



Drainage Strategy Report

Rev 1 (Planning)

**Dalata Hotel Group.
Clayton Hotel, Manchester Airport.
Extension.**



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1.0 INTRODUCTION

1.1 Site Location

The site is located immediately east of Terminal 2 at Manchester Airport and bounded by the railway line to the north, Outwood Lane to the west and the Crown Plaza hotel to the east. The location is highlighted in in Fig. 1.0 below.

1.2 Site Description

The Site is currently brownfield and covers an area of approximately 1.8 ha. The existing site is currently used as a hotel and is predominantly hard standing (approximately 95% impermeable area). The current hotel comprises 365 Bedrooms, Bar, Restaurant, Function Room, Lounge & Coffee Area and Staff Canteen & WC Facilities.

1.3 Proposed Development

The proposed development comprises a 216 Bedroom extension & associated Restaurant / Bar on the existing Clayton Hotel site, with the loss of two of the existing 365 bedrooms giving a new net total of 214 bedroom.



Fig. 1.0

2.0 FOUL WATER DRAINAGE

2.1 Existing Foul Drainage System

The existing foul drainage system is formed by a series of down pipes through the hotel which are collected in a gravity system, which runs due west connecting into the main foul drainage line on the external road (see drawing 217061/DP/01).

2.2 Proposed Foul Drainage System

As with the existing foul drainage it is proposed to collect the new foul drainage in stacks throughout the proposed hotel and discharge into the existing gravity network.

2.3 Proposed Foul Drainage Calculations

The layout of the proposed & existing foul drainage is shown on FFA drawing 217061-DP-01. The proposed foul water flows from the development are indicated below.

Calculation of Peak Foul Flow from proposed development.

	<u>Existing m³</u>	<u>Proposed m³</u>	<u>Total m³</u>
Bedrooms @1.5P/room	363 rooms	216 rooms	
120 L/Day	65m ³	39 m ³	104m ³
Function / Meeting Rooms 40 L/Day	(100P) 4 m ³	-	4 m ³
Staff Canteen/WC 50 L/Day	(100P) 5 m ³	(50P) 2 m ³	7 m ³
Restaurant / Bar 650 m ² @ 1P/10 m ² 25 L/Day	(650m ²) 2 m ³	(575m ²) 2 m ³	4 m ³
Discharge L/Day	76,000	43,000	119,000
DWF L/S	0.9 L/S	0.5 L/S	1.4 L/S
Peak Flow (6xDWF)	5.4 L/S	3.0 L/S	8.4 L/S

Foul discharge is within the limits of outflow, within the contractual arrangement with MCC of 127 m³/day.

The development is proposed to connect to an existing sewer in the north west corner of the site before discharging into the MAG drainage network.

3.0 SURFACE WATER DRAINAGE

3.1 Existing Surface Drainage System

The existing 1100 dia. surface water sewer passing through the site runs from manhole MH S01 to MH S05 as indicated on drawing 217061-DP-01.

The existing site is currently used as a hotel & carparking and is predominantly hard standing (approximately 95% impermeable area), all site stormwater feeds directly to the main storm line and attenuated as part of the greater airport attenuation system.

3.2 Proposed Surface Drainage System

The existing site is predominantly hard standing, there is no proposed change to hard standing area and to outflow value.

The layout of existing & proposed storm drainage is shown on FFA drawing 217061-DP-01.

4.0 WATER SUPPLY

4.1 Existing Water Supply System

The site is currently supplied from a feed on the west boundary of the site.

4.2 Proposed Water Supply System

In consultation with MAG, it is proposed to access a new water supply from the south of the site on of Hotel Road as indicated on attached drawing 217061-WP-01.

4.3 Proposed Water Demand Calculations

	<u>Existing m³</u>	<u>Proposed m³</u>	<u>Total m³</u>
Bedrooms @1.5P/room	363 rooms	216 rooms	
120 L/Day	65m ³	39 m ³	104m ³
Function / Meeting Rooms 40 L/Day	(100P) 4 m ³	-	4 m ³
Staff Canteen/WC 50 L/Day	(100P) 5 m ³	(50P) 2 m ³	7 m ³
Restaurant / Bar 650 m ² @ 1P/10 m ² 25 L/Day	(650m ²) 2 m ³	(575m ²) 2 m ³	4 m ³
Average daily demand	76,000	43,000	119,000
Average daily demand L/S	0.9 L/S	0.5 L/S	1.4 L/S
Average day / peak week (1.25 x ADDD)	1.13 L/S	0.625 L/S	1.75 L/S
Peak Demand (5xADD)	4.5 L/S	2.5 L/S	7.0 L/S