

**Dorchester Heyford Park Group**

# **UTILITY LAW SOLUTIONS**

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**Development at Heyford Park - Discharge of  
the Sewerage and Sewage Treatment Planning  
Conditions**

**September 2014**

## **Development at Heyford Park - Discharge of the Sewerage and Sewage Treatment Planning Conditions**

### **A. General**

Utility Law Solutions (ULS) specialise in water and sewerage law and its application in relation to new development sites. ULS has been instructed by the Dorchester Heyford Park Group to advise on the foul drainage arrangements that are required to serve its development at Heyford Park (the Development).

ULS has been asked to provide an expert report to the planning authority to demonstrate that all the necessary steps that have been or will be put in place to enable the planning conditions that relate to the sewerage and sewage treatment facilities serving the Development to be discharged.

The following conditions apply to the planning consent 10/01642/OUT for the Development as set out in the planning approval –

*29 No reserved matters applications shall be submitted pursuant to the outline application until a scheme for the improvement of the existing main sewerage system has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved. No occupation of dwellings approved by this permission shall occur until the scheme for improvement of the existing sewage system has been completed.*

*Reason - To protect the water quality of the Gallows brook.*

*30 Operational Development shall not commence until a drainage strategy detailing any on and/or off site drainage works, has been submitted to and approved by, the local planning authority in consultation with the sewerage undertaker. No discharge of foul or surface water from the site shall be accepted into the public system until the drainage works referred to in the strategy have been completed".*

*Reason - The development may lead to sewage flooding; to ensure that sufficient capacity is made available to cope with the new development; and in order to avoid adverse environmental impact upon the community.*

It should be noted that in the water industry, the term “sewerage” is used in connection with pipes i.e. the “public” sewerage system and refers to sewers that serve premises. The Oxford dictionary defines “sewerage” as – “drainage by means of sewers, a system of draining by sewers, sewers collectively; the system of sewers draining a particular locality”. Accordingly it should be noted that this report uses the term “sewerage” in the context of pipes and “sewage” in the context of treating the contents of those pipes.

The planning consent provides for the redevelopment of the former RAF and USAF base and will include 762 new dwellings and the refurbishment of 313 existing

dwellings. The premises that formed part of the original RAF and USAF base were served by a separate foul and surface water drainage system. The foul sewers discharged to an onsite sewage treatment facility.

The redevelopment includes the demolition of large areas of the existing premises and replacement by new residential dwellings. To a large extent the Development will be drained via new separate foul and surface water sewers. In some areas these sewers will connect into the existing sewers within the overall site. The existing drainage will be renewed in full in some parts of the Development and in other areas the drainage system will be refurbished.

Ultimately, all foul drainage will discharge to the existing sewage treatment plant which is undergoing a programme of improvement works.

Appendix 1 contains detailed drawings which set out the currently proposed new and revised foul drainage arrangements.

Appendix 2 sets out the improvement works that have been carried out to the sewage treatment works.

The entire foul sewerage and sewage treatment system is in private ownership. For the time being it is proposed that the system will remain in private ownership but going forwards, all newly constructed sewers will be built to water industry standards and the sewage treatment works together with the foul sewerage system (on a planned maintenance/reactive basis) will be operated and maintained by Kelda Water Services (Retail) Ltd (KWS), a company which specialises in the provision of sewerage services in accordance with normal water industry standards (<http://www.keldawater.co.uk/>).

The Kelda Group provides water and sewerage services to domestic and business customers across the UK. Kelda's main subsidiary is Yorkshire Water, which provides water and sewerage services to 4.7 million people and 130,000 businesses in the Yorkshire region. Its activities are regulated by the Water Services Regulation Authority, Ofwat. KWS manages Kelda's non-regulated water and waste water contract operations and is now the second biggest supplier in the UK market for outsourced clean and waste water services.

ULS, their clients and other consultants have been involved in extensive discussions with various parties with a view to ensuring the long term sustainable management of the sewerage and sewage treatment system and this is explained in more detail below. Ongoing discussions have also been held with the Environment Agency to ensure that the principles of the developments' drainage strategy meets with their approval.

## **B. Foul Sewerage Strategy**

### **B.1 The Existing Foul Sewer Network**

The existing sewers are largely independent surface water and foul water sewers. The foul drainage network comprises a number of catchments interlinked by a series of pumping stations and rising mains. All foul flows discharge to the onsite sewage treatment facility.

A site investigation has noted that rock is typically within 1.5m of the ground surface. This rock has resulted in a naturally high ground water table. Fractures, cracks and poor connections along the sewer runs are likely to lead to excessive infiltration of ground water into the sewers, and in particular, the foul sewer leading to the sewage treatment works. Investigations into the existing drainage system has noted one location where a storm sewer has been connected to the foul network. From extensive surveys this was the only occasion of a cross connection found but given the organic growth of the base over nearly 100 years there may be other connections within the development parcels.

The proposed new development areas will be drained by an entirely new foul sewerage network from within those areas draining to the existing sewage treatment plant. Existing sewers will be connected into the new foul network where appropriate and as shown in Appendix 1 which comprises the following Drawing Numbers:-

HEYF-5-400  
HEYF-5-401  
HEYF-5-420  
HEYF-5-421  
HEYF-5-422  
HEYF-5-440  
HEYF-5-441  
HEYF-5-442  
HEYF-5-443  
HEYF-5-445  
HEYF-5-448  
HEYF-5-455  
HEYF-5-456  
HEYF-5-825  
HEYF-5-826

The new foul drainage design is being undertaken in accordance with Sewers for Adoption 7th Edition in order to ensure that the sewerage system will have the capacity for the existing and proposed flows.

All foul drainage from the proposed and existing site discharges to the onsite sewage treatment works, where the drainage is treated and discharged to the Gallows Brook. There is no “off-site” foul drainage.

The foul water strategy therefore involves replacement of existing sewers with new to provide for the new development and retained residential/commercial areas.

## B.2 Proposed Improvement Works

The proposed improvement works are as follows:

- During extensive on-site sewer tracing and CCTV works since the acquisition of the site, over a number of years, only one cross connection was identified and comprises of a 225mm diameter surface water sewer connecting to the 300mm diameter foul sewer. This identified surface water sewer runs through a number of the proposed development parcels and therefore will be removed during the demolition process. There will undoubtedly be other incidents of cross connection throughout the site. With large amounts of the existing drainage being removed during the demolition and new building works the chance of cross connections in the existing network should be significantly reduced. If any further cross connections are discovered they will be rectified.
- New development areas will be provided with new separate foul and storm sewers designed to Sewers for Adoption 7<sup>th</sup> Edition.
- The CCTV survey identified significant defects in the existing foul sewers which could lead to a large ingress of ground water. All main foul sewers to the south of Camp Road that traverse proposed development parcels will be removed. This will see a large proportion of exiting foul sewers removed and new sewers constructed to serve the proposed residential properties. These new sewers will be built to Sewers for Adoption standard and will significantly reduce the ingress of ground water into the foul sewer network. The only existing sewers retained south of Camp Road will be those serving the existing bungalows which are to be refurbished. It is proposed to replace/line sections of sewers serving existing properties in line with the refurbishment of the bungalows. This is a likely to be over a ten year programme.

A contract with KWS commenced on 1<sup>st</sup> September 2014. The contract provides for the operation and maintenance of the foul sewerage system to industry standards (on a planned maintenance/reactive basis).

## **C. Sewage Treatment Strategy**

At its peak there were in excess of 14,000 service men/women on the base. The sewage treatment works will therefore be able to accommodate the flows now proposed subject to the improvement works noted below.

The sewage treatment works was assessed by EPS Water Limited (EPS) in 2012. The assessment noted that the works had a number of shortcomings in the treatment process, but overall, the treatment works had the capacity to accept the proposed development flows with remedial works. The main issues with the plant were preliminary treatment, primary treatment and sludge management and flow control.

### **C.1 Upgrade of the Sewage Treatment Works**

The assessment of the treatment works by EPS concludes that it is entirely feasible to improve the existing works to provide the required standard of treatment based on the proposed flows.

Works have been carried out to bring the treatment works up an appropriate standard, the detail of which is set out in Appendix 2.

### **C.2 Future Operation and Maintenance of the Sewage Treatment Works**

A contract with KWS commenced on 1<sup>st</sup> September 2014. The contract provides for the operation and maintenance of the sewage treatment works to industry standards in order to comply with the Environment Agency Consent conditions to discharge treated effluent to the Gallows Brook.

## **D. Summary**

ULS has set out above a detailed report which, together with the Appendices, demonstrates that all the necessary steps have been or will be put in place to enable planning conditions 29 and 30 to be discharged.

The foul drainage system will largely be renewed with significant volumes of surface water drainage removed. Existing foul sewers within the retained residential areas will be replaced/lined during the refurbishment works over the next ten years.

The sewage treatment works has been improved and will be operated going forwards to industry standards by an experienced water industry operator.

In the longer term the sewerage and sewage treatment system may be put forward for adoption by a statutory sewerage undertaker but in the meantime it will be

maintained and operated in accordance with normal water industry standards by an experienced operator.

Accordingly, Cherwell District Council is requested to discharge Condition 29 and 30 of planning consent 10/01642/OUT.

**Philip R. Day**  
**Director**  
**Utility Law Solutions Ltd**  
**1<sup>st</sup> September 2014**

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## Utility Law Solutions

ULS is owned and operated by Philip Day and Alex Day and was incorporated in 2007. Since its inception, ULS has provided advice and assistance to developers, landowners and other bodies operating in the house building sector on issues relating to foul drainage, sewage treatment and associated infrastructure matters.

Prior to the formation of ULS Philip Day and Alex Day were both employed in the Water & Sewerage Industry by Severn Trent Water, being one of the largest sewerage undertakers in the UK. Philip and Alex therefore have first-hand knowledge of the operation of sewerage undertakers and how they interact with developers and others in the house building industry.

Before leaving Severn Trent Water to set up Utility Law Solutions, Philip was their Principal Legal Advisor for Asset Management matters. In this role Philip's responsibilities were wide ranging and included the provision of legal advice and support to the business in relation to all asset management issues arising out of the company activities in sewage treatment, water supply and networks (water main and sewerage systems). During his time with Severn Trent Water, Philip was *inter alia* directly responsible for all legal aspects relating to:-

- Advice on the effects of the Water Industry Act 1991 and related legislation
- Obligations of sewerage undertakers in relation to the section 94 duty
- Formulation of policies and procedures in relation to the connection of infrastructure to new developments including resolution of development related problems/disputes
- Sustainable Drainage Systems (SuDS) - Member of the National SuDS Working Group providing legal support which culminated in the Interim Code of Practice for Sustainable Drainage Systems
- Sewers for Adoption – Provision of legal support for Sewers for Adoption 5 and 6, including creating a new national agreement
- Development through Water UK involvement, of water company positions in relation to Private Sewers legislation, New Roads and Street Works and Traffic Management Acts, Environmental Liability Directive, Section 101A (rural sewers) applications and processes and Environmental Information Regulations

Alex was employed by Severn Trent Water in its Developer Services and New Connections department with duties including assessing and communicating the impact of new developments on existing sewerage networks and evaluating sewer designs proposed by developers in accordance with industry standards. Alex worked in close collaboration with the Asset Protection and the Legal departments in Severn Trent providing an important link for his own team to ensure that all activities relating to new development complied with both statutory provisions and protected the technical requirements of the company. Alex also spent 4 years prior to joining ULS working as a consultant to developers providing advice on matters including the impact of proposed developments on sewerage networks and acting as an agent in communicating with sewerage undertakers.

[www.utilitylawsolutions.co.uk](http://www.utilitylawsolutions.co.uk)

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# APPENDIX 1

Appendix 1 comprises the following drawings which set out the extent of the new foul sewerage network and how the existing sewerage network will be connected into the new foul network where appropriate.

HEYF-5-400  
HEYF-5-401  
HEYF-5-420  
HEYF-5-421  
HEYF-5-422  
HEYF-5-440  
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HEYF-5-442  
HEYF-5-443  
HEYF-5-445  
HEYF-5-448  
HEYF-5-455  
HEYF-5-456  
HEYF-5-825  
HEYF-5-826

## **APPENDIX 2**

**E.P.S. WATER LTD.  
HEYFORD PARK STW  
PROPOSED REFURBISHMENT SCHEDULE**

<b>Process Stage</b>	<b>Detail</b>	<b>Description of Work</b>
Preliminary treatment	Inlet Screen	Supply and install new fine screen together with screenings handling facilities
	Flow Control	Calibrate and re-cable mag flow meter
	Electrical	Replace existing cabinet with new LCB in kiosk
Primary Treatment	Primary sedimentation	Install Hand railing to all Primary tanks
	Primary Sedimentation	Replace all scum boards
	Primary Sedimentation	Replace penstocks and valves
	Primary Sedimentation	Supply and install new flight and chain scrapers
Secondary Treatment	Humus Tank	Replacement of sludge scraper blades
Site Ancillaries	Returns Pumping Station	Install new control panel
	Returns Pumping station	Overhaul all pump sets
	Site Electrical	Certify and recalibrate all meters
	Site Electrical	General electrical testing and site recertification