adoptable network and site specific as-built drawings containing:

- Sustainable drainage asset details
- Storage details
- Pumping station details
- Rising main details
- Sewerage treatment works details
- Outfall structures.

Vesting Requirements – Pump Stations

Prior to the Pre Maintenance Inspection, Yorkshire Water must be in receipt of the following information:

- As Built pumping station compound layout
- General arrangement of the pumping station
- Operating and Manufacturers Manuals (Yorkshire Water requires one paper copy and a PDF copy)
- Mechanical and Electrical details
- Yorkshire Water’s Mechanical and Electrical form completed by the pump manufacturer (to be provided by Yorkshire Water)
- Original copy of the Chain Certificate
- Confirmation of the security rating of the kiosk.

Prior to the Final Inspection, Yorkshire Water must also be in receipt of the following information:

- Lifting Certificate for the chains, davit and davit arm (in date)
- NICEIC Electrical Certificate (in date)
- Confirmation telemetry has been installed and tested
- 3 months of clear telemetry data (ROD Report) from within the maintenance period
- Confirmation on the number of locks required for bollards, gates, wet well, valve chamber and kiosk
- Electricity supplier details and MPAN number
- Telephone supplier details (to be transferred).

Vesting Requirements – Health and Safety

Following the changes that were made to the Health and Safety Regulations (CDM Regulations 2015), it is a requirement of the adoption process that we receive a completed Yorkshire Water Health and Safety document for each site that we are looking to vest into the company. This can be completed based on information contained within the full Health and Safety file for the development site. We require this information to ensure the safe operation and maintenance of the adopted assets in the future.

We also require you to make us aware of any issues that may have occurred on site during the construction phase and how these have been mitigated.

You will be sent a Yorkshire Water Health and Safety form to complete around nine months into the maintenance period for your site, for completion and return prior to the Final Inspection being arranged. The Health and Safety form must be completed by the Principal Designer and signed by all parties.

Vesting Requirements – Legal

There are a number of legal requirements that are needed by Yorkshire Water during the progression of a development site and it is the developer’s responsibility to ensure these are provided in a timely manner.

All legal requirements will be site specific but could include the following:

- Land Transfer
- Deed of Grant of Easement
- Protected Strip (TPI details)
- Deed of Variation
- Right of Access
- Right in Perpetuity to Discharge
- Discharge Confirmation from Authorising Body
- Confirmation of Landowner for Headwall Location.

Land Transfer/Rights of Access Details

If any area of land needs to transfer ownership to Yorkshire Water or Rights of Access are required to operate and maintain an asset following adoption, we require these details as soon as possible for the process to be completed. These details are generally required for pumping stations, sustainable drainage assets and/or access roads. We require the developer’s details, coloured drawings of the proposals, landowners details and solicitor details and these will need to be formally binding before we can issue the vesting certificate and take ownership.

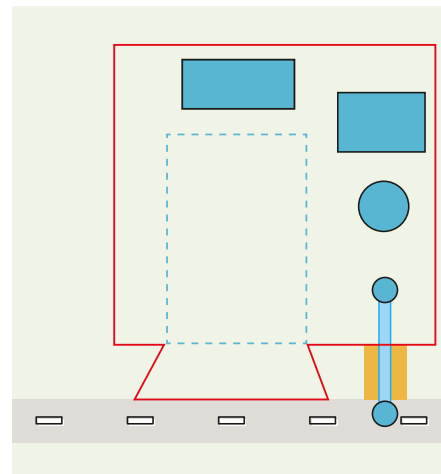
Land Ownership

For pump stations, we will require the land that the compound sits on.

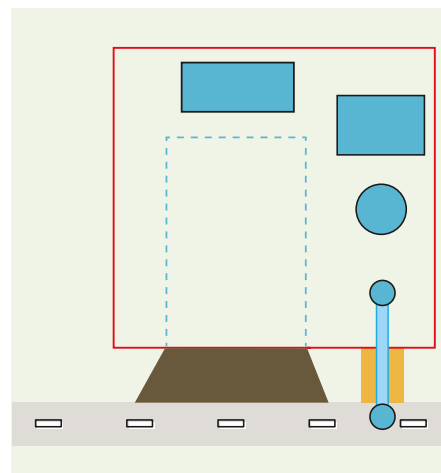
For sustainable drainage assets, we will require the channel, the wetted area and the access strip.

Dependant on what is required, the following must be shown on the drawings:

- a Land Transfer – area must be edged in red
- a Right of Access – area must be edged in brown or orange
- a Deed of Grant of Easement – area must be shaded yellow.



All land to be transferred



Compound Land to be transferred with Right of Access from the Public Highway

Land Registry Plans

Many of the property transactions which Yorkshire Water Legal Services are instructed to request are required as part of the registration process at the Land Registry. Land Registry has issued guidelines for plans and will reject plans which do not meet these standards.

In summary, all plans should:

- Be based on an OS map extract
- Include the OS map number
- Show sufficient detail to be identified on the OS map
- Show the general location by showing roads, road junctions and other landmarks
- Show the extent of the land, edged, hatched or coloured
- Be drawn to, and show, an accurate metric scale
- Indicate the north point
- Show undefined boundaries accurately and where necessary by reference to measurements.

Land Registry will reject plans which:

- Have been reduced in size, but bear the original scale
- Are marked 'for identification only'
- Have thick edging obscuring detail (e.g. due to repeated photocopying)
- Are distorted by repeated photocopying
- Do not have sufficient detail to relate them to the OS map.

Where very large scale plans are used which cannot be related to the OS plan, they should conform in all other respects to the Land Registry Guidelines. In such a case, you must ensure you provide Yorkshire Water Legal Services with a location plan which meets all the eight criteria.

Surface Water Discharge Permissions

If the surface water system does not discharge directly to a public sewer but to a watercourse, river, canal etc., we will require the correct permissions to be in place prior to Yorkshire Water taking ownership.

As a developer, you must have sought the correct rights (written confirmation) from the landowner for the location of the outfall, as well as receiving written confirmation from the Authorising Body for the Allowable Rates of Discharge. We will require these written permission's to be sent to us.

Stage 5: Maintenance Period

Pre Maintenance Inspection

A Pre Maintenance Inspection can be requested by the developer once the development site is 51% occupied or has achieved the desired discharge rate and has a signed S104 Agreement in place. The area of 51% refers to the properties included within the green boundary coloured on the Technically Accepted Site Layout Drawings included within the S104 Agreement. The Developer Services Inspector will need to inspect all the of the system coloured on the Technically Accepted Site Layout Drawings.

The developer must submit a completed Request Form for a Pre Maintenance Inspection alongside the minimum information required such as copies of the 'as built' drawings, details of the constructed manholes, sewer lengths and details of any ancillaries (such as flow control devices) to be submitted, alongside the Operation and Maintenance Manuals (if there is a pump station on the site) and all relevant information to the adoptable sustainable drainage assets.

Once this information has been received, it will be reviewed by our Adoption Agents. If we have all the necessary information, we will arrange for pre maintenance inspection.

It is the developer's responsibility to ensure that the system is ready for inspection and they are responsible for all Health and Safety matters and must ensure traffic management is in place (if required), prior to the pre maintenance inspection. The developer must ensure that the covers are freed to easily lift prior to the inspection by one of their trained contractors and the channel needs to be free flowing. If not, the Developer Services Inspector can abort the visit and aborted visit charges will be made to the developer.

At the time of the pre maintenance inspection, the developer must ensure they bring a copy of all the 'As Built' drawings to site ready for the Developer Services Inspector to use.

Our Inspector will then inspect all sewer lengths and associated assets being offered for adoption, against the 'as built' drawings.

All remedial works that are highlighted at the inspection will need to be remedied by, and at the cost of, the developer in a good timely manner. Another camera survey will need to be submitted as evidence the remedial works have been carried out satisfactorily. The developer will be responsible for confirming that the remedial works have all been completed and arranging a re-visit to site, if necessary.

Provisional Certificate

A 'Full Provisional Certificate' or a 'Provisional Certificate with Minor Defects' for the site may be issued following a pre maintenance inspection.

Full Provisional Certificate

For a Full Provisional Certificate to be issued, the site must:

- be at least 51% occupied
- have no outstanding remedial works; and
- Yorkshire Water must have PDF copies of the 'As Built' drawings for the site (including manhole schedules, site layout plan, operating manuals and any additional site specific asset drawings).

Once we are in receipt of all this information, we will issue a Full Provisional Certificate confirming that the site has been placed on maintenance.

Provisional Certificate with Minor Defects

A Provisional Certificate with Minor Defects may be issued when the following applies to the site:

- when the site is 51% occupied
- Yorkshire Water are in receipt of the PDF copies of the 'As Built' drawings for the site (including manhole schedules, site layout plan, operating manuals and any additional site specific asset drawings); and
- where minor defects exist on the proposed adoptable network (these must be agreed in writing at the time of the Pre Maintenance Inspection).

Once you have received your Provisional Certificate with Minor Defects and the maintenance period for your site has commenced, any scheduled minor defects must be completed, re-inspected and approved by Yorkshire Water within six months.

Once either type of Provisional Certificate has been issued, we will update our sewer records to confirm the site is now on maintenance.

The site will be put on a 12 month maintenance period. During the maintenance period, the developer is fully responsible for the operation and maintenance of the private system.

Bond Arrangements

For signed S104 Agreements (under Sewers for Adoption 6th Edition), Yorkshire Water will then arrange for any cash bond on the site to be released or confirm the surety can be released from their obligation.

For sites issued a 'Full Provisional Certificate' under the Code for Adoption, the bond monies will be reduced/released. A retention will be applicable for sites with pumping stations and diversions.

For sites issued a 'Provisional Certificate with Minor Defects' under the Code for Adoption, the bond monies will be retained until the defects have been satisfactorily completed.

Stage 6: Final Inspection and Vesting

Final Inspection

The final inspection of a site is typically the last inspection required to ensure that the system is operating how it was designed to and that there are no further remedial works required before Yorkshire Water formally take ownership. This inspection will typically take place 12 months after the site has been put on maintenance.

We will contact you around 9 months into the maintenance period as a courtesy to remind you that the site is approaching the end of its maintenance period and what the next steps are.

The developer must then submit a completed Request Form for a Final Inspection, along with the required information to us. Once this information has been received, it will be reviewed by our Adoption Agents. If we have all the necessary information, we will arrange for a final inspection.

During this inspection, we will re-inspect the whole system that is shown within the green boundary and shown coloured on the Site Layout Drawing within the S104 Agreement and advise the developer of any remedial works that may be required.

Handover Meeting

Handover meetings are only required for when pumping stations, sustainable drainage assets such as detention basins, screens and sewerage treatment works have been put forward for adoption.

The handover meeting date is one where Yorkshire Water formally takes ownership of the asset.

The Developer Services Inspector, Yorkshire Water Network Engineer, Yorkshire Water Operator and the Developer will be required to attend these meetings.

Vesting Declaration

The Vesting Declaration is the formal documentation issued by Yorkshire Water which confirms in writing that we have now taken ownership of the system(s). The developer will receive written confirmation from Yorkshire Water, which will be issued and signed electronically.

All legal matters must have been finalised prior to the issue of the Vesting Certificate.

At this point we will pass the details onto the Asset Data department of Yorkshire Water to ensure the Statutory Sewer Records are updated and any necessary maintenance regimes are set up.

This will conclude the developer's obligation under the S104 Agreement.

Stage 7: Variation of New Sewerage System

This stage is designed to confirm any variations to the signed S104 Agreement for a site.

Should a developer wish to amend the Technically Accepted drawings incorporated within the S104 Agreement, a variation can be requested and Yorkshire Water shall determine whether this can be done by correspondence, by a Deed of Variation or whether the S104 Agreement needs to be terminated and a new Agreement put in place.

For any variations that directly impact on the hydraulics of the proposed network or reduction of the adoptable assets, a formal resubmission must be made.

Any variations with minor changes that do not impact on the hydraulics of the network can be approved by the Developer Services Inspector and the changes confirmed and shown on the as-built drawings.

We will determine which method of variation is required on a case by case basis and have the right to refuse any variation request received.

The developer should contact us to discuss the proposed changes. We will then advise on the requirements, which may require updated drawings, hydraulic calculations and supporting information.

Once received, we will review the alterations through a formal assessment for which an additional charge will be applied.

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