

SALDEN CHASE  
OUTLINE PLANNING APPLICATION

# Chapter 14: Services and Utilities

## 14.0 SERVICES AND UTILITIES

### Introduction

14.1.1 Brookbanks Consulting is appointed by the Salden Chase Consortium assess the potential effects of the proposed development at Salden Chase on Services Infrastructure. This Chapter reports on the assessment of the development proposals, including the Site Assessment Plan. The development proposals are contained within Chapter 2 of the Environmental Statement.

14.1.2 This section discusses services and utilities in relation to:

- water;
- electricity;
- gas;
- telecommunications; and
- oil pipelines.

### Methodology

14.2.1 The format of this section follows a standard study pattern, by setting out an appraisal of the baseline conditions, followed by an identification of potential environmental effects due to the proposed development. The importance of each mechanism and an assessment of each potential effect are then considered along with mitigation measures and recommendations for further investigations where necessary.

14.2.2 Figures 14a and 14b, below outline the criteria for determining the magnitude and significance of the identified impacts.

Magnitude	Criteria
Major	Loss of attribute
Moderate	Losses on integrity or partial loss of attribute
Minor	Minor impact / minor loss of attribute
Negligible	Insignificant loss of attribute that does not affect use or integrity

**Figure 14a:** Magnitude of effect

Magnitude	Importance			
	Very High	High	Medium	Low
Major	Very Significant	Highly significant	Significant	Low significance
Moderate	Highly significant	Significant	Low significance	Insignificant
Minor	Significant	Low significance	Insignificant	Insignificant
Negligible	Low significance	Insignificant	Insignificant	Insignificant

**Figure 14b:** Significance of effect

14.2.3 During the development of this report, the following statutory bodies and interested parties have been consulted regarding the proposals:

- Anglian Water;
- E.on (Central Networks);
- Southern Gas Networks (SGN);
- British Telecommunications;
- British Pipeline Agency; and
- Fisher German/BPA

### Baseline Conditions

14.3.1 Being largely undeveloped agricultural land, the site essentially has no provision of service supplies. However, a number of network services bisect the land as follows:

- 11kV high voltage and Low voltage electricity cables, owned by E.on and feeding Bletchley Leys Farm and Lower Salden Farm;
- 132kV High voltage electricity cables bisecting the site diagonally, owned by E.on;
- an 18" Water supply main, owned by Anglian Water and bisecting the site through the track that runs diagonally through the site;
- a foul rising main bisecting the south east corner of the site;
- a 10" and a 12" high pressure fuel pipeline bisecting the site north to south;
- a 24" intermediate pressure gas main, owned by Southern Gas Networks; and
- BT cables within Whaddon Road running south from bottle dump roundabout.

14.3.2 A plan showing the existing public service supplies is included as Figure 14.1

- 14.3.3 Extensive networks of existing service supplies provide water, electricity, gas & telecommunications throughout the adjacent residential areas around the site. Enquiries confirm that some networks have the facility to serve the existing development with some residual capacity. Anglian Water advises that reinforcements will be necessary to facilitate the final supply demands of the completed development.

## **Development Proposals**

### **Water Supply**

- 14.4.1 Anglian Water suggests that supply mains in the vicinity of the site are currently operating near to capacity and that reinforcements to the network will be necessary to supply the entire development area. Anglian Water advises that a connection will be taken from the 18" main within the site.
- 14.4.2 Reinforcement works will be required to provide a water supply to the proposed development. The Shenley pumps will be upgraded with a new set of pumps. To facilitate the additional loads reinforcement is needed to the outlet of the Mursley Tank Reservoir comp2 to the inlet of comp1 this will consist of 100m of 650mm main, also a reinforcement of 830m of 450mm main from the outlet of the Mursley Tank Reservoir along the existing 18" supply main will be required. The Mursley Reservoir is approximately 4km south west of the proposed development.
- 14.4.3 Based upon the phased implementation of the development framework plan, diversionary or protection works may be necessary to the water supply main that bisects the site. The existing mains will either be routed within the proposed infrastructure or diverted through parkland. The foul rising main that bisect the site may also require diversionary/protection works however,

further detailed analysis of the detailed phasing is necessary to confirm the specific requirements.

### **Electrical Supply**

- 14.4.4 E.on confirms that the development will be supplied from their 11kV high voltage electricity. Two connection points will be taken from the Newton Road Primary and the new Tattenhoe Primary and will connect up to two HV metering units on site.
- 14.4.5 It is anticipated that diversions may be necessary to the 11kV cables that bisect the site should they be affected by the finalised proposed development. This will require either the cables to be grounded within the proposed infrastructure or diverted around the site.
- 14.4.6 The 132kV overhead route bisecting the site is presently proposed to be undergrounded through the development. In accordance with current recommendations, new properties will be placed at least 30m from any 132kV overhead line. Where cables are grounded, this is not required.

### **Gas Supply**

- 14.4.7 Southern Gas Networks advises that the proposed development may be supplied from the existing network. The development will be supplied from the existing intermediate pressure main within the site boundary and reduced in pressure with a governor for on-site medium and low pressure distribution.
- 14.4.8 SGN have suggested that non-prohibitive reinforcements may be required to facilitate the anticipated loads from the site. Further detailed modelling will be required to fully inform the scheme as the design of each phase progresses.

14.4.9 Diversions may be necessary to the intermediate pressure gas main that bisects the site should it be affected by the finalised proposed development. This is likely to require in some instances the mains to be accommodated within the proposed common runs of strategic infrastructure within the site.

#### **Telecommunications**

14.4.10 Vodafone have the use of a telecoms mast which is in close proximity to the Pearce Recycling site.

14.4.11 Telephone connections can be made via the adjacent network facilities in and around the Salden Chase study area. Enquiries confirm that broadband ADSL services are available at the local BT Milton Keynes Exchange with download speeds up to 2Mbs.

14.4.12 Over the lifetime of the proposed development a high speed broadband network will be provided, providing second generation broadband services and data rates significantly in excess of the speeds currently offered by BT. If technically viable, a full fibre network will be provided at the site.

#### **Oil Pipeline**

14.4.13 BPA and Fischer German have confirmed the existence of a 10" and 12" oil pipeline bisecting the site. Details of which can be found on Figure 14.1.

14.4.14 BPA have confirmed that the oil pipelines have an easement of 3 meters from either side of the pipes outer wall.

14.4.15 At present the pipelines are not subject to a building proximity zone, however it has been advised that legislation will change in due course following the reclassification of the pipelines to major accident hazard pipelines. The HSE and UKOPA are currently in discussions regarding the

zones that will be applied to these pipelines. Three zones will be defined, being the Inner, Middle and Outer zones.

14.4.16 The HSE and UKOPA have suggested that the Outer Zone is to be set at circa 80 meters from the pipeline, subject to finalised approvals and further discussions. The Middle Zone is likely to be set at approximately 70m. The inner zone will be based upon a risk assessment type appraisal, similar to the classification of BPZ for gas mains. The adopted methodology of equilibrium burning distance considers the diameter of the pipe as well as the amount and velocity of the contents of the pipe to determine a suitable area of risk. This will mean that due to the varying parameters of the methodology the Inner Zone of the BPZ will fluctuate between 20 to 45 meters.

14.4.17 The HSE has published guidance on the nature of development in relation to the various proximity zones. In general terms, the Inner Zone may be occupied by light industrial development. The Middle Zone can be occupied by residential development as well any permitted development in the inner zone. Schools and areas that result in high density of population will be required to lie in the Outer Zone. The HSE has suggested that gardens of residential properties may fall into the Inner Zone and as such the proposed legislation will work in a similar manner to that of gas pipelines, where the proximity distance relates to the building rather than the wider plot area. We believe that highways will also be able to occupy the Inner Zone. Further guidance will be made available in due course, however it is not anticipated that the above guidelines will differ greatly between their current state and the formal stance, set to be announced in 2010.

### **Potential Effects Service Supply**

14.5.1 The potential service supply environmental effects relate to both the operation and construction phases of the development. The mechanisms are as follows:

#### **Operational Effects**

- **Direct and indirect shortages of service supplies, both locally and in the wider network, due to constraints on the supplying network**

#### **Construction Effects**

- **Direct short term loss of supply due to connections to the supplying network.**

### **Assessment and Mitigation of Effects**

**Operational Effect: Direct and indirect shortages of service supplies, both locally and in the wider network due to constraints on the supplying network**

14.6.1 Inadequate provision of service supplies to a development can result in local and more widespread reductions in network robustness and supply continuity. Hence, when assessing the supply requirements for a development, it is essential that the appropriate supply operators are

involved in assessing their existing network and given the opportunity to form strategies for dealing with supply growth.

14.6.2 In mitigation of the potential effect, all service companies have been involved in developing preliminary supply strategies for the planned development. Overall supply capacity and phased load increase assessments have been prepared from which the supply companies are able to assess the necessary provision. The supply companies are now well advanced with assessments and preliminary proposals to reinforce networks, where necessary, to ensure that the supply demands of the proposed development and ongoing requirements are met. Proposals established by the network operators are contained above in Paragraph 14.4.

14.6.3 The strict regulatory regimes under which all public service supply companies operate dictate that any network expansion results in no loss or reduction of service. Accordingly, the proposals developed by the supplying companies and outlined in Paragraph 14.4 will ensure that the minimum regulatory standards are maintained and that no environmental effect results from supplying the site with network services.

14.6.4 The service supply companies are developing phased enhancements to their infrastructure, to ensure the availability of capacity and robustness of the network as the development phase's progress.

14.6.5 The potential operational effect is assessed as nil and not significant.

**Construction Effect: Direct short term loss of supply due to connections to the supplying network**

14.6.6 Network outage may occur while making new connections to the supply network or through accidental damage to existing infrastructure.

- 14.6.7 In mitigation of the need to shut down supplies while making new connections, network operators have developed methodologies to permit 'live jointing' or the like whereby the existing network remains fully operational during connection works. During certain operations, and only very occasionally, it remains necessary to temporarily shut down the local network. In such circumstances, the area to be shut down is localised and planned for periods that cause the least disruption. The supplying company is required to give adequate notice to the affected users and ensure that appropriate provision is made for essential supplies.
- 14.6.8 Potential loss of supply through network damage is mitigated through carefully planning of the construction phases of the development. The existing and planned networks will be located on the ground and on plans for all contractors to use during implementation. Good working practices, such as 'licence to dig' will be employed, encompassed by the Health & Safety file, to control site operations. Such means of control will substantially reduce the potential risk of damage to the supplying network.
- 14.6.9 Good working practices and site controls will be maintained throughout the site development implementation process to minimise the risk of network 'outages' to the lowest practical level.
- 14.6.10 Accordingly, this potential operational effect is assessed as minor and is insignificant.

### Summary of Service Supply Effects

14.7.1 The site, during operation, will not impact on the baseline conditions. Short term potential effects during the construction phases are considered to be minor. Information gathered in relation to the baseline site conditions, when considered in the context of the development proposals and proposed mitigation; does not identify any significant environmental effect or constraint on development.

14.7.2 The following tables summarise the services supply related effects:

Operational Impacts	None	Low	Moderate	High	-ve, neutral +ve impact
Shortages of supply	•				neutral

**Table 14c:** Matrix of Operational Effects

Operational Impacts	None	Low	Moderate	High	-ve, neutral +ve impact
Network outages		•			-ve short term potential effect

**Table 14d:** Matrix of Construction Effects<sup>1</sup>

14.7.3 It may be summarised that no significant environmental effects will result in relation to service supply from the development proposals at Salden Chase in North East Aylesbury Vale.