Appendix 2

Severn Trent Water Sewer Adoption Guide

Adoption of sewers
Section 104 of the Water Industry Act 1991

Guidance notes for developers

Foreword

These Guidelines are designed to be used in conjunction with the current version of "Sewers for Adoption – a design and construction guide for developers" and will assist Developers in submitting applications that will be suitable for adoption.

THIS GUIDE HAS BEEN PRODUCED TO OFFER PRACTICAL ASSISTANCE AND WHILST EVERY ATTEMPT HAS BEEN MADE TO TAKE ON BOARD THE FULL RANGE OF LEGAL AND TECHNICAL ISSUES INVOLVED THERE MAY ALWAYS BE PARTICULAR CIRCUMSTANCES WHICH ARE NOT ACCOMMODATED IN THESE GUIDELINES.

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Section 1 Introduction

There are two distinct stages in the assessment of sewers that are to be adopted by an agreement under section 104 of the Water Industry Act 1991 (WIA 1991).

The first stage is the Developers enquiry. This will determine the principles of how a site can be drained and any infrastructure improvements to accommodate the flows. This is dealt with by the Operations and Maintenance – Asset and Protection Wastewater Team. This is explained in more detail in Section 2.

The second stage is submission of a detailed S104 application. This should be based on the principles established by the Developers enquiry and the detailed requirements of Sewers For Adoption 6th Edition.This stage involves both the Asset and Protection Wastewater Team and the Adoptions Team.

You will submit the detailed S104 application to the Adoption Team. They will check that the principles established by the Developers enquiry have been complied with.

The Adoptions Team will assess that the requirements of Sewers For Adoption 6th Edition and its pumping station addendum have been complied with.

The Adoptions Team will prepare the S104 Agreement, inspect the works and eventually arrange for vesting as public sewers.

This is explained in more detail in Section 3

The Water Act 2003 enacted 28 May 2004 brought in the adoption of public lateral drains. Since this relates to the drainage of a single property it is explained in the Sewer Connections section.

Operations and Maintenance – Asset and Protection Wastewater Teams.

These teams are based at Leicester and Tettenhall. See Appendix A for details of addresses and telephone contact numbers.

Adoption teams

The Adoptions Manager is based at our Minworth office with team members based at several local offices spread around our area.

See Appendix A for details of addresses and telephone contact numbers.

Section 2 developers enquiry

We now have an integrated application process, with a single form, for handling developer enquiries about our ability to supply water, and drain, the sites they wish to develop. So you now simply need to send us this single form, together with a location plan for the site and payment, whenever you wish us to respond to a development enquiry.

A copy of our new form, together with a set of guidance notes, can be obtained by contacting either the New Connections Team or the appropriate Asset Protection Wastewater Team See Contact in Appendix A. Please ensure that your staff, both direct employees and consultants, know about this form and use it for all new enquiries as we will only accept enquiries submitted on this form.

Our response for drainage enquiries will now include:

- a copy of our sewer records for the area
- confirmation of any apparatus we have that will be affected by the proposals
- information about our ability to drain the site, including restrictions on discharge rates
- where appropriate details of any off-site work needed to connect the site
- details of any further work we need to provide an optimal solution to connect the site to our networks

Appraising development enquiries is work done in addition to progressing an application to supply and drain a site. Therefore this is a chargeable service. The actual charge, given in the table in Section 7 Fees and Charges, depends on the type/size of the development and whether a single, or dual, function response is required.

These charges cover the work we need to respond to a normal enquiry. If the flow requirements are such that more extensive modelling/evaluation of the impact of the development on our network is required for an optimal solution to be determined an additional payment will be required. Where this situation arises we will, in our enquiry response, notify you. You will then be contacted by a member of our Sewer Modelling Team who will discuss this with you and give you a quotation for the modelling work

Please note that we seek to control peak flows to our Network. This means that flow restrictions may be placed on drainage connections and we may limit our evaluation to the flow rate we determine.

Should you only require a copy of our mains, or sewer records, you should contact our Records Section at Waterworks Road, Edgbaston, Birmingham B16 9DD (Phone 0845 601 6616). They will advise on the access arrangements for our records and the charges for mailing copies of our record plans.

If you require further information about our developer enquiry service please contact our New Connections Office at:

Severn Trent Water Ltd.
New Connections – Operations
Leicester Water Centre
Gorse Hill
Leicester
LE7 7GU

Telephone 0870 2410269
Fax 0870 6081848

Alternatively you may like to visit our website (www.stwater.co.uk/newconnections) where further information, and copies of our forms, can be obtained.

After the work in evaluating the impact of flows from your site on the sewer network has been carried out you will been informed of the outcome. This outcome will incorporate any planning conditions that are relevant to drainage matters, identify where Requisitions or Sewer Diversions will be required.

This response will enable you to undertake the detailed design for the Sewerage System serving your site and submit a formal S104 application.

Section 3 the section 104 application

Introduction

Industry standard

The section 104 application will comply with the current version of the WRC publication "Sewers for Adoption" (SFA) which is the Water Industry's standard design guide for adoptable sewerage systems. Supplemented by the SEVERN TRENT WATER Pumping Station Addendum.
Copies of SFA can be obtained from the publishers,
WRC plc, Frankland Road, Blagrove, Swindon, Wilts, SN5 8YF. Copies of the addendum can be found on the WRc website www.wrcplc.co.uk/sfa.

Pumping stations

When preparing a Section 104 application, you should avoid the use of pumping stations. Prior to accepting the use of a pumping station you will need to demonstrate that there are no reasonable alternatives to pumping.

The design and subsequent adoption of surface water pumping stations is outside the scope of Sewers for Adoption national guidelines. Design guidance on STW requirements relating to adoptable surface water pumping stations is obtainable from any of the local Adoptions Offices.

The Company's guidelines covering pumping station layouts & location, boundary fencing and access arrangements can be obtained from the local Adoptions Office.

Special consideration should be given to the design of terminal pumping stations delivering directly to a treatment works or where the discharge point is close enough to the works for there to be no attenuation in the gravity sewer upstream of the works. Developers are advised to open discussions with our Asset Protection Wastewater Team as early as possible.

New products & technology

If the use of new products or technology is proposed, the developer should first discuss this with the local Adoptions office to determine if it has been approved by the Company.

Permissions

Where appropriate, the following permissions must be obtained and documentary evidence provided;

Planning permission – usually obtained from the Local Authority.

Surface water discharge to watercourses – the Environment Agency where the discharge will be direct to watercourse or river.

British Waterways – where proposed discharges are to a canal, permission should be obtained from the British Waterways Board (BWB) in discussion with STWL. Where terms are agreed with BWB, a tripartite agreement needs to be completed contemporaneously with the Section 104 Agreement subject to the payment of a commuted sum to STWL in respect of payments to BWB on adoption.

SUDS Facilities – confirmation that a third party approved by STWL such as a Local Authority will take ownership and accept the future maintenance liability for surface water balancing ponds and will grant rights in perpetuity to discharge across and flood the area.

Easement for sewers constructed in private land owned by a 3rd party with the right to discharge to the watercourse in the case of surface water sewers.

S106 connections to public sewers

For every new connection to either the public sewerage system or sewers included in a S104 Agreement the Developer is required to apply under S106 of the Water Industry Act 1991.

Application Notices are available online at www.stwater.co.uk/newconnections or from the New Connections Team at Leicester (see Appendix A for addresses and telephone contact numbers). The Application should be completed and returned along with payment to the New Connections Team at Leicester. Charges for processing S106 applications are in accordance with the scale of charges set out in Section 7 Fees and Bonds.

You must allow a time-scale of 21 days between submission of application and approval.

Once the New Connections Team has approved the S106 application the connection will be inspected by the appropriate local Adoptions Team drainage inspector. You must give a minimum of 48 hours notice for these inspections.

Severn Trent Water Ltd encourages the adoption of private sewers and public lateral drains. Hence it is a condition of the approval of connection that any new sewer or new lateral drain located within the highway will be vested in the Company.Pipes located within the site will remain in private ownership.

Sewers in highway must be designed and constructed to our Sewer Adoption standards whilst Lateral Drains in highway must be designed and constructed to our Lateral Drains to Sewer Standards. See Appendix E.

Submitting the S104 application

The S104 application will be submitted to the Adoption Teams at either Leicester or Strongford (see Appendix A for addresses and telephone contact numbers) together with the completed checksheet (Appendix B) and the Request for Information Sheet (Appendix C).

The Adoptions Team will on receipt of a detailed application check that the principles of drainage and infrastructure requirements from the Developers Enquiry have been complied with.

If it does not comply you will be advised of the reasons why and requested to resubmit an amended application. (Please note that neither completeness and/or technical aspects will be checked by Adoptions because the application may need re-designing in whole or part).

If the application does comply, the Adoption Team who will progress your application in accordance with the procedure set out in Sewers for Adoption 6th edition

Technical assessment of S104 application

Adoptions team
A Technician from the Sewer Adoptions Team will use the checksheet to determine whether the application contains all the mandatory information for a technical assessment to be carried out.

Incomplete applications
If the application is incomplete it will be returned to you with the missing information identified. You will then have to resubmit to the Adoption Team.

Complete applications
Complete applications will be checked to assess compliance with Industry Standards, if it is not technically compliant you will be requested to make revisions or amendments.

Second design submission
If the application was not complete or technically compliant and you do not provide any requested revisions or amendments within four weeks, or a requested revision or amendment does not meet the requirements, the application will be considered a second design submission.

If you amend a submission that has already been checked and was technically compliant the application will be considered a second submission.

You will be charged for checking second submissions in accordance with the scale of charges set out in Section 7 Fees and Bonds.

NB. These fees are payable in advance of the checking of the re-application

The agreement

The Company has a standard Section 104 agreement based on the model in "Sewers for Adoption" which includes clauses to cater for the diversion of existing public sewers within the development site.

No alterations to this standard document apart from factual corrections will be permitted.

Completion of the S.104 agreement will signify the Company's formal acceptance of the proposed sewerage system and arrangements will be made to carry out the site inspections.

Commencement of works

Site inspections will not commence until:

Technical compliance has been given.
Section 104 Agreement is completed.
The appropriate inspection fees paid.
Pre- start meeting has taken place
CDM requirements are met.
Programme of works received.

Inspection of the works

When construction work is to commence the developer or his principal contractor must inform the Adoption Technician of the intended commencement date and arrangements will be made to inspect the works.

Inspections will generally be carried out in accordance with 'CIRIA Report 118 – Supervision of Sewers for Adoption' ISBN 0-86017-308-9. If a more frequent level of inspection is required then the cost will be charged in accordance with the Company's scale of charges at rates agreed on a site by site basis.

Variations

Construction variations may not be agreed with the inspector on-site and all changes i.e. change of line, level, materials and manhole type etc. must be approved in writing and amended drawings issued where appropriate to the local Adoptions office

Start of maintenance

The Maintenance Period will commence after completion of the Works and as soon as the development is at a stage where the premises are 51% constructed & occupied and all the conditions of Clause 8 of the First Schedule in the Agreement have been satisfied.

"As-Constructed Drawings" have to be submitted at this stage, we have a list of approved contractors who can carry out this work. Please contact your local Adoptions office for further information.

In order that Instructions can be given to our Legal department with regard to Pumping Stations we require 8 copies of an "As Constructed drawing" showing the land to be transferred along with any rights of access from an adjacent public highway

With regard to any SUDS facility where we are satisfied as to its long term ownership and maintenance we require 8 copies of an "As Constructed drawing" in order that instructions can be given to our Legal department to complete the required Deed of Grant of Easement.

Please contact your local Adoptions Team for further information about the format for the above drawings.

NB If there is a pumping station the telemetry system must be installed and operational in accordance with PMCS system for maintenance to start. The Company will provide a service for the provision & installation of a telemetry system. The current cost of this service is set out in Section 7 Fees and Bonds. Please contact the Adoptions Team for details of this service.

A visual (includes a CCTV survey) inspection of the sewers,manholes and any Pumping Station will be completed at this time to ascertain defects which may have arisen since construction. A written list of any defects will be issued identifying those which must be put right before the Maintenance period can begin. On confirmation of this a Provisional Certificate and list of any minor defects to be resolved during the maintenance period will be issued at the start of the Maintenance Period.

In order to ensure Pumping Stations do not hold up adoption you will at this stage be sent a Pumping Station Action list setting out all the items that need to be completed ahead of Adoption.

Final inspections two months before end of maintenance

Final inspection of the sewers and pumping station will be carried out two months before the end of the maintenance period, and will comprise of the following;

- Inspection of Manholes and outfall structures
- Inspection of Pumping Stations structures
- If deemed necessary a further CCTV Inspection carried out by the Company's nominated CCTV contractor and paid for by the developer.

Note: It is the developers responsibility to:

- Provide all necessary labour and safety equipment to enable the Company's representative to carry out the inspections.
- To ensure that the all the sewers have been thoroughly cleansed prior to the CCTV being carried out, you will therefore be informed of the approximate date of the survey in advance.

If defects are revealed during the final inspection the Developer will be issued with a written defects list and will be required to undertake the necessary remedial works to the Company's satisfaction and within an agreed time period.

Any repaired sewers or manholes will require further inspection and the cost of this work will be at the developers expense and in accordance with the Company's scale of charges set out in Section 7 Fees and bonds.

Prior to adoption

Adoption of the works will proceed once all the provisions of the Agreement have been met. For reference, prior to formal adoption of the sewers, the following is required:-

- Final Inspections completed with no defects outstanding.
- Legal matters referring to Land Transfers for Pumping Stations, Rights in relation to SUDS Facilities and or any Deed of Grants have been completed.
- All items on the Pumping Station Action list provided at start of Maintenance Period.
- 'As constructed' drawings to allow us to update the public sewer records.
- CDM Health & Safety File – File prepared in accordance with the Construction (Design and Management) Regulations 1994 (CDM Regulations) containing any information which will assist the Company when carrying out future construction or maintenance work on the sewers.
- Sewers downstream of your site are public.

Adoption

At the end of the maintenance period and provided that there are no outstanding matters, the completed works will be adopted by a declaration pursuant to Section 104 of the Water Industry Act 1991.

The Developer will be issued with a copy of the Vesting Certificate, together with a schedule and plan indicating the sewers adopted.

Release of bond

Any bond attached to the agreement may, if there are no land issues ,be released on issue of the Provisiona Certificate. If there is a pumping station the bond will be reduced to 15% of the cost of the station at issue of the Provisional Certificate. STW will not issue an instruction to the surety to release the bond, since it is incumbent on the Developer to make an application direct to the Bondsman to cancel the bond. Early release or reduction of the bond will not be permitted.

SECTION 4 Requisitions diversions & S102 applications

4.1 Sewer requisitions

If a public sewer is not available, then Severn Trent may have a duty under Section 98 of the Water Industry Act 1991 to provide one to be used for domestic purposes in response to a sewer requisition enquiry. Full details are given in Guide for Developers – Providing a Public Sewer, available from the Asset Protection Wastewater Team.

The following brief notes provide some guidance;

What can I requisition a public sewer for?

A public sewer may only be requisitioned for domestic purposes. In relation to any premises, this means the removal of flows from the contents of lavatories, water used for cooking and washing and for the removal of surface water from those premises.

Domestic purposes does not include the removal of water used for commercial purposes such as a laundry business or for a business preparing food or drink for consumption otherwise than on the premises.

You may not requisition a public sewer to serve solely trade effluent or highway drainage flows. However, additional capacity can be provided in a public sewer, requisitioned for domestic purposes, for trade effluent or highway drainage flows provided that you pay the full cost of providing that additional capacity, with costs being calculated based upon a proportion of flow basis.

Who can requisition a public sewer?

You may serve notice on us to requisition a public sewer for domestic purposes if you are:-

- the owner of land or premises or
- the occupier of land or premises or
- a Local Authority, New Town Development Corporation or Urban Development Corporation

and if the premises comprise:

- land on which there are already buildings, or
- land on which there are proposals for buildings

Your development proposals must have sufficient certainty to enable a project to be designed to take the proposed flows. The possession of a valid planning permission is generally taken as confirmation of "proposals for buildings".

If you decide that a sewer requisition is appropriate for your particular development site, then please contact the appropriate Operations and Maintenance Asset Protection Wastewater Team (see Appendix A for contact details) for further information and an application form.

The Water Act 2003 enacted 28 May 2004 has introduced the requisition of a public lateral drain. Further information on this can be obtained from our Adoptions Teams.

Sewer diversions

The Developers Enquiry will identify any public sewer crossing your site which may need diverting to comply with our protected Strip widths or to facilitate development on the site.

If a sewer diversion is appropriate for your particular development site contact the appropriate Asset Protection Wastewater team for further information and an application form.

Sewer diversions in Severn Trent Water may be achieved in two ways:-

- Complex Diversions by Section 185 of the Water Industry Act 1991
- Simple Diversions by private arrangement using an agreement under Section 104 of the Water Industry Act 1991.

Your application will be evaluated by the appropriate Asset Protection Wastewater Team who will decide if a diversion is reasonable and whether it is Complex or Simple. If as part of the evaluation it is necessary for us to carry out hydraulic modelling we will advise you of the cost involved. You will have to consent to pay this cost for your application to proceed.

Complex diversions

If, after this evaluation, the diversion is deemed to be complex you will be sent you application forms in order to make a formal submission under Section 185 of the Water Industry Act 1991. Once a valid application has been submitted and the initial payment made, we will undertake a preliminary design utilising our in-house engineering teams. As part of this process, we will consider the various options, we will discuss these options with you if appropriate and we will make a formal offer based upon the preferred option. Once the offer has been accepted and an additional payment made, we will commence detailed feasibility and design leading up to return of tenders. Following receipt of tenders and a further payment, we will arrange for the works to be constructed.

Simple diversion

If after the evaluation the Diversion is deemed to be Simple your application will be passed to the Adoption Team. Subject to technical requirements you will allowed to undertake the works under a private arrangement using an agreement under Section 104 of the Water Industry Act 1991.

The charges, fees and Cash Deposits for this are set out in Section 7.

Simple diversions carried out under this arrangement have the following key stages:

- Initial feasibility
- Agreement signed, Method Statement approved and all monies deposited
- Construction of "off line" diversion by the Developer.
- Application in writing by Developer for permission to turn flows into the "off line" diversion.
- Maintenance period commences and 80% Cash Deposit returned
- Final Inspection at end of Maintenance Period
- As Constructed Plans and CDM files.
- Return of 20% Cash Deposit (subject to NRSWA 5% retention)

Sewer adoptions section 102

All newly built sewers constructed as part of developments are dealt with by an agreement under Section 104 of the Water Industry Act 1991. However we recognise that In some situations the most appropriate drainage solution may include some existing private sewers that are to be considered for adoption under Section 102 of the WIA 1991.

It is essential that you contact the Adoptions Team at feasibility stage where this is being considered so they can advise you of the requirements to be fulfiled.

Section 5 The accreditation scheme

Principles of the scheme

We recognise at Severn Trent Water that some Developers consistently submit section 104 applications that meet all the requirements for design and specification set out in the document Sewers For Adoption together with the Addendum.

To offer a better service to these Developers we have introduced the Accreditation Scheme.

Membership of this scheme allows Developers to certify that their S104 applications meet the Severn Trent Water Adoption criteria. These certified applications are not subjected to any Technical vetting and are fast tracked through our system enabling the S104 agreement to be sent out within 3 weeks.

This allows a shift of emphasis from office based checking to site based inspection where we feel there is the greatest risk of problems.

Details of the scheme

Application form

To apply for Accreditation simply complete the three page form that can be found in Appendix D of this guide. This form gathers information about your Company and you are asked to list the 3 most recent S104 applications submitted and approved by us. These 3 applications are then re-checked to assess whether they met the adoption criteria when first submitted.

Return the completed form to:- Compliance and Standards Manager – Operations
Severn Trent Water
Gorse Hill
Anstey
Leicester
LE7 7GU

Accreditation manager

You have to nominate on the application form a person within your Company to take on the role of Accreditation Manager.

This role has 3 duties

- A single point of Contact within your Company
- Ensure technical competency of the "Designers"
- Certifying that the S104 applications meet the Adoption Criteria*

*It is permissible for the Accreditation Manager to delegate certifying powers to Designers i.e. Consultants.

Framework agreement

Developers who are accepted into the scheme will have to sign the Framework Agreement that sets out the terms and conditions for Accreditation.

Audit system

To ensure that the Quality of the designs remains acceptable we operate an audit system. We will check at random at least one application each year or we may select to check a particular design at construction stage if there is clear evidence it is below standard.

Excluded features

The basis of the scheme is that competent developers can undertake designs to the known standards of the Adoption criteria. There are some features of a design that are not adequately covered by the Adoption criteria or may present too great a risk. These are excluded from the self certification and will be checked for Technical compliance before the S104 can be issued.

These features are

- SUDS techniques
- Foul Water pumping Stations in excess of 30Kw
- Surface Water Pumping Stations
- Sewer Diversions carried out under the S104 agreement

Section 6 Sustainable urban drainage systems (SUDS)

Company SUDS position statement:

Severn Trent Water Ltd, as an environmental leader, fully supports the concept of sustainable urban drainage systems (SUDS). We believe that, subject to proper design and maintenance provisions, appropriate SUDS techniques in conjunction with traditional approaches to urban drainage offer real opportunities to reduce the impact of urban drainage on the environment.

We recognise, though, that the different techniques involved can vary in their effectiveness, depending in part on local conditions. On occasions complex issues relating to ownership and future liability have to be resolved.

The successful implementation of SUDS can only be realised if all stakeholders approach the issue with real commitment. It will also need further guidance and legislation from Government and regulators on some of the practical, legal and financial issues involved. We will play an active role in facilitating this process and developing practical guidelines for the future.

We have carried out a review of best practice in this area in order to further develop our own Company policy which is generally as below but each scheme will need to be considered on its own merits.

- We will have regard to the SUDS Interim Code of Practice and the Supplementary Guidance for Statutory Undertakers
- Piped systems will have be governed by Sewers For Adoption guidelines and Company Adoption addenda
- Sewers discharging to above ground balancing areas will only be adopted where there are adequate administrative arrangements in place e.g. owned/managed by Local Authorities or Parish Councils
- Sewers discharging to underground infiltration devices will be considered for adoption on a site by site basis

Flow balancing

Flow balancing is a method of attenuating peak discharge rate from the new sewer to that which can be accommodated in the receiving public sewer or watercourse. For surface water sewerage it is considered increasingly as an alternative to major watercourse or sewerage improvements.

- The Company accepts the use of covered tanks as an ancillary within the sewerage system, however, the Company will take into account the increased maintenance liability when considering such proposals.
- The Company will not adopt open storage basins as a means of providing attenuation of flows. They do not meet the present legal definition of a sewer. However they can be utilised in certain circumstances provided they are not an integral part of the adoptable sewerage system and they are maintained to the satisfaction of the Company . Generally the only bodies considered suitable to take ownership and enter into a maintenance agreement for open storage are Local Authorities or the Environment Agency. Please contact the Adoptions Team to discuss this in more detail.
- The Company's specification and design criteria covering surface water balancing tanks can be obtained from the Adoptions Team.

Section 7 Fees and bonds

Developers enquiries

The charges for responding to Developers Enquiries are set out below.

Charges for responding to developer enquiries				
		Type of enquiry		
Scale of development		water supply	drainage	both
Up to 7 (domestic) properties	Excl Vat	£66.59	£83.99	£150.58
	Incl Vat	£77.55	£98.70	£176.25
Over 7 props and	Excl Vat	£118.00	£162.00	£280.00
industrial/commercial developments	Incl Vat	£138.6	£190.35	£329.00

S106 Sewer connections

Type	Charge (zero rated for VAT)
In Highway, Basic charge which includes evaluation, administration and inspection during Monday to Friday 9am to 5pm	£384.10
Charge for inspecting at any other time and on Bank Holidays.	£409.75
Additional charge for return visits if the work is not ready or is unacceptable	£61.45
Not in Highway, Basic charge which includes evaluation, administration and inspection during Monday to Friday 9am to 5pm	£200.05
Charge for inspecting at any other time and on Bank Holidays.	£252.75

S104 Inspection fees

Inspection fees will be calculated in accordance with 'Sewers for Adoption', which is currently 2.5% of the agreed estimated construction costs over £20k, with the minimum fee set at £500 for sites estimated at less than £20k.

Second design submissions

Type	Charge for each re-application
All gravity systems	1% of estimated construction cost (min £250 – <£10k)
Pumping Stations	Plus 2% of estimated construction cost (min £500)

Re-submission of a complete submission

A charge of £60 will be payable for a re-submission of an application previously found to be incomplete.

Administration fee

STWL's costs in preparing the Section 104 Agreement will be payable in full by the developer, these are currently set at £150.00.

Second inspections

If second inspections are required as a result of either defects, originally identified, having not been addressed or lack of access or resources to complete inspections you will be charged £205.

Second CCTV

If defects have been identified during the CCTV at the end of maintenance period you will be required to address the defects and provide a report and video and be charged £51

Bonds

A Bond is required. It can be in the form of a cash deposit with the Company or with a nominated Bondsman. The amount will be set at 10% of the agreed estimated construction costs, of the gravity sewers and pumping stations.The current minimum value of the indemnity is £5,000

Where a Bondsman insists on written confirmation from ourselves that he is released from his obligations a charge of £150 will be payable by the developer.

Pumping stations locks & signing

There is a charge of £512 for changing locks and signs on pumping station sites at the time of adoption

Telemetry

The Company will provide a service for the provision & installation of a telemetry system at an adoptable pumping site. The current cost of this service is £4,404.00 + VAT. Please contact your local Adoptions office for further details

Appendix A – Contact information

Asset protection wastewater and sewer adoption contacts

West Midlands

Counties: Staffordshire, Shropshire, Powys, Birmingham, Worcestershire, Gloucestershire

Asset Protection West
Severn Trent Water Ltd
Asset Protection Wastewater West
Regis Road
Tettenhall
Wolverhampton
WV6 8RU
Telephone: 01902 793871
Fax No: 01902 793971
Email: net.dev.west@severntrent.co.uk

Sewer Adoptions West
Severn Trent Water Ltd
Sewer Adoptions West
Strongford Sewage Works
Barlaston Old Road
Stoke on Trent
ST12 9EX
Telephone: 01782 654256
Fax No: 01782 654264
Adoptions-West@severntrent.co.uk

East Midlands

Counties: Warwickshire, Leicestershire, Derbyshire, Nottinghamshire

Asset Protection East
Severn Trent Water Ltd
Asset Protection Wastewater
Leicester Water Centre
Gorse Hill
Anstey
Leicester
LE7 7GU
Telephone: 0116 234 3834
Fax No: 0116 234 3035
Email: net.dev.east@severntrent.co.uk

Sewer Adoptions East
Severn Trent Water Ltd
Sewer Adoptions
Leicester Water Centre
Gorse Hill
Anstey
Leicester
LE7 7GU
Telephone: 0116 234 3789
Fax No: 0116 234 3714
Adoptions-East@severntrent.co.uk

Sewer connections (for both East and West Midlands)

Severn Trent Water Ltd
Developer Services – New Connections
Leicester Water Centre
Gorse Hill
Anstey
Leicester
LE7 7GU
Telephone: 0116 234 3811
Fax No: 0116 234 3714

Appendix B – Check sheet

Please insert a ☑ in each appropriate box in the first column to indicate that the information has been included and return this list with your application. Incomplete applications will be returned in full.

Section 1 – sewers

	For Applicant to complete ☑	Adoption Team to check for completeness and correctness
Location plan (min scale 1/2500)	☐	☐
Layout plan showing: (min scale 1/500)		
Watercourses	☐	☐
Public open space	☐	☐
Road layout inc. gullies	☐	☐
Buildings layout	☐	☐
Finished floor levels to existing & proposed buildings	☐	☐
Contours	☐	☐
Private drainage and connections inc. road gullies	☐	☐
Manhole references	☐	☐
Manhole cover and invert levels*	☐	☐
Pipe sizes	☐	☐
Existing public sewers (not coloured)	☐	☐
Sewers layout (coloured: brown/foul; blue/surface water)	☐	☐
Easements (coloured yellow)	☐	☐
Site boundary (edged green)	☐	☐
Drainage area plan (coloured and referenced)	☐	☐
Hydraulic calculation pipe references		
Longitudinal sections showing: (horiz 1/500. vert 1/100)	☐	☐
Existing ground levels	☐	☐
Finished Levels	☐	☐
Chainage (including at manholes)	☐	☐
Manhole references	☐	☐
Manhole cover and invert levels*	☐	☐
Manhole type A, B, C (non-preferred) or special*	☐	☐
Manhole diameters*	☐	☐
Pipe size*	☐	☐
Pipe strength and material*	☐	☐
Bedding class	☐	☐
Pipe gradient	☐	☐
Pipe crossings	☐	☐

Backdrops (non preferred)	☐	☐
Pipes designed with soffits level	☐	☐
Details showing: (scale 1/20)	☐	☐
Manhole construction – details of special manholes only*	☐	☐
Outfall construction – bed level and normal water level inc. date taken	☐	☐
*** These items can be included in a schedule**	☐	☐
Flood route details – on plan or Digital Elevation Model to demonstrate flow paths contained in highway/POS showing: (min scale 1/500)	☐	☐
Watercourses	☐	☐
Public open space	☐	☐
Road layout inc. gullies	☐	☐
Buildings and structures layout	☐	☐
Finished floor levels to existing & proposed buildings	☐	☐
Contours/spot levels	☐	☐
Private drainage and connections inc. road gullies	☐	☐
Manhole references	☐	☐
Manhole cover levels	☐	☐
Flood paths from sewerage system for 40yr, 50yr, and 100yr critical summer/winter storm	☐	☐
Overland flood paths	☐	☐
Design calculations including:		
Foul hydraulics	☐	☐
Surface water hydraulics (pipe full – 1 in 1yr or 2yr or 3yr)	☐	☐
Surface water hydraulics (no flood – 1 in 30yr)	☐	☐
Pipe strength(s) or deformation	☐	☐

Section 2 – Consents

Copy of planning permission for site	☐	☐
Letter of approval for the discharge of surface water to a watercourse from either E.A., land drainage authority or internal drainage board	☐	☐
Consent for construction of headwall structure from either E.A., land drainage authority or internal drainage board	☐	☐

Section 3 – Underground balancing tanks

Detail plan and section	☐	☐
Emergency draindown bypass-remote operated	☐	☐
Flow control device	☐	☐
Drain down penstock	☐	☐
Emergency high level overflow	☐	☐
Low flow channel	☐	☐
Access: vehicular and man entry	☐	☐
Structural calculations	☐	☐

Section 4 – SUDS

Detail plan	☐	☐
Access	☐	☐
Inlet and outlet structures	☐	☐

Section 5 – Pumping stations

Location plan (min scale 1/2500)	☐	☐
Layout plan showing: (min scale 1/500)		
General arrangement	☐	☐
Access	☐	☐
Emergency storage	☐	☐
Levels of compound/covers	☐	☐
Vents	☐	☐
Davit socket	☐	☐
Kiosk (size/colour/type/location)	☐	☐
Fencing/boundary	☐	☐
Compound floor and access construction	☐	☐

Sections and details showing:-

Wet well and pump layout	☐	☐
Emergency storage	☐	☐
Pipe layout (including valve chamber)	☐	☐
Levels including provisional ultrasonic sensor levels	☐	☐
Ultra high level float switch on separate relay	☐	☐
Chambers on rising main	☐	☐
Thrust blocks	☐	☐
Tracer and maker posts along rising main route	☐	☐
Electronics (including star delta starting where required)	☐	☐

Longitudinal sections (rising main) showing:
(horiz 1/500. vert 1/100) ☐ ☐

Existing ground levels	☐	☐
Finished levels	☐	☐
Chainage (including at manholes)	☐	☐
Ancillaries references	☐	☐
Ancillaries cover levels	☐	☐
Pipe size/material/bedding	☐	☐

Hydraulic calculations including:

Inflow	☐	☐
Pump rate	☐	☐
Emergency storage	☐	☐
Volume between duty start and stop	☐	☐
Numbers starts per hour	☐	☐
Rising main volume	☐	☐
Rising main velocity	☐	☐
Scepticity check	☐	☐
Surge analysis report on rising main	☐	☐
Pump curves	☐	☐
Total head	☐	☐

Appendix C – Request for information sheet

To prepare an agreement under S104 of the Water Industry Act 1991

This form must be completed by the Developers Legal representative and returned to the Adoptions Team

Name and registered office of

a) Developer

Name

Address

Postcode:

(If different from developer)

Name and address of registered office of

b) On-site owner(s)

Name

Address

Postcode:

Name and registered office of surety

Name

Address

Postcode:

Name and address of person to whom agreement

Should be sent if different from Developer in 1(a)

Name

Address

Postcode:

Name and location of site

Name

Address

Postcode:

Period of construction for site

( ) months/years

Layout plan showing: (six copies required)

Site – edged green

Foul sewers – coloured brown

Surface water sewers coloured blue

Where sewers are in private land – protected strip width dimensioned and coloured yellow

Pumping Station – edged red (with access to pumping station coloured brown if not directly off a public highway)

Balancing Areas – top of bank edged orange (Excluding underground tanks)

Drawing No.

Longitudinal sections
(Two copies required)

Drawing No.

Other detail drawings
(Two copies required)

Drawing No.

Your comments

Appendix D – Accreditation scheme application form

Return the form to Compliance and Standards Manager – Operations.
Severn Trent Water
Gorse Hill
Anstey
Leicester
LE7 7GU

Section 1 developers details.

1.1 Company name

(Enter Regional name if structured as a stand alone business unit under a parent company. Include registered office if this is different).

Name	Telephone number
Address	
Registered Office Address	

1.2 Company accreditation manager

(This named person employed by the Company will be the single point of contact in dealing with Accreditation and be responsible for ensuring Technical Competency within the Design Team is maintained. They will either certify that the design of each S104 applications meets the STW sewer adoption criteria or delegate certifying powers to their agents from the Design Team.)

Name	Telephone Number
Position within the Company	
Discipline (engineering, architectural, quantity surveying, other)	
Address	

Section 2 Design team details.

2.1 Name of design team (in-house or consultant)

If more than one consultant is used enter details of each with the most frequently used first.

2.1.1 Name	Telephone Number
Address	
2.1.2 Name	Telephone Number
Address	

2.2 Design tools

Hydraulic Design Package	

Section 3 flooding and environmental information

3.0 Have any of your sites that have Section 104 agreements suffered from flooding or pollution due to problems with the sewer system during the past 5 years? If yes please give details.

Section 4 Historic development sites

4.0 Details of the three most recent S104 applications submitted and approved. These will be audited as part of the process of awarding Accreditation.

Name and Location of Site	Name of Design Team	Severn Trent WIPS reference number	Number of Houses	Date Application Approved

Signed: Date:

On behalf of the Developer

Appendix E – Lateral drains to sewer standards

Lateral drain and sewer connections to sewer standards

Under the provisions of the Water Act 2003, Severn Trent Water Ltd has the power to take ownership of new drains and sewers. our policy is to take ownership of all new drains and sewers located within public highway. If we did not do this, pipes would remain in private ownership and the joint responsibility of all properties draining through them. Please note that a drain is a pipe which serves only one property. A sewer is a pipe which serves more than one property.

It is necessary for new pipes which are normally located in the highway and which are to be vested in Severn Trent Water to be constructed to a minimum standard specification. This standard is the current edition of "Sewers for Adoption" published by Water Research Centre, as amended by relevant Severn Trent Water Addendum.

These notes identify the basic requirements common to both a drain and a sewer unless noted otherwise.

Minimum pipe size

Foul water

- Minimum size 100mm diameter if less than 10 houses (or equivalent) connected

Surface water

- Minimum size 150mm diameter

Hydraulic design

Foul

- Min Gradient = 1/80 for 100mm pipe
- Min Gradient = 1/150 for 150mm pipe with more than 10 houses (or equivalent) connected

Surface water

- Min Gradient = 1/pipe diameter (e.g. for a 150mm pipe = 1/150)

Depth of pipes

Minimum cover between top of pipes and ground level

- Gardens/Open spaces and agricultural = 0.9m
- Highways (including footways) = 1.2m

Permitted pipe materials

- Clayware pipes as per sewers for adoption guidelines and as amended by relevant STW SfA5 Addendum
- Concrete pipes as per sewers for adoption guidelines
- Structured wall plastic pipes as per sewers for adoption guidelines and subject to the following:

Structured wall plastic pipes approved for use in Severn Trent Water are as the table below. For limitations on their use please consult the Networks Sewer Adoptions office. However prior to adoption, the Developer shall be required to demonstrate by an acceptable physical test that the pipe work satisfies the long-term deformation criteria.

Polysewer – Polypipe building products	Size 150mm, 225mm and 300mm
Quantum – Marley	Size 150mm, 225mm and 300mm
Ultrarib – Uponor	Size 150mm, 225mm and 300mm
Ultrarib – Wavin	Size 150mm, 225mm and 300mm
Ridgisewer – Polypipe Civils Ltd	Size 400mm, 450mm, 500mm, 600mm, 750mm and 900mm
Weholite – Asset International	Size 450mm to 3000mm

Demarcation chamber

A demarcation chamber is required at the point where the private drain or sewer becomes vested in Severn Trent Water Ltd. It is to be located:

- Inside the property boundary
- Preferably in the driveway
- Not more than 1m from boundary
- Located outside of probable vehicle wheel tracks

Lateral drain demarcation chamber

Construction details

Size and material

- Chamber diameter to be a minimum of 450mm for 100/150mm pipes
- Chamber access to be restricted to 350mm opening if chamber is more than 1.2m deep
- Chambers may be of plastic construction to BS 7158 with integral seals
- Backdrops are generally not permitted and all incoming pipes are to be ramped

Sewer demarcation chamber

Construction details

Size and material

- For depth less than 1m from top of pipe to ground, the chamber's internal dimensions shall be 900mm long and 675mm wide. The chamber can be constructed using rectangular concrete sections or in Class B engineering brick.
- For depth between 1.0 – 1.5m from top of pipe to ground, the chamber's internal dimensions shall be 1040mm long and 675mm wide. The chamber can be constructed using rectangular concrete sections or in Class B engineering brick.
- For depth greater than 1.5m from top of pipe to ground, the chamber's internal dimension shall be a minimum of 1200mm diameter. The chamber shall be constructed using pre-cast concrete rings.
- Drawings showing typical construction will be sent out with connection approval letters.

Covers and frames – lateral drain

Cover Loadings

Surface	Class (loading in KN)	Loading
Road	D400	Vehicle Impact
Footway + Drive way	B125	Occasional vehicle loading
Gardens	A15	Pedestrian + cyclist (no vehicle traffic)

Cover type

- Not readily dislodged
- B125 and A15 type covers must be lockable or screwed down for security

Covers and frames – sewers

Cover Loadings

- Class D400 non ventilated and closed keyway covers should be used in all locations

Connections via pumping stations – lateral drain

If it is necessary to pump flows in order to connect to the public sewer, the pumping main should discharge into the boundary demarcation chamber. The lateral drain/sewer between demarcation chamber and public sewer should be a gravity pipe

Where this is not possible then a hatch box is to be provided as demarcation chamber.