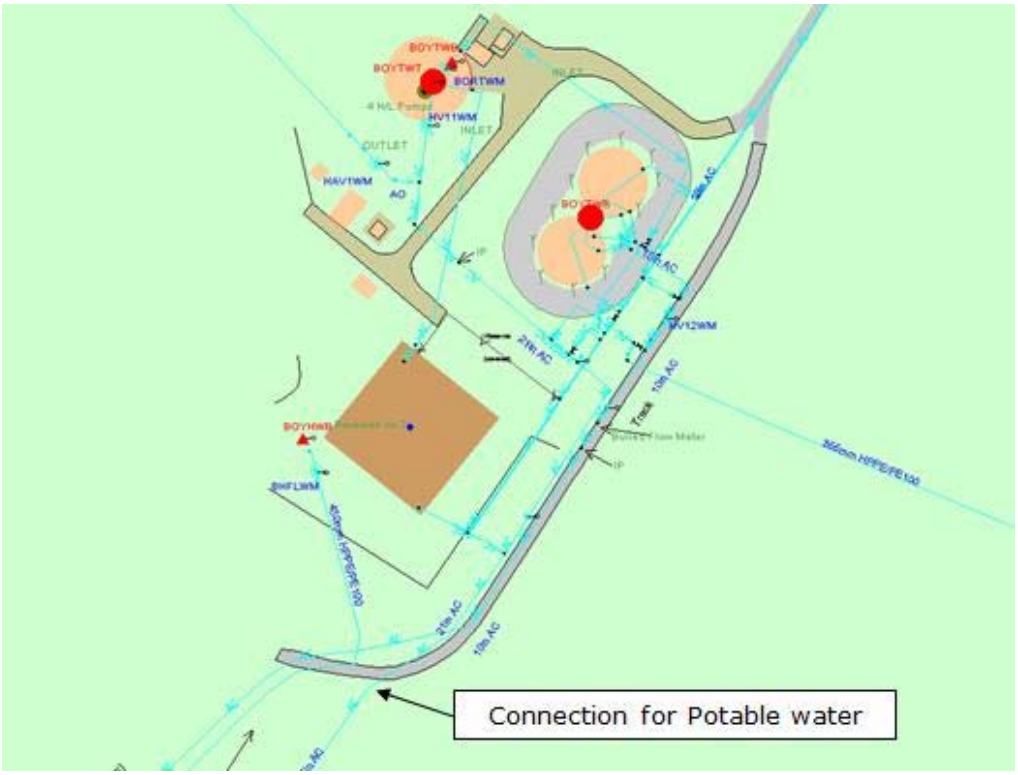

Figure 1: Showing your water point of connection at Boyton Hall Water Tower, accessed from Witherfield Road, Great Wratting at NGR TL6744847217.

Water

Water Industry Act – Key Water Sections:

- Section 41: This provides you with the right to requisition a new water main to connect your site to the public water network.
- Section 45: This provides you with a right to have a connection from a building or part of a building to the public water main.
- Section 51A: This provides you with the right to provide the water main or service connection yourselves and for us to vest them into our company.
- Section 185: This provides you with the right to have a public water asset diverted.

Details on how to make an application and the s185 form is available on our website at http://www.anglianwater.co.uk20/developers or via our Developer Services team on 08457 60 66 087.

Details on how to make a formal application for a new water main, new connection or diversion are available on our website at www.anglianwater.co.uk/developers or via our Developer Services team on 08457 60 66 087.

If you have any other queries on your rights to requisition or connect your housing to the public water and used water infrastructure then please contact our developer services team at: Developer Services, Anglian Water, PO Box 495, Huntingdon, PE29 6YY or Telephone: 0845 60 66 087 or Email: developerservices@anglianwater.co.uk

Self Lay of Water Mains: A list of accredited Self Lay Organisations can be found at www.lloydsregister.co.uk/schemes/WIRS/providers-list.aspx.

Water pressure and flow rate:

The water pressure and consistency that we must meet for your site is laid out in the Water Industry Act (1991). This states that we must supply a flow rate of 9 litres per second at a pressure of 10 metres of head to the external stop tap. If your water pressure requirements exceed this then you will need to provide and maintain any booster requirements to the development site.

Used Water

Water Industry Act – Key Used Water Sections:

- Section 98: This provides you with the right to requisition a new public sewer. The new public sewer can be constructed by Anglian Water on your behalf. Alternatively, you can construct the sewer yourself under section 30 of the Anglian Water Authority Act 1977.

- Section 102: This provides you with the right to have an existing sewerage asset vested by us. It is your responsibility to bring the infrastructure to an adoptable condition ahead of the asset being vested.
- Section 104: This provides you with the right to have a design technically vetted and an agreement reached that will see us adopt your assets following their satisfactory construction and connection to the public sewer.
- Section 106: This provides you with the right to have your constructed sewer connected to the public sewer.
- Section 185: This provides you with the right to have a public sewerage asset diverted.

Details on how to make a formal application for a new sewer, new connection or diversion are available on our website at www.anglianwater.co.uk/developers or via our Developer Services team on 08457 60 66 087.

Sustainable Drainage Systems:
Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not resilient to climate change in the long term. Therefore our preferred method of surface water disposal is through the use of Sustainable Drainage Systems (SuDS). SuDS are a range of techniques that aim to mimic the way surface water drains in natural systems within urban areas. For more information on SuDS, please visit our website at http://anglianwater.co.uk/developers/sewer-connection/suds.aspx. We also recommend that you contact the future SuDS Approving Body (SAB) for the area to discuss your application.

Private Sewer Transfers: Sewers and lateral drains connected to the public sewer on the 1 July 2011 transferred into Water Company ownership on the 1 October 2011. This follows the implementation of the Floods and Water Management Act (FWMA). This included sewers and lateral drains that were subject to an existing Section 104 Adoption Agreement and those that were not. There were exemptions and the main non-transferable assets were as follows:

- Surface water sewers and lateral drains that did not discharge to the public sewer, e.g. those that discharged to a watercourse.
- Foul sewers and lateral drains that discharged to a privately owned sewage treatment/collection facility.
- Pumping stations and rising mains will transfer between 1 October 2011 and 1 October 2016.

The implementation of Section 42 of the FWMA will ensure that future private sewers will not be created. It is anticipated that all new sewer applications will need to have an approved section 104 application ahead of a section 106 connection.

Encroachment: Anglian Water operates a risk based approach to development encroaching close to our used water infrastructure. We assess the issue of encroachment if you are

planning to build within 400 metres of a water recycling centre or, within 15 metres to 100 metres of a pumping station. We have more information available on our website at http://anglianwater.co.uk/developers/encroachment.aspx

Locating our assets: Maps detailing the location of our water and used water infrastructure including both underground assets and above ground assets such as pumping stations and recycling centres are available from www.digdat.co.uk. All requests from members of the public or non-statutory bodies for maps showing the location of our assets will be subject to an appropriate administrative charge. We have more information on our website at: www.anglianwater.co.uk/developers/our-assets/

Summary of charges: A summary of this year's water and used water connection and infrastructure charges can be found at
http://www.anglianwater.co.uk/developers/charges/

Disclaimer: The information provided within this report is based on the best data currently recorded, recorded within the last 12 months or provided by a third party. The position must be regarded as approximate. If there is further development in the area or for other reasons the position may change.

The accuracy of this report is therefore not guaranteed and does not obviate the need to make additional appropriate searches, inspections and enquiries. You are advised therefore to renew your enquiry should there be a delay in submitting your application for water supply/sewer connection to re-confirm the situation.

Any cost calculations provided within the report are estimated only and may be subject to change.

The responses made in this report are based on the presumption that your proposed development obtains planning permission. Whilst this report has been prepared to help assess the viability of your proposal, it must not be considered in isolation. Anglian Water supports the plan led approach to sustainable development that is set out in the National Planning Policy Framework (NPPF). As a spatial planning statutory consultee, we assist planning authorities in the preparation of a sustainable local plan on the basis of capacity within our water and water recycling (formerly referred to as wastewater) infrastructure. Consequently, any infrastructure needs identified in this report must only be considered in the context of up to date, adopted or emerging local plans. Where local plans are absent, silent or out of date these needs should be considered against the definition of sustainability set out in the NPPF as a whole.

No liability whatsoever including liability for negligence is accepted by Anglian Water Services Limited for any error or inaccuracy or omission including the failure to accurately record or record at all, the location of any water main, discharge pipe, sewer, or drain or disposal main or any item of apparatus.

Contacting us: If you have any comments or suggestions based on the information provided in this report then please feel free to contact on Jonathan Hardy 01733 414690 or email planningliason@anglianwater.co.uk

Addendum to the Pre-planning Report dated 1 October 2014

Project Title:

Land East of Haverhill

Anglian Water Services contact:

Rob Morris
Senior Growth Planning Engineer
Thorpe Wood House
Thorpe Wood
Peterborough
PE3 6WT
Mobile Number: 07702341018
Our reference number: 3551
23 December 2014

1. Introduction

This report has been undertaken in response to an enquiry by Brookbanks Consulting Ltd to determine a feasible foul drainage solution for the proposed development at land East of Haverhill. It should be read in conjunction with the pre-planning report dated 1 October 2014, which states that a direct connection to the public foul sewerage system is likely to have a detrimental effect on the existing sewerage network and that further hydraulic modelling is required to enable Anglian Water to provide a solution for draining the foul flows from the proposed development.

The enquiry for a residential development proposal comprising 2500 residential dwellings, 2 schools and 3 community centres across 33ha was received and a response was provided stating that the development is within the catchment of the Haverhill Water Recycling Centre (WRC), see figure 1, where capacity will be made available to accommodate the flows from this development.

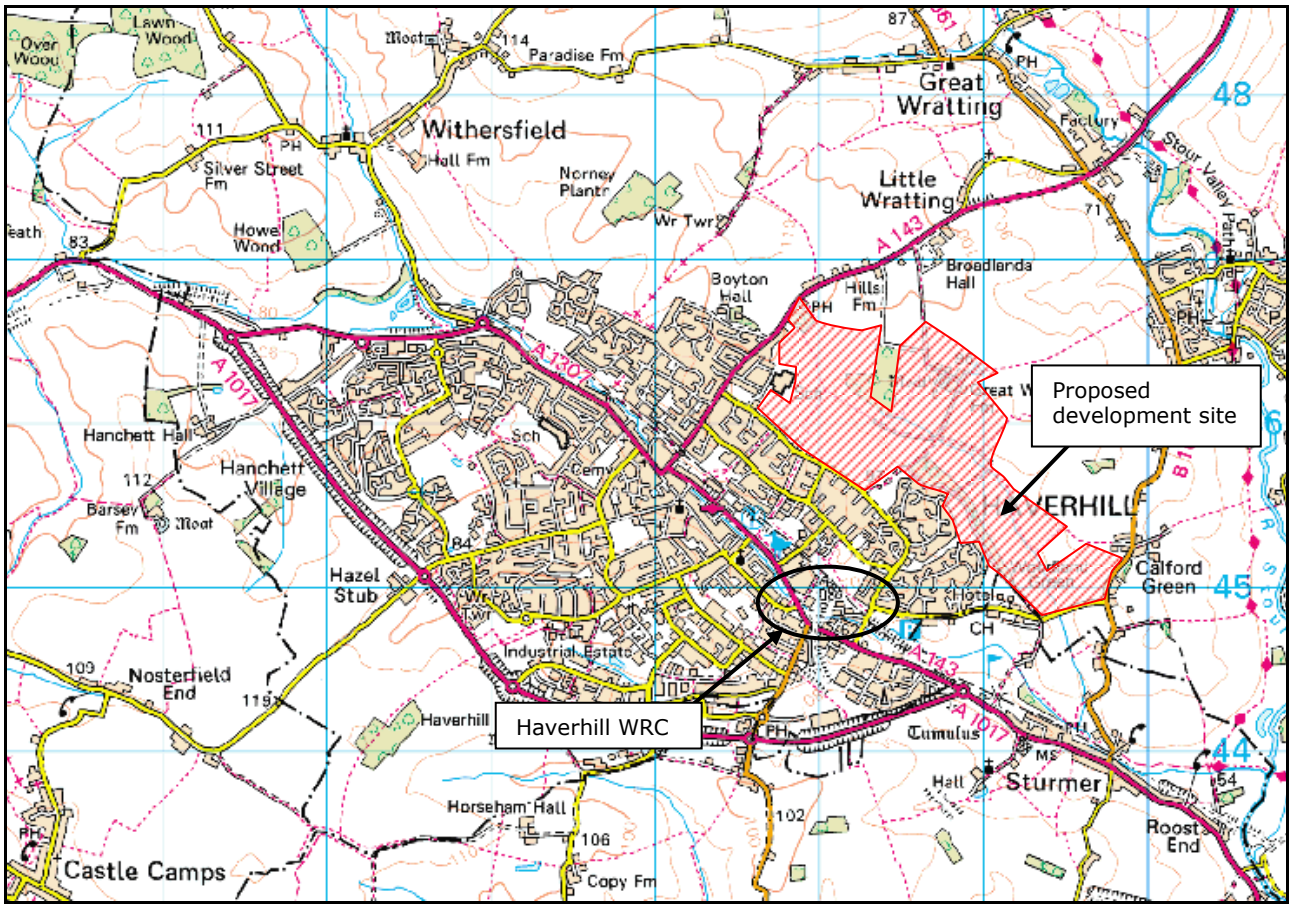

Figure 1. Haverhill Water Recycling Centre and development location

This assessment has considered the hydraulic impact of the proposed foul flows entering the Anglian Water sewerage network only. It provides, where required, an option for draining the development site together with indicative costs associated with any mitigation and conveyance. The contents of this report and costs supplied are an estimate based on a solution generated by a desktop hydraulic model. These are estimated figures which are not to be relied upon without further detailed investigations.

The sizes of the existing sewers adjacent to the proposed development site are all too small to cater for the proposed flows from the development site. Therefore a direct connection to the Haverhill WRC is proposed (see figure 2). Conveyance of flows from

the development site to the connection point is considered to be via a pumped arrangement. The flow assumptions are set out in Appendix 1.

Connecting to the local sewerage network would require the upgrading of the sewers from the connection point all the way downstream to the WRC and this would be very expensive and disruptive and as such has not been taken forward or developed as an option.

Therefore in order to accommodate the proposed development a direct connection to the WRC is proposed. With this means of connection there is no requirement for off-site mitigation.

Proposal – see figure 3

- On-site pumping station rated at 42.4l/s, with a 1.45km long 250mm diameter rising main.

If the developer wishes Anglian Water to provide this then the predicted capital scheme cost for the proposed conveyance of flows from the development directly to the Haverhill WRC is £1,119,244. The indicative cost chargeable to the developer following the offsetting of expected future revenue is predicted to be £279,967. This future revenue has been calculated based on constructing 50 residential dwellings in year 1 followed by 200 dwellings per year thereafter (see Table 1).

The predicted total combined embodied carbon (tCO_2e) is 271.42. The predicted combined water footprint (m^3H_2Oe) is 391.21.

2. Hydraulic Modelling

The proposed development site is located on the eastern side of Wisbech. The sewerage network drains to Wisbech, West Walton WRC, which is situated approximately 800m due South of the proposed development site, via a series of gravity sewers.

After careful consideration in assessing the risk to predicted flooding with a direct local connection and the high likelihood of significant off-site mitigation to accommodate the flows from the development it was decided that the hydraulic modelling of a local connection was not productive and therefore a direct connection to the Haverhill WRC is proposed.

The proposed connection point for the development is therefore considered to be direct to the WRC (see figure 2).

Levels within the development do not allow connection via a gravity regime and local sewer sizesTherefore, a pumped regime with a rate of 42.4l/s is proposed. Based on the topography, location and layout of the development site, no alternative connection point was considered suitable.

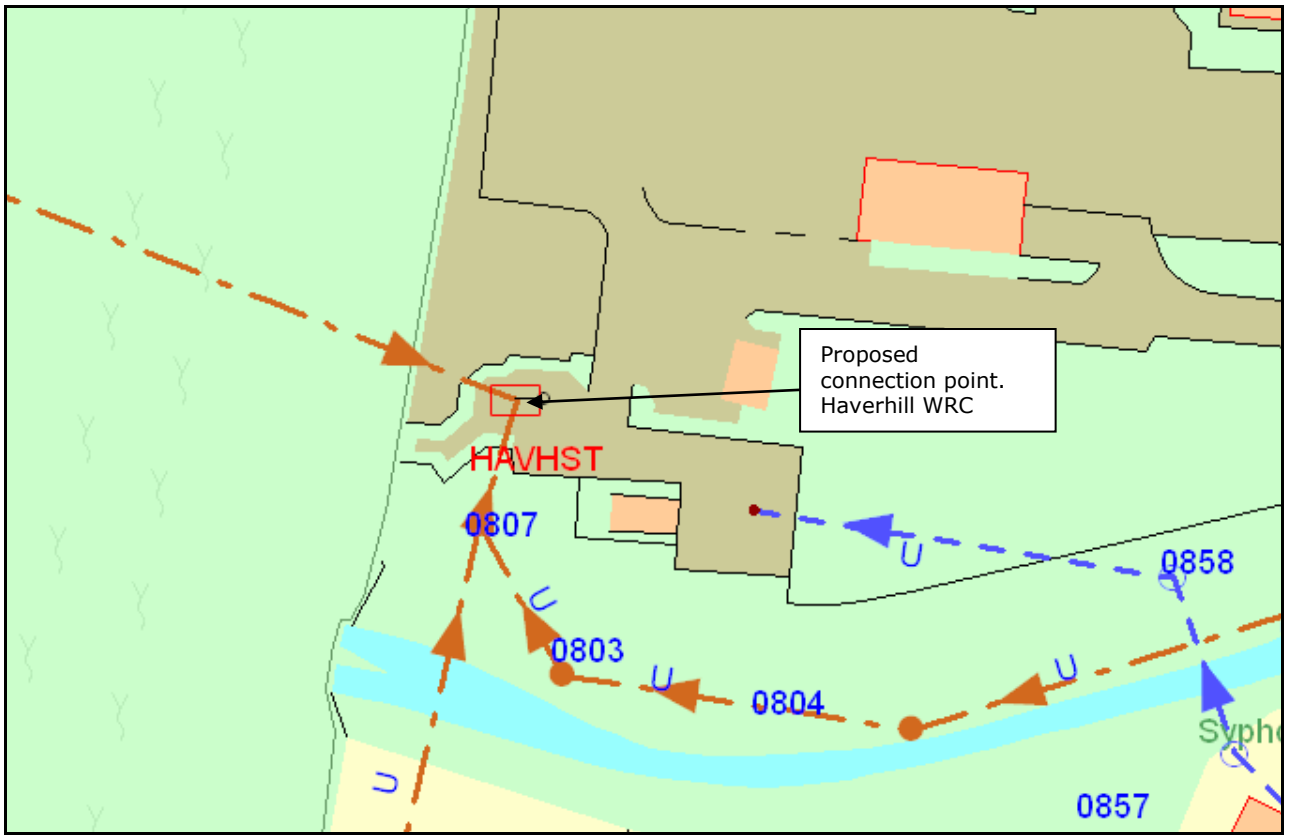

Figure 2. Proposed connection point

The study concludes therefore that the development will cause detriment if a local connection point is made, however a pumped connection direct to the Haverhill WRC will obviate the need for off-site mitigation.

The means by which this proposed development site is served comprises the following (see figure 3):

Proposal

- Provide an on-site pumping station rated at 42.4l/s with 1.45km long, 250mm diameter rising main.

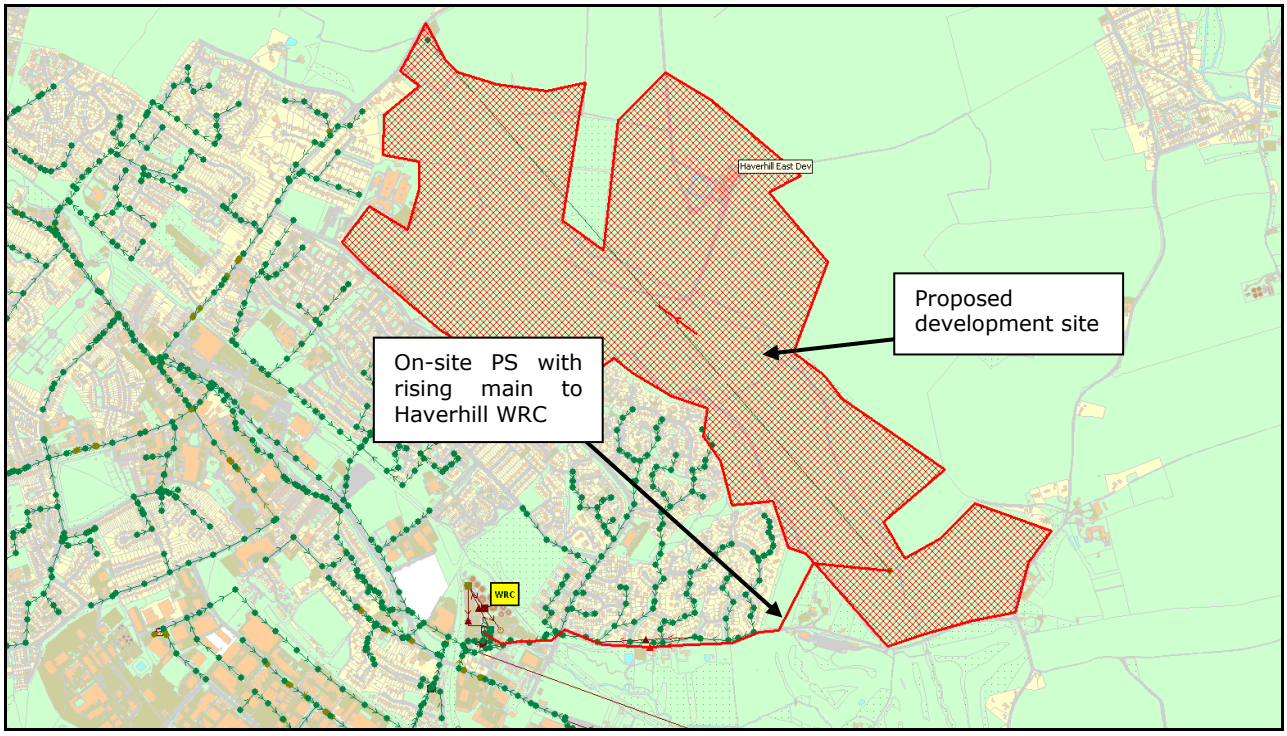

Figure 3. Indicative location and route of pumping station and rising main for means of conveyance

If the developer wishes Anglian Water to provide this then the predicted capital scheme cost for the proposed conveyance of flows from the development directly to the Haverhill WRC is £1,119,244. The indicative cost chargeable to the developer following the offsetting of expected future revenue is predicted to be £279,967. This future revenue has been calculated based on constructing 50 residential dwellings in year 1 followed by 200 dwellings per year thereafter (see Table 1).

The predicted total combined embodied carbon (tCO_2e) is 271.42. The predicted combined water footprint (m^3H_2Oe) is 391.21.

3. Summary of Cost Estimates

The study concludes that the development will cause detriment to the capacity of the sewer system immediately adjacent to the proposed development site therefore, in order to accommodate the development a proposed connection direct to the Haverhill WRC via a pumped conveyance is proposed.

The Water Industry Act enables the developer to benefit from any wastewater revenue generated from the houses they have built. In simplified terms, future revenue from the new dwellings is offset from the developer's contribution. Instead of paying the full contribution the developer pays the difference between their capital contribution and the future revenue. This is calculated on an annual basis for 12 years (see Appendix 2). The developer has the option of paying this annually (relevant deficit) or upfront as a commuted sum (discounted aggregate deficit).

Proposal

- Provide an on-site pumping station rated at 42.4l/s with 1.45km long, 250mm diameter rising main.

If the developer wishes Anglian Water to provide this then the predicted capital scheme cost for the proposed conveyance of flows from the development directly to the Haverhill WRC is £1,119,244. The indicative cost chargeable to the developer following the offsetting of expected future revenue is predicted to be £279,967. This future revenue has been calculated based on constructing 50 residential dwellings in year 1 followed by 200 dwellings per year thereafter (see Table 1).

Table 2: Showing the predicted developer contribution based on an estimated capital cost of £1,119,244

Scheme Title:	**Land East of Haverhill - Conveyance**
Developer:	**Brookbanks Consulting Ltd**

Year	Annual Build Rate
1	0
2	50
3	200
4	200
5	200
6	200
7	200
8	200
9	200
10	200
11	200
12	200
13	200
14	200
15	50
Total	2500

Estimated Construction costs		
Offsite Used Water	£	1,119,244.0
Total scheme cost	£	1,119,244.0

Your estimated contribution towards construction costs		
Relevant Deficit	£	301,360
Discounted Aggregate Deficit	£	279,967

The indicative cost to the developer, as a commuted sum, for the conveyance of flows from the development site to the proposed connection point (Haverhill WRC), is therefore £279,967.

The contents of this report and costs supplied are an estimate based on a solution generated by a desktop hydraulic model. These are estimated figures which are not to be relied upon without further detailed investigations.

A detailed breakdown of the relevant deficit and discounted aggregate deficit is provided in Appendix 2.

4. Summary and recommendation

Flows from the proposed development have been considered a significant risk of flooding should a local connection to the gravity sewers adjacent to the site be made. The cost and disruption required to address this issue is considered to be significant and therefore a local upgrade solution has not be developed. A direct connection to the Haverhill WRC via an on-site pumping station and rising main is proposed.

The estimated capital cost to provide this conveyance is £1,119,967 with a predicted developer contribution of £279,967 (see table 2.

Embodied carbon cost

The embodied carbon predicted in this solution is 271.42tCO_2e (see **Error! Reference source not found.** and Appendix 3).

Water footprinting

The predicted water footprint for this solution is 391.21m^3H_2O (see **Error! Reference source not found.** and Appendix 3).

Table 2. Summary of cost proposals

Description	Predicted Capital Cost	Indicative Developer Contribution	Predicted Total Embodied Carbon (tCO_2e)	Predicted Total Water footprint (m^3H_2Oe)
Conveyance	£1,119,244	£279,967	271.42	391.21

5. Next steps

To proceed with this option as a baseline for detail design, then it is recommended that an application is made under Section 98 of the Water Industry Act. This will enable a detailed design and robust cost to be generated and the scheme to be delivered. An application form is available on our web site at www.anglianwater.co.uk/developers/sewer-connection/new-sewer.aspx.

Underwriting detailed design

Detailed design commences on receipt of an underwriting agreement. Payment is only sought from the developer if they choose to abort the work. Otherwise, it is incorporated into the total scheme cost. For this scheme, an underwriting of £28,000 will provide detailed options from which a preferred option may be chosen. A underwriting of £117,000 will take the preferred option to a level of design where it is ready for construction. Typically this takes a minimum of 44 weeks depending on the complexity of the scheme. At this stage a robust cost for the scheme can be provided.

Further work required for a section 104 or section 106 applications

Please note, it would be deemed premature by Anglian Water to submit a Section 106 or Section 104 application under the Water Industry Act 1991 to Developer Services prior to a Legal Agreement being signed under Section 98 of the same act ensuring the provision of the necessary upgrade works as identified within this report.

Anglian Water supports sustainable development as set out in the NPPF

The responses made in this report are based on the presumption that your proposed development obtains planning permission. Whilst this report has been prepared to help assess the viability of your proposal, it must not be considered in isolation. Anglian Water supports the plan led approach to sustainable development that is set out in the National Planning Policy Framework (NPPF). As a spatial planning statutory consultee, we assist planning authorities in the preparation of a sustainable local plan on the basis of capacity within our water and water recycling (formerly referred to as wastewater) infrastructure. Consequently, any infrastructure needs identified in this report must only be considered in the context of up to date, adopted or emerging local plans. Where local plans are absent, silent or out of date these needs should be considered against the definition of sustainability set out in the NPPF as a whole.

APPENDIX 1. - Development details

Proposed Connection				
Proposed connection location	WRC			
Connection sewer or node reference (incl X&Y)	-			
Connection sewer diameter	-			
Connection relative to the development	-			
Discharge regime	Pumped			
Pump discharge rate	42.4 l/s			
Creep& Storage				
Total creep (5 m^2per property)	1.25 Ha			
Total development storage (m^3)	1500 m3			
Pump storage volume, m3	224.6 m3			
Highest Point of development (mAOD)	-			
Lowest Point of development (mAOD)	-			
DWF Calculations				
	Attribute	**Value**	**Totals**	**Unit / Calculation**
	Development size			Ha
	Residential			
A	Residential dwellings	2500		No.
B	Residential occupancy	2.3		No.
C	Residential population (P)	5750		No. (A x B)
D	Residential PCC (G)	150		l/h/d
$E_{(avg)}$	*Residential demand - Average*		**9.98**	l/s (C x D)/86400
$E_{(peak)}$	*Residential demand - Peak*		**21.16**	l/s ($E_{(avg)}$ x 2.12)
F	**Infiltration**		**2.50**	l/s (0.25 x $E_{(avg)}$)
	Industrial/Trade			
G	Industrial/trade area			Ha
H	Industrial/trade discharge per ha			l/s
I	Industrial/trade domestic element per ha			l/s
$J_{(avg)}$	*Commercial/trade - Average*		**0**	l/s (GxH+GxI)
$J_{(peak)}$	*Commercial/trade- Peak*		**0**	l/s ($J_{(avg)}$ x 2.4)
	Schools			
K	School PCC			l/h/d
L	School occupancy			No.
$M_{(avg)}$	*School demand - Average*		**0**	l/s (K x L)/86400
$M_{(peak)}$	*School demand - Peak*		**0**	l/s ($M_{(avg)}$ x 3)
	Other			
$N_{(avg)}$	*Other demand - Average*		**0**	l/s
$N_{(peak)}$	*Other demand - Peak*		**0**	l/s
$O_{(avg)}$	**Total Discharge - Average**		**9.98**	l/s ($E_{(avg)}$+$J_{(avg)}$+$M_{(avg)}$+$N_{(avg)}$)
$O_{(peak)}$	**Total Discharge - Peak**		**21.16**	l/s ($E_{(peak)}$+$J_{(peak)}$+$M_{(peak)}$+$N_{(peak)}$)
	DWF Total - Average		**12.48**	l/s($O_{(avg)}$ + F)
	DWF Total - Peak		**23.66**	l/s($O_{(peak)}$ + F)

APPENDIX 2.- Calculation of relevant deficit and discounted aggregate deficit.

The financial propositions that are available in the Water Industry Act (WIA) are:

- Relevant Deficit (WIA section 100)
- Discounted Aggregate Deficit (WIA section 100A)

Under each option, the cost of installing the required infrastructure is calculated. This cost is then translated into a notional 'loan' to fund the installation. The revenue is then offset over a period of 12 years, taking into account inflation. If the cost of financing the loan exceeds the revenue in any year, then this deficit is charged to the developer.

A2.1 Relevant Deficit

This option takes the actual cost of providing the infrastructure as the basis for a notional loan. On an annual basis (for 12 years) the actual revenue we receive in respect of the infrastructure is then offset against the cost of the annual repayments of the notional loan. The deficit is paid annually by the developer for a period of up to 12 years. This is shown in Figure A2.1 below.

The developer will need to provide an undertaking to pay the deficit each year and also provide security for the estimated annual deficits either in the form of a cash deposit or a bond.

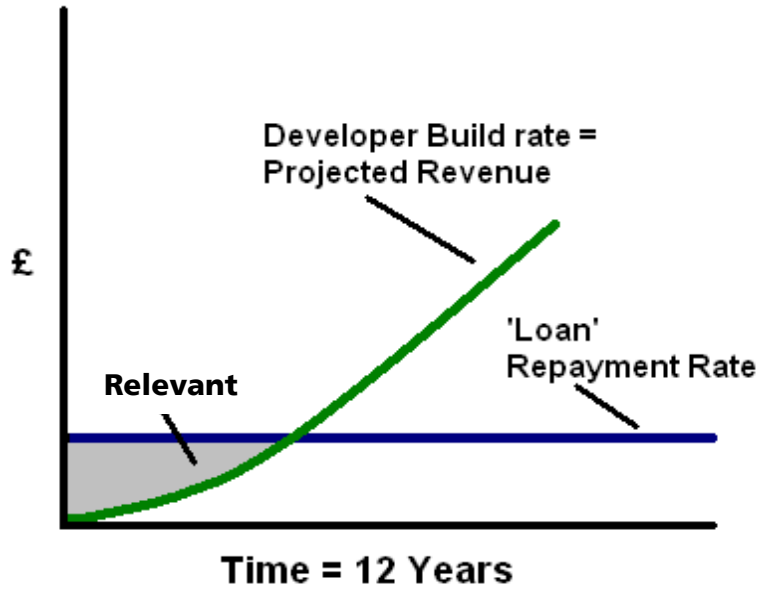

Figure A2.1 – Graphical imagery of a typical Relevant Deficit over 12 years

A2.2 Discounted Aggregate Deficit

This follows the same principles as the Relevant Deficit payment method, except that the deficit will be paid as a single payment and the revenue is estimated from the build rate rather than from the actual revenue.

The yearly relevant deficit is calculated across the 12 years and a discount factor is applied to bring the deficit to its net present value. The deficit is normally reconciled against the security (see below) within 12 months of completing the infrastructure and is payable as a single commuted sum. This can be seen in Figure A2.2.

The developer will need to provide an undertaking to pay the full deficit after reconciliation and a security amount for the estimated deficit either in the form of a cash deposit or a bond. The deficit itself is payable on completion of the water mains following the reconciliation.

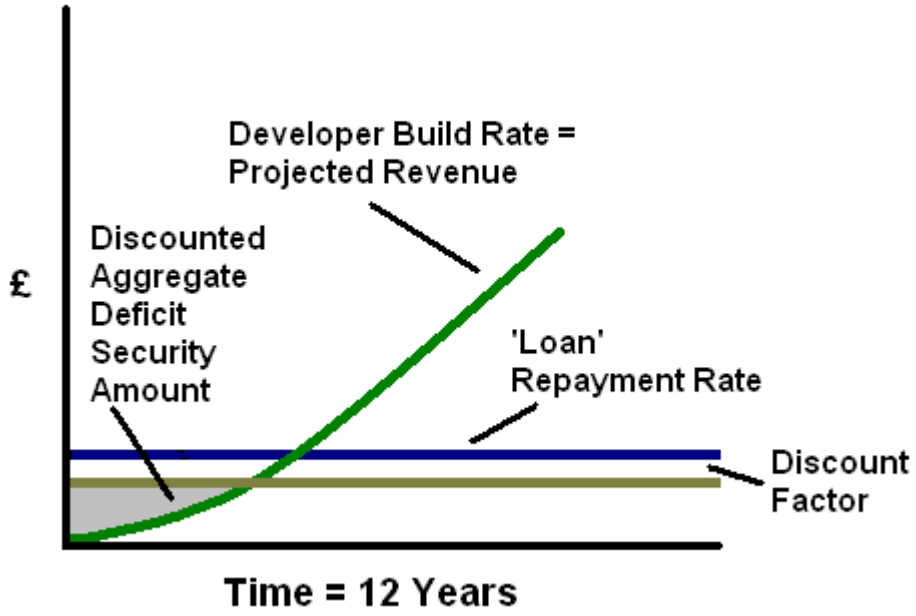

Figure A2.2 – Graphical imagery of a typical Discounted Aggregate Deficit over 12 years

APPENDIX 3.– Embodied carbon and water footprinting

Carbon footprint

In 2006 Anglian Water recognised the impacts of changing climate as one of the most significant challenges facing the organisation. In response we have developed and implemented a strategy of measure, manage and reduce our carbon emissions. We have set ourselves goals to halve our overall greenhouse emissions by 2035 (from 2010 levels) and to halve the embodied carbon in all new assets we build in 2015, compared to those that were built in 2010.

Water footprinting

Water is our most precious resource and at present we do not fully understand how sustainable each litre of water we supply to our customers is over our full supply chain. In response, we are implementing a strategy of 'water footprinting'.

Primarily water footprinting assesses the impact of human activity on the water environment. The process measures the volumes and scarcity of freshwater consumption including geographical and temporal components in producing a product or service. This is followed by an assessment defining actions required to achieve sustainable and equitable water use especially in water scarcity 'hot spots'.

Suffolk County Council - Drainage proforma for SW Aspects of Planning Applications

DO NOT PRINT... Appropriate parts of sheet 1 and all of sheet 2 to be completed, starting at top left of sheet1. Yellow cells to be completed by applicant or agent. Most cells have drop down boxes and guidance. Required data will vary, depending on previous answers. Amber cells warn of possible error, lack of required information, non compliance with policies or standards or where special considerations /information may be required. Red cells indicate missing information required for detailed applications . Purple Cells indicate missing information required for outline or detailed applications.

Form completed for Developer/applicant by (name)	Lee Witts	Date	16.06.15	Contact email or telephone	0121 329 4330
Form checked for LPA by		Date		Ref No.	
Form checked for SCC Floods by		Date			

District council	West Suffolk – (Forest Heath & St Edmundsbu	Site Name	Land at Haverhill, Suffolk	
Total Site area (ha)	167.00	Address	nr Great Wilsey Farm, Haverhill	
Number of homes	2,500	Road	A143 Wratting Road	
Commercial area (ha)	1.30	Town	Haverhill	
Commercial built area (ha)	1.11	County	Suffolk	
Area of POS (ha)	80.50	When was the last pre-app discussion with SCC Floods team?		None
Existing land status	Green Field	Is a complete FRA included in the application?		Yes
Highest Ground level (m AOD)	101.00	EA Flood Zone(s)		Fz1
Lowest ground level (m AOD)	70.00	Does adjacent existing highway drain into the site?		No
		Is site at risk of SW flooding?		Yes

Carry on filling in form. SCC Floods team will be consulted

RUNOFF DESTINATION (where proposed SW drainage from site will discharges to)

	scroll down to complete appropriate cells	Sea or Estuary	Ground (Infiltration)	SW Body	Existing SWS, highway drain or another drainage system	Existing Combined Sewer
Is Site next to Estuary or coast?		Neither				
Will the site be drained directly to sea or estuary?		No	Fill in cells in this column below			
SOIL TYPE			3			
Have on site ground investigations been undertaken?			Yes			
Is a ground investigation report included in application?			Yes			
Recommendation from GI Report regarding soakaways - Are conditions suitable?			5. No - permeable strata too deep			
Number of test pits that soakage tests were undertaken in.			25			
Number of test pits with completed test to BRE365			25			
Are field sheets, test results and calculations included in application?			Yes			
Min Infiltration rate from tests (mm/Hr)			0			
Max infiltration rate from tests (mm/Hr)			0			
Is infiltration type drainage proposed?			No			
			Go to next column			
	Name / Location of SW Body			Unnamed Watercourse		
	Reasons (if any) for not draining to a surface water body					
	Will SW be discharged to a surface water body?			Yes		
				Carry on down column		
	Type of existing SW piped drainage system					
	Description / Location of SW drainage system					
	Reason 1 for not draining to SWS, highway drain					
	Reason 2 for not draining to SWS , highway drain					
	Will SW be discharged to an existing piped SW drainage system?					
				Carry on down column		
				Fill appropriate column (s) (usually one only) for proposed destination		
	Existing impermeable area			0.00		
	Proposed Impermeable area			44.71		
	Method for calculating allowable discharges, existing or Green field flows			IH124 using SOIL		
	Peak discharge rate to destination					
	100 Year return period allowable discharge to SW or combined sewer agreed by AW or SCC (l/sec)					
	1 year return period	Existing (l/sec)				
		Proposed with CC & creep (l/sec)				
	100 year return period	Existing (l/sec)				
		Proposed with CC & creep (l/sec)				
		Proposed per ha (l/sec/ha)		0	0	
		Critical duration (minutes)		1440		
	Proposed minimum throttle(s) aperture (mm)			53		
	Attenuation storage provided to limit peak flow (at critical duration)			32587		
	Volume control	Required if proposed discharge > 2 l/sec/Ha in 100 Yr RP (see BS8582 5.2.2.4)				
	Volume of runoff in 6 Hr duration event (cubic metres)					
	100 Year RP existing					
	100 Year RP + CC +creep proposed					
	Additional capacity provided in SUDs to control volume					
	Water quality (WQ)					
	Reasons (if any) for not followng best practise for WQ:					
	During construction period					
	Permanent					
	Proposed permament WQ SUDS:					
	Volume of proposed treatment pond (Vt) expressed as mm of rain over the impermeable areas on the site.					
	Depth of rain intercepted (refer to SUDS manual) expressed as mm of rain over the impermeable areas on the site					
	Volume intercepted (cubic metres)					
	Capacity of proposed attenuation & volume control SuDs (can be reduced by interception volume)					
	Area of site taken up by proposed SuDs					
	Are calculations and drawings included demonstrating there is sufficient and appropriate space for the proposed SUDS volume within the layout?					

Go to Sheet 2

Boxes below to be completed for all SW Systems

Proposed SW Drainage system

Extent of open SuDS	2. Open + some permeable paving

Go to management & maintenance

Does application include justification for not using open SUDS?	
Is pumping of SW proposed?	No
Does application include justification for pumping?	Yes

Management and maintenance arrangements	
Is a management plan included in the application?	No
Life time for plan and maintenance costs	100
Discount rate normally 3.5%	3.5%

Proposed SW drainage maintenance bodies	**Proposals for ensuring owners are aware of their SW drainage & maintenance requirements**
Owner (for drainage serving single property)	
	Progress with setting up maintenance arrangements

Please indicate who will maintain what	Location of SuDs elements				
SuD elements	**Private gardens or commercial land**	**Roads, verges and /or footways**	**Parking areas**	**POS**	**Other** eg Mews court
Vegetation, trees, shrubs etc	Owner				
Permeable paving.	Owner				
Rills	Owner				
Open SuDS - Erosion protection, De-silting, headwalls,dividing walls	Owner				
Open SuDS - Bollards or fencing	Owner				
Shallow pipes throttles/headwalls at driveway crossings over swales.					
Shallow pipes throttles / headwalls @ road crossings over swales					
Litter picking including clearing grates and grilles	Owner				
Gully Grates -repairs & replacement	Owner				
Gully pots, connection pipes	Owner				
Highway carrier drains					
Soakaways	Owner				
Oil or petrol interceptors	Owner				
Underground attenuation tanks	Owner				
Surface Water Sewer					
Other - please state					
Other - please state					

Availabilty of 3.5m wide access for SuDs maintenance -	1. 3.5m wide access available to all proposed SuDS

Design flood return period for:	
Buildings	100
Gardens (unless designated to store water)	30
Roads	30

Design for blockage and /or Exceedance	
Are exceedance routes/ storage areas for 100 year RP event shown on submitted layout plan(s) including proposed floor and ground levels, buildings and roads.	No

SuDS details that are most likely to affect layout and maintenance	
Maximum depth of open SuDS (mm)	1500
Maximum depth of water in open SuDS in 100 Year RP (mm)	1275
Steepest side slope of open SuDS (1 vertical in x horizontal)	3
Steepest longintudinal gradient of any swales.	
Are any buildings < 5m of open SUDS or undergr'd soakaways?	No
if yes describe location(s)	
Special protective measures	
means of access/repair SUDs	

Health and Safety - public and maintenance operatives	
Are Designers CDM Health and Safety Plan included?	No

Structural Integrity	
Have Structural design and specification details been provided for:	
Pipes -BS EN, Class, strength calcs including bed and surround.	No
Tanks - including geocells / fabric surround	No
Manholes BS EN, size, type etc (SFA 7th edition)	No
Headwalls, dividing walls, bunds & slope stabilty.	No

Other Information normally required (not exhaustive)

Are design calculations provided, cross-referenced to drawing(s -also provided) showing catchments and layout of SuDs, roads, footways and buildings?	Yes
Are landscaping /planting details shown on drawing(s) provided showing SuDS, and development layout?	Yes
Are details of SuDS including inlets, outlets, dividing walls, erosion control measures shown on provided plans.	Yes
Are extents of adoption by each body shown on drawings provided?	No
Is a completed copy of SCC's Asset register sheet provided?	No