

Anglian Water Services Limited
Policy for the provision
of self-lay arrangements
for water supplies

**(Incorporating addendums to code of practice for the
self-laying of water mains and services – England &
Wales)**

November 2014

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1.0 Introduction

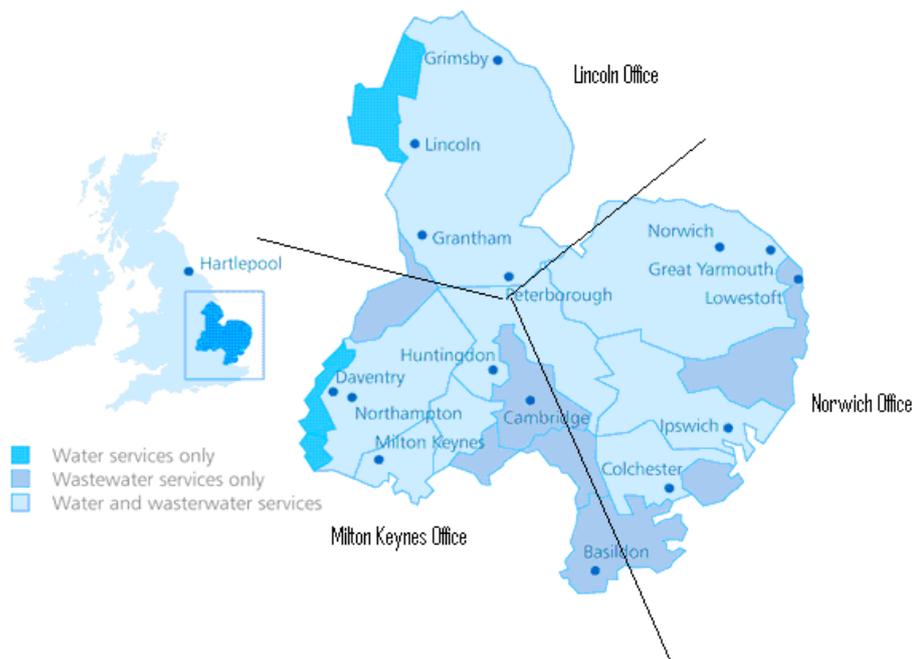
1.1 The Anglian Water area

The map below shows Anglian Water's water operating area, it is split between three design offices located at:

Lincoln – covering Cambridgeshire (Huntingdon and Peterborough area), Lincolnshire and Humberside.

Milton Keynes – covering Bedfordshire, Buckinghamshire and Northamptonshire.

Norwich – covering Cambridgeshire (Wisbech and March area), Essex, Suffolk and Norfolk.



1.2 Self-lay contacts within Anglian Water

Please note that the standard self-lay forms have the relevant contact numbers printed on them

Self-lay policy and process queries

selflay@anglianwater.co.uk

Point of connection enquiries

Anglian Water Services Ltd
Planning and Equivalence Team
PO Box 1067
Peterborough
PE1 9JG
01733 414690
planningliaison@anglianwater.co.uk

Self-lay application forms

Anglian Water Services Ltd

Developer Services

PO Box 495

Huntingdon

Cambs

PE29 6YY

0345 60 66 087 (Lines are open between 8.30am and 5.00pm Monday to Friday).

www.anglianwater.co.uk/developers/self-lay

Norwich design office

01603 247117

mainseast@anglianwater.co.uk

Milton Keynes design office

01908 453188

mainswest@anglianwater.co.uk

Lincoln design office

01522 341592

mainswest@anglianwater.co.uk

Connections team

01522 341246 or 01522 341747

connections@anglianwater.co.uk

Logistics centre

01733 416928 or 01733 416924

logisticscentre@anglianwater.co.uk

Meter installation requests

0800 137631

9am to 5pm Monday to Friday

1.3 Anglian Water Policy and Addendums

The Anglian Water Policy and Addendums should be read in conjunction with the **WRc's Self-laying of Water Mains and Services, A code of practice for England and Wales, 2nd Edition** .

1.4 Other key documents

Other key documents are as follows:

- Ofwat's process for handling disputes and appeals: Requisitioning of water mains and public sewers and/or lateral drains and adoption of self-laid water mains (May 2004).
- Civil Engineering Specification for the Water Industry (CESWI), 6th Edition.
- Self-lay legal agreement.

1.5 Contact details

If you have any queries or questions relating to self-laying of water mains or services, please email us at selflay@anglianwater.co.uk

1.6 Forms and further information

Our self-lay policy, standard forms, and other information can be found on our website using the following link: www.anglianwater.co.uk/developers/self-lay/ and on the WRc self-lay web site: www.wrcplc.co.uk/selflay

2.0 Self-lay policy

2.1 Scope

- 2.1.1 Any Self-Lay Organisation (SLO) wishing to carry out the self-lay of water mains and services, within the Anglian Water area, will need to be, at a minimum, partially accredited with the Water Industry Registration Scheme (WIRS) administered by Lloyds Register. Details of the scheme and the relevant application forms can be found on the Lloyds Register website: www.lloydsregister.co.uk/schemes/wirs or alternatively you can contact the schemes coordinator on 02476 518603.
- 2.1.2 The same arrangements are available to all developers and developments, large or small.
- 2.1.3 Self-lay may also include the laying of services to commissioned mains on new developments. This includes both mains constructed by an SLO under a self-lay agreement, or mains requisitioned and constructed by Anglian Water.
- 2.1.4 Self-lay may also include the laying of services (including fittings, chambers, meter fittings) to existing water mains subject to Anglian Water's approval. Anglian Water has the right to refuse such service connections, for the following but not limited to reasons:
- Main is a trunk or strategic main.
 - Main has high failure rate.
 - Mains material, for example PVC that needs depressurisation before connection.
- Where SLO's carry out service connections in the public highway they will be required to meet all the provisions of the Road and Street Works Act and Traffic Management Act, including all noticing and defects liability periods.
- 2.1.5 Self-lay works can include both on-site mains and those off-site that extend to the point of connection on the existing network, as determined by Anglian Water. Self-lay works may also include the new mains part of diversion works; however no asset payment will be made for water mains for non domestic usage and on diversion works.
- 2.1.6 SLO's shall not be permitted on existing 'live' Anglian Water mains whether by replacement, reinforcement or mains connection thereto.
- 2.1.7 The developer or SLO shall provide all the necessary approved materials and resources to adequately construct the works. All material must comply with the relevant British Standards (BS) and Water Industry Standards (WIS), a materials schedule shall be provided to Anglian Water upon request.
- 2.1.8 Final flushing, pressure testing and disinfection shall be carried out by the SLO in accordance with Anglian Waters specifications.
- 2.1.9 Anglian Water retains the right to undertake water quality sampling and laboratory testing as a non-contestable activity.

- 2.1.10 The SLO may design both on-site and off-site works, although Anglian Water retains the right to design off-site systems if it wishes to do so. Anglian Water shall design all reinforcement works. Anglian Water will check and approve any design carried out by the SLO. All designs, whether by Anglian Water or the SLO shall be in AutoCAD format.
- 2.1.11 Anglian Water shall provide information on its water network, in as much as it has responsibility for the information, to facilitate developers and SLOs in carrying out self-lay work.
- 2.1.12 Anglian Water shall install the water meters to all wall box, boundary box and manifold connections. The SLO shall fit a trickle flow plug (yellow plug) at the time of the connection. SLO's shall only install meters to connections greater than 32mm at the time of connection, all meters installed must be issued by Anglian Water, which will be issued to the SLO free of charge. SLO's will be responsible for providing accurate meter details and meter locations for each meter fitted. Trickle flow plugs shall be issued free of charge to SLO's.
- 2.1.13 All self-lay schemes should be applied for using Anglian Waters self-lay application form.
- 2.1.14 All point of connection applications should be submitted using Anglian Waters point of application form.

2.2 Standards and specifications

- 2.2.1 The SLO shall be required to work to Anglian Water standards and specifications, current at the time, in relation to **all** activities. Similarly, Anglian Water (and its contractors) shall comply with its policy and procedures current at the time.
- 2.2.2 The SLO may design on-site systems subject to Anglian Water standards and specifications, current at the time. Under a self-lay arrangement the SLO shall provide full details of designs and, all risk assessments, method statements and action plans, prior to construction on site.
- 2.2.3 The SLO and/or developer shall enter into and comply with the national legal agreement for self-lay work before any work commences on site. Anglian Water retains the right to not adopt self-lay mains constructed prior to an agreement being in place.
- 2.2.4 Separate legal agreements shall be required to cover phased or staged projects for self lay water mains. A framework legal agreement shall be required to cover self lay service connections.
- 2.2.5 The SLO shall work to all other applicable statutes, codes and regulations and indemnify Anglian Water accordingly.
- 2.2.6 All SLO operatives must hold a National Hygiene card, issued by Energy and Utility Skills, and have it available for audit on site at any time.
- 2.2.7 A developer or SLO shall fulfil all requirements under the New Roads and Streetworks Act 1991 and Traffic Management Act including retaining

responsibility for the excavation and reinstatement of any street until the expiration of the NRSWA Guarantee period.

- 2.2.8 All operatives carrying out service connections must have an Anglian Water, Water Quality passport showing that they have received the POSWSH working on services training. They will also have a calibrated chlorine test kit and disposal cups for the taste and odour test

2.3 Supervision and inspection

- 2.3.1 Anglian Water retains the right for supervision and inspection of pressure testing, final flushing, swabbing and disinfection.
- 2.3.2 Anglian Water retains the right to access any part of the self-lay works for inspection as deemed necessary.
- 2.3.3 Anglian Water retains the right to inspect and take samples of any materials used or intended for use in connection with the self-lay works.
- 2.3.4 Anglian Water reserves the right to charge a higher supervision fee to developers or SLOs who are only partially accredited to the WIRS scheme.
- 2.3.5 SLO's carrying out self-lay service connections shall be subject to on site audit by Anglian Water Scientific Team, see appendix 1 for copy of audit form.
- 2.3.6 Corrective actions shall be issued to the SLO for any non-conformities identified during the audit, together with the timescales for remedial work to be carried out in.
- 2.3.7 Anglian Water reserves the right to notify Lloyds Registers of any non-conformities found during any audit, inspection or supervision.

2.4 Charging

- 2.4.1 Anglian Water shall require the developer to provide surety by way of the signed national legal agreement. This surety can be a maximum of 25% of the on-site works and 100% of any off-site works, however in the majority of cases, Anglian Water will not request surety for the on-site works.
- 2.4.2 Self-lay work may not commence until the signed legal agreement has been received by Anglian Water.
- 2.4.3 Upon issue of the vesting certificate the asset payment will become payable and will be paid upon receipt of an invoice from the developer/SLO.
- 2.4.4 Anglian Water's charges for non-contestable elements of self-lay work, shall reflect the reasonable costs of doing the work. These charges will be reviewed for the 1st April each year, and are available on our web site: www.anglianwater.co.uk/developers/charges.

- 2.4.5 Anglian Water will not request non constable charges prior to the scheme commencing, but will deduct them from the asset payment when the scheme is commissioned.
- 2.4.6 Anglian Water shall charge for any checking and approval of SLO self-lay designs.
- 2.4.7 Audit and inspection of an SLO by Anglian Water shall be charged for on a per phase basis
- 2.4.8 The developer/SLO shall reimburse Anglian Water for any additional site visits, sampling, mains connections or abortive costs it incurs in the process. These will either be charged separately or deducted from the Asset Payment. There will also be charges for any redesigns needed due to site layout changes.
- 2.4.9 Where works are sized to serve more than one development, Anglian Water shall fund the additional costs over and above those required for the development under consideration and recover the additional costs from future self-lay schemes or requisitions.
- 2.4.10 The developer shall be charged, as appropriate, for any additional costs Anglian Water has incurred previously in sizing works to cover subsequent development.
- 2.4.11 Any diversionary works, which Anglian Water agrees can be included in the self-lay arrangement, shall be funded 100% by the developer, including connections relating to the diversion. No asset payment shall be made for diversionary works.
- 2.4.12 Where the SLO makes service pipe connections, the SLO/developer pays Anglian Water the relevant charge per plot which covers administration, water regulation inspections and meter installations.
- 2.4.13 Where Anglian Water makes service pipe connections, the developer or SLO shall pay Anglian Water the cost of each service pipe connection as specified within Anglian Water's Charges Scheme.
- 2.4.14 Infrastructure charges are applicable and payable on all new service connections whether carried out by Anglian Water or the SLO.
- 2.4.15 Anglian Water shall make asset payments for self-laid assets for domestic purposes. Payments shall be based on statutory requirements set out in the Water Act 2003 and the calculations in Ofwat's guidelines. This takes account of income received from new customers and is consistent with the calculation of requisitioning charges. The asset payments shall be made upon receipt of an invoice, subject to satisfactory commissioning and adoption of the self-laid infrastructure and any remedial works that have been identified, have been rectified.
- 2.4.16 Anglian Water shall not make payments for self-laid assets for non-domestic purposes or diversionary works at this time.

2.5 Design

- 2.5.1 SLO's are permitted to design on and off-site mains for Anglian Water to check and approve.
- 2.5.2 All designs should be submitted in AutoCAD format.
- 2.5.3 Prior to carrying out the design the SLO should request a point of connection from Anglian Water. This should be done using the point of connection form available on our website.
- 2.5.4 Appendix 1 defines the colour coding and symbols to be used on new water mains designs in the Anglian Water area.
- 2.5.5 The demarcation between mains to be constructed by the SLO and mains to be constructed by Anglian Water will be shown by showing back to back wash outs, with a clear break in the main.
- 2.5.6 All mains will be referenced with the mains material and size.
- 2.5.7 Any service pipe greater than 32mm shall be referenced with its size.
- 2.5.8 All new fire hydrant positions will be as defined by the relevant Fire Authority.

2.6 Process

- 2.6.1 Anglian Water shall comply with the levels of service defined in Appendix 7 of the Code of Practice.
- 2.6.2 Anglian Water shall not start recording against the levels of service until all the required information is received.
- 2.6.3 Anglian Water shall in all cases liaise with the Fire Authority regarding the numbers and positioning of fire hydrants. Designs shall progress subject to modifications required by the Fire Authority.
- 2.6.4 All notifications to Anglian Water shall be by the Anglian Water self-lay forms, available on our web site:
www.anglianwater.co.uk/developers/self-lay
- 2.6.5 If the SLO does not commence works within the timescales quoted on the notification form, a new notification must be submitted.
- 2.6.6 The SLO shall give at least 15 working days notice of his intention to start on site. Using standard form SL1 'Notification of commencement of mains work for water self-lay scheme'.
- 2.6.7 Between the serving of this notice and starting on site, a pre-construction site meeting must take place between Developer, SLO, and Anglian Water to agree scope and timescales of work.

- 2.6.8 At least 15 working days ahead of the developer's intention to commence the self-lay works, the developer shall submit to Anglian Water for approval:
- Programme and method statement for self-lay works.
 - Subcontractor details (all sub contractors must comply with WIRS requirements).
 - Materials details.
 - Any other information reasonably required.
 - The developer shall also pay the non-contestable charges.
- 2.6.9 The SLO shall give Anglian Water a minimum of 10 working days notice of any pressure testing, flushing and chlorination works which requiring inspection and/or approval. Using standard form SL1 'Notification of commencement of mains work for water self-lay scheme'.
- 2.6.10 Anglian Water shall liaise with the developer or SLO to complete any off-site works for which it is responsible either before, or as soon as reasonably practical after, the completion of the on-site works.
- 2.6.11 The SLO shall give at least 10 working days notice of the date when it requires Anglian Water to make mains connections. Using standard form SL2 'Request for water mains sampling and commissioning for water self-lay scheme'.
- 2.6.12 Before making mains connections, the water main and any other plant or apparatus shall have been pressure tested, swabbed, cleansed and disinfected and satisfactory water samples taken.
- 2.6.13 When the mains connection is ready to be made, and prior to the connection being made the SLO shall provide Anglian Water with as-laid plans of the self-lay works, all evidence of work on-site, including pressure test certificates.
- 2.6.14 Upon receipt of the above, Anglian Water shall make the mains connection(s).
- 2.6.15 Following a joint site inspection between SLO and Anglian Water, once Anglian Water is satisfied that the self-lay works have been properly commissioned and connected in all respects, Anglian Water shall issue a Vesting Certificate to the developer or SLO. At this point the self-lay works become vested in Anglian Water.
- 2.6.16 Upon issue of a Vesting Certificate at completion, all outstanding charges shall be payable. The Asset Value shall be paid by Anglian Water on receipt of an invoice, less any sums due under the terms of the Agreement.
- 2.6.17 The developer or SLO shall give at least 10 working days notice of the date when it intends to make service pipe connections or requires Anglian Water to make service pipe connections. Using standard form SL3 'Notification of commencement of water connections for water self-lay scheme'.

- 2.6.18 Before any service connection is connected to a new main, Anglian Water has the right to inspect the external pipework to be connected to ensure compliance with the Water Supply (Water Fittings) Regulations 1999.
- 2.6.19 The developer or SLO shall notify Anglian Water within two working days of the service connections completed using the standards forms.
- SL5 'Notification of completed services connections and meter installations on self-lay water mains scheme'.
 - or**
 - SL6 'Notification of completed service connections on self-lay scheme where Anglian Water are to install meters'.
 - Each meter box or manifold port must be tagged showing the plot it serves.
- 2.6.20 Anglian Water shall install meters within five working days of the date the meter is requested by the SLO/developer.
- 2.6.21 The SLO shall within two working days of completing a service connection, fax standard form SL4 'Water quality record sheet for service connection checks' for each plot to the Quality Scientist. This form will record the free chlorine residual, total chlorine residual and results of the taste and odour checks.
- 2.6.22 A Defects Liability Period shall, for service pipes, commence from the date of connection, which is also when the service pipes shall be adopted. The Defects Liability Period shall last for one year and shall ensure that the developer or SLO guarantees the works against any defect including damage.
- 2.6.23 A Defects Liability Period shall, for mains, commence from the date of adoption when a Completion Certificate shall be issued. The Defects Liability Period shall last for one year and shall ensure that the developer or SLO guarantees the works against any defect including damage.
- 2.6.24 All boundary boxes on service connections shall be installed in the public highway at the property boundary but shall **not** be installed in driveways or vehicle crossovers.

2.7 Variations

- 2.7.1 Should the developer change the site layout or number of plots after the design has been completed or approved, Anglian Water must be informed of the changes immediately, for the design and the estimated asset payment to be reassessed.
- 2.7.2 If for any reason the new water main cannot be constructed as per the design, no variations to the design will be permitted without the approval of the Anglian Water Project Engineer.
- 2.7.3 If any contaminants are found on site which had not been highlighted by the soil report, mains construction must cease immediately and the Anglian Water Project Manager consulted.

3.0 Addendums and additions to the 'Self-laying of Water Mains and Services, A code of practice for England and Wales, 2nd Edition'

Part 1 - General

1.4 Responsibility for the protection of street furniture

Insert: The Developer/SLO is responsible for the protection of street furniture including covers, lids, frames and chambers, until such time as the street is adopted by the organisation responsible for its future maintenance.

1.5 Competence of Self-Lay Organisations

1.5.4 Insert: Anglian Water recognises the Water Industry Registration Scheme (WIRS), as evidence that an SLO is competent to operate in the Anglian Water Region.

1.6 Protection of Water Quality

Insert 1.6.10: Service connections to high risk properties ie properties with Rainwater Harvesting Systems, Greywater Recycling etc shall only be made once Anglian Water has confirmed that the installations comply with the Water Supply (Water Fittings) Regulations 1999 and the relevant British Standards.

Insert 1.6.11: All SLO operatives must have received the relevant briefings on POSWSH (Policies and Standards for Water Supply Hygiene), prior to carrying out any service connections, and have this recorded in, and be issued with an Anglian Water, Water Quality passport.

Insert 1.6.12: SLO's must be able to demonstrate that chlorine testing kits have been calibrated annually, and provide a calibration certificate if not tested by Anglian Water.

Insert 1.6.13: Chlorine solutions must be 1% chlorine solution as not as defined in the national hygiene training. Bottles must be clearly marked showing content and strength, and the solution made up by dissolving 5 x 1 gram chlorine tablets into 550ml of cold clean water, and wait until tablets are fully dissolved. Unused solution should be disposed of at the end of each day.

Insert 1.6.14: SLO operatives engaged in service connection activities must have hand washing facilities by means of both soap and clean water or hand wipes.

Insert 1.6.15: SLO operatives engaged in service connection activities shall have disposable cups in order to carry out taste and odour checks.

1.7 The Agreement

Insert 1.7.3: The water mains construction and the service connections will be under two separate agreements. Water mains agreements are entered into for each site

Insert 1.7.4: The Water Services agreement will be a framework agreement between Anglian Water and the SLO and may cover more than one site.

1.8 Contestable and non-contestable work

Table 1 - Installation

Delete: Fitting of water meters to water company specification and subject to water company approval.

Insert: Fitting of trickle flow plugs on service connections where boundary box, manifold or wall box are installed. Fitting of meters on services greater than 32mm where a meter chamber with frame and cover are installed.

Table 2 - Installation

Insert: Installation of water meters on service connections where boundary box, manifold or wall box are installed.

1.11 Finances

Insert 1.11.1: Anglian Water will estimate the capital cost of the work to be undertaken on the scheme in its entirety. The estimated capital cost is then evaluated against the revenue projected for the scheme over a period of 12 years, under sections 51C (6) and (9). This model produces the relevant Asset Payment and Developer Contribution applicable for the site. In respect to the mains element of the work there is no upfront payment by the developer under this option as the Developer Contribution element of the costs is deducted from the Asset Payment at the conclusion of the scheme with the balance of the asset payment being paid to the developer. The associated payments are covered by a self-lay agreement which will be entered into between the relevant parties.

The Developer Contribution is equal to the difference between the total capital cost of the scheme (less abortive and other costs for which the Developer is solely responsible) and the Asset Payment due on completion of the scheme.

Insert 1.11.2 The asset payment, less the Developer Contribution shall become due when the main is vested in Anglian Water, and shall be paid on receipt of an invoice for the Asset Payment amount.

Delete 1.11.3

Part 2 – Self-lay Procedures

2.3.1 Design by Developer/SLO

Table 4 addition:

Information Required	To Include
Water Regulations Information	<ul style="list-style-type: none">• Plan clearly showing the proposed cold, and hot water plumbing and water fittings to be installed.• Details of any Rainwater Harvesting or Greywater reuse systems.• Schedule of water fittings showing the make of all pipes, fittings and sanitary ware to be installed.

2.3.2 Design by Water Company

Table 5 addition:

Information Required	To Include
Water Regulations Information.	<ul style="list-style-type: none">• Plan clearly showing the proposed cold, and hot water plumbing and water fittings to be installed.• Details of any Rainwater Harvesting or Greywater reuse systems.• Schedule of water fittings showing the make of all pipes, fittings and sanitary ware to be installed.

Part 3 - Design and Construction Guidance

3.3 Design Drawings

Insert 3.3.1 All designs submitted for vetting or site layouts for Anglian Water to design should be submitted electronically in AutoCAD format.

3.3.4 additional bullet point:

- Location and size of any ducts installed by the Developer.

3.6 Design Guidance - Services

Insert 3.6.6 Where internal meters are allowed they must be installed to the Anglian Water policy and specifications for internal meters on new premises.

3.7 Construction

Insert 3.7.1.1 Before construction work commences, a completed self-lay agreement must be in place and a pre-commencement site meeting to have taken place between Anglian Water, Developer and SLO.

Insert 3.7.3.1 The Developer is responsible for maintaining the correct alignment of all street furniture until the site is adopted by the person responsible for future maintenance.

Insert 3.7.4.7 Supply and communication pipes greater than 32mm must be disinfected and pressure tested as per Anglian Water's policy and specifications.

Add 3.7.4.8 Anglian Water shall issue the SLO with a commissioning plan prior to the testing and commissioning of the self-lay main. This shall include:

- The commissioning strategy the scheme.
- The sequence of commissioning (which will be a major factor in setting the sequence of construction).
- Swabbing, pressure test, sampling & chlorination lengths.
- Direction of swabbing relevant to topography (swabbing shall ideally be carried out 'uphill' to drive air out of the pipe).
- The availability of water for commissioning:
 - Restrictions on volume available.
 - Restrictions on timing of availability (ie seasonal and/or time of day/week).
 - Restrictions on flow rate taking account of PWSZ Ranking for Water Quality combined with the size, material and condition of existing mains (modelling may be necessary).
- Proposed velocity of water in the main during swabbing.
- Locations of fill points.
- Disposal of water used for commissioning.
- Location and details of connections and disconnections.
- Details of de-commissioning any redundant water mains.

Add 3.7.4.9 The filling of new water mains shall be by means of a 25mm standpipe only.

Add 3.7.4.10 The maximum length for pressure testing a new PE main is 1500m.

Add 3.7.4.11 The swabbing of new mains shall be to Anglian Water specification as follows:

- The maximum length for swabbing and sampling a new main is approximately 1000m, as is the maximum distance between valves on mains.
- The main should be filled prior to swabbing (24 hours is recommended) to allow any debris to be soaked prior to the passing of the first swab.
- Soft swabs shall be utilised with a density of between 20 and 30 kg/m³. For pipe nominal bore up to 300mm, the swab shall have a diameter of 1.25 to 1.5x the nominal bore. For pipe nominal bore greater than 300mm, the swab shall have a diameter of the nominal bore +75 -100mm.
- All swabs must be soaked in a chlorine solution containing a minimum of 20mg/l of chlorine prior to use.
- Swabs should be marked using approved products or methods to enable the swabs to be clearly identified on discharge. Swabs shall be used once only before disposal, and all swabs should be recovered.
- The velocity of water in the pipe during swabbing shall be the maximum that can be achieved by best available means taking account of restrictions on the availability and disposal of water (modeling of the network and temporary works may be required) and the effect of draw off on the existing network

(with an upper limit of 1.5 m/s). Ideally the swab velocity should be between 0.8 and 1.5 m/s (the swab velocity will be typically 90% to 95% of the water velocity).

- A minimum of two swabs is required for each section of main and more than one pass may be necessary, unless the requirements for permitting tandem swabbing are met. Tandem swabbing can only be used on mains ≤ 150 mm nominal bore where the new main is a single feed to an end fire hydrant. The main must also be ≤ 100 metres in length. *In accordance with the commissioning plan it may be appropriate to run the two swabs in tandem or each swab as separate passes.*
- The swabbing must be repeated as many times as necessary until the water in front of the swab is clear with no particulate material present (a turbidity tube/meter will aid inspection). The final swab should not have any ingrained material present or be discoloured. This process shall be carried out in one sequence of operations on any length of main.
- The smell of the swab should also be noted - if any unusual odour is present the swabbing should be repeated until no unusual odour is apparent. This is particularly important for ductile mains. Any unusual odour should be reported to the Network Scientist.
- Results of swabbing should be recorded on the Swabbing Record form.
- Disposal of water should be in accordance with the Commissioning plan.
- Any debris that is expelled should be reported for feedback to the pipe layers and operational staff.

Add 3.7.4.12 Chlorination shall be carried out by injection, and the main and all associated fittings shall be disinfected along its entire length for a minimum period of 16 hours with water containing a minimum free chlorine residual of 20mg/litre. In some circumstances it may be appropriate to increase the chlorine residual to 50mg/l and shorten the length of contact, the minimum period is 30 minutes. It is not appropriate to use concentrations giving a free chlorine residual >50 mg/l. There is no maximum length for the chlorination of a new main but consideration shall be given to the amount of water required and its possible re-use.

Mains should not be left standing for long periods with highly chlorinated water where 20 mg/l of free chlorine are used the maximum period should be 48 hours and where concentration are increased to 50mg/l of free chlorine the maximum period should be reduced to 24 hours.

The chlorine residual should be checked at the end of the standing time and if there is any significant change then operational or scientific advice should be sought regarding any remedial action to be taken.

4.0 Addendums and additions to the National Addendum for safe control of routine mains connections

- 3.1.2 The Anglian Water nominated Water Controller (WC) will be the Project engineer responsible for the site.
- 3.2.6 The application to make in line routine connections shall be made using standard form SL7 - Request for approval to make an inline mains connection.
- 3.2.10 Anglian Water will carry out post connection water sampling after all connections.

5.0 Material specifications

All material used on self-lay schemes must meet the Anglian Water specifications as detailed below:

All pipes must be delivered and stored with end caps. All MDPE fittings must be delivered and stored in plastic heat sealed bags.

Mains on non contaminated sites	Mains 90mm and above to be HPPE (PE100) 90mm to 225mm to be SDR 17, 225mm and above to be SDR21. All pipes must be marked with PN code and SDR on the pipe.
Mains on contaminated sites	Mains up to 180mm shall be in 'Protectaline' barrier pipe. Please note that only fluid couplings shall be used for Protectaline jointing, no butt fusion to be carried out. Mains above 180mm to be Ductile Iron compliant with BS EN 545 1995 and WIS 4-41-01, the minimum external corrosion protection shall be zinc coated with epoxy to BS EN 545, and all ductile pipes and fittings shall be internally lined.
Services on non contaminated sites	Services up to and including 63mm to be MDPE (PE80).
Services on contaminated sites	Either 'Protectaline' barrier pipe (preferred) or plastic coated underground copper (BS EN 1057/1996)
Electro fusion couplings for mains	To be HPPE (PE100) and can be blue or black in colour, all electro fusion fittings to incorporate fusion indicators.
Elect fusion tapping saddles for MDPE/HPPE mains	To be self tapping and of under-clamp bottom loading design, all electro fusion fittings to incorporate fusion indicators. Gun metal tapping saddles will not be permitted on MDPE/HPPE mains.
Tapping saddles for ductile iron, cast iron, UPVC, and asbestos mains	All tapping saddles to be made to BS2789 grade 500/7, and be capable of withstanding pressures of 16 bar.
Valves	Compliant with BS EN 1563, internal and external protection to be blue fusion bonded epoxy powder coating. All valves to be right hand (clockwise) close only.
Fire hydrants	Compliant with BS750:1984. All hydrants to have copper alloy (gunmetal) outlet. The hydrant shall have an automatic frost valve, no water shall escape during operation and the body shall fully drain afterwards. All hydrants to be of a fixed jumper design
Chamber sections	Chamber sections to be rectangular and made of either plastic or pre cast concrete.

Chamber covers	All covers shall comply with BS EN 124/ BS 5834. All covers shall be rectangular, and shall be marked SV, WO, FH, AV as appropriate. Covers shall be coated with bituminous coating to EN124 and BS5834.
Boundary boxes Non contaminated sites	Single, double and multi port manifolds can be used. The boundary box must be able to incorporate a manifold meter with 1½inch thread, stop tap and non return valve. All boundary boxes must have height adjustment capabilities.
Boundary boxes Contaminated sites	Where boundary boxes are used on contaminated sites they must comply with WIS-4-37-01, be watertight and shall have gunmetal connection fittings that are able to accept either Protectaline or plastic coated copper pipes.
Wall mounted boxes	The unit shall be designed to be installed either in or on the outside wall of the property, and be positioned such that the meter can easily be read without entering the property. The unit shall incorporate a 1 ½" BSP meter connection, stop tap and non return valve.
Meters	Only meters issued by Anglian Water to be fitted which will be supplied free of charge.

6.0 Appendices

Appendix 1 - Legend for water mains designs.

Appendix 2 - Water quality audit form.

Appendix 3 - Standard forms and notifications.

Appendix 2 – Water quality audit sheet

Anglian Water Services Limited AUDIT REPORT Network Activities - Summary	Audit number:	
	Audit date:	

Version 4 Rev K Todd 27/02/2009

Description of work activity Address/location of activity Employee names Line manager Assessor's name Name of NRSWA (holder) on site	

General observations		Yes/No	Comments
1	Personnel in possession of current EU Skills/Restricted Operations Card (WAQ-STD-1.1.1.1) - is it in date?		
2	Personnel in possession of a Safety/Water Quality Passport (WAQ-STD-1.1.2.1) - check for POSWSH training. - is there any training overdue for refreshment?		
3	Is the correct protective clothing worn? (WAQ-STD-1.3.1.1)		
4	Are there any washing facilities? - check water available.		
5	Chlorine kit calibrated (WAQ-MTD-6.1)		
6	Is the van kept tidy? (WQ-STD-1.3.8.2)		
7	Are fittings stored neatly & free from contamination (WAQ-STD-1.3.8.2) - is the fuel stored well away from any fittings or tools?		
8	Chloros solution available and labelled appropriately (WAQ-STD-1.3.8.1) (Chloros 1%, Hazard)		
9	Tools/equipment cleaned and disinfected. 1% solution of chlorine used to disinfect equipment (WAQ-STD-1.3.8.1)		
10	AW approved materials and fittings used (WAQ-STD-6.3.5.1)		

Questions		Yes/No	Comments
	Why do you need an EU Skills/Restricted Operations Card? (WAQ-STD-1.1.1.1) <i>To check that personnel are safe to work with potable water.</i>		
	What documents should you carry with you at all times when at work? <i>health and safety training passport, EU skills card, Anglian Water ID card, NRSWA card (if applicable).</i>		
	What illness might result in you being unable to work on restricted operations? (WAQ-STD-1.2.2.1)		

Prolonged or unexplained fever, persistent diarrhoea, jaundice, gastro-enteritis.

Who supplies you with chloros? How do you make up a 1% solution? (WAQ-STD-1.3.8.1)
One part commercial chlorine solution to nine parts water or one Instachlor 1000 tablet to 100ml of water.

How often should a 1% chloros solution be replaced? (WAQ-STD-1.3.8.1)
At least every seven days.

What markings should your chlorine container have on it? (WAQ-STD-1.3.8.1)
The strength of the solution:- 1% chloros. That the contents are corrosive / hazardous

Details of non-conformance

Corrective Action

1

2

3

Assessors signature _____

Gang signature _____

Corrective Action to be resolved by (Manager/Supervisor name) _____

Date for agreed action(s) _____

Appendix 3 – Self lay forms – SL1 to SL7

SL1 – notification of commencement of mains works for water self lay scheme

This form must be faxed to us notifying us of commencement of mainlaying, pressure testing and chlorination.

section 1 – contact details

self lay organisation name: _____

contact name: _____

contact telephone number (preferably mobile): _____

date sent to Anglian Water: _____

section 2 – job number/site address

Anglian Water job number:

site address: _____

postcode: _____

section 3 – commencement of works

We confirm commencement of the works ticked, please complete as appropriate. **IMPORTANT:** These dates are used to schedule Anglian Water resources, therefore actual dates are required and not proposed dates or week commencing dates.

commencement of main laying will start on: / /

Before any work starts on site all non contestable charges must be paid, the self lay legal agreement must be in place and a pre-commencement site meeting must have been held with an Anglian Water Engineer. (minimum notice 15 working days)

commencement of pressure testing and chlorination will commence on: / /

(minimum notice 10 working days)

company carrying out testing and chlorination: _____

contact name: _____

contact telephone number: _____

section 4 – fax back details

Please fax the completed form to our relevant mainlaying team (see below).

- Norfolk, Suffolk and Essex on **01603 247043**
- Cambridgeshire, Lincolnshire and Humberside on **01522 341272**
- Northamptonshire, Buckinghamshire and Bedfordshire on **01908 453194**

for Anglian Water use only

form received by: _____

date: / /

passed to Construction Engineer: _____

date: / /

copy of form to be put into scheme file (please tick box):

SL2 – request for water mains sampling and commissioning for water self lay work

IMPORTANT – please read

Testing and chlorination of mains must not commence until you have a copy of the commissioning plan giving required velocities.

Chlorination shall be carried out by injection, and the main and all associated fittings shall be disinfected along its entire length for a minimum period of 16 hours with water containing a minimum free chlorine residual of 20mg/litre. In some circumstances it may be appropriate to increase the chlorine residual to 50mg/l and shorten the length of contact, the minimum period is 30 minutes. It is not appropriate to use concentrations giving a free chlorine residual >50mg/l.

Scientific advice must be sought regarding the chlorination regime prior to the chlorination and will be dependant on the circumstances of the new main and the existing supply, this is not appropriate where the water is turbid as disinfection may be compromised.

Mains should not be left standing for long periods with highly chlorinated water where 20mg/l of free chlorine are used the maximum period should be 48 hours and where concentration are increased to 50mg/l of free chlorine the maximum period should be reduced to 24 hours.

The chlorine residual should be checked at the end of the standing time and if there is any significant change then Operational or Scientific advice should be sought regarding any remedial action to be taken.

You must fax this form, together with pressure test results within two days of mains testing.

section 1 – contact/location/material details

Anglian Water job number:

scheme/developer: _____

self lay organisation: _____

site contact: _____

contact telephone number (preferably mobile): _____

location/section: _____

material: _____

length: _____

diameter: _____

section 2 – test data

A copy of this form must be attached to the as laid drawings and received by Anglian Water before the mains connection can be carried out. Test data – to be completed by tester of main.

operation	date	disinfection	result
charge main		Cl ₂ concentration – start	mg/l
pressure test (test certificate to be attached)		Cl ₂ concentration – end	mg/l
swabbed (the swabbing record in section 3 below must be completed)		chlorination contact time	(hours)
chlorination (minimum 20mg/l)			
de-chlorinated			

I confirm that the above main is ready for sampling and commissioning.

print name: _____

signature: _____

date: / /

section 3 – swabbing record

Please complete the form below.

location from:			
location to:			
installation method:	drilled	open out	pipeburst
if drilled, lubricant used:	water	bentonite	other (state)

pipe length (m)	pipe material and class/SDR	pipe size (mm)	pipe nominal bore (mm)

swab	type	diameter of swab (mm)	water velocity (m/s)	confirm removal of swab	clarity (describe)	debris (describe if discharged)	witnessed, completed by and date
1							
2							
3							
4							
5							
6							

date	swabbed by	discharge monitored by

I confirm that the length of pipe has been swabbed in accordance with the Commissioning Plan and that after passes of a swab, the water in front of the final swab was clear with no particulate material present. The final swab had no ingrained material present nor was discoloured.

date	name	signed

section 4 – fax back details

Please fax the completed form to our relevant mainlaying team (see below).

- Norfolk, Suffolk and Essex on **01603 247043**
- Cambridgeshire, Lincolnshire and Humberside on **01522 341272**
- Northamptonshire, Buckinghamshire and Bedfordshire on **01908 453194**

for Anglian Water use only

form received by: _____

date: / /

passed to Construction Engineer: _____

date: / /

copy of form to be put into scheme file (please tick box):

anglianwater

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SL3 - Notification of commencement of water connections for water self lay scheme

This form must be faxed to our Developer Liaison Centre on 01223 201272, ten days prior to any service connections being carried out or five days if the service pipe has been installed by an approved plumber/underground installer or certified by an approved site agent. Service connections can only be carried out if the connection charges for the plots listed below have been paid in advance. If payment has not been received the service connections will be refused. Full postal addresses including the postcode must be given prior to connections being carried out.

Section 1 - Contact details and site address

Self lay organisation name:

Contact name:

Contact telephone number (preferably mobile):

Site address:

Site postcode:

Section 2 - Commencement of service laying

Anglian Water will not need to carry out the underground water regulations if the supply pipe has been installed by an approved plumber/underground installer or certified by an approved site agent. Please complete their details below. THIS MUST BE COMPLETED TO ALLOW FIVE DAY NOTIFICATION

name:

registration number:

IMPORTANT: These dates are used to schedule Anglian Water resources, therefore actual dates are required and not proposed dates or week commencing dates. Notification to be faxed to our Developer Liaison Centre on **01223 201272**.

Commencement of service laying for the plots detailed below will start on:

		/			/						
--	--	---	--	--	---	--	--	--	--	--	--

Anglian Water job number	Plot number	Postal address	Postcode

Section 3 - Water regulations

Are there any flats, apartments or sheltered housing on the development?

 Yes No

If yes, please tell us which plot numbers.

 Plot numbers:

Please indicate if any of the following have been installed:

If yes, please tell us which plot numbers the systems are installed in.

 Rainwater harvesting system: Yes No Plot numbers:

 Greywater system: Yes No Plot numbers:

 Internal booster pump: Yes No Plot numbers:

Please note: Any rainwater harvesting and/or grey water recycling systems shall be installed in compliance with the relevant British Standards (BS 8515 Rainwater harvesting systems and BS 8525-1 Greywater systems).

Manufacturer and installer details:

Manufacturer: _____ Name of system: _____

Installer name: _____ Contact number: _____

Village/town: _____

City/county: _____ Postcode: _____

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 Date application received: / /

Actioned by: _____

 Copy of form to be put into scheme file (please tick box):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SL6 - Notification of completed service connections on self lay scheme where Anglian Water are to install meters

This form must be completed and returned to Anglian Water within five working days of making a service connection so that Anglian Water can arrange meter installation.

Completed forms must be returned to the Developer Liaison Centre by fax on 01223 201272

Section 1 - Contact details and site address

Self lay organisation name:	_____
Contact name:	_____
Contact telephone number (preferably mobile):	_____
Date connection completed:	Date sent to Anglian Water:
Developer name:	_____

Section 2 - Site address

Site address:	_____
Postcode:	_____

Section 3 - Plot details

Plot number	Date installed	Job number	Trickle flow plug fitted (tick to confirm)	Full postal address
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____
			<input type="checkbox"/>	Postcode: _____

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Date form received:	<input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Date meter fit jobs raised:	<input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<input type="text"/>																			
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SL7 - Self lay routine inline mains connection notification form

Please complete the form fully and accurately. Insufficient information could lead to delays. Please refer to the guidance notes when completing this form. Please complete this form in BLOCK CAPITALS.

Section 1 - Contacts/general details

Guidance notes	
See note 1a	Water company: _____
See note 1b	Self lay organisation: _____
See note 1c	Self lay organisation/water company reference: _____
See note 1d	Originator: _____
	Telephone number: _____ Mobile number: _____
	Fax number: _____ Email address: _____
See note 1e	Date raised: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
See note 1f	Location of work: _____

	Grid reference: <input type="text"/>
See note 1g	Description of proposed works: <input type="text"/>

Section 2 - Pipe/connection details

See note 2a	Pipe details: Please indicate type of main (tick and complete):
	Existing main: <input type="checkbox"/> Size: <input type="text"/> Material: <input type="text"/>
	New main: <input type="checkbox"/> Size: <input type="text"/> Material: <input type="text"/>
See note 2b	Connection details: Please tick where connection will be to:
	Newly laid main: <input type="checkbox"/>
	A main controlled by a sluice valve/double spade valve: <input type="checkbox"/>
	A main which does not supply properties: <input type="checkbox"/>
See note 2c	Supply isolating: Please tick the method to be used for isolating the supply:
	Operate valve: <input type="checkbox"/> Squeeze off: <input type="checkbox"/> Double spade valve: <input type="checkbox"/>
	High flow top tee: <input type="checkbox"/> Other: <input type="checkbox"/>
	If other, please describe: <input type="text"/>
See note 2d	Proposed start date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
	Proposed end date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

Section 3 - Authorisation

See note 3a **Senior competent person (SCP):**

Name: _____

Contact number: _____

See note 3b **SCP comments:**

See note 3c **SCP authoriser:**

Name: _____

EUSR number: _____

Signature: _____

See note 3d **Competent person (CP) undertaking work:**

If CP changes contact Anglian Water for clearance to proceed.

Name: _____

EUSR number: _____

Signature: _____

See note 3e **Water company clearance to proceed:**

Name: _____

Contact number: _____

Signature: _____

See note 3f **Details of any conditions or specific requirements:**

Section 4 - Supporting documentation

See note 4a **A method statement must be attached to this application and should include the following information:**

- Details of any preparatory work.
- Materials and plant requirements.
- Safety equipments and checks.
- Sketch of proposed connection.

The following should also be attached to the method statement:

- A copy of a plan showing the mains to be connected.
- A copy of the test certificate for the newly laid mains.
- A copy of the passed sample results following disinfection of the newly laid mains.

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Date connection approved: / /

Self lay routine inline mains connection notification

Guidance notes

The routine operational procedure must be completed in accordance with the following instructions.

All sections and boxes of the routine operational procedure must be endorsed with the relevant data, otherwise, please state 'N/A' if not required.

All sections should be completed wherever possible. Insufficient information may result in delays.

Note 1 – Contacts/general details

1a) Water company

Input the local water company name.

1b) Self lay organisation

The name of the organisation that is undertaking the operations.

1c) Self lay organisation/water company reference

The reference for the water company project, or associated self lay organisation reference number.

1d) Originator

The name and contact details of the person who is producing the written procedure.

1e) Date raised

The date that the originator produces the written procedure.

1f) Location of work

The name of the road, town and postcode where the work is being undertaken, if applicable. The exact location should be provided where possible e.g. outside No. 56 High Street or at the junction of High Street and North Road. If on site where no postal address has been allocated then the road numbers and plots should be used. The grid reference of where connection being made should also be included.

1g) Description of proposed works

This should detail the actual work to be done, techniques to be applied and the material, and diameter of existing and new mains. The detail should also identify lengths of main to be commissioned.

Note 2 – Pipe/connection details

2a) Pipe details

The type of main, size and material must be specified.

2b) Connection details

Please indicate where connection is to be made.

2c) Supply isolating

Please indicate the method to be used for isolating the supply. If 'other' is ticked you should specify method to be used in the available box (please use a separate piece of paper if required).

2d) Proposed start and end dates

This information is essential for the management of the network and ensuring there is no conflict with other operations. The procedure must **not** be authorised unless the document is endorsed with the appropriate information. The Senior Competent Person must be satisfied that the proposed start/end dates and times are realistic and achievable, to ensure that other proposed works on the network are not unduly affected.

Note 3 – Authorisation

3a) Senior competent person (SCP)

The name of the competent person undertaking the work must be inserted to enable the water network controller to validate the registration of the individual in relation to the proposed work. The competent person must sign the procedure on receipt and briefing of the procedure to confirm that they fully understand the proposed operation and are in receipt of all appropriate documentation. It should be noted that if the competent person changes, the water network controller should be contacted for the clearance to proceed. Signatures of the senior competent person and the water network controller are required within this section.

3b) SCP comments

The senior competent person must make appropriate comments/checks, which should be understood and acknowledged by the competent person. The final version of the procedure must be authorised by the senior competent person and then sent to the water network controller for appropriate conflict checks/clearance to proceed.

3c) SCP authoriser

The senior competent person must sign this section and provide EUSR number.

3d) Competent person undertaking work

The competent person must sign the procedure on receipt and briefing of the procedure to confirm that they fully understand the proposed operation and are in receipt of all appropriate documentation. It should be noted that if the competent person changes, the water network controller should be contacted for the clearance to proceed.

3e) Water company clearance to proceed

Name, contact number and signature should be provided by the water company representative if CP changes.

3f) Details of any conditions or specific requirements.

Include any conditions or site specific requirements that maybe required to carry out the operation. e.g. any specialist equipment that could be required, site conditions etc.

Note 4 – Supporting documentation

4a) The method statement must be a step-by-step procedure. It is acceptable for certain aspects of the method statement to refer to specific sections of work procedures where these are available to the water competent person on site. In addition a copy of a plan showing the mains to be connected, a copy of the test certificate for the newly laid mains, and a copy of the sample results following disinfection of the newly laid mains should be attached.