OTTERPOOL PARK

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DOCUMENTS SUBMITTED IN SUPPORT

OP5 APPENDIX 4.8 **– UTILITIES STRATEGY**

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March 2022

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OTTERPOOL PARK

Utilities Strategy

MARCH 2022

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Executive Summary

Otterpool Park will deliver a new garden settlement which will benefit from strategic advantages including excellent transport links, a rural setting and commitment to achieving a high standard of design quality to make it a remarkable place to live, work and visit.

The garden settlement will create an exemplar of sustainability and this ethos extends to the provision of water, electricity, gas and telecommunications and the means of wastewater disposal. Whilst the provision of these services needs to be robust in terms of the infrastructure and technology available at the start of the development, it also aspires to allow for changing technologies and behaviours with a flexible approach to delivery.

With this in mind, provision of utilities and wastewater treatment will follow a phased approach which will assist the delivery and integration of Otterpool Park into its surroundings ensuring that there is sufficient supply to meet the development needs and seeking opportunities for improvement to supply and connectivity for existing local communities.

Potable Water – There is a sufficient potable water supply for the early phases of the Otterpool Park development and the surrounding catchment. The Otterpool Park proposals will ensure that this position is not compromised as the scheme is delivered. Otterpool Park's water consumption will be limited to 110 litres/person/day with the inclusion of water efficient fittings and the adoption of recycling initiatives to ensure that this resource is managed effectively.

Electricity – Otterpool Park will allow for electric vehicle charging in readiness for 2030 when the sale of new petrol and diesel cars is anticipated to end. All residential properties will use electricity only for heat and power with solar panels and sir source heat pumps fitted from the start of the development aligning with the overall commitment to creating a truly sustainable place. Initiatives for the use of clean, sustainable sources are a key focus of Otterpool Park.

Gas – Although there will be no gas in residential properties, there may be a requirement for gas supply to commercial uses and this will be determined as the development evolves. Whilst there is a limited supply of gas currently, the timescales associated with the delivery of further gas supply capacity are clearly understood and are set out in Section 3.3.3. Opportunities to avoid the use of gas within the non-residential elements will be explored. Further information can be found in the Energy Strategy (document ref OP5 Appendix 4.9).

Wastewater – It is proposed to treat Otterpool Park's wastewater on-site generating a high quality output which is discharged to the River Stour East. Further treatment by filtering through wetlands would ensure that the discharge meets the Natural England Criteria for a nutrient neutral solution. A phased approach to delivery of this facility ensures that Otterpool Park retains the flexibility to introduce the latest technology keeping it at the forefront of wastewater treatment innovation throughout the delivery of the new garden settlement.

Telecommunications – There is a commitment to ensuring that all properties benefit from high speed fibre broadband connectivity. This ensures that future residents and businesses at Otterpool Park benefit from access to the latest technology and assists in the creation of a development that can support the high technology business community of the future, whilst also supporting home-working and media access to the home. As the development progresses, robust broadband provision has the potential to assist with healthcare initiatives and assist in the benchmarking of Otterpool Park's sustainability.

1 Introduction

1.1 This Utilities Strategy for Otterpool Park has been prepared by Arcadis to accompany an Outline Planning Application by Otterpool Park LLP ('the applicant') to Folkestone and Hythe District Council (FHDC) as the Local Planning Authority for the development of the Otterpool Park Garden Settlement. It sets out the viable options for each utility to address the need for potable water, electricity, gas, wastewater treatment and broadband.

1.2 The provision of key utility infrastructure must reflect policy and legislation, best practice and consider the existing infrastructure provision and statutory authority delivery timescales. It should also balance these issues against the practicalities of cost and operations for all residential and non-residential uses. Co-ordination with the Energy Strategy (document ref OP5 Appendix 4.9) has also been considered to ensure that both can be integrated over the lifetime of the development.

1.3 The Otterpool Park development is designed to complement existing nearby settlements. Through upgrading existing utility networks, it will increase the resilience of these networks and improve connectivity across a wider catchment than just the Otterpool Park development.

1.4 It is not intended to use gas for any residential aspects of the Otterpool Park development in line with emerging Government policies advocating the use of renewable energy sources and the promotion of cleaner air energy solutions.

1.5 In support of a procurement strategy for utilities, extensive negotiations have been carried out with the relevant utility providers (electricity, potable water, wastewater and broadband) to confirm available solutions. Whilst timelines and phasing of wider network upgrades will evolve in parallel to the delivery of Otterpool Park, the reinforcement work and points of connection are understood for each utility as are the costs of these works.

2 The Development

2.1 The Otterpool Park proposal, subject to Outline Planning Approval, is for the provision of a new residential-led, mixed use development accommodating the following;

- *Up to 8,500 new homes* (Use Class C2 and C3) *across a range of types, sizes and tenures.*
- *Up to 87,500 sqm of employment floor space (Use Class E and B2) including commercial business hubs, a commercial business park and a light industrial business park.*
- *Up to 67,000 sqm of education and community facilities (Use Class E and F) floor space including primary schools, secondary schools as well as nurseries and crèches, reserve school floorspace and / or SEN, health centres and potential for places of worship, libraries and community centres.*
- *Up to 29,000 sqm of mixed retail and related uses* (Use Class E and Sui Generis drinking establishments and hot food takeaway) *floor space.*
- *Up to 8,000 sqm of hotel (Use Class C1) floor space.*
- *Up to 8,500 sqm of leisure (Use Class E, F and Sui Generis cinema, concert hall, bingo hall and dance halls) floor space.*

2.2 Throughout the delivery of the new settlement, a mix of homes will be provided across a range of tenures to ensure that private and affordable housing tenures come forward

alongside other housing types, such as build to rent and specialist housing (i.e. care home provision) to secure a mixed and balanced community is established as early as possible. Retail, employment, education and other community uses will be developed alongside the residential element.

3 Utility Requirements

The Otterpool Park development will be flexible and sustainable and this ethos applies to the provision of utilities across the site.

3.1 Potable Water

3.1.1 Existing Provision

The incumbent water supplier for the area is Affinity Water (AW) The existing water infrastructure records can be found in Appendix A. Following a Water Resourcing Review for the Dover / Folkestone region, AW has confirmed that there is sufficient capacity within the existing network to serve the first 1,500 homes at Otterpool based on 400l/household/day or 126l/person/day.

Consistent with the commitment to being a sustainable new garden settlement, the development will be policy compliant in terms of water efficiency with a daily water consumption rate per person of 110l to be achieved primarily through the use of water efficient fittings. The proposed water consumption rate is lower than the rate used in AW's calculations, therefore it is reasonable to consider that the existing capacity will extend beyond the first 1,500 homes.

3.1.2 Development Demand

AW has confirmed that development demand for the first 1,500 homes can be met from the existing potable water network and that further supply is limited by the constraints of the existing infrastructure rather than the water available. The remainder of the development will require upgrades to the sizing of the existing water mains to ensure sufficient water pressure is achieved and maintained between the reservoir and the development together with the neighbouring settlements.

3.1.3 Potable Water Solution

Whilst the first 1,500 homes can be serviced with potable water from the existing supply, beyond this a new pipeline from Paddlesworth Reservoir will be required. Approximately 10km in length, it will follow the same route as the existing water main providing additional capacity with a second main 560mm in diameter as opposed to upsizing the existing main. The route of this new water main is shown on the plan below and it will need to cross both the HS1 rail and the M20 road infrastructure.

Figure 1 – Proposed route of second water main to provide potable water reinforcement

By utilising the spare capacity and based on an initial build rate of 250 homes per year rising to 350 / 400 homes as Phase 1 progresses, the new water main will not be required until approximately five years after construction has commenced. AW has estimated that four to five years will be required for the delivery of the new pipeline from instruction which aligns with the build timelines and has been factored into the delivery programme. This new pipeline to be delivered by Affinity Water is estimated to provide capacity for approximately 6,000 homes.

The final phase of the potable water works will be to complete the reinforcement around the HS1 and M20 crossings and local reconfiguration of the network to release capacity for up to 10,000 homes.

3.2 Electricity

3.2.1 Existing Provision

The existing electrical power network is owned and managed by the statutory supplier, UK Power Networks (UKPN). The records of the existing asset can be found in Appendix B. These show the existing large UKPN grid sub-station located to the north-west of the site at Sellindge. There are a number of smaller package substations located throughout the application site boundary but they are only suitable to meet local demand and have limited spare capacity.

3.2.2 Development Demand

The Government intends to ban the sale of new petrol and diesel cars from 2030 therefore electric vehicle charging points will be provided as part of the development. Although the shift to electric vehicles is likely to be a gradual one, the provision of vehicle charging points has been factored into the power requirements for the development.

The final electric vehicle charging provision strategy will include a combination of domestic and public charging facilities, with fast chargers provided for domestic use and rapid charging facilities in communal and public areas as set out below.

- Fast Chargers: Around 7kW - 22kW for faster charging (3 – 4hours)
- Rapid Chargers: From 43kW to 50kW (although ultra-rapid chargers are also available at +100kW) supply rapid charge (30 mins)

Trials will be undertaken in the early stages of the development to determine the optimum solution for Otterpool.

Similarly, gas boilers in new homes are to be banned from 2025 and Otterpool Park LLP is committed to no gas in homes from the start of the development and the additional power requirement has been considered as part of the overall strategy.

The electric load calculations can be found in the Energy Strategy (document ref OP5 Appendix 4.9) which, as set out above, include allowance for electric charging and considers the large diversity that occurs in vehicle charging patterns as well as accounting for all electric heat and power in residential properties.

3.2.3 Network Capacity

UKPN has confirmed that 3MVA of capacity exists in the nearby 11kV electricity network with 2MVA to the west and 1MVA to the east. These supplies combined would provide sufficient power for approximately 650 homes if these were also served by gas i.e., dual fuel. However, given that Otterpool Park is committed to not using gas in residential homes, this allowance will provide power for approximately 350 homes.

Connection to the existing 11kV network will incur a connection charge per property of circa £1,000 which is accounted for in the on-plot build costs, although it is noted that this will be subject to confirmation following a formal application to UKPN.

Once the existing capacity is taken up from the surrounding network, a substantial upgrade is required to the existing UKPN system.

3.2.4 Electrical Power Solution

In order to provide the necessary power to the primary sub-station, there are two viable options;

- **Option 1** – Connection to the 33kV supply
- **Option 2** – Connection to the 132kV supply

Both would be capable of supplying 60MVA to the development which combined with the 3MVA supply from the existing 11kV network would be more than sufficient for a development of this scale based on an all-electric power and heat scenario. UKPN have provided budget quotations for both options and on the basis of cost, where UKPN are obligated to support the best value solution for the developer, connection to the 33kV supply is the preferred option.

To supply electricity to the site, a new on-site primary sub-station is required within the Otterpool Park red line boundary to cater for the full development. It is intended that this primary sub-station will be located at the junction of Otterpool Lane and the A20. The primary substation will take the form of a 33m x 40m compound containing the voltage transforming and switching infrastructure required for the primary substation to transform the power voltage from 132kV or 33kV down to 11kV and will supply power to approximately 60 small 1MVA package substations which will serve the individual development parcels. The location and design of these substation locations will be determined at future stages of design, by phase and plot.

The 60MVA supply is proposed to be brought forward in phases via the primary sub-station allowing both the resilience that the development requires but also permitting flexibility in the future delivery of power to the site with evolving technology and alternative energy sources combined with the aspiration for Otterpool Park to achieve a reduced energy demand from traditional sources.

The package substations will be provided in various locations throughout the development linked by an 11kV cable ring main supplying power at a lower voltage to the individual development parcels. The final number will be dependent on power demand as the build-out of the development progresses and will be delivered in a sequential phased approach.

The works between the UKPN Grid substation and the point of connection for the primary substation are 'non-contestable' works which must be undertaken and procured through UKPN as it affects and alters their asset. The works from the point of connection including the construction of the primary substation, the 11kV package substations and cable laying to the individual development parcels are 'contestable' works. These contestable works can be undertaken by any suitably qualified, licenced organisation.

A typical delivery timescale can vary from 2 – 4 years from placement of an order and will be dependent on the final procurement strategy. The existing capacity in the 11kV network will be sufficient for the first 2 years of residential development and allow enough time for the permanent electrical solution to be put in place based on the build programme.

It is noted that whilst the current strategy for electrical power is based on connection to the UKPN network, options for the use of alternative energy sources such as photo-voltaic cells and air source heat pumps are considered as part of the Energy Strategy (document ref OP5 Appendix 4.9) for Otterpool Park. Otterpool Park LLP are also aware that opportunities may exist to connect to solar farm energy in the vicinity of the site and will review and assess the options as the scheme progresses.

3.3 Gas

3.3.1 Existing Provision

Southern Gas networks (SGN) is the incumbent gas supplier for this area. The existing gas infrastructure records can be found in Appendix C which show that there is little gas infrastructure in the vicinity of the Otterpool Park development. SGN has stated that they do not have the capability to serve a development of this scale without significant and lengthy reinforcement of the Intermediate Pressure network.

3.3.2 Development Demand

Otterpool Park LLP is committed to not using gas within the residential element of Otterpool in line with the government commitment to no gas boilers in new homes from 2025. It is not yet known which of the other proposed site uses will require gas but it is likely that commercial uses may not be able to operate using electricity only. However, opportunities to avoid the use of gas within the non-residential elements will be explored and these can be found in the Energy Strategy (document ref OP5 Appendix 4.9).

3.3.3 Development Solution

Although it is intended that Otterpool Park is as far as possible a no gas development, options for the provision of a gas supply have been investigated with SGN.

In a budget quotation dated 5th November 2018, SGN confirmed that a Low Pressure gas supply equivalent to that required for 1,000 dual fuel residential units could be provided with a point of connection near Berwick Farm immediately to the east of the site.

Further gas supplies for the site would require reinforcement of the Intermediate Pressure gas network with a point of connection in West Hythe. A new gas main would need to be laid between West Hythe and a new gas governor proposed to be located in the southern section of the site near the Aldington Lane and Otterpool Lane junction. At this point, the gas supply would be converted from Intermediate Pressure to Low Pressure. It is noted that the lead-in for these works is estimated by SGN at 6 years. However, in the unlikely event that this level of reinforcement is required, the timescales can be carefully planned to meet the limited needs of Otterpool Park.

Final confirmation of any reinforcement would be subject to a full design study by SGN following details of layout and phasing.

The current utilities strategy is based on an all-electric heat and power development and the primary sub-station would be capable of fulfilling that need. However, the final decision on whether gas infrastructure is required for the site will need to reflect further design and input on other uses for Otterpool Park.

3.4 Wastewater

3.4.1 Existing Provision

The incumbent wastewater treatment supplier for this area is Southern Water. Foul water discharges to the wastewater treatment works at Sellindge via a network of small diameter pipes and pumping stations. Details of the existing sewers and other infrastructure can be found in Appendix D.

There are two pumping stations within the Otterpool Park Redline boundary; Grove Bridge and the Racecourse. Both connect to Sellindge wastewater treatment works via a series of rising and gravity mains.

There is existing Southern Water infrastructure across the site and whilst the potential for using this infrastructure will be considered during the detailed design, much of it will require diverting as a result of the development proposals. Continuity of service provision for residents of neighbouring communities will be an important consideration during the detailed design process.

3.4.2 Nutrient Neutrality

In addition to assessing the capacity requirements when determining the options for the discharge of wastewater from a development, it has also been necessary to address the impact of increasing levels of nitrates and phosphates on the Stodmarsh Lakes which is thought to be affected by the River Stour catchment and the impact of discharge from wastewater treatment works discharging to this catchment. Further detail can be found in the HRA (document ref OP5 Appendix 7.19). The proposed wastewater infrastructure associated with the Otterpool Park development will therefore address the issue of nutrient neutrality.

Southern Water, the incumbent supplier for wastewater treatment, has commissioned the Water Industry National Environment Programme (WINEP) Study to assess the impact of the wastewater treatment works within the River Stour catchment on the Stodmarsh Lakes. This study is due to be completed in March 2022 and includes the output from the Sellindge wastewater treatment works.

The proposed Otterpool Park development is located at the head of the River Stour catchment and as such the nitrates and phosphates attributable to the development must be considered with appropriate mitigation included where necessary to offset any increase. It should be noted that not only does the wastewater generated by the development contribute to the level of nitrates and phosphates but that the impact of surface water run-off must also be considered.

Further details of the impact of nutrient neutrality and the measures required for offsetting can be found in the Water Cycle Study (document ref OP5 Appendix 15.2).

3.4.3 Wastewater Solution

Three options have been considered for the treatment of the wastewater generated by the Otterpool Park development.

3.4.3.1 Option 1 – Southern Water Sellindge Wastewater Treatment Works

Under this option, all the wastewater from Otterpool Park would be disposed of to the Sellindge Wastewater Treatment Works (WwTW) operated by Southern Water. Southern Water have confirmed that for the initial phase of the development, there is capacity for up to 163 new homes to connect to Grove Bridge Pump Station with capacity at Sellindge WwTW for approximately 1,000 new homes. However, there is insufficient capacity in the network between the pump station and the treatment works to accommodate any additional flows even if the pump station was upgraded. Therefore, the proposed point of connection would be directly to Sellindge WwTW via a new rising main from the northwest boundary of the development to the WwTW crossing underneath the HS1 Railway. The new rising main is likely to consist of a 200mm diameter temporary rising main for the first phase of the proposed Development, which will cater for up to 2,100 new homes increasing to a 450mm diameter permanent rising main to accommodate the remainder of the Otterpool Park Development. Southern Water have confirmed that it would be possible to upgrade the Sellindge WwTW to accommodate flows from the development and that the cost for undertaking these upgrade works would be met by Southern Water.

Southern Water have provided preliminary proposals and feedback comments for the phased approach to this option. It is noted that a delivery period of 4 years is estimated to provide the new rising mains to Sellindge WwTW.

Following the completion of the Otterpool Park growth feasibility study in 2019, SW started a Risk and Value Exercise in 2020 to confirm and develop the preferred WwTW to accommodate Otterpool Park. However, as highlighted in Section 3.4.2, Sellindge WwTW is one of the Southern Water assets that is being investigated under a separate WINEP detailed study to address NE's concerns in relation to potential linkage of existing WwTW discharges with nutrient enrichment at Stodmarsh Lakes European Designated Sites. Therefore, until the WINEP study and associated recommendations are fully implemented there is considerable risk that the proposed Development is unable to connect to Sellindge WwTW.

The quality of the discharge from Sellindge WwTW results in the highest levels of nutrients discharging into the River Stour East of all the discharge options considered. It would be necessary to mitigate this impact with suitable measures such as wetlands and tree planting and calculations have shown that the scale of this mitigation could not be provided within the proposed Otterpool Park boundary.

3.4.3.2 Option 2 – On-site Wastewater Treatment Works

Wastewater generated by the Otterpool Park development could be treated on site with a treatment works located in the northwest corner of the site with treated discharge into the adjacent watercourse, the River East Stour. This would be facilitated through the engagement of a NAV and Albion Water and Severn Trent Connect have provided preliminary proposals for this option.

NAV - New Appointments and Variations. These are limited companies which provide a water and / or sewerage service to customers in an area which was previously provided by the incumbent monopoly provider. A new appointment is made when a limited company is appointed by Ofwat to provide water and/or sewerage services for a specific geographic area.

Both providers have recommended a phased approach for delivery of wastewater treatment which ensures that the treatment process remains viable with sufficient flows passing through the system. It also allows the latest technology to be incorporated into the later phases of the treatment works so that the quality of wastewater discharge from Otterpool Park remains optimal throughout the lifetime of the development.

On-site wastewater treatment is the most viable option in terms of achieving nutrient neutrality and would require the smallest area of wetlands as mitigation. The extent of mitigation could be contained within the boundary of Otterpool Park.

3.4.3.3 Option 3 – Southern Water West Hythe Wastewater Treatment Works

A third option has been considered with wastewater discharging to the Southern Water WwTW at West Hythe. The upgrades that would be required at West Hythe are complex and costly compared to the upgrade works that would be required at Sellindge WwTW and are summarised as follows:

- The Treatment works are served by a single pumping station (Range Road), which accommodates the preliminary treatment for the catchment prior to flow transfer to the treatment works, and limited expansion capacity is available at the pumping station site;
- A 7km long rising main is required for the transfer of flow to Range Road pumping station, including the significant potential for undertaking an Environmental Impact Assessment (EIA) for the pipeline;
- Limited land availability within the existing WwTW site boundary;
- Significant uprating of pumping capability and rising main to the WwTW is required if Otterpool Park flows are transferred to Range Road;
- Flows from treatment works are pumped back to Range Road prior to pumping down long sea outfall, the increase in flow will require new transfer pumps and rising main between West Hythe WwTW and Range Road Pumping Station;
- As there is no storage at West Hythe WwTW the incoming flow and outgoing flows are finely balanced, introducing additional flows directly to West Hythe also make the management of flows more complex; and
- Increased flows may require new/additional long sea outfall and a tightened discharge permit.

These complexities are in addition to the issues associated with transferring flows from Otterpool Park over a distance of 7km to a different water catchment/coast from the current East Stour catchment in which Otterpool Park is located. This is not desirable due the scarcity of water in south-east England and would exacerbate low flow issues in the River Stour.

On this basis, the West Hythe Option (Option 3) has not been considered further and only discharge to Sellindge WwTW (Option 1) or to an on-site facility (Option 2) have been taken forward as viable options.

3.4.4 Preferred Solution

Nutrient neutrality issues have influenced the preferred option for the treatment of wastewater at Otterpool Park due to the extent of mitigation (wetlands) required.

The quality of the discharge from Sellindge WwTW results in higher levels of nutrients discharging into the River Stour East than would be the case from an on-site wastewater treatment facility. It would be necessary to mitigate this impact with suitable measures such as wetlands and tree planting and calculations have shown that the scale of this mitigation could not be provided within the proposed Otterpool Park boundary.

Southern Water started the Stage 1 Risk and Value exercise in 2020, to develop its preferred WwTW solution to serve Otterpool Park, by building on the recommendations of the 2019 feasibility study. However, making significant progress on the detailed design of the preferred rising mains route and Phase 1 treatment capacity upgrade has been partly hampered by the ongoing WINEP Study. If the WINEP study concludes that the discharge of nitrates and phosphates from Sellindge and other wastewater treatment works negatively impacts Stodmarsh, then significant quality upgrades and

offsite mitigation may be required across the impacted catchment. Given the five yearly cycle AMP funding periods, it is unlikely that any such improvements would be completed before 2030. This is a major risk and will have a significant impact on the delivery of Otterpool Park.

Therefore this option is to be retained for later phases of the development and kept under review with Southern Water.

The preferred solution is to discharge waste from Otterpool Park to an on-site wastewater treatment works through a NAV appointment of Albion or Severn Trent Connect or Other. The processes used achieve a high level of discharge quality in terms of nutrients vary between providers and it is intended that the provider with the highest level of discharge quality will be appointed as this will limit the amount of further offsetting nutrients. The treatment works would be delivered in phases to allow as much flexibility as possible not only in terms of discharge options but also to ensure that the development benefits from the most efficient on-site treatment processes. The table below sets out the proposed phases in terms of housing numbers and non-residential development.

Phase 1	Circa 3,000 units and non-residential
Phase 2	Circa 6,600 units and non-residential (cumulative)
Phase 3	Final Development

Table 1 – Proposed wastewater treatment works phasing

The on-site WwTW will not be viable for very early stages of Otterpool Park as there will be insufficient flow for the plant to be fully operational. Approximately 400 homes will need to be connected therefore interim measures are being considered which may include tankering to an existing treatment facility and / or the introduction of a package treatment plant. Whilst this is an ongoing discussion, it is recognised that tankering is an unsustainable option resulting in additional tanker lorry movements between the site and a treatment works as yet to be agreed with Southern Water. Therefore, it is likely that a package treatment plant will be introduced to service the first 150 dwellings. Between 150 – 400 homes, the final part of the treatment process at the on-site WwTW can be utilised and beyond 400 homes, the works will be fully operational.

Delivery of the wastewater to the northwest corner of the site is achieved via gravity discharge either directly to the northwest corner or to one of two foul pumping stations located at the centre point of the northern boundary of the site and to the east of the racecourse lake and connected via rising mains and gravity networks to the proposed on-site wastewater treatment works. The outfall from the wastewater treatment works is located adjacent to the facility but there is a limited allowable discharge at this location so later in the development, an outfall approximately 1km downstream of the wastewater treatment works will be required.

The proposed foul drainage layout can be found in the Water Cycle Study (document ref OP5 Appendix 15.2). It is noted that this same proposed network would be used to provide a connection to the outfall for Sellindge if that option (Option 1) is adopted for later phases.

3.5 Telecommunications

3.5.1 Existing Provision

Broadband speeds in the locality of Otterpool Park were previously poor with connections delivered via Fibre to the Cabinet and then the traditional copper telephone wires provided the connection to the property. Where properties were a considerable distance from the cabinet, the speed and overall connection became less reliable.

Although average typical connection speeds should be in the order of 17mbps this was understood to be considerably slower in some areas.

However, Kent County Council has launched a Broadband Delivery Programme which is a government sponsored programme working to improve broadband connectivity across Kent with over 95% of properties across Kent now achieving access to broadband speeds of at least 24mbps. KCC are also working with Openreach on an initiative to connect a further 5,000 rural premises both residential and business with gigabit capable Fibre to the Premise broadband where there is little or no current provision. In addition, many broadband providers have either upgraded or are in process of upgrading their networks so that Otterpool Park's neighbouring communities such as Aldington, Lympne and Newingreen are experiencing or are due to experience faster broadband speeds with Fibre to the Cabinet. Details of the existing telecommunication networks can be found in Appendix E.

3.5.2 Development Demand

Delivering a fast, efficient and well-connected telecommunications network is a key principle for Otterpool Park. It will be an important consideration for the future residents and workers of Otterpool Park, especially following the impact of the Coronavirus pandemic which has forced many people to work from home and prompted a nationwide rethink of working patterns which may never revert to previously accepted practices. Not only are more people working from home but they are also shopping and socialising via their broadband connection. This change of lifestyle places a huge reliance on fast and reliable connectivity. It also assists in achieving Otterpool Park's sustainable aspirations by reducing commuting and limiting other car journeys.

Similarly, excellent connectivity will be fundamental for attracting businesses to the Otterpool Park area.

As Otterpool Park is developed in terms of connectivity, this provides the opportunity to improve connectivity for neighbouring communities many of which have access to Fibre to the Cabinet broadband and consider wider provision of Fibre to the Premises.

Whilst essential fibre broadband and mobile connectivity will form the immediate digital focus, enabling technologies will be needed to underpin the wider sustainability ambition for this new garden settlement with the potential to support applications that could range from intelligent water management usage to on-line health care.

3.5.3 Telecommunications Solution

It is intended that Otterpool Park will deliver Fibre to the Premise which extends the fibre from the Exchange Cabinet to the Property. BT Openreach has confirmed that the nearest exchange is in Sellindge and that capacity is available for the proposed development. The programme for the extension of the fibre network will be determined following a formal application post planning. It is noted that the extension of the fibre network provides an opportunity for properties outside the Otterpool Park development to benefit as it is laid through the neighbouring communities.

Alternative broadband suppliers and multi-service companies (MUSCO's) could offer an alternative connection solution and is an option that will be investigated further noting the importance of not limiting future customers options in terms of a choice of provider.

4.0 Conclusion

The Utilities Strategy has focussed on the utilities and services required to support the delivery of the Otterpool Park development.

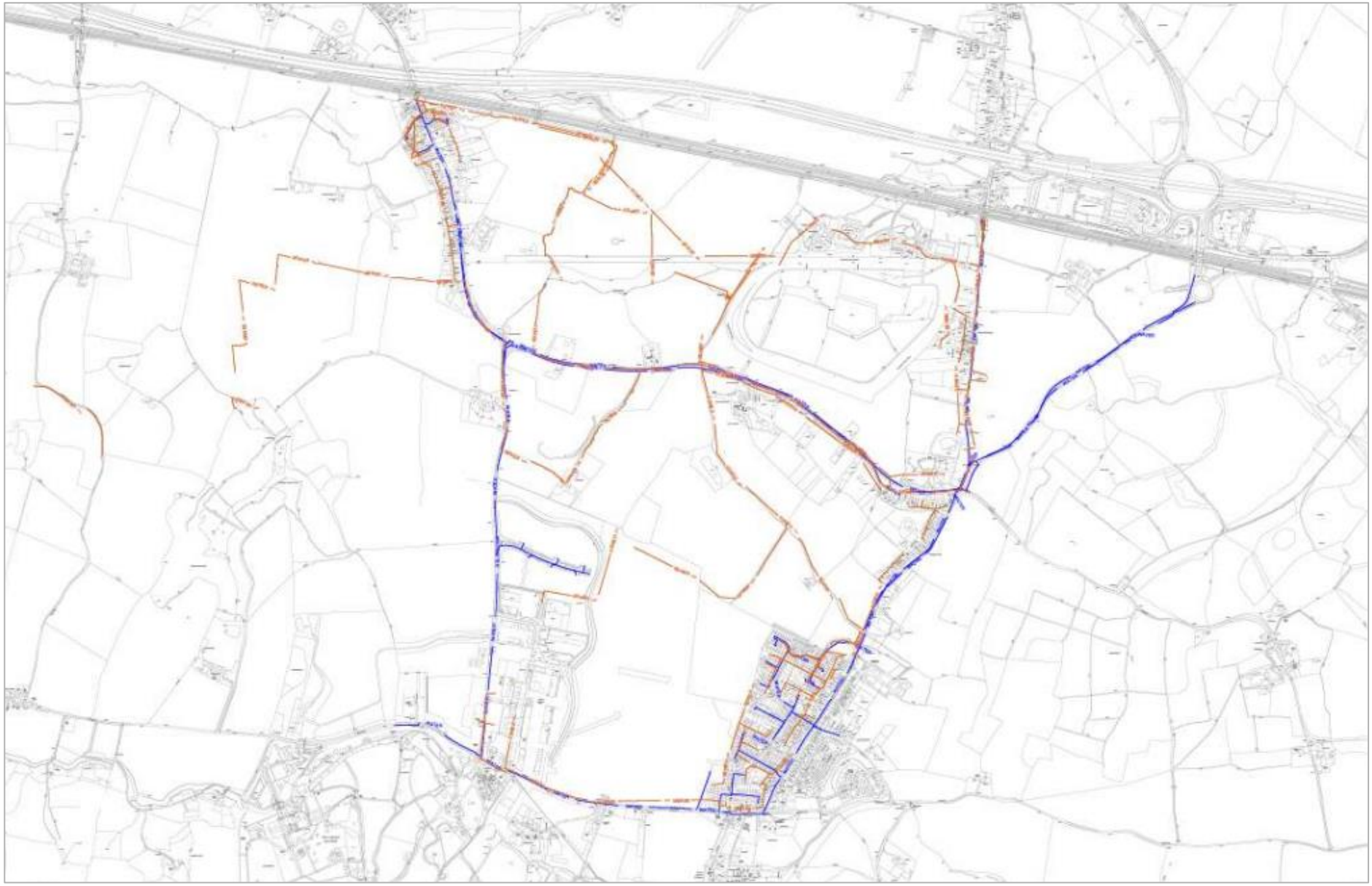
It is acknowledged that there will need to be some reconfiguration and diversion of existing utilities within the Otterpool Park boundary and this will be determined at the detailed design stage to ensure that there is no interruption of supply to existing residents and adjacent communities.

The Strategy demonstrates that there will be adequate connections to utilities with supplies of potable water, electricity, telecommunications available from first occupation. Following discussions with utility providers, further proposals have been identified to ensure that provision is in place to service Otterpool Park throughout its lifetime with associated budget costs and delivery programmes aligned to the overall development costs and build programme.

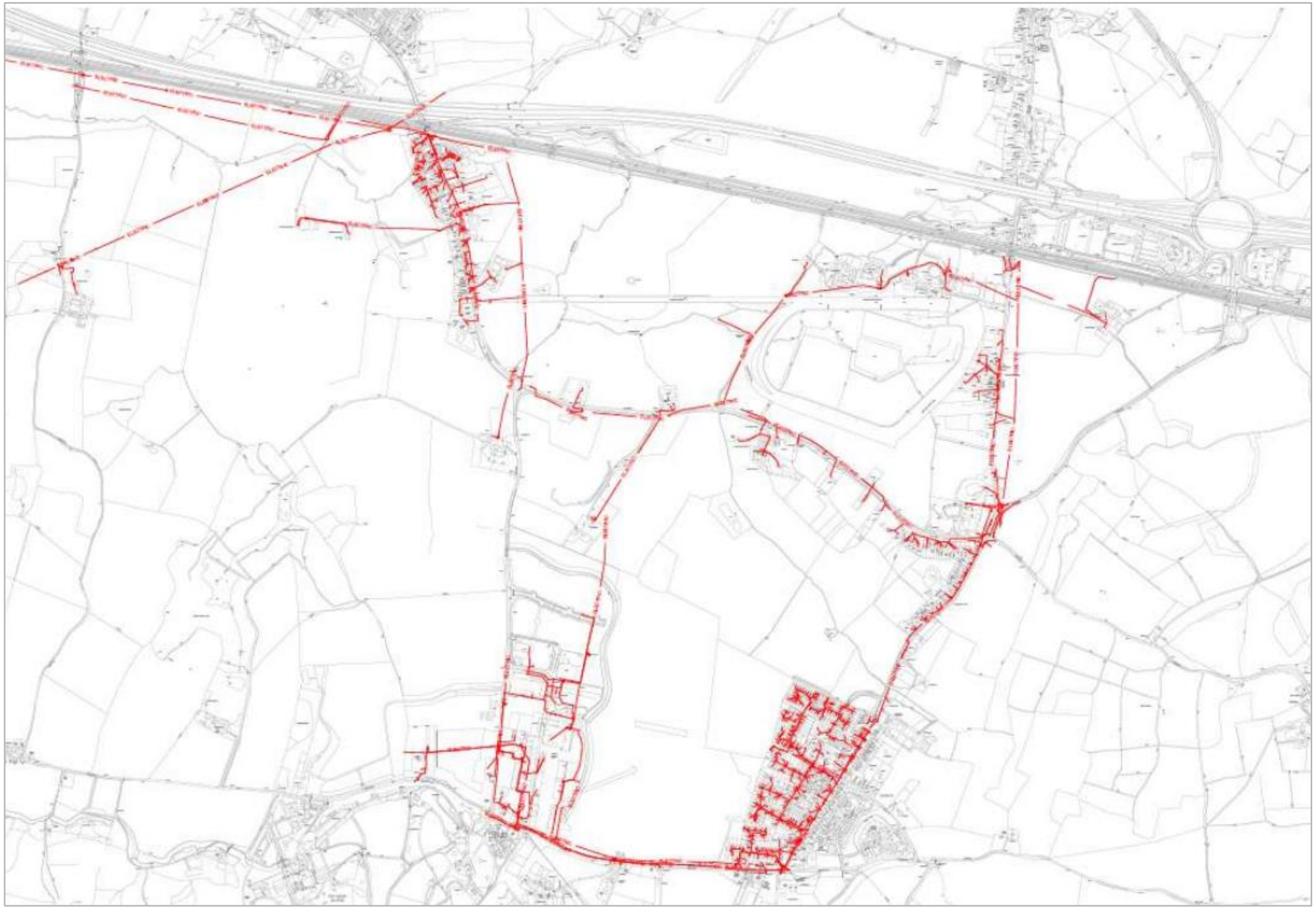
Wastewater treatment provision via an on-site WwTW addresses the nutrient neutrality issues and provides a flexible solution for Otterpool Park.

Otterpool Park represents a significant opportunity to consider renewable sources of energy reducing reliance on traditional means of heat and power.

APPENDIX A – Existing Potable Water Records (Affinity Water and Southern Water)

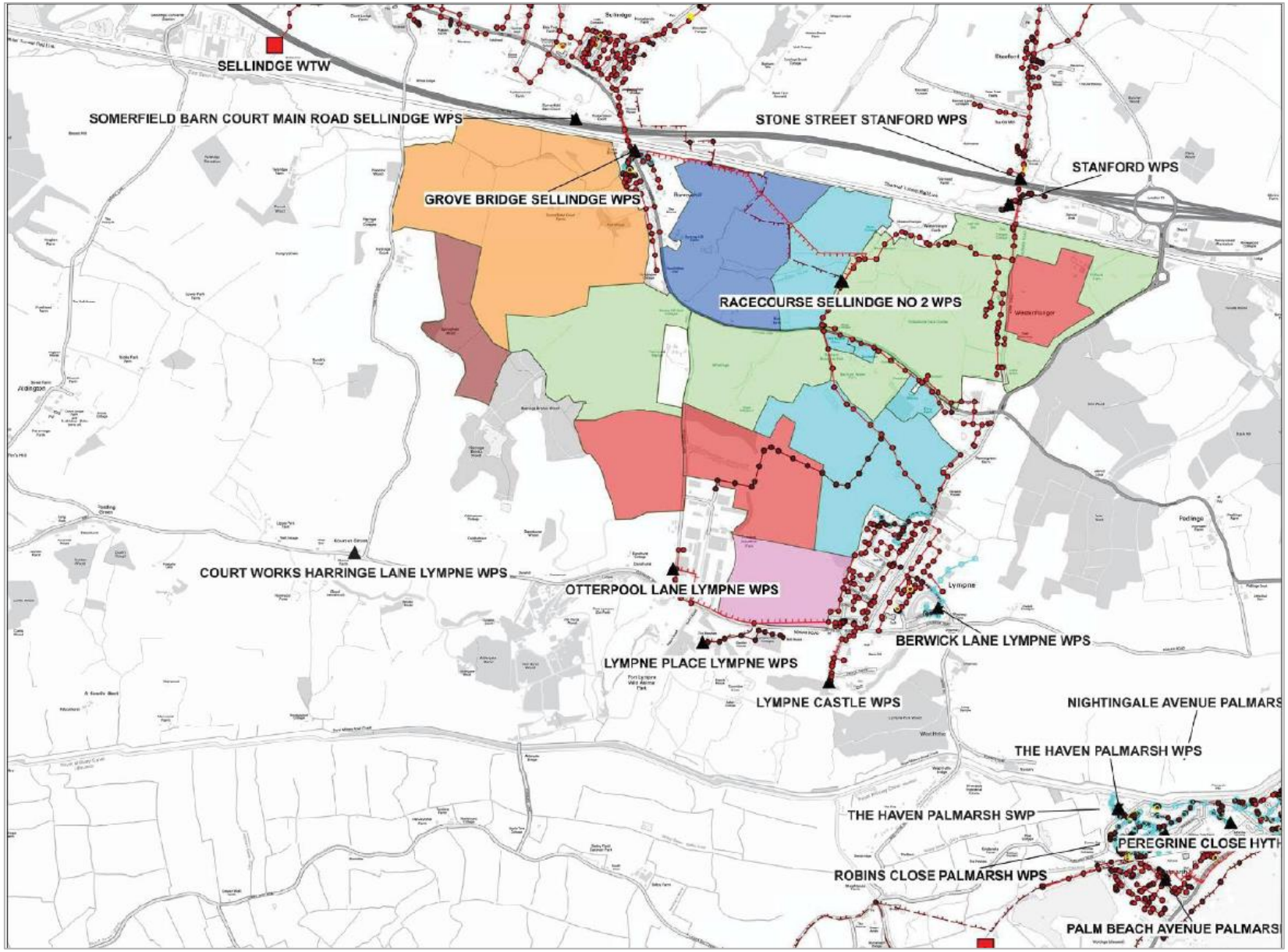


APPENDIX B – Existing Electricity Network Records (UKPN)

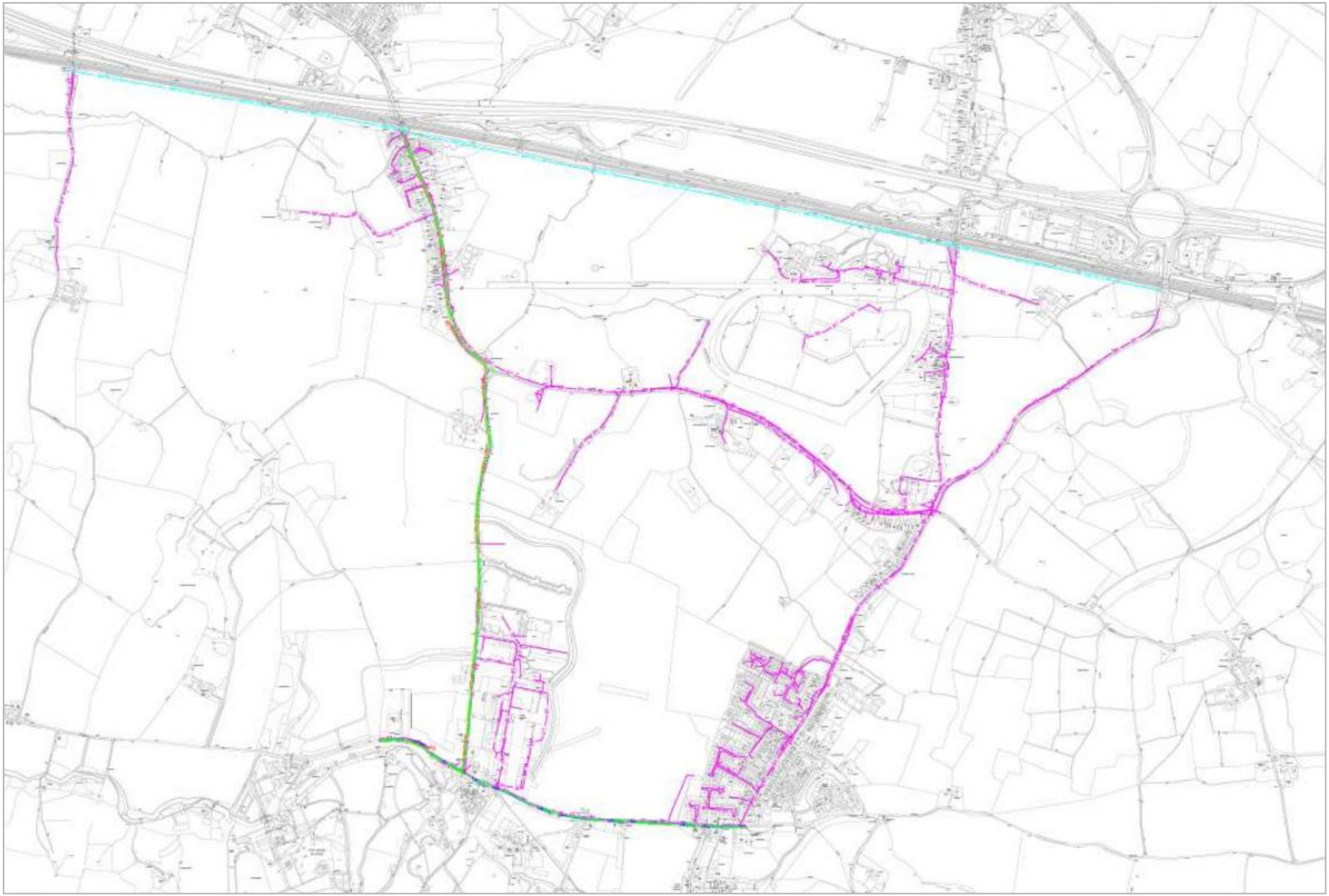


APPENDIX C - Existing Gas Network Records (SGN)

APPENDIX D – Existing Sewerage Records


SELLINDGE WTW
SOMERFIELD BARN COURT MAIN ROAD SELLINDGE WPS
STONE STREET STANFORD WPS
STANFORD WPS
GROVE BRIDGE SELLINDGE WPS
RACECOURSE SELLINDGE NO 2 WPS
COURT WORKS HARRINGE LANE LYMPNE WPS
OTTERPOOL LANE LYMPNE WPS
BERWICK LANE LYMPNE WPS
LYMPNE PLACE LYMPNE WPS
LYMPNE CASTLE WPS
NIGHTINGALE AVENUE PALMARS
THE HAVEN PALMARSH WPS
THE HAVEN PALMARSH SWP
PEREGRINE CLOSE HYTH
ROBINS CLOSE PALMARSH WPS
PALM BEACH AVENUE PALMARS

APPENDIX E – Existing Communications Networks Records (Various)



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