



Dŵr Cymru
Welsh Water

Self-lay procedural guide



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Introduction

This document has been written to reflect edition 3.1 (May 2017) of the national 'Water UK Code of Practice for the Self-Laying of Water Mains and Services – England and Wales'. It provides procedural advice on the Self-lay process.

This document is complemented by our Design guide for self-lay providers which specifies design practice guidance, permissible materials and construction arrangements in the area served by Dwr Cymru Welsh Water (Welsh Water).

This document should also be used in conjunction with the Code of Practice for the Self-Laying of Water Mains and Services – England and Wales.

Competence of self-lay providers

All self-lay providers (SLP) working in Welsh Water's area must have a valid WIRS accreditation to design and/or install water mains. Welsh Water has a right to attend site at any point and any non-compliance will be reported to Lloyd's Register.

Lines of communication

Please email self.lay@dwrcymru.com for all enquiries relating to the self-lay process. Once your application is completed and accepted it will be passed to a project engineer. If you would like to discuss any matters on the phone please call 0800 917 2652 or email us at self.lay@dwrcymru.com and one of our advisors will be happy to help you. Please quote your Welsh Water reference number when contacting us.

Application

Your self-lay application

In order to make an application for self-lay you must complete and return the self-lay application form, together with the information listed in the attached checklist and pay an upfront payment of £2,000 (plus VAT), as indicated on the application form. Where you are carrying out the design, please send a copy of your design package, with your application pack, for our approval (Please refer to our Design guide for self-lay providers).

To allow Welsh Water to design, (or approve your design) and estimate the cost of the scheme, you must supply the following:

- A complete list of the information required can be found within Water UK's Code of Practice for the Self-Laying of Water Mains and Services. Table 3 Page 27;
- Upfront payment of £2,000 (plus VAT);
- Location Plan showing the site boundary, clearly indicating the development and route(s) of any water mains and your proposed alteration or diversion (scale 1:1250);
- Detailed site layout (1:5000), AutoCAD CD or electronically;
- The extent of land in the developer's ownership;
- Area of adoption by the relevant highway authority;
- Soil analysis report; and
- Details of any fire suppression systems linked to the water supply network. Details of our policy can be found on [our website](#).

Following submission of your completed self-lay application form, checklist items, design package (if designing yourself) and the upfront payment we will review the information you have provided within 5 calendar days to check that it is complete, or if more information is required.

Point of Connection Enquiry

Before any design work can be started a technical appraisal should be carried out to establish the point (s) on the existing network from which the New Development can be supplied and whether any off-site work is needed. We will acknowledge receipt of your application within 5 days. For developments of less than 500 units, responses will be issued within 21 days, responses for larger developments or those with Engineering difficulties will be issued within 28 days. A complete list of the information required can be found within Water UK's Code of Practice for the Self-Laying of Water Mains and Services. Table 2 Page 24.

Design completed by you

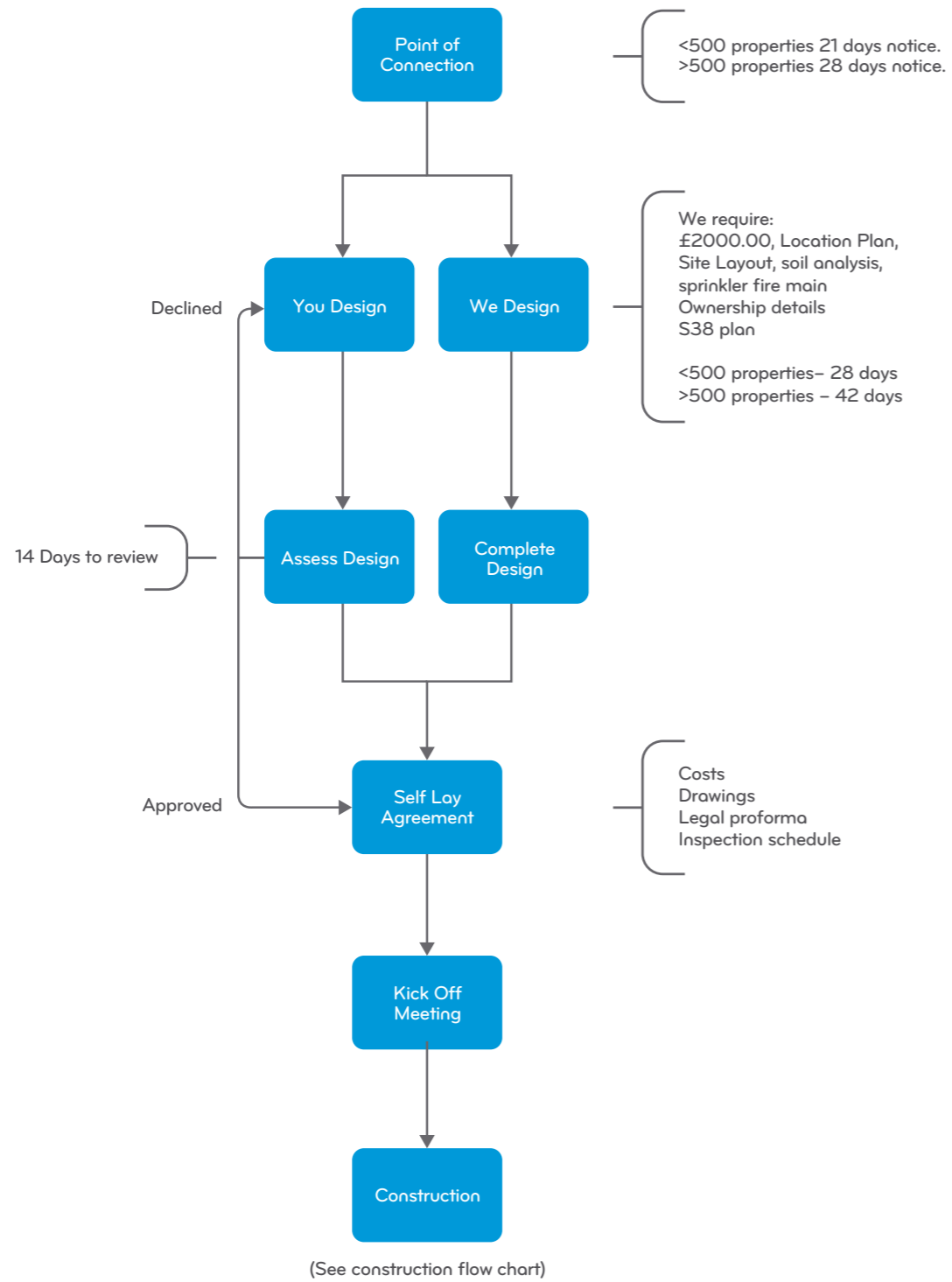
Upon receipt of your complete application, an initial assessment will be undertaken of the technical acceptability of your water mains and service pipe design. We will carry out this work within 14 calendar days, or 21 days if the development is over 500 properties. If any aspects are not technically acceptable, we will notify you and you will have the option of rectifying any faults prior to resubmitting your application. When we are satisfied that the design is technically acceptable, you will be notified accordingly.

Please note that any revisions to the design have to be agreed in writing throughout the design and construction phase.

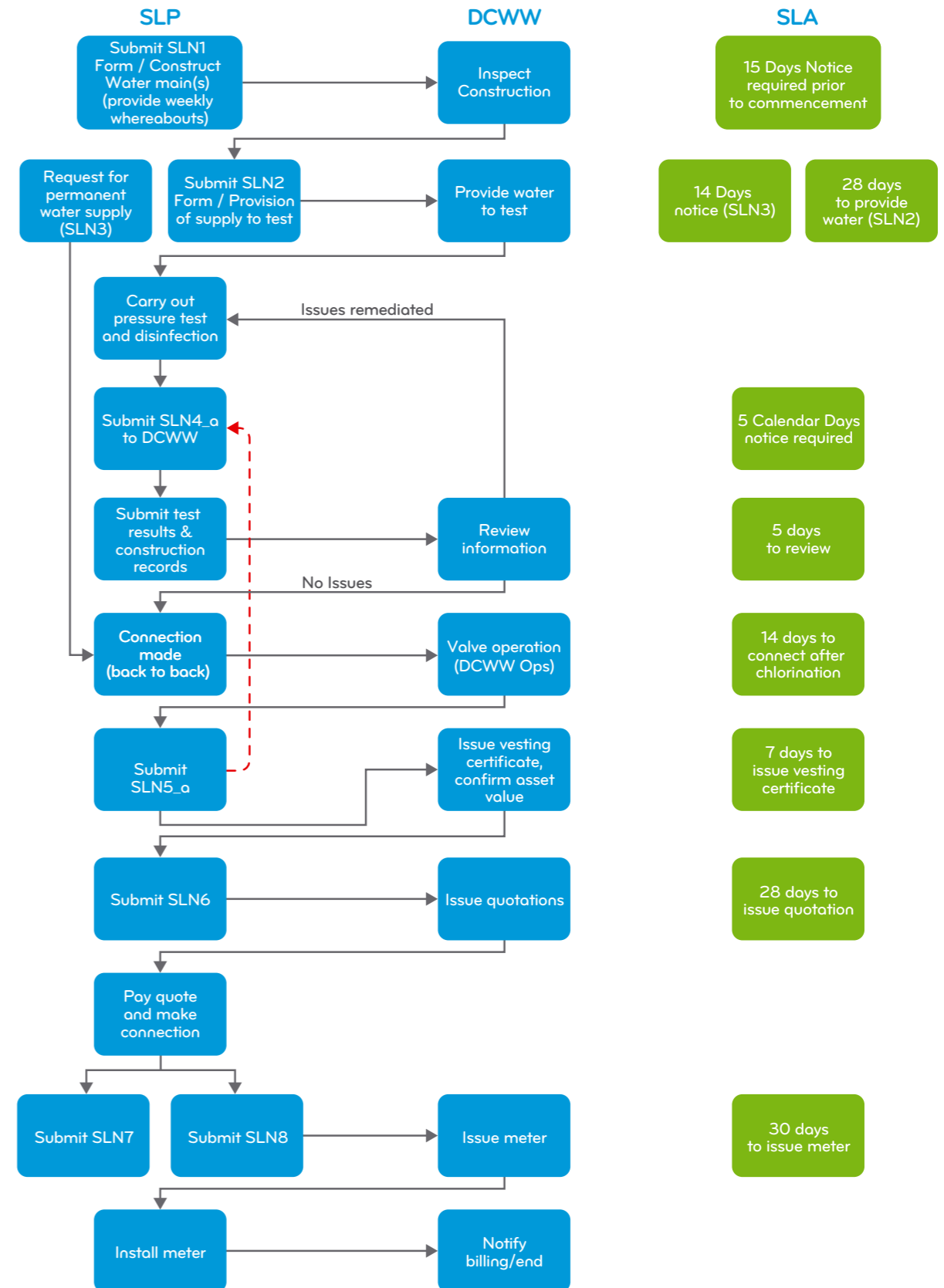
Design completed by Welsh Water

If Welsh Water undertakes the design on your behalf, we will base our design on the information provided within the application, as listed in the checklist. Once complete, we will send you the detailed drawing of our design and connection point which we will do within 28 calendar days, or 42 if the development is over 500 properties, of receiving all information.

Application process



Construction Phase Process



Non-contestable work

In addition to the non-contestable activities detailed in Section 1.8 of the Self-Lay Code of Practice V3.1, Welsh Water would also deem the following activities high risk and therefore non contestable

- Any work on mains with pressure 8 bars and above or 250mm diameter and above are deemed non contestable.

Work on any other live mains will be looked at on a case by case basis

- Operation of any sluice valves on the live network
- Operation of any pressure reducing valves, zonal boundary valve, district boundary valves, pressure boundary valve, emptying valve or district meter feed on the live network
- Transfer of any live service (consent from the Welsh Water and the customer should be obtained first)
- Removal or alteration of any live meter without prior inspection and consent from Welsh Water

Metering

Individual service pipes and meters can be installed in line with the Code of Practice for the Self-Laying of Water Mains and Services – England and Wales Edition 3.1

Our Developer Services Schedule of Charges can be found on [our website](#).

Should you wish to install meters to a development where you have installed the main under a self-lay agreement, you need to submit a SLN7 form and include all information requested therein. Please also nominate which of the stores depots you intend to collect the meters from.

Please be aware that where combined domestic supply and sprinkler systems are required, bespoke boundary boxes and meters should be used. Further information can be found on [our website](#).

Upon receipt of your application, we will issue a quotation for the provision of the required meters and provide our outline schedule based on the information provided. Once your payment has been received we will issue a VAT receipt and will put you in contact with the relevant stores depot.

Once you are ready to make your connections please contact the relevant materials store to arrange a time and date to collect the meter(s). Should you only wish to collect some of the meters in any single visit, please indicate at this stage which

plots you intend to connect when you contact stores as this will allow them to ensure the meters are assigned correctly.

Please ensure that you have a copy of the VAT receipt when you collect the meters. When you collect a meter, you will be issued with a schedule for this site which will indicate which meter needs to be installed at plot as per the original application. It is therefore vital that if there are any changes to be made to the plots being connected that we are informed before you arrange to collect the meter(s).

Welsh Water has a duty to ensure that all of our meters are tracked throughout their lifetimes, as such you must ensure that the meters are installed against the plots/addresses identified on our schedule. Furthermore, the meter details are integral to our billing process and any inconsistencies may have an impact on the high levels of customer service we aim to provide. Should an error be identified due to incorrect information being provided to Welsh Water, or by information not being provided in a timely manner, we reserve the right to recover any reasonable costs incurred in rectifying the information or any income lost as a result. Furthermore, should the meter be lost or damaged, then a new one will need to be requested from Welsh Water, this will be charged for at the same rate as a new meter as per our schedule of rates.

Please note that there is no requirement to collect all the meters at once, but that any meters which are taken from stores must be installed within 30 days of being collected and the required installation information sent through to Welsh Water. The information should be input onto the schedule issued by Welsh Water stores when the meters were collected, and is as follows:

- Plot Number and Address of property served by the meter
- Meter Serial Number, date collected, date installed and initial reading
- Meter location (X,Y coordinates)
- Photographs of the installation

Stand pipe hire

Please follow the link to our website to find out our stand pipe hire policy. Details of the hire process can be found on [our website](#).



Construction

Notifications

The SLP is responsible for ensuring that all notification forms are submitted within required timescales.

All forms are available on [our website](#). Completed forms should be submitted via e-mail to Self.Lay@dwrcymru.com

SLN1_Commencement of mainlaying

SLN2_Provision of supply for pressure and bacteriological testing

SLN2_Annex1-Sampling Request

SLN3_Request for a permanent supply of water

SLN4_a - Request for DCWW to operate a valve or B2B connection

SLN4_b - Notification of proposed routine (contestable) mains connection

SLN5_a - Notification of completed routine mains connection

SLN5_b - Notification of aborted routine mains connection

SLN6_Notification of commencement of water service connection

SLN7_Notification of completed water service connection

SLN8_Request to meter installation on water self-lay scheme

Note - Forms SLN4_b and SLN5_b please note that currently any valve operations are considered non-contestable, therefore these forms are not to be used. We are constantly reviewing our policies and we will update our guidance accordingly.

Safe storage of materials on development sites

All Pipes and fittings used in the provision of the water infrastructure are intended for the transportation of drinking water.

Drinking water is a food product and is defined by the Department of Food and Rural Affairs (DEFRA) as 'CRITICAL TO HUMAN HEALTH'.

The SLP should ensure that all pipes and fittings are stored so as to prevent ingress or contamination. Pipes and fittings will not be stored in direct contact with the ground and will therefore be raised above ground level. All pipe and fitting open ends should be capped or otherwise protected.

Site supervision

Welsh Water reserves the right to attend site at any time. The SLP is obliged to submit weekly whereabouts, written notifications and inform Welsh Water about any changes to their programme as soon as possible.

Pipe cutting

All pipes to be cut using guillotine. Hand saws etc not to be used. Will be verified on site.

Pressure testing, chlorination and disinfection

The final connection of the self-laid main to the water distribution system should not be carried out until satisfactory disinfection, pressure test and water sample results have been provided to Welsh Water.

The SLP should submit the SLN4_a form to accompany successful pressure test and chlorination results, in order to request valve operation for back to back connection.

Pressure testing

Pressure testing should be carried out in accordance with the pipe manufacturer's specifications and as per Water Industry Guidance Note IGN 4-01-03: 'Guide to Pressure Testing of Pressure Pipes and Fittings for Use by Public Water Suppliers'.

All pressure tests may be witnessed by Welsh Water and the appropriate test certificate handed to the Welsh Water site controller.

Chlorination and disinfection of water mains

The SLP should ensure that all staff installing water mains and services should have an appropriate combination of education, training and practical experience to undertake the work. All personnel should be registered on the 'Energy & Utility Skills Register' and be in possession of a valid 'Water Sector Health, Safety and Environment Passport' including a National Hygiene Card. Cards should be carried at all times and should be available for inspection by Welsh Water representatives on request.

The chlorination process must be carried out as per Welsh Water's chlorination policy which is set out below -

Stage	Summary of process
Construction phase	<p>Pipes and fittings to be stored off the ground and preferably in sealed bags or containers to avoid entry of dirt and vermin. All pipes should be stored with cap ends in place.</p> <p>All fittings and pipe ends should be free of any visible contamination and sprayed with a solution of 1000mg/l free available chlorine as they are laid.</p>
Swabbing	Swabs soaked in neat sodium hypochlorite solutions should be used to clear a new main of any dirt or debris that has entered the pipeline during mains laying prior to chlorination. Each length of pipework must be swabbed including any branch mains and a new swab used for each section.
Pressure testing	<p>During pressure testing the new main should be isolated with cap ends or hydrants in sections of 1000m or less. All branch and inline sluice valves on the new main are to be opened.</p> <p>The mains should then be charged through temporary link-over pipework and purged of air until charged with mains pressure.</p> <p>A pressure water pump should be connected via the link-over to pressurise the new main to the required pressure.</p>
Flushing and chlorination	<p>After installation water mains has to be flushed until visibly clear.</p> <p>Mains has to be completely filled with chlorinated water having a chlorine residual of at least 20mg/l and left for a contact period of 16 hours (minimum).</p> <p>After 16 hours a residual chlorine test should be carried out and the main completely flushed until the heavily chlorinated water has been expelled and the chlorine concentration is reduced to a level equivalent to that in the existing water supply.</p> <p>Once flushed the isolated section of main should remain fully charged for a further period of 16 hours.</p>
Sampling	<p>Following the steps above clarity, taste, odour and residual chlorine should be checked on site before samples are taken.</p> <p>Water quality samples should be taken from the new main. Sample bottles can be supplied by Welsh Water or by your chosen UKAS accredited laboratory.</p> <p>At least one sample per 500m of main must be taken.</p> <p>Every branch main must be treated as a separate length of main and a separate sample taken.</p>
Discharge and disposal of chlorinated water	All water associated with the main chlorination procedure must be dechlorinated at the point of discharge, most commonly achieved through the addition of sodium thiosulphate (see Welsh Water's policy PN (3) 07 for further details). If discharging water close to a watercourse the discharge must be 'dammed' to ensure all water is dechlorinated prior to entering the watercourse.

Laboratory analysis of Samples

Where the SLP requires Welsh Water to undertake the laboratory analysis of samples the SLP must contact the Welsh Water project engineer to arrange for a Welsh Water sampler to attend site with a SLP representative to take the required samples.

Turnaround time for analysis of samples is typically 3 to 4 working days and the SLP will be notified of the results via email.

Where the self-lay provider elects to undertake the laboratory analysis of samples a laboratory with full UKAS accreditation must be used.

Sample containers can be provided by Welsh Water by request. Samples must be analysed for the following parameter.

Parameter	Water Quality Acceptance Criteria (Mains)
E.coli	nil per 100 ml
Total Coliforms	nil per 100 ml
Conductivity	no significant increase over supply water
Turbidity	Less than 4.0 NTU & no significant increase over incoming supply.
Chlorine	not greater than supply water ***
pH	between 6.5 and 9.5 & no significant increase over incoming supply

For all commissioning samples taken following relining or samples from bowsers, the following additional parameters must be analysed.

Parameter	Water Quality Acceptance Criteria (Mains)
Taste (qualitative)	1 is a pass anything over 1 consult Water Quality**
Odour (qualitative)	1 is a pass anything over 1 consult Water Quality**

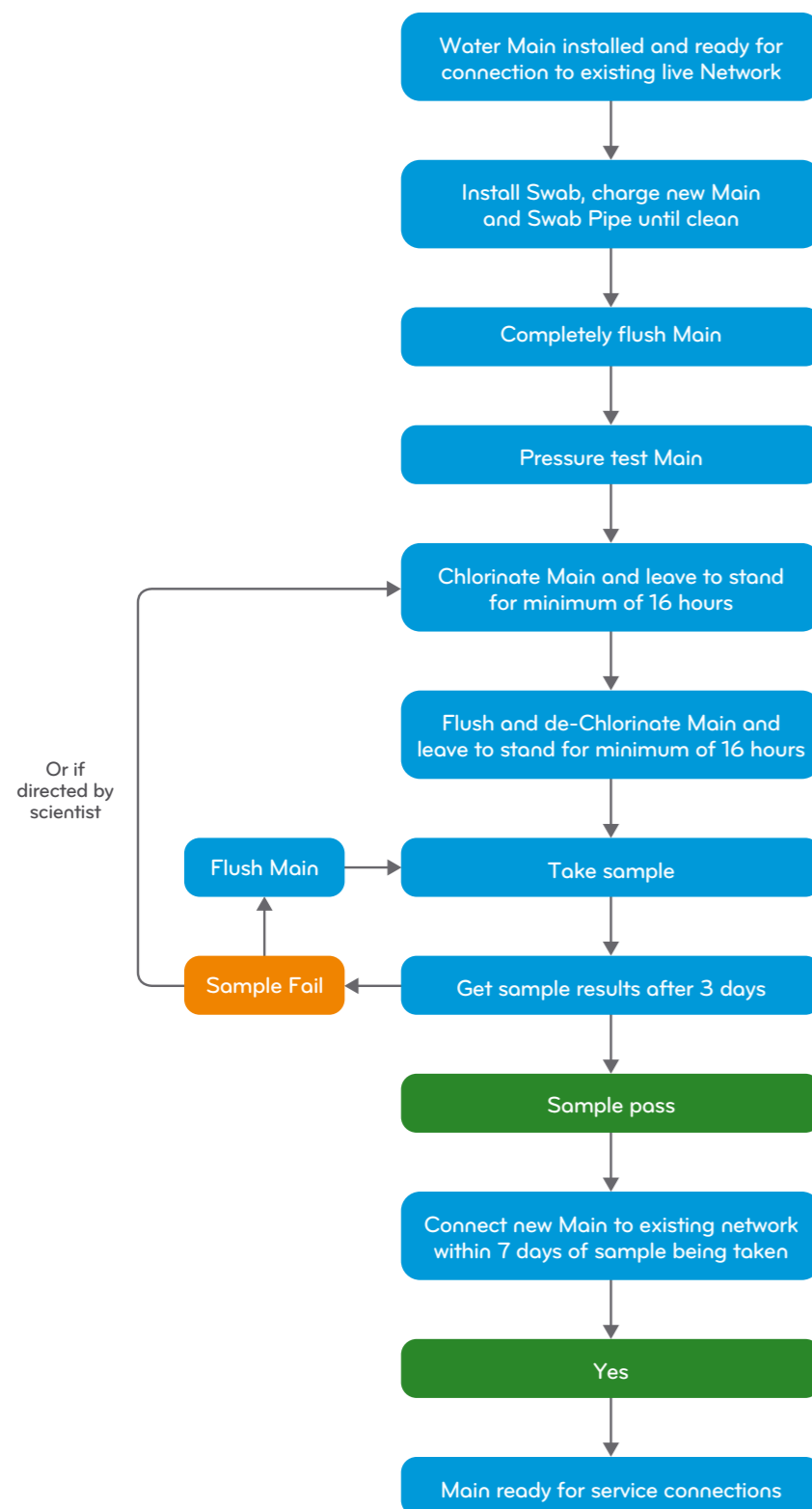
*Where Non-Lactose fermenting bacteria (NLF's) are found in commissioning samples, the Water Quality Section must be consulted and further investigation carried out.

** Unless Taste or Odour is solely due to residual chlorine, in which case there should be no significant increase over the supply water. The Project Engineer must be consulted and further investigation carried out.

*** If the incoming water is >0.5mg/l, the Project Engineer should be contacted to confirm if OK to return to service at Elevated level.

Testing and Chlorination Process

It is important for the developer to understand the timelines from completion of mains installation to provision of service connections taking into account the testing and commissioning period. Below is our anticipated timeline.



Back to back connection

If the main is not brought into service within 14 calendar days of a satisfactory sample being collected and a satisfactory result being obtained, the main should be flushed with mains water (flushing to waste at least one complete volume of the new main) and resampled. If contamination is suspected the main must be flushed and rechlorinated.

Evidence of satisfactory chlorination results must be submitted to the Welsh Water project engineer before the back to back can be completed.

A Welsh Water site controller should be present to witness all back to back connections.

Where the back to back is to a live main serving customers, valve operations must only be undertaken by Welsh Water operations staff.

Where sealed supplies are installed or where there is insufficient turnover, the new main must be included on an operations periodic flushing programme, and a satisfactory sample taken prior to commissioning.

Connections

All new, or converted houses in Wales which have received planning permission since 1st January 2016 have been required to have fire sprinkler systems installed. Where a fire sprinkler system is being directly fed from Welsh Water's network as part of a combined fire and domestic supply, our standard size of connection is 32mm (external diameter). This is in comparison with a 25mm connection for standard household only supplies.

The meter comes pre-assembled with a boundary box and needs to be installed as a single unit. As such it is not possible to retro-fit the meter in the same way as has previously been possible with the 25mm connections.

On self-lay sites this means that we are no longer able to install the meter after the connection has been undertaken. There are two options available to self-lay companies where the combined fire and domestic connections are required:

The SLP can elect to install the meter themselves. The SLP will need to pay for the meter(s), and then collect it from Welsh Water stores in either Clydach or Kimnel Park. They can then undertake the installation at the same time as the connection.

The connection can be carried out by Welsh Water. This will be carried out as we would with any connection carried out by Welsh Water.

Please refer to our schedule of charges for the current applicable charges for each option.

Please note that Welsh Water does not design domestic fire sprinkler systems and accordingly the responsibility for design rests with developers, installers or domestic fire sprinkler system designers. Welsh Water will not offer any view on the efficiency, appropriateness or compliance of a fire sprinkler system in relation to any Building Control Regulations, British Standards or Codes of Practice.

Welsh Water will carry out Water Regulations inspections to ensure that the proposed domestic fire sprinkler system is compliant with the Water Supply (Water Fittings) Regulations 1999.

Please ensure that you fill in the appropriate SLN form to allow us sufficient time to arrange the inspection.

Please note that currently any valve operations are considered non-contestable. We are constantly reviewing our policies and we will update our guidance accordingly.

Further information can be found on [our website](#).

New (service) connections process and inspections

In order to protect water quality and to ensure there is sufficient turnover in the newly commissioned main it is important that the SLP submits information to Welsh Water regarding the dates for new service connections to be made and the likely occupation dates of the properties. The reasonable cost of any flushing that may be required to maintain water quality may be recoverable from the SLP until such time as the development demand is sufficient.

Prior to making any new connections to the commissioned main, the SLP must complete form SLN6 '**Notification of commencement of water service connections for water self-lay schemes**'.

The form must be emailed to Self.lay@dwrcymru at least 10 days prior to connections being carried out.

The form should be accompanied with a scheme drawing showing the location and size of the connections to be carried out and the address of each property to be connected. A quote will then be generated by our new connections team who can be contacted on 0800 917 2652.

Connections can only be made once the quotation has been paid.

Whilst we do not carry out trench inspections on all service connections Welsh Water reserve the right to carry out Water Regulation checks on a proportion of the services that are laid.

Once service connections have been made notification should be sent to Welsh Water within 5 working days via form SLN7 – **Notification of completed service connections and Welsh Water Form SLN8 – 'Request to install meter on self-lay schemes'**. These forms must contain accurate details of each plot that has been connected along with the full postal address so that the properties can be set up on Welsh Water's billing system.



Post construction

Mains commissioning

Notification SLN4_a – 'Request for DCWW to operate a valve or B2B connection' (Welsh Water makes a connection) or SLN4_b – 'Notification of proposed routine (contestable) mains connection' (SLP intending to carry out connection) with all required documents should be submitted at least 5 calendar days before commencement of works.

Vesting certificates

Vesting certificates will be issued within 7 calendar days of the mains being connected or receiving a written notification of mains commissioning SLN5_a.

Asset payment

Welsh Water will raise a purchase order for 100% of the estimated asset value once we have received the signed self-lay agreement. This will enable the SLP to invoice for partial asset payment on Pro-rata basis.

Once the mains for the extent of an agreed stage are commissioned and we have received as- loids, pressure test results, disinfection results, proposed service connection programme and form SLN5_a in line with schedule 1, we will issue the asset payment, withholding a 10% retention or £1000, whichever is the greater for one year.

The signed vesting certificate and the necessary information to allow an invoice to be submitted will be returned within 7 days, subject to the above criteria being met.

Asset payment will be made within 35 calendar days or receiving an invoice.

As-laid drawings

The standard co-ordinate system should be OSGB36 and Newlyn Datum. Global Positioning System (GPS) data is not a mandatory requirement, but if used should be transformed to OSGB36 using the OSTNO2 transformation. Values for X and Y should be recorded. Where GPS is used, X, Y and Z should be recorded.

Ordnance Survey Data should be used as a background. We prefer DGN CAD files, but DWG is acceptable. We'll also require you to submit a PDF rendition of the CAD file. If none of the above is available to you, the format should be PDF as a minimum.

The legend on the as-laid drawing should be consistent with the legend on the approved design drawing.



Contact Us:

We're always here to help...

Call

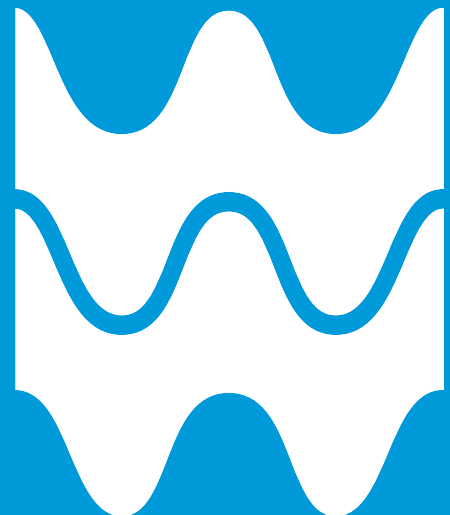
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