

Project:	HRI New Emergency Department		
Our reference:	100102983 / TN ME03 Rev B	Your reference:	HRI ED
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Subject:	Utility Statement		

1 Introduction

This Utilities Statement has been prepared on behalf of Calderdale and Huddersfield Solutions Ltd (“the Applicant”) in support of a full planning application for the erection of a clinical building to accommodate Accident and Emergency (A&E) Department at Huddersfield Royal Infirmary, Acre Street, Huddersfield HD3 3EA (“the site”). The site totals 0.88 hectares.

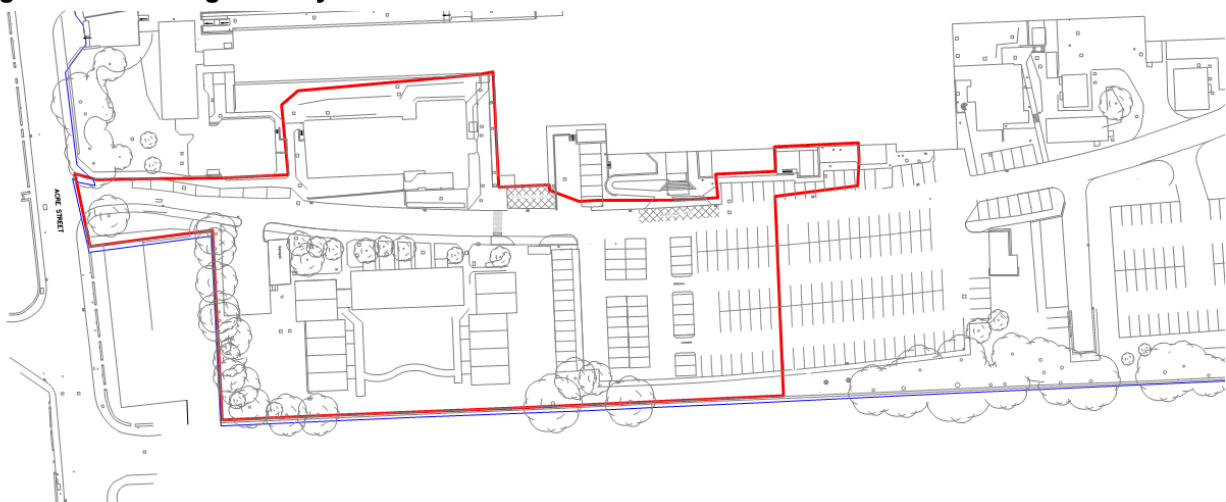
This utility statement provides an overview of the proposed alterations, diversions and additions to the incoming services for the new Emergency Department at Huddersfield Royal Infirmary.

The new A&E will be located to the south of the existing Huddersfield Royal Infirmary (HRI) Ward 1 Block in an area currently occupied by the Saville Court facility and a small car parking area (Class C2).

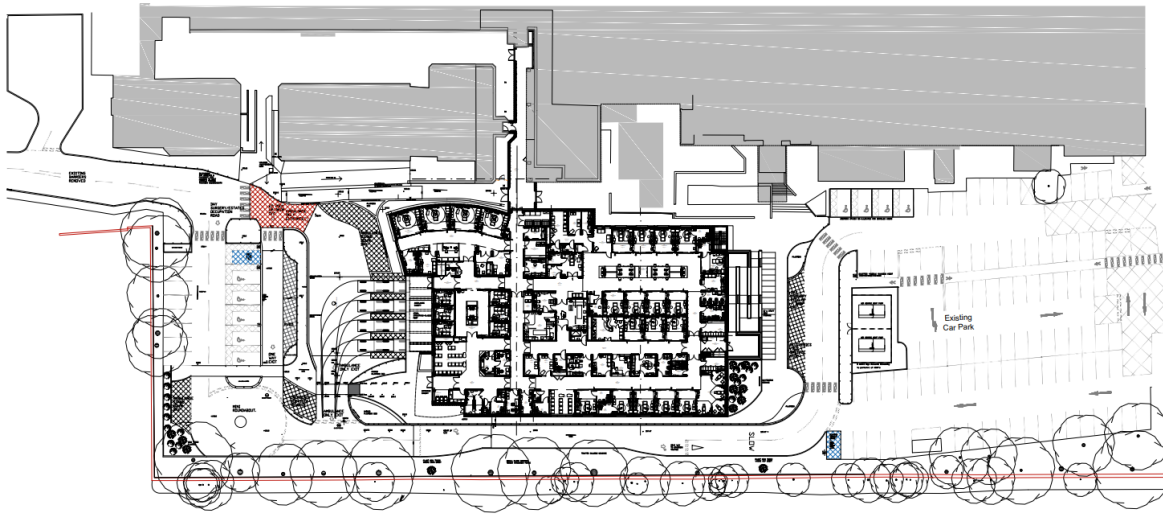
The proposed A&E is a new build single storey clinical building (Class C2) including Triage, Resus, X-ray and Assessment spaces. A plantroom will be provided at roof level for mechanical and electrical services. Within the carpark to the east of the facility a compound will be provided for Air Source Heat Pumps.

Figure 1.1 and 1.2 provide an overview of the existing and proposed site layouts.

Figure 1.1: Existing Site Layout



Source: IBI Group

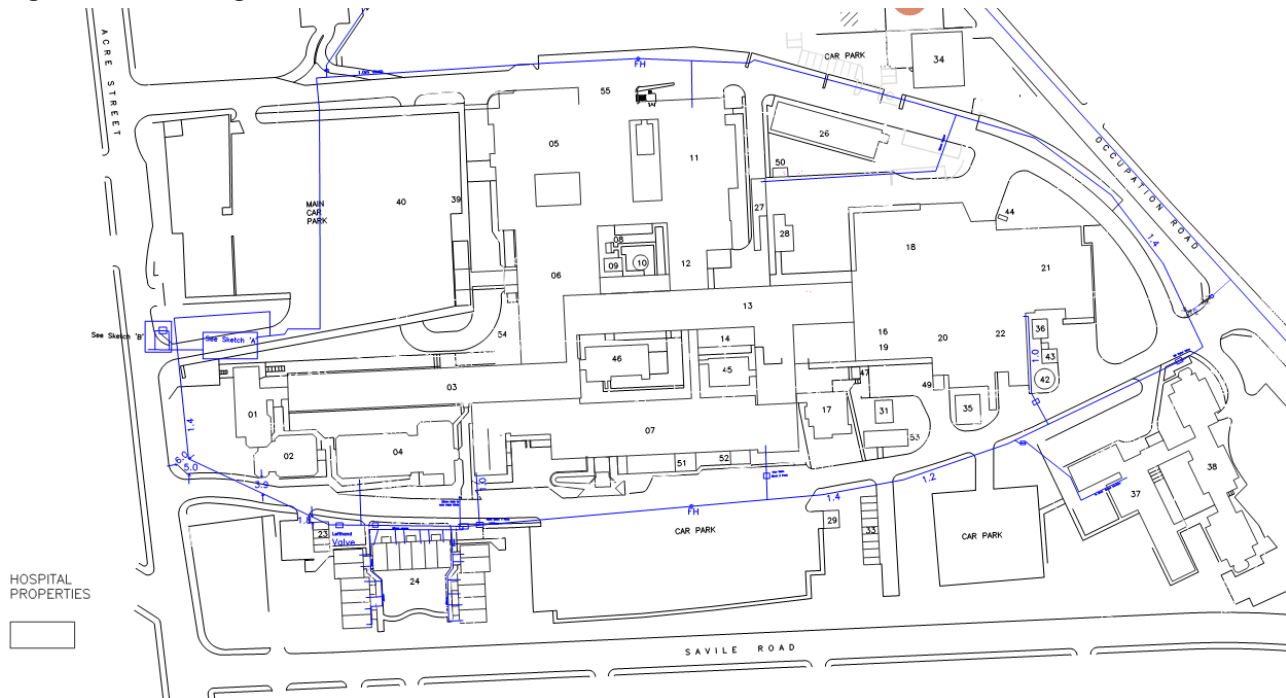
Figure 1.2: Proposed site layout

Source: IBI Group

2 Mechanical Services

2.1 Water

The Huddersfield Royal Infirmary site is provided with a domestic cold water ring main that runs around the perimeter of the site. The ring main is supplied from the Yorkshire Water infrastructure from two locations. The main incoming supply to the site is from the West at Acre Street, underneath the car park ramp leading up to main hospital entrance. A further connection is provided from Occupation Road to the East of the site.

Figure 2.1: Existing Site Water Infrastructure

Source: HRI Estates Record Drawing

The existing supplies serving the Saville Court buildings (number 24 on the existing plan) will be disconnected from the Trust ring main.

The ring main will be diverted to suit the footprint of the new A&E. A new connection will be made from the ring main to the new A&E complete with isolation valve, check valve and water meter. The existing FH located in the carpark to the east of the new A&E will be maintained. A new Fire Hydrant will be provided to the west of the new A&E.

All proposed alterations, diversion and additions will be made on the Trust private system without disturbing the Yorkshire Water infrastructure.

2.2 Gas

The existing gas supply serving the Saville Court buildings are connected to the Northern Gas Networks infrastructure in Saville Road to the South of the site. These connections will be disconnected and removed by Northern Gas Networks. There are no further gas alteration, diversions or additions proposed for the new A&E site.

2.3 Drainage

The proposals for the drainage design to the A&E is detailed within a separate report.

3 Electrical Services

3.1 Existing Electrical Infrastructure

The incoming electrical supply from the District Network Operator (DNO) is supplied at 11,000 volts. Two independent supplies (No. 1 and No. 2) terminate within a dedicated switchboard complete with bus coupler.

The above intake substation supplies the complete site via an open ring 11,000 volt distribution system feeding into 2 No. 11,000V/415V sub stations, Sub Station A and Sub Station B.

SUB STATION A - Located adjacent to the Estates Department

Sub Station A consists of 2 No. ring main units. Each ring main unit (2 No.) supplies independent (non-parallel operation) cast resin transformers with natural air cooling.

Sub Station A is provided with a single standby generator sized at 1250kVA.

The generator is connected to provide automatic standby to either or both sides of the low voltage switchboard.

SUB STATION B – Sub Basement Level Theatre Block

Sub Station A consists of 2 No. ring main units. Each ring main unit (2 No.) supplies independent (non-parallel operation) cast resin transformers with natural air cooling.

Sub Station B is provided with a single standby generator sized at 1250kVA.

The generator is connected to provide automatic standby to either or both sides of the low voltage switchboard.

3.2 Low Voltage Supply

Existing Low Voltage (LV) supplies to the Saville Court buildings will be isolated and removed by the local DNO as the buildings are not connected to the hospital electrical infrastructure.

Existing LV supplies will be diverted away from the footprint of the new A&E as part of the enabling works. This includes external carpark lighting and isolation and removal of the existing LV supplies to carpark barriers.

A new LV switch room will be created in the roof top plantroom of the new A&E Building.

A new permanent electrical LV feed to the building is proposed from Sub Station A located behind the estate's office on the Duct Level and Sub Station B, located in the Theatre Block Sub Basement.

Each LV supply will be 100% rated and take diverse routes.

3.2.1 Maximum Demand

The maximum demand has been established using BSRIA Rules of Thumb Guidelines for Building Services (5th Edition), BG 9/2011.

The estimated Maximum Demand is circa 390kVA – 560A TP&N based on BSRIA Rules of Thumb, mechanical loads and includes 25% spare capacity.

The calculated maximum electrical demand for the Emergency Department will utilise a ≥ 0.98 Power Factor.

The Trust estate team have confirmed there is available capacity on the existing electrical infrastructure for the new A&E.

3.3 Fire Detection and Alarm System

The existing fire alarm network will be extended from Fire Alarm Panel 31 located in the lift lobby of Ward Block 1. New enhance grade cables will be installed from this location to the new dedicated fire alarm panel within the A&E.

3.4 ICT / Telephony

Two fibre optic backbone cables will provide 10Gb connectivity from the existing hospital to the new A&E.

One Multimode OS 4 Fibre cable will be installed from the 'Old Computer Room' located on the ground floor behind main reception.

The second Multimode OS 4 Fibre cable will be installed from the 'Main HRI Data Centre' located on the Sub Basement Level, near the estate's office.

The cables will be routed to provide a diverse route for resilience.

3.5 Security Systems

CCTV, Access Control, Staff Alarm Systems will be IP based and linked back to the main HRI Security Room.