

PROJECT MANAGEMENT – DEVELOPMENT - UTILITIES

Richborough Estates Ltd and Mr. & Mrs. Adcock
Hinckley North
Hinckley
Utilities Assessment

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY	
Electricity	There are existing 33kV and 11kV overhead high voltage assets located within the site boundary, these will need to be diverted at an estimated cost of £160,000 as advised by WPD. Two supplies have been requested Option 1 for gas central heating and Option 2 electric storage heating both with electric vehicle charging. Option 1 will cost an estimated £1,324,431.00, and Option 2 costing £2,160,562.00.
Gas	The proposed site development resides in an area where CGL maintain the Gas distribution network. There are no gas mains present within the site boundary, so no diversion or disconnections needed. There is a 180mm diameter Medium Pressure gas mains located 1036 meters west of the proposed development that has sufficient capacity for the development.
Clean Water	The local area to the south of the site is well-served by STW clean water assets, no assets are present within the proposed site layout. Diversion/protection should be considered for the 450mm DI clean water main in Stoke Road, the proposed site access installation may affect existing depths of covers after construction. Diversion application needs to be applied for before the clean water mains application is made.
Wastewater	STW maintain the foul water infrastructure within the Town of Hinckley, further information is required due to the impact the foul flows will have on the sewerage pumping station located off the roundabout on Normandy Way west of the proposed development. The wastewater infrastructure section will be updated once this is received. Correspondence was made with STW for the multiple connections for the foul water and is also still to be received this is to give information to eliminate the need for a pumping station on site.
BT/Openreach	BT/Openreach asset record indicate a well-established underground and overhead infrastructure located in the north of the Town of Hinckley. There are assets present within Stoke Road so diversions are expected for the construction of the new roundabout and site access.
Virgin Media	Virgin Media asset records indicate a well-established existing network supplying properties south of the proposed development boundaries in the Town of Hinckley. There are no assets in the proposed development area so no diversions or disconnection will be required.
Vodafone	There is a network adjacent to the south of the proposed site boundary that goes from west to east. There are no assets within the proposed development area so no diversions or disconnections will be required. Further correspondence is advised to understand the options for supplies to the new site.
This summary should be read in conjunction with BWB's full Environment FRA report and reflects an assessment of the Site based on information received by BWB at the time of production. Please note all cost are exclusive of VAT within this report.	

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APPENDIX 2: Composite Services Plan

1. INTRODUCTION

Instruction

- 1.1 BWB Consulting (BWB) has been appointed by Richborough Estates Ltd and Mr. & Mrs. Adcock (Client), to prepare a Utilities Assessment Report (UAR) to evaluate any potential impacts on the existing utility infrastructure from the proposed development, and to obtain relevant and intermediate level information regarding the requirement for any diversionary works.
- 1.2 The purpose of the UAR is to identify any existing utility infrastructure that may constrain the development within and around the site boundary, and to identify a strategy for the delivery of future supplies to the site. The assessment also considers whether any utility service diversions are required to facilitate the development proposals.
- 1.1 The proposed development site is anticipated to comprise of circa 500 domestic dwellings, an illustrative masterplan has been prepared by Pegasus Design (DRWG: P18_1531_011-1, dated 15th March 2022) for Richborough Estates Ltd and Mr. & Mrs. Adcock for the site development and is contained within **Appendix 1**.

Scope of Works

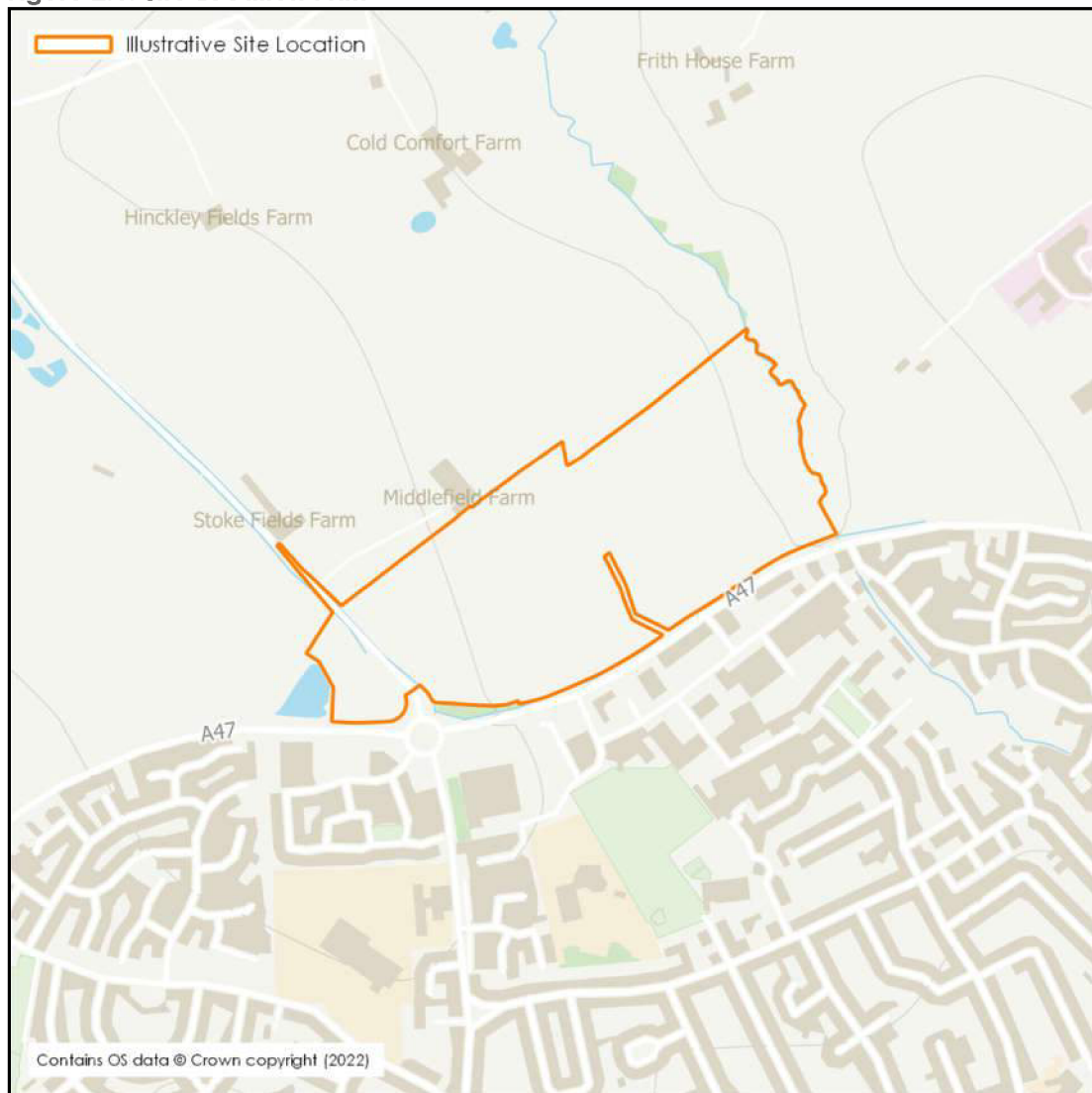
- 1.3 The report will outline and assess the utilities issues in relation to the proposed development site and will identify the requirements for new utility infrastructure, potential upgrade/reinforcement works, and/or the need for further investigation/modelling. The scope of works include.
 - i. Asset Records – request the latest records showing the extents of existing statutory services present within the vicinity of the site and plot on topographical survey/OS background mapping to provide a Composite Services Plan (CSP)
 - ii. Diversion of existing services – undertake a review of the CSP against the proposed site layout to identify which utility assets are required to be diverted or accounted for within the development layout proposal.
 - iii. Demand calculations – estimate the total utility load demand requirements for the development, for each of the mains utility services.
 - iv. New connections – Identify points of connection and any reinforcement requirements for the provision of new supplies, including indicative infrastructure routes from the incumbent suppliers and independent provide.

2. THE SITE

Site Location

- 2.1 The proposed development is located north of the Town Hinckley, in Leicestershire and can be found at national grid reference SP42065. The location of the site is shown in **Figure 2.1**. The site is currently greenfield bound to the west by Stoke Road, Normandy Way at the south and greenfield to the north and east.

Figure 2.1: Site Location Plan



3. UTILITY PROVIDERS

- 3.1 BWB has, for the purpose of this report, made initial utility search enquiries to the statutory undertakers to ascertain existing utility infrastructure within and adjacent to the proposed development site.
- 3.2 The site is shown to be situated in an area where the electricity infrastructure is operated by Western Power Distribution, Cadent Gas Ltd maintain local gas network, and Severn Trent Water Ltd maintain the clean and wastewater networks; GTC are shown to maintain embedded electricity and gas networks in the local area. Openreach and Virgin Media maintain the telecommunications infrastructure within the local area.
- 3.3 The statutory undertakers who have assets within or in vicinity of the proposed development are listed in **Table 3.1** below.

Table 3.1: Statutory Undertaker List

Utility	Provider	Location
Electricity	Western Power Distribution	Within the site
Electricity	GTC	Near the Site
Gas	Cadent Gas Ltd	Near the Site
Gas	GTC	Near the site
Potable Water	Severn Trent Water Ltd	Within the site
Foul/Surface Water	Severn Trent Water Ltd	Near the site
Telecommunications	BT/Openreach	Near the site
Telecommunications	Virgin Media	Near the site

- 3.4 From a review of the existing asset records obtained by BWB, a Composite Services Plan (CSP) (Drawing No: HIN-BWB-GEN-XX-DR-VUT-001) has been prepared showing the extent of the existing utility infrastructure within and adjacent to the proposed development site boundary, this is contained within **Appendix 2**, the CSP will also illustrate the point of connections advised from the incoming developer enquiry requests.
- 3.5 The information contained within this report is derived from data provided by the core main public utility companies. No information has been provided in relation to "private" infrastructure that might be present within or adjacent to the proposed development site.
- 3.6 It should be noted that all asset records obtained have a validity period of a maximum 3-6 months, and the capacity investigation responses received at the time of drafting this report are correct and have a validity period which ranges from 3-12 months, the result of these enquiries may be subject to future reinforcement/change by network operators.
- 3.7 Where statutory undertakers have identified apparatus within or near the site proposal, those services are discussed withing the following sections.

4. ELECTRICITY INFRASTRUCTURE

Existing Western Power Distribution Infrastructure

- 4.1 Asset records received from Western Power Distribution (WPD) indicate a 33kV High Voltage (HV) Overhead (OH) network that comes from the west, off Stoke Road and heads across the proposed development area towards a pole mounted transformer Ref; 93/6039 (32E1200) Northern (P1200) Perimeter Road, Hinckley. This pole mounted transformer is located within the proposed site boundary just off Middlefield Lane Where it exits the proposed site boundary in the east it then changes direction and heads north. From the pole mounted transformer exiting onto greenfield land adjacent to the eastern boundary; the 33kV underground network crosses Normandy way goes south down Cornfield then heads east up Wheatfield Way then passes through a space between industrial buildings before terminating within a primary substation Ref;93/0088 (32MP056) Middlefield Primary 33/11kV substation.
- 4.2 WPD have confirmed, the statutory 'no build zone' associated with their 33kV asset is 4.3m from the asset centreline, within this area no permanent construction works should take place without prior approval.
- 4.3 Entering the site boundary from the north is a single 11kV HV OH network that heads south-east across the proposed development area, when it reaches Middlefield Lane just before it exits the boundary the network goes to ground at a pole mounted transformer Ref; 93/6039 (32E1200) Northern (P1200) Perimeter Road, Hinckley. From the pole it changes into an underground network that is routed in the same direction as the 33kV underground network to the primary substation.
- 4.4 From the 11kV that enters the north of the proposed development area a short distance within the boundary from a pole mounted transformer Ref; 93/6038 (32E0852) Hinckley (P852) Fields Farm a Low Voltage (LV) OH supply goes north to an agricultural dwelling called Middlefield Farm.
- 4.5 South of Normandy Way south-west of the proposed development area sited just off the roundabout is a GTC embedded network with a 11kV HV underground network going south to north adjacent to the western side of Stoke Road then west down Normandy Way before terminating within a WPD owned substation Ref; 93/5925 (32D9578) Sword Drive Hinckley Embedded Network Substation.

Existing GTC Infrastructure

- 4.6 Asset records received from GTC show a modest embedded network operating near the site boundary, south off Normandy Way; the source point for this network is WPD's Substation situated on Wheatfield Way (Substation ref: 93/6377 (32D7233) Northern (K233) Perimeter Road West), this network is shown to supply the commercial premises in the area.

Proposed Diversionary Works

- 4.7 Following a review of the asset records obtained and the proposed development masterplan diversionary works are expected to the 11kV and 33kV OH networks crossing the proposed development area. WPD have quoted an estimated costs of £160,000.00
- 4.8 For the 33kV overhead line it is a dual circuit that when diverted will need to be installed underground via 2 separate 3 core 33kV underground cables, it has been advised that these need to be installed in opposite footpaths to avoid losing both circuits in the event of any accident or damage on site. This double circuit covers a large number of customers.
- 4.9 The two 11kV circuits crossing the site will be brought to ground at termination poles at the site boundary edges and will be replaced with underground cables that follow the proposed footpath layout with the new site supply infrastructure. The LV overhead supply to Middlefield Farm will be reinstated on the new pole mounted transformer when it has been installed within the new location.

Electrical Vehicle Charging (EVC) Demand

- 4.10 The Government have announced their intention to withdraw the internal combustion engine from road transport by 2040, which will drive a shift towards electric vehicles, and alternative technologies.
- 4.11 One of the key challenges is going to be electricity, and how to respond to the potential huge volume, at present due to the uncertainty surrounding the potential uptake and use of EVC points (EVCP). The load demand profile discussed with WPD has considered the potential demand required for EVCPs, and therefore the additional load will necessitate considerable reinforcement works of the WPD network or an alternative supply strategy.
- 4.12 It is advised that further consultation with Worcestershire County Council is undertaken to advise of on the future Energy Local Plan, the Local Authority (LA) will likely require a percentage of the development to facilitate electric vehicles to meet Net Zero requirements.

Proposed Electricity Infrastructure

- 4.13 For the purpose of this Utilities Assessment Report BWB have requested electricity supply budget estimates for two scenarios, the first option is to supply gas central heating development (2.5MW), and the second option for electric storage heated properties (4.5MW), both include the requirement for EV Charging.
- 4.14 The budget estimate (Ref – 4194790 dated 2nd February 2022) for a gas central heating development indicates that for a 2.5MW connection will cost an estimated £1,324,431.00, this will comprise of £1,207,690.00 Contestable works, these works can be carried out by either an Independent Distribution Network Operator (IDNO) or an Independent Connection Provider (ICP). Along with £116,741.00 Non-Contestable works these will solely be carried out by Western Power Distribution (WPD).

-
- 4.15 The works will consist of reinforcement works including overlaying existing cable with uprated cable from two points of connection to create a ring connection one being 450 meters long and the other 900 meters long. The HV mains for the proposed site development will come from the 132/11kV primary substation (Ref; 93/0088 (32MP056) Middlefield Primary Substation) cross Normandy Way and will terminate into a new ring main unit within a new substation with metering equipment within the site boundary.
- 4.16 The budget estimate (Ref – 4194802 dated 2nd February 2022) for Option 2 electric storage heating indicates that for a 4.5MW connection for electric central heating and will cost an estimated £2,160,562.00, this will comprise of £1,563,637.00 Contestable works, these works can be carried out by either an Independent Distribution Network Operator (IDNO) or an Independent Connection Provider (ICP). Along with £596,925.00 Non-Contestable works these will solely be carried out by Western Power Distribution (WPD).
- 4.17 There are reinforcement works required which include replacing an existing transformer at Middlefield Primary substation with a 12/24MVA unit to increase the substation capacity. Transformer 1 is a recently installed 12/18/24 MVA unit this will not be affected with the new circuits for the proposed development.

5. GAS INFRASTRUCTURE

Existing Cadent Gas Ltd Infrastructure

- 5.1 The proposed site development resides in an area where Cadent Gas Ltd (CGL) maintain the Gas Infrastructure, asset records received (dated 11th January 2022) indicate no gas apparatus within the site boundary.
- 5.2 Shown near the southern side of Normandy Way the road adjacent to the southern edge of the proposed development from the roundabout in the west to Clover Field in the east within the footpath is located a Low Pressure (LP) 125mm diameter Polyethylene mains, this asset is shown to be integral to the commercial premises south of Normandy Road.

Existing GTC Infrastructure

- 5.3 Asset records received from GTC show a small-scale gas network adjacent to the south-western boundary, this infrastructure supplies recently constructed domestic and commercial units on Sword Drive and adjoining streets; the source point for this network is CGL's 125mm LP PE asset located on Normandy Road.

Diversiory Works

- 5.4 As noted above there are no mains assets present within the site boundary and diversion and disconnection works are not anticipated to facilitate the proposed development.

Proposed Infrastructure

- 5.5 A land enquiry response received from CGL on 20th January 2022 (Ref: 180014024), confirms there is sufficient capacity in Cadent's local network to supply the proposed circa 280 domestic residencies; at this time, Cadent would not need to reinforce their network to deliver the full development, this response is a reflection of the network at the time delivered and is not a guarantee of gas flow due to the changing dynamics of the gas network. A request for 500 residential units has been request and the report will be updated once the network design team at cadent have completed a check analysis.
- 5.6 CGL have confirmed that the nearest gas mains with sufficient capacity to support the development is a 180mm diameter polyethylene medium pressure mains. The mains are located 1036 meters from the site boundary to the west of the proposed development located in the verge north side of Normandy Way. The location of the mains for the point of connection and for digging the trenches for the mains lay will require extensive traffic management, or an option of horizontal drilling could be used if applicable.
- 5.7 To secure capacity and obtain a detailed connection cost, a formal connections application would need to be submitted to CGL connections department, however with his application Cadent will require all details of meter locations for each individual property.

6. CLEAN WATER INFRASTRUCTURE

Existing Clean Water Infrastructure

- 6.1 The proposed site development resides in an area where Severn Trent Water Ltd (STWL) maintain the clean water infrastructure, records received (dated 10th February 2022) show well-establishes water mains present within the boundary and in the local area to the south and west.
- 6.2 Shown within the boundary, along the eastern boundary (off Stoke Road), STW maintain a 450mm Ductile Iron (DI) water main; this asset is shown entering the developable area from Normandy Road where it continues in the existing verge supplying the local area to the north of the proposed development.
- 6.3 A further 10" Cast Iron water main is shown near the boundary to the west, in the western footpath of Stoke Road, this asset is shown within the footpath of Normandy Road where it heads north, connecting into the 450mm DI asset further north of Stoke Road.
- 6.4 Near to the proposed development boundary, in the southern footpath of Normandy Road, records show a 6" water main. This asset is shown to be connecting to the 450mm asset on Stoke Road, supplying the local area to the south and east of the development; smaller diameter networks maintaining commercial properties on Wheatfield Way are reliant on this feed.
- 6.5 From looking at the masterplan plan and the asset map received for STW clean water assets the 450mm main is in unmade ground at the south, however there will be restrictions for tree planting/hedge laying. For the main that crosses the site access and new roundabout this will require a diversion application to be made. On the west side of Stoke Road there is a 10" clean water main that is going south to north.

Diversiory Works

- 6.6 From a review of the Illustrative Masterplan in line with asset records, it may be necessary to consider diversion/protection of STWL's 450mm DI asset shown in the western verge, STWL have confirmed, there will be restrictions for tree planting/hedge laying near their asset.
- 6.7 It is anticipated that protection/diversiory works will need to be considered for the construction of the proposed new roundabout and site access off Stoke Road, if depths of STWL's assets do not align with codes of practice after construction then diversiory works may be necessary.
- 6.8 For the diversiory works a diversion application would be needed the budget cost for this is £689.35 and the full cost is £1781.92. The budget quotation is a high-level developer response indicating if you require the diversion, it will propose a route for the diversion and give easement opportunities. Whereas the full diversions application will give all the information that a budget quotation will give and include the costings for the works. If a budget application is made and it does indicate that diversions are required, to obtain the full diversion application all that would be required would be a payment of

£1092.57 the difference between the balances of the applications. Please note these costings are inclusive of VAT.

- 6.9 It is recommended the diversion application is submitted ahead of the clean water mains application, this is to avoid any delays during the design and build. No construction can take place within the area of the existing main until the diversion works have been agreed to avoid the risk of damage to the asset.

Proposed Clean Water Infrastructure

- 6.10 If the development is to be split into phases the initial application will need a complete masterplan and overview of the full site proposals, this is to ensure that future phases are considered as part of the design.
- 6.11 When making a formal application a ground investigation report will need to be submitted for the assessment to determine the type of pipework that is to be used.
- 6.12 The following costs are indicative as it is based on a desktop assessment of the development and these costs are subject to change upon receipt, assessment, and the design of the formal application.
- 6.13 The Clean Water Developer Enquiry (Ref – 1030581 dated 25TH January 2022) received from STWL state the following charges for the different options for the construction of the mains. These costs are based on supply for up to 500 residential dwellings.
- 6.14 The estimated costs to deliver a clean water supply for the proposed development will be charged different depending on the works undertaken, if the works are just to supply the source of water to the boundary of the proposed development only this will be charged at £10,100.00, if the works required are open cut, this will be for excavating the trenches and laying the new mains this will be charged at £367,800.00. If the trenches are excavated by others and the works are lay only this will be charged at £311,50.00, Please note the costings listed are exclusive of VAT.
- 6.15 STWL have supplied a detailed breakdown of the costs for the formal connection application, alternatively, you may wish to have on-site mains delivered by a Self-Lay Provider (SLP) under terms set out in a self-lay agreement, should you choose a 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.
- 6.16 Once instructed, STWL advise lead times of up to 28 days to undertake water main requisition.

7. FOUL AND SURFACE WATER INFRASTRUCTURE

Existing Foul Water Infrastructure

- 7.1 The proposed site development resides in an area where Severn Trent Water Ltd (STWL) maintain the foul water sewerage infrastructure asset records received (dated 7th January 2022). These asset records received indicate a mature existing foul water sewer network south of the proposed development area in the north of the Town of Hinckley supplying industrial and residential properties. No sewerage mains are shown within the proposed development areas.
- 7.2 Records show, the nearest adopted public foul sewer is a 300mm Vitrified Clay (VC) asset shown approximately 100m to the south of the proposed development, at the junction of Clover Field and Wheatfield Way; this network is shown to terminate a manhole in the carriageway (Manhole ref: 1402), flows from this asset are shown to fall in an easterly direction supplying the local area.
- 7.3 Further foul water assets are shown to the south-west of the site boundary, supplying properties in the residential area on Sword Drive and adjoining streets; flows from this network are directed to the northwest of the proposed development.

Existing Surface Water Infrastructure

- 7.4 The STWL surface water sewerage infrastructure asset records received (dated 7th January 2022) indicate the existing surface water drainage sewers are located within the same locations as the foul water sewers servicing the Town of Hinckley. The surface water drainage the surface water drainage that is shown within wheatfield Way that is from the west to the east and the surface water drainage that is within Nelson Drive from the south to the north both cross Normandy Way for drainage into an existing watercourse, there is no surface water drainage infrastructure within the site boundary.

Diversiory Works

- 7.5 Following a review of the asset records in line with the current masterplan, it is deemed that no foul water or surface water drainage will require diversion/protection to facilitate the on-site development proposals.

Proposed Foul Water Infrastructure

- 7.6 The Pre-development enquiry response received from STWL (Ref – 1030479) for the initial dwelling quantity of 500 for the west phase of the site, it is indicated that there was a 300mm diameter pipe to the south-west of the proposed development and at manhole (MH SP41957302) could be utilised for the connection for the foul water. In the response it stated that due to land contours that a pumping station may be required. The response indicated that the flows would have an impact to the downstream network specifically to Hinckley-Stoke Road 2 SPS (sewerage pumping station).
- 7.7 The option to have a pumping station on-site has been excluded therefore further correspondence was sent to Severn Trent requesting if multiple connections could be

used, and the dwelling number was confirmed at quantity 500. There has been no response received for this request and the foul water infrastructure will need to be updated when the response is received.

- 7.8 Due to the impact on the downstream network modelling will be required. The modelling will determine the impact of the flows on the existing system and whether the flows can be accommodated prior to any potential capacity works that may be required.
- 7.9 STWL no longer charge Developers for their Hydraulic Modelling Services and all sites now go forward for prioritization against the STWL risk matrix this will take into consideration such things as planning status, potential impacts to the environment or for STW existing customers.

Proposed Surface Water Infrastructure

- 7.10 The developer enquiry response received (Ref: 1030479 dated 20th January 2022) states, under the terms of Section H of the Building regulations 2010, the disposal of surface water flows by means of Soakaways should be considered as the primary method; in addition, other drainage methods should be explored before a discharge to the public sewerage system is pursued. Records show that there is a watercourse available within the north-eastern extremities of site.
- 7.11 Following the above considerations, if it can be demonstrated that Soakaways would not be possible on the site, then satisfactory evidence will need to be submitted to STW. The evidence should either be percolation test results or a statement from the consultant undertaking the relevant investigation works (extract or supplementary letter).
- 7.12 STW 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 and Environmental Agency (EA).

8. TELECOMMUNICATIONS INFRASTRUCTURE

Existing Openreach Infrastructure

- 8.1 The proposed site development is shown to reside within an area where Openreach operate and maintain the telecommunications Infrastructure. Asset records received (dated 5th January 2022) show existing overhead (OH) and underground (UG) assets supplying properties in the south off Normandy Way in the Town of Hinckley, and in the north-west off Stoke Road for Stoke Fields Farm and Middlefield Farm.
- 8.2 There are no assets entering the proposed site boundary.

Diversionary Works

- 8.3 As stated in section 9.2 there are no assets entering the proposed boundaries for the onsite development however consideration will need to be given to the proposed Openreach infrastructure located within stoke road. to facilitate the proposed new roundabout.

Proposed Infrastructure

- 8.4 It is envisaged that the supply strategy will be via a new connection to the existing Openreach infrastructure off Normandy Way and Stoke Road as the location of the proposed access to the site with the new infrastructure running through the development in line with the proposed illustrative masterplan.
- 8.5 Early engagement with telecommunications providers is required to understand the potential to supply the proposed development. Openreach normally provide telephone and broadband services to all new developments free of charge, with the end user paying for the connection costs. All civils works will typically be undertaken by the developer using free issue Openreach ducts and Openreach specified ducts boxes to the Openreach confirmed design, which will allow for Openreach to pull cables through the newly installed ducts as and when required.
- 8.6 Openreach will make payments to the developer for construction and installation of Openreach network on new developments on a per plot basis. The payment amounts are agreed between Openreach and the House Builders (HBF).
- 8.7 Further enquires to alternative telecommunications companies is also recommended to understand the telephone and broadband service offerings available to the future on site customers.

Existing Virgin Media Infrastructure

- 8.8 The Virgin Media (VM) asset record plans (dated 7th January 2022) confirm that assets are present adjacent to the proposed development area and are shown supplying the local area to the north of the Town of Hinckley.
- 8.9 There are no assets entering the proposed site boundary.

Diversiónary Works

- 8.10 As stated in 9.7 there are no assets within the proposed development area, so no diversionary works or protections are required to facilitate the proposed development areas.

Proposed Infrastructure

- 8.11 Following a review of the asset records obtained early engagement with Virgin Media is required, records indicate there is plenty of potential from Virgin Media to extend their infrastructure to accommodate the proposed development site areas.

Existing Vodafone Infrastructure

- 8.12 Vodafone asset records received (dated 9th January 2022) indicate their existing assets are located within footway of Stoke Road which travels towards Normandy Way then travels from west to east located on the north side of Normandy Way adjacent to the proposed development boundary.

Diversiónary Works

- 8.13 As stated in 9.10 there are no assets within the proposed development area, so no diversionary works or protections are required to facilitate the proposed development areas.

Proposed Infrastructure

- 8.14 Vodafone has teamed up with CityFibre and can offer the services of broadband. Further enquires are recommended to understand the broadband offerings available to the future onsite customers.

9. CONCLUSION

Summary of Investigations

Table 10.1: Summary of Investigations

UTILITY PROVIDER	EXISTING UTILITY INFRASTRUCTURE		NEW UTILITY INFRASTRUCTURE REQUIREMENTS
	ONSITE / NEAR DEVELOPMENT	DIVERSION REQUIREMENTS	
Western Power Distribution (Electricity)	Dual circuit 33kV overhead crossing the development area from west to east, with a 11kV overhead crossing the site from north to south. Both head to a pole mounted transformer within the site boundary before exiting the proposed boundary.	Diversion response received states an estimated cost of £160,000 is anticipated to relocate all the circuits listed to facilitate the development.	The supply budget estimate received indicates for gas central heating a 2.5MW Connection the existing network will require reinforcement and will require substations on-site with metering equipment. For electric storage heating will require new 11kV circuits from Middlefield Primary and upstream reinforcements
Cadent (Gas)	Located to the south side of Normandy Way there is a low-pressure existing network supplying industrial and residential properties within the north of Hinckley	No diversionary works will be required to facilitate the proposed development.	Supply response confirms that Cadent's existing network does have sufficient capacity to facilitate the development. Design analysis study will be required to understand network reinforcement options.
Severn Trent Water (Clean)	Clean water infrastructure located along the south side of Normandy Way, 450mm diameter main crosses the roundabout to the west of the proposed development before going north up Stoke Road located. The mains on the east side of Stoke Road enters the boundary and is located within	Diversionary works are expected for the new roundabout and site access off Stoke Road.	Supply can be obtained from the 450mm diameter main within Stoke Road, no reinforcement is required.

	the undeveloped area to the west of the proposed development. On the west side of Stoke Road is a 10" clean water main that heads north.		
Severn Trent Water (Foul)	Foul water infrastructure located to the south-west of the proposed development south side of Normandy Way. With further infrastructure servicing industrial and residential properties within the north of Hinckley.	No diversionary works will be required to facilitate the proposed development.	Sewer modelling will be required as the foul flows will have a negative impact on the receiving network, awaiting further information from STW.
Severn Trent Water (Surface)	Surface water drainage located in the same areas as the foul sewers, these head to the east then north cross Normandy Way and drain into an existing watercourse.	No diversionary works will be required to facilitate the proposed development.	STW expects all surface water to be drained to the nearest watercourse, or land drainage channel.
Openreach (Telecommunications)	Both underground and overhead pole mounted infrastructure located to the north, west and south outside the proposed development area supplying existing residential properties.	Diversionary works are expected for the new roundabout and site access off Stoke Road.	Openreach normally provide telephone and broadband services to all new developments free of charge.
Virgin Media (Telecommunications)	Virgin Media assets located along the south side of Normandy Way supplying properties located north of Hinckley.	No diversionary works will be required to facilitate the proposed development.	Virgin Media normally provide telephone and broadband services to all new developments free of charge.
Vodafone (Telecommunications)	Vodafone assets located adjacent to the proposed site boundary from the west to the east alongside Normandy Way.	No diversionary works will be required to facilitate the proposed development.	Further correspondence is advised to understand the options for supplies.

Conclusions

- 9.1 The areas to the south of the proposed development area appear to be well served by the main utility providers based on the asset records received, there is likely to be a few likely diversions required to facilitate the new roundabout and the site access off Stoke Road. However, please note that it is not anticipated that any of these requirements provide a barrier to the proposed development.
- 9.2 The budget supply response from WPD state there is insufficient capacity in the network based on both options reviewed for gas centra heated properties and electric heated properties, to provide the development with an increased demand for electricity reinforcement works is likely.
- 9.3 The responses BWB received from Cadent Gas suggest there is sufficient capacity in the network to supply the full development consideration should be given to the build programme to allow for gas heated properties.
- 9.4 Severn Trent Water Ltd will provide a point for further discussions, the responses received state that further analysis will be required to provide a supply strategy, STW have advised that modelling will be required to further assess the local network connections.
- 9.5 Following a review of the existing assets from the utility companies it is anticipated that diversionary works will be required for both Severn Trent Water and BT/Openreach assets located adjacent to Stoke Road to the west of the proposed development.

10. RECOMMENDATIONS

- 10.1 It is advisory that the developer considers the local plan and there build programme to ensure that some of the development be phased as there maybe opportunity to have gas heated properties.
- 10.2 It is recommended that further consultation with the relevant companies is undertaken closer to the time of development to confirm the availability of capacity within the relevant utility networks. It is advised that firm network studies are requested from WPD, to review the new circuits required from Middlefiend primary site.
- 10.3 We recommend that detailed proposals and quotations are sought from the utility providers and the open market at detailed design stage to realise the best financial offering. It is advised that multi-utility companies are approached to provide quotations for the contestable works within the UAR, this will give a better understanding of costs associated with bringing utility infrastructure onto the proposed site development.
- 10.4 It is recommended that a PAS128 Level B below ground survey is undertaken prior to commencing site works to determine whether there are any unknown apparatus present within the confines of the site boundary.
- 10.5 To potentially mitigate any diversionary work to existing utility infrastructure, we recommend that a search is carried out to establish if any of the utility infrastructure is held under legal agreements and consents.
- 10.6 It is recommended that further capacity requests are issued to the core utility provider to understand the impacts of any future testing layout revisions, it may be necessary for network reinforcements to be undertaken to deliver an increased development size. Once capacity information is received, it is advised that third-party utility infrastructure providers are consulted to understand a supply strategy for the future development site.

APPENDICES

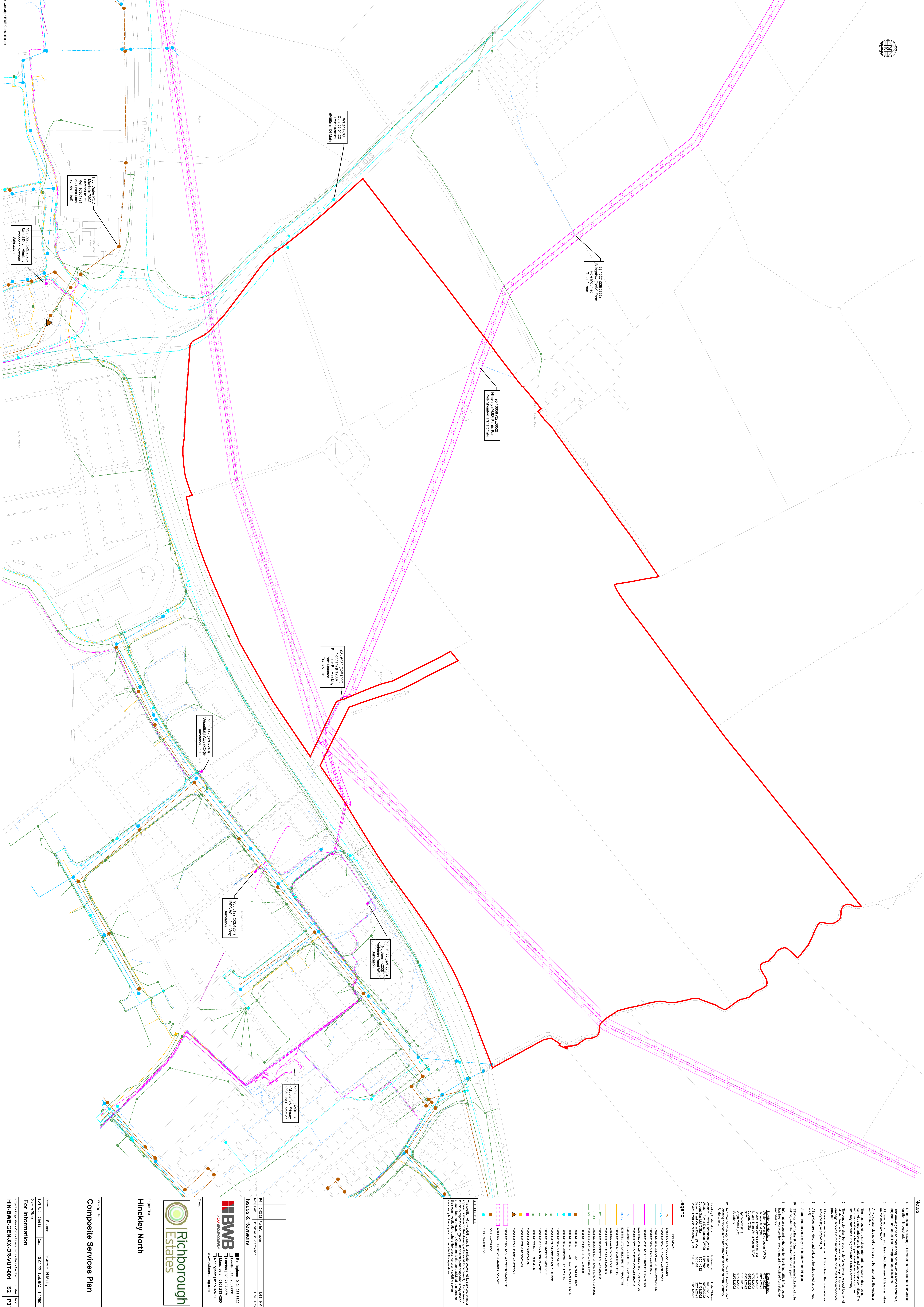
APPENDIX 1: P18-1531_011-1 Illustrative Masterplan



- KEY**
- SITE LOCATION
25.39 HECTARES / 62.74 ACRES
 - PROPOSED RESIDENTIAL DEVELOPMENT
 - PROPOSED 1 HECTARE FOR 1 FORM ENTRY SCHOOL + 1 HECTARE SAFE GUARDED LAND
 - PUBLIC OPEN SPACE (INCLUDING SuDS) - 8.08 HA / 19.97 ACRES
 - RETAINED EXISTING LANDSCAPE
 - ADDITIONAL/ REINSTATED VEGETATION
 - PRIMARY STREET / AVENUE
 - KEY FOCAL JUNCTION
 - SECONDARY STREET
 - SIDE STREET / SHARED SURFACE
 - PRIVATE LANES
 - RETAINED PUBLIC OF RIGHT OF WAY
 - KEY PEDESTRIAN MOVEMENT WITHIN SITE
 - SUSTAINABLE URBAN DRAINAGE
 - NEIGHBOURHOOD EQUIPPED AREA OF PLAY
 - LOCALLY EQUIPPED AREA OF PLAY
 - LOCAL AREA OF PLAY/ NATURAL PLAY SPACE
 - KEY VISUAL CORRIDORS

- KEY PRINCIPLES**
1. PROPOSED NEW ACCESS VIA HIGHWAYS IMPROVEMENTS TO STOKE ROAD;
 2. PRIMARY STREET PROVIDING VEHICULAR, PEDESTRIAN AND CYCLE MOVEMENT;
 3. SECONDARY MOVEMENT ROUTES PROVIDING A LOOPED INFRASTRUCTURE TO PRIMARY MOVEMENT ROUTES;
 4. SHARED SURFACE ROUTES SERVING CLUSTERS OF DEVELOPMENT;
 5. PRIVATE LANES SERVING OUTWARD FACING DEVELOPMENT PROVIDING PASSIVE SURVEILLANCE OVER NEWLY CREATED OPEN SPACE;
 6. HIGHWAYS IMPROVEMENTS ALONG NORMANDY ROAD PROVIDING DEDICATED CROSSING POINTS TO EXISTING DEVELOPMENT;
 7. RETAINED PUBLIC RIGHT OF WAY RUNNING NORTH-SOUTH THROUGH DEVELOPMENT, PICKING UP KEY EAST-WEST MOVEMENT ROUTES;
 8. KEY PEDESTRIAN MOVEMENT ROUTES RUNNING IN A NORTH-SOUTH AND EAST-WEST MOVEMENT ROUTES OFFERING FULL PEDESTRIAN PERMEABILITY;
 9. KEY MEETING POINT AT HIGHEST POINT OF DEVELOPMENT PROVIDING KEY VISUAL CORRIDORS TO SURROUNDING CONTEXT;
 10. KEY PLAY SPACES ALONG PEDESTRIAN MOVEMENT ROUTES SERVING MAXIMUM RESIDENTS
 11. MAXIMUM RETENTION OF EXISTING FIELD BOUNDARIES AND WOODED AREAS;
 12. CREATION OF COMMUNITY SPACES IN THE FORM OF COMMUNITY ORCHARDS AND INFORMAL KICK ABOUT AREAS;
 13. CREATION OF A SERIES OF GREENWAYS PROVIDING A KEY WILDLIFE NETWORK THROUGHOUT DEVELOPMENT;
 14. PROPOSED ADDITIONAL PLANTING TO THE NORTHERN EDGE TO AID BIO-DIVERSITY AND WILDLIFE OPPORTUNITIES;
 15. POTENTIAL SCHOOL SITE WITH SAFE GUARDED LAND FOR FUTURE SCHOOL EXPANSION;
 16. KEY (PEDESTRIAN MEETING POINTS PROVIDING RESIDENTS OPPORTUNITIES WITH SOCIAL INCLUSION;
 17. SITE LOW POINTS UTILISED FOR SUSTAINABLE URBAN DRAINAGE AIDING WETLAND HABITATS ALONG EXISTING WATERCOURSES;
 18. MAXIMUM CONTINUOUS FRONTAGE ALONG DEVELOPMENT ABUTTING NORMANDY WAY TO REDUCE IMPACT OF ACOUSTIC INTERFERENCE TO REAR GARDEN SPACES;
 19. STREETS AND DEVELOPMENT ORIENTATED TO RUN WITH CONTOURS REDUCING IMPACT OF RETAINING STRUCTURES ON STREET SCENE;
 20. 2M HIGH PLANTED BUND TO REDUCE ANY POTENTIAL ACOUSTIC DISTURBANCE; AND
 21. POTENTIAL ACCESS POINT FOR FUTURE DEVELOPMENT.

APPENDIX 2: Composite Services Plan



Notes

- [illegible]

Legend

[illegible]

ULTIMATE

The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty is given to this is represented or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to substantiate their own investigations where the presence of any existing sewers, services, plant or apparatus may affect the operations.

EXISTING 33KV HV OH 4.3 METER STAND OFF	EXISTING 11KV HV OH 3 METER STAND OFF
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Issues & Revisions

Issue	Rev	Date	For Information	U.S.	MM
			Details of Issue / Revision	Dw	Rev
Issues & Revisions					

Issues & Revisions

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Hinckley North

Composite Services Plan

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
HIN-BWB-GEN-XX-DR-VUT-001	S2	P0

