


| LEGEND | | LEGEND | | LEGEND | | MATERIALS | | LINING | |
|--|--|--------------------------------------|--------------------------------------|-----------------|---------------------------------|-----------------|--|--------|--|
| --- Discharge Pipe | ○ Fitting | ⤴ Water Chemical Injection point | ⤴ Water Hatch Box | — Print500mLine | AC - ASBESTOS CEMENT | BI - BITUMEN | | | |
| — Distribution Main | ○ Bend / Elbow | ⤴ Water Open Pipe | ⤴ Water Open Pipe | | AK - ALKATHENE | CL - CEMENT | | | |
| — Intermediate Trunk | ⊕ Coupler | ServicePoints | ServicePoints | | C - CONCRETE | PL - PLASTIC | | | |
| — Local Trunk | ⊕ Cross Piece | ⊠ Boundary Box | ⊠ Boundary Box | | CI - CAST IRON | RL - FLAP VALVE | | | |
| — Water Internal Site Pipe | ⊕ Flange Adapter Plate | ⊠ Manifold | ⊠ Manifold | | CU - COPPER | O - OTHER | | | |
| — Water Siphon | ⊕ Reducer / Taper | ⊠ Stop Tap | ⊠ Stop Tap | | DI - DUCTILE IRON | | | | |
| — Water Tap Pipe | ⊕ Stepped Coupling | ⊠ Abandoned Water Pipe | ⊠ Abandoned Water Pipe | | GF - GLASS FIBRE | | | | |
| Service Pipe | ⊕ Tee Piece | ⤴ Company Service Pipe | ⤴ Company Service Pipe | | GRP - GLASS REINFORCED CONCRETE | | | | |
| — Company Service Pipe | ⊕ Y Branch | ⤴ Conduit | ⤴ Conduit | | HDPE - HIGH DENSITY POLY | | | | |
| — Domestic Customer Service Pipe | ⊕ Hydrant | ⤴ Discharge Pipe | ⤴ Discharge Pipe | | HPPE - HIGH PERFORMANCE POLY | | | | |
| — Fire Main | ○ Wash Out | ⤴ Distribution Main | ⤴ Distribution Main | | LDPE - LOW DENSITY POLY | | | | |
| — Fire Supply Main | ● Hydrant | ⤴ Domestic Customer Service Pipe | ⤴ Domestic Customer Service Pipe | | MDPE - MEDIUM DENSITY POLY | | | | |
| — Fire Sprinkler System | ○ Meter | ⤴ Duct | ⤴ Duct | | O - OTHER | | | | |
| — Non-Domestic Customer Service Pipe | ⊕ Data Logger | ⤴ Fire Main | ⤴ Fire Main | | PC - PRE-STRESSED CONCRETE | | | | |
| Transmission Pipe | ⊕ Flow Meter | ⤴ Fire Sprinkler System | ⤴ Fire Sprinkler System | | PF - PITCH FIBRE | | | | |
| — Resource Main | ⊕ Insertion Flow Meter | ⤴ Fire Supply Main | ⤴ Fire Supply Main | | PP - POLY PROPYLENE | | | | |
| — Strategic Trunk | ⊕ Revenue Meter | ⤴ Intermediate Trunk | ⤴ Intermediate Trunk | | PSC - PLASTIC STEEL COMPOSITE | | | | |
| Flow Control | ⊕ Pipe Connection | ⤴ Local Trunk | ⤴ Local Trunk | | PVC - POLY VINYL CHLORIDE | | | | |
| ⊕ Float Valve | ⊕ Air Bleed Tap | ⤴ Non-Domestic Customer Service Pipe | ⤴ Non-Domestic Customer Service Pipe | | RPM - REINFORCED PLASTIC MATRIX | | | | |
| ⊕ Closed Water Isolation Valve | ⊕ Discharge | ⤴ Resource Main | ⤴ Resource Main | | SI - SPUN IRON | | | | |
| ⊕ Fully Opened Water Isolation Valve | ⊕ Facility Connector | ⤴ Strategic Trunk | ⤴ Strategic Trunk | | SST - STAINLESS STEEL | | | | |
| ⊕ Partially Closed Water Isolation Valve | ⊕ Motive Water Point | ⤴ Tunnel | ⤴ Tunnel | | ST - STEEL | | | | |
| ⊕ Water Non Return Valve | ⊕ Pressure Tapping | ⤴ Water Internal Site Pipe | ⤴ Water Internal Site Pipe | | UPVC - UNPLASTICISED PVC | | | | |
| ⊕ Flow Regulating Water Regulating Valve | ⊕ Pressure Regulating Water Regulating Valve | ⤴ Water Siphon | ⤴ Water Siphon | | | | | | |
| ⊕ Pressure Reducing Water Regulating Valve | ⊕ Pressure Sustaining Water Regulating Valve | ⤴ Water Tap Pipe | ⤴ Water Tap Pipe | | | | | | |
| ⊕ Pressure Sustaining Water Regulating Valve | ⊕ Water Air Valve | ● Abandoned Water Point | ● Abandoned Water Point | | | | | | |



Severn Trent Water Limited
 Asset Data Management
 PO Box 5344
 Coventry
 CV3 9FT
 Telephone: 0345 601 6616


WATER MAINS RECORD

O/S Map Scale: 1:5,000 **This map is centred upon:**

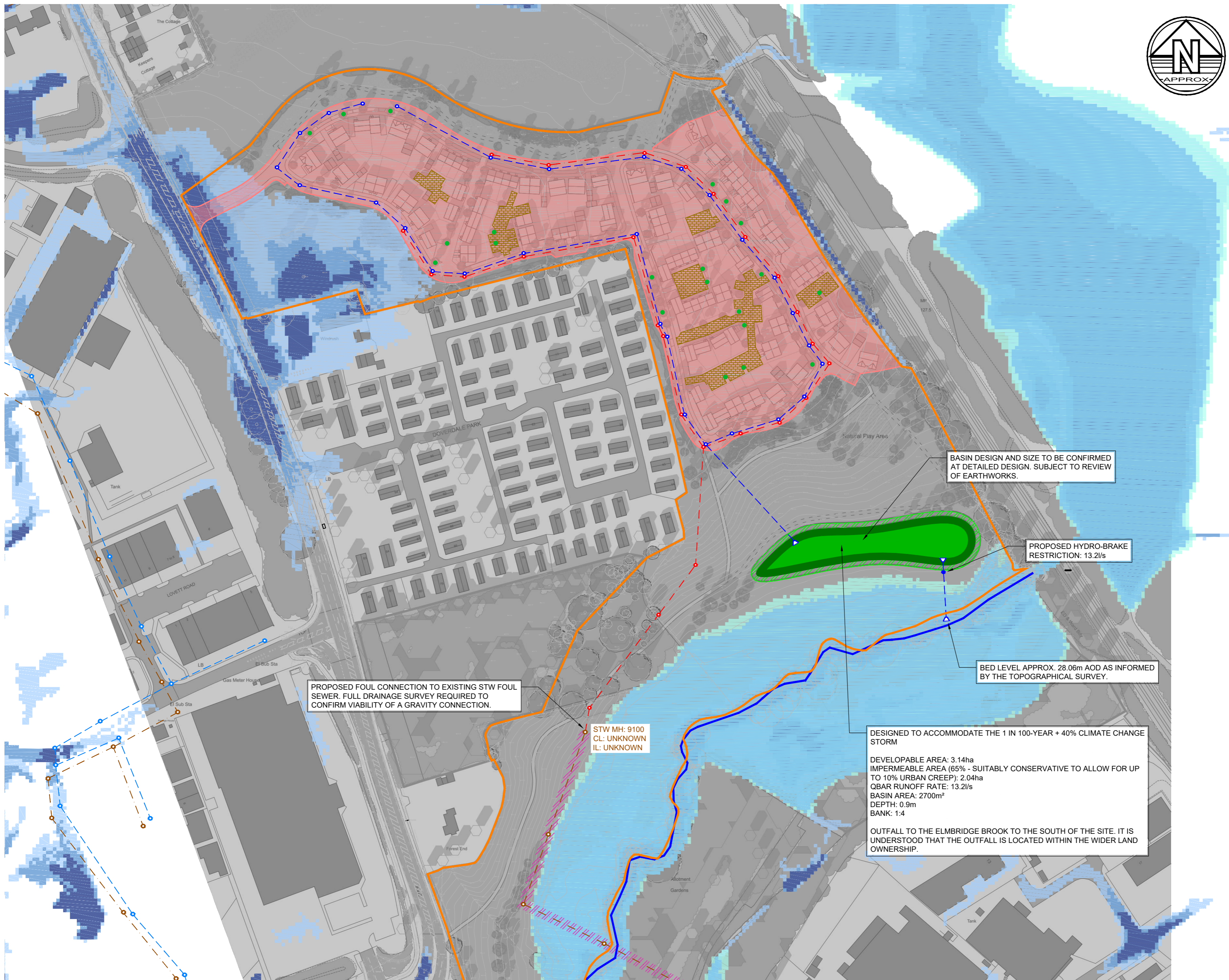
Date of Issue: 05-11-21 **X:** 389056.73 **Y:** 265186.28

Disclaimer Statement:

- Do not scale off this Map.
- This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.
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Appendix 4: Illustrative Drainage Strategy



- Notes**
- Do not scale this drawing. All dimensions must be checked/verified on site. If in doubt ask.
 - This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
 - All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
 - Any discrepancies noted on site are to be reported to the engineer immediately.
 - Do not construct based on this drawing.
 - The Flood Zone extents are extracted from the Environment Agency's Flood Map for Planning.
 - The Surface Water extents are extracted from the Environment Agency's Surface Water Flood Risk Mapping.
 - It is assumed that 65% of the developable area will be impermeable, which is suitably conservative to allow for up to 10% urban creep.
 - The greenfield runoff rate for the site has been calculated at 13.2l/s.
 - Outfall to watercourse is subject to land ownership and consent.
 - Location of the watercourse is approximate, based on the topographical survey. The exact location is subject to confirmation.
 - Drawing intended as proof of concept only, subject to further design.
 - Sewer locations are approximate and taken from Severn Trent Water sewer records. The invert level of Manhole reference 9100 is not known and therefore a full drainage survey may be required to confirm the viability of a gravity connection.
 - All drainage, including levels, areas and volumes, to be confirmed through detailed design.

- Legend**
- Illustrative Site Location
 - Elmbridge Brook
 - Environment Agency Flood Zones
 - Flood Zone 3
 - Flood Zone 2
 - Environment Agency Surface Water Flood Risk
 - High Risk
 - Medium Risk
 - Low Risk
 - Indicative Developable Area
 - Detention Basin
 - 3m SuDS Easement
 - Illustrative Surface Water Sewer
 - Headwall
 - Proposed Flow Control
 - Proposed Surface Water Manhole
 - Illustrative Foul Water Sewer
 - Proposed Foul Water Manhole
 - Indicative Tree Pits
 - Indicative Permeable Paving
 - Existing Foul Water Sewer
 - Existing Surface Water Sewer
 - 6m Sewer Easement

| | | | | |
|-----|----------|------------------------------|-----|-----|
| P04 | 12.01.22 | UPDATES TO RED LINE BOUNDARY | LR | KA |
| P03 | 20.12.21 | UPDATES TO LANDSCAPING | LR | KA |
| P02 | 03.12.21 | UPDATES TO MASTERPLAN | LR | KA |
| P01 | 29.11.21 | PRELIMINARY ISSUE | LR | KA |
| Rev | Date | Details of issue / revision | Drw | Rev |

Issues & Revisions

BWB
A CAP GROUP COMPANY

Birmingham | 0121 233 3322
 Leeds | 0113 233 8000
 London | 020 7234 9122
 Manchester | 0161 233 4260
 Nottingham | 0115 924 1100
www.bwbconsulting.com

Client
Beechcroft Land Limited

Project Title
Land to the North of Droitwich Spa, Worcestershire

Drawing Title
Illustrative Drainage Strategy

Drawn: L. Reeves Reviewed: K. Alger
 BWB Ref: BMW2611 Date: 29.11.21 Scale@A2: 1:1500
 Drawing Status
PRELIMINARY
 Project - Originator - Zone - Level - Type - Role - Number Status Rev
HLD-BWB-ZZ-XX-DR-CD-0001 S2 P04

PROPOSED FOUL CONNECTION TO EXISTING STW FOUL SEWER. FULL DRAINAGE SURVEY REQUIRED TO CONFIRM VIABILITY OF A GRAVITY CONNECTION.

STW MH: 9100
CL: UNKNOWN
IL: UNKNOWN

BASIN DESIGN AND SIZE TO BE CONFIRMED AT DETAILED DESIGN. SUBJECT TO REVIEW OF EARTHWORKS.

PROPOSED HYDRO-BRAKE RESTRICTION: 13.2l/s

BED LEVEL APPROX. 28.06m AOD AS INFORMED BY THE TOPOGRAPHICAL SURVEY.

DESIGNED TO ACCOMMODATE THE 1 IN 100-YEAR + 40% CLIMATE CHANGE STORM

DEVELOPABLE AREA: 3.14ha
 IMPERMEABLE AREA (65% - SUITABLY CONSERVATIVE TO ALLOW FOR UP TO 10% URBAN CREEP): 2.04ha
 QBAR RUNOFF RATE: 13.2l/s
 BASIN AREA: 2700m²
 DEPTH: 0.9m
 BANK: 1:4

OUTFALL TO THE ELMBRIDGE BROOK TO THE SOUTH OF THE SITE. IT IS UNDERSTOOD THAT THE OUTFALL IS LOCATED WITHIN THE WIDER LAND OWNERSHIP.

Appendix 5: Severn Trent Water Developer Enquiry

WONDERFUL ON TAP



Severn Trent Water Ltd
Regis Road
Wolverhampton
WV6 8RU

Tel: 0345 2667930 option 2
www.stwater.co.uk
network.solutions@seventrent.co.uk

Contact: Pierce Meguer

Your ref:
Our ref: 1022906

9th November 2021

Lucy Reeves
BWB Consulting
11 Portland Street
Manchester
M1 3HU

FAO: lucy.reeves@bwiconsulting.com

Dear Lucy,

Proposed development for 105 domestic properties at Hampton Lovett, Doverdale Park, Droitwich.

I refer to your 'Development Enquiry Request' in respect of the above site. Please find enclosed the sewer records that are included in the fee together with the Supplementary Guidance Notes which refer to surface water disposal from development sites.

Public Sewers in Site – Required Protection

The 150mm Foul Water sewer, located South of Doverdale Park Homes, will require a 6 metre 'No Build Zone', the strip must be 3 metres each side from the centre line of the pipe.

Foul Water Drainage

The sewer records indicate that the 150mm Foul Water sewer, South of Doverdale Park Homes, would be suitable with a connection in manhole SO88659100 (circled orange). The foul network travels in a southerly direction before discharging into the Brair Hill - Droitwich sewerage pumping station off Roman Way.

Anticipated foul flows from the proposed development (combined total flow is Approx. 2.01 l/s @ 2DWF) should not have a negative impact on the receiving networks. Please note, for any new connections (including the re-use of existing connections) to the public sewerage system, the developer will need to submit Section 106 application forms.

Surface Water Drainage

Under the terms of Section H of the Building Regulations 2010, the disposal of surface water by means of soakaways should be considered as the primary method. In addition, other sustainable

WONDERFUL ON TAP

SEVERN

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drainage methods should also be explored before a discharge to the public sewerage system is pursued.

If, following the testing, it is demonstrated that soakaways would not be possible on the site, then satisfactory evidence will need to be submitted. The evidence should be either percolation test results or a statement from the SI consultant (extract or a supplementary letter).

Severn Trent Water expects all surface water from the development to be drained in a sustainable way to the nearest watercourse or land drainage channel, subject to the developer discussing all

aspects of the developments surface water drainage with the Local Lead Flood Authority (LLFA). Any discharge rate to a watercourse or drainage ditch will be determined by the LLFA / EA.

Records show that there is a watercourse available in the South West (highlighted in blue) of the site. Please discuss the possibility of discharging surface water flows into the watercourse with the LLFA.

New Connections

For any new connections (including the re-use of existing connections) to the public sewerage system, the developer will need to submit Section 106 application forms. Our New Connections department are responsible for handling all such enquiries and applications. To contact them for an application form and associated guidance notes please call 0800 707 6600 or download from www.stwater.co.uk.

Please quote is 1022906 in any future correspondence (including e-mails) with STW Limited. Please note that 'Development Enquiry' responses are only valid for 6 months from the date of this letter.

Yours sincerely,



Pierce Meguer
Network Solutions
Developer Services

BWB Consulting Limited
11
Portland Street
Manchester
M1 3HU

Severn Trent
PO Box 5311
Coventry
CV3 9FL
stwater.co.uk
0800 7076 600

Reference no: 1023021

We're here if you need us:

Name: Aadil Bhayat
Telephone: 07929852230
Email: waterdesign@severntrent.co.uk

18 November 2021

Clean water development enquiry for Hampton Lovett, Doverdale, Droitwich, WR9 0NU

Dear Lucy,

Thank you for your development enquiry regarding the above site. Please find enclosed a copy of our records which show the approximate position of our existing water mains. The water mains shown would normally be laid to a cover of 900mm and our services (which aren't shown on the plan are normally laid at right angles to the main) must be laid to a minimum of 750mm. When excavating, care should be taken to accurately locate our mains and services, as they may be found at shallower or deeper depths than indicated. There may also be private pipework crossing the site that will not be shown on these records.

Assessment summary

Based on the details provided in your application, it will be necessary to reinforce our network to supply your proposed development of 105 domestic properties. These works will include constructing approximately 335m of new 180mm PE off-ste reinforcement main from connection with the existing 200mm DI main in Kidderminster Road. While this work is undertaken, there is no limit to the number properties that can be supplied from 100mm DI main in Kidderminster Road to allow construction onsite to start.

As you have not requested any fire fighting flows, these have not been assessed for as part of your enquiry.

As your development proposals do not include process water or private fire fighting requirements, then this reinforcement work will be completed at no additional cost to you. However, it may take longer to deliver your connection due to the additional work required. Timescales for completing this work will be confirmed once your formal quote has been issued.

Protective pipework

Please note that it is now Severn Trent's policy that all sites that will have new water mains installed must be assessed for contamination, prior to approving the use of MDPE pipework. Barrier pipework must also be installed within 50m of any potential contamination such as petrol stations, factories etc, both existing and new.

Any extended lengths of main installed outside of the site boundary, when applicable, will be assessed separately to your onsite ground investigation report. This will be determined based on the local area contamination events, buildings and existing pipework at draft level. Results will then be determined and finalised on these lengths by STW at construction stage with trial hole investigation. If there is deemed to be a risk with offsite extensions these will be designed in barrier.

As no ground investigation report has been included in your submission for assessment, the evaluation and costs estimates under this application have been under the assumption that all pipework will be in barrier material. Please ensure a full ground investigation report is included when making your formal application so we can confirm what pipework is required on your site.

Supply proposals

Based on the site layout and proposals, new distribution main(s) will be required to supply the properties on this site.

It has been assumed that your site will be built as a single phase due to its size. A phase can consist of numerous visits with a construction break of no more than 6 months between sections. If you did wish to discuss options of phasing please provide proposals alongside your formal application for assessment and comment.

Developers have two options available to them for mains laying, requisition and self-lay. When mains are requisitioned, Severn Trent will complete the required work, which will vary depending on which mains laying option you choose. This charge will also vary depending on which mains laying option you choose and will need to be paid before we'll carry out any work. When mains are requisitioned, Severn Trent will complete the mains construction and connection(s) on either a lay only or open cut basis. The developer or their contractors will not be permitted to install any water mains.

If you choose to requisition under a lay only agreement, you'll need to excavate the trench ahead of mains installation for any works within the site boundary. We'll then lay the water main in the excavated trench and you'll be responsible for the backfill and reinstatement. Severn Trent will complete the mains laying outside of the site boundary on an excavate, lay and backfill basis unless otherwise agreed. If you choose to requisition under an open cut agreement, we'll excavate the trench, lay the water main and backfill the trench both within and outside the site boundary, and reinstate when needed. All backfill will be with the same material unless otherwise agreed.

When mains are progressed as self-lay a developer can choose a Water Industry Regulation Scheme (WIRS) accredited installer operating as a self-lay provider (SLP) to lay the water mains and/or service connections. With this option the developer employs a SLP to complete the **contestable** works. Severn Trent will provide the charges for completing any works defined as **non-contestable** for information, along with any contestable works that the SLP as us to do. Please note that should you choose a self-lay provider (SLP), the charges will always be on an excavate and lay basis and charges will be issued for all contestable work to be completed by the SLP unless otherwise agreed.

Cost Estimates

Please note that the following is a **budget estimate only** based on a desktop assessment of your site and the information you've provided. These costs will be subject to change upon receipt, assessment and design of your formal application.

Following a change in our charges process from April 2020 income offset is now against the service connection charges, so all new water mains are at full cost for construction. Further information on our charges can be found in our latest [Charging Arrangement Document](#) and if you'd like to find out more about the mains processes, please take a look on our [website](#).

The **budget** cost (exclusive of VAT) for Severn Trent constructing the new water main(s) under the options available for requisition and self-lay is:

| Description of charge | Charge |
|--|-------------|
| New water mains - Lay Only | £117,000.00 |
| New water mains - Open Cut | £146,000.00 |
| New water mains Self-Lay (Source of water to site boundary only) | £9,500.00 |

Service connection charges are not included in the cost of mains laying or your agreement and would be issued under separate cover once your mains terms have been accepted. The charges will vary depending on the work being carried out for each connection.

In recognition of the future income that companies will benefit from as a result of newly connected properties, a reduction will be applied to the charges for the majority of new connections. This amount was previously applied to the cost of a new mains requisition but is now instead applied against the plot connection charges. Please note that if we've used a multiplier to calculate your infrastructure charge then the income offset will also be calculated using the same method. This charge can also only be applied to connections that are additional demand on the network. If billed services are transferred or infrastructure credits awarded this will affect the income offset charges applied.

The following estimate has been provided based on the number of domestic properties on your site and the estimated infrastructure charges that they could incur. This estimate doesn't take into account any infrastructure credits or environmental discounts that may be applicable.

| Type of charge | Description of charge | Quantity | Unit rate | Total charge (net of VAT) |
|----------------|--|----------|-----------|---------------------------|
| Charges | Water infrastructure charge | 105 | £355.50 | £37,327.50 |
| | Sewerage infrastructure charge | 105 | £320.74 | £33,677.70 |
| Income offset | Water income offset | 105 | -£527.03 | -£55,338.15 |
| | Sewerage income offset | 105 | -£81.00 | -£8,505.00 |
| TOTAL | Total Amount for Infrastructure charges with income offset deducted | | | £7,162.05 |

In addition to these base charges, a connection cost will apply for each new plot connection. The following table includes the standard charges involved in new 25/32mm onsite service connections to allow you to calculate estimates on your potential service charge costs. Please note that shared trenches or manifolds will alter your cost estimates and there may be additional charges for variables such as traffic management (offsite connections) barrier pipework or larger connections (50mm and above) where required.

A water for construction charge will also apply to each new connection as standard. If you're building new properties on a development site you'll often need water for construction, e.g. to mix concrete, plaster, washing down, etc. Unless you have a temporary metered supply (i.e. a hired standpipe) or are utilising an existing metered supply, we'll charge you a fixed charge for water for construction. VAT is payable.

Water for construction is charged per property when:

1. The water service connection is a 25mm-32mm for any newly built household property.
2. The water service connection is a large diameter connection for a newly built household property.
3. The water service connection is on any non-household property with a 25mm+ connection.

| Description of charge | Charge per Plot |
|--|-----------------|
| Water Connection laid up to 5m – No excavation by STW | £360.19 |
| Water Connection laid between 5m-12m – No excavation by STW | £425.05 |
| Water Connection laid up to 5m – STW to excavate, lay and backfill | £1,139.91 |
| Water Connection laid between 5m-12m – STW to excavate, lay and backfill | £1,640.88 |
| Water for Construction | £85.03 |

For further details on any of these charges or any potential variables please refer to our latest [Charging Arrangement Document](#) which can be found on our [website](#).

What happens next?

If you wish to proceed with obtaining water infrastructure for the development, you'll need to submit a formal water mains application form for the design and quotation. Should you wish to progress with a self-lay mains on this site, your chosen SLP will be required to submit a self-lay application form with a water mains design by a WIRS accredited company.

If you require a temporary building supply ahead of mains construction, a separate standard application will need to be submitted. Alternatively a standpipe can be hired from Aquam, further details are available on our website if required.

Our application forms can be completed and submitted online, downloaded from our website (www.stwater.co.uk/developers), or can be emailed or posted upon request. Please contact our general enquiries line below for these to be sent.

If you wish to discuss this scheme further prior to submitting your application, please contact myself on the details provided at the head of this letter.

Yours sincerely,

Aadil Bhayat
Design Technician
Developer Services

Useful numbers:

- For general enquiries about new connections and development applications please call our Customer Demand Team on 0800 707 6600.
- For all emergencies, such as a leak or sewer flooding, please call our 24/7 Operations department on 0800 783 4444.
-

