



Kennet Place
121 Kennet Street, Reading, RG1 3ES

Foul Water Drainage Assessment

For and on behalf of Atid Construction

Revision A

Project No - 1825

Table of Contents

1.0 Introduction	2
1.1 Existing Building Use	
1.1 Proposed Building Use	
2.0 Existing & Post-Development Peak FW Discharges.....	3
2.1 Peak Discharge from the existing building	
2.2 Peak Discharge from the Post-development Building	

This document contains material classified "Confidential". Except as specifically authorized by Prospero Projects Ltd the holder of this document shall keep the information contained herein confidential and shall protect the same in whole or in part from disclosure or dissemination to any unauthorised party.

Copyright ©10/12/15, Prospero Projects Ltd C2010

This publication may not be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the copyright holder.

Document History

Issue	Date	Comment	Author
A	10/01/2025		Stuart Lauriston

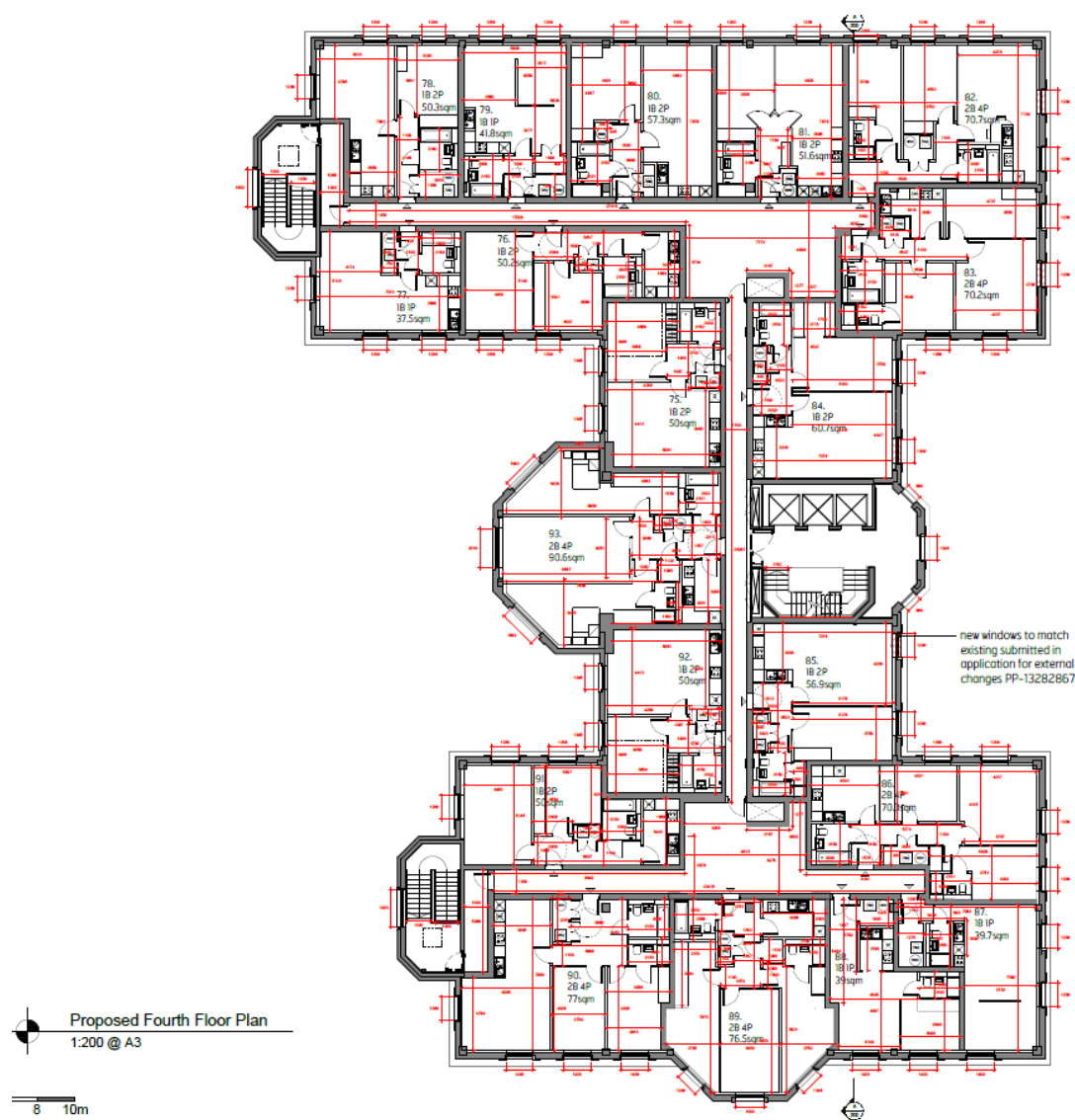
1.0 Introduction

Prospero Projects have been appointed by Atid Construction Ltd to carry out a detailed assessment of the existing and post-development peak Foul Water (FW) discharge rates from Kennet Place, 121 Kennet Street, Reading, RG1 3ES

Planning permission was secured under permitted development to convert the existing commercial building to residential use. The proposed development involves;

- Change existing ground to fourth floors from office to residential use
- Total of 93 flats

Figure 1 – Layout of the proposed fourth floor



Important Note:

The existing Surface Water (SW) drainage systems serving the building is separate from the foul water (FW) network and is not being altered as a result of the proposed development.

1.1 Existing Building Use

The commercial building is currently served by a 150mm nominal bore FW sewer which runs within the basement car park of the property to the west of the site. This sewer is in good operational condition and discharge to a nearby public sewer from a manhole. It is proposed renew the existing network of foul drains within the building with new vertical soil pipes terminating to the existing below ground manholes. The new down services will pick up on vertical stacks from the basement car park.

Existing Gross Internal floor Area (GIA) and functional use is as listed below;
Ground to Fourth Floor: 7,150m² office use

1.1 Proposed Building Use

Total post-development building will be composed of the 93nr x 1 and 2-bedroom residential units from ground floor to fourth floor. The proposed GIA and functional use is as listed below;

Block A								
UNIT CLASS	FLOOR	1B 1P	1B 2P	2B 3P	2B 4P	TOTAL	NIA (sqm)	NIA (sqft)
C3	Ground	4	9	0	5	18	999.00	10753.14
C3	First	4	9	0	5	18	996.90	10730.53
C3	Second	4	9	0	6	19	1076.90	11591.64
C3	Third	4	9	0	6	19	1084.20	11670.22
C3	Fourth	4	9	0	6	19	1090.30	11735.88
TOTAL		20	45	0	28	93	5247.30	56481.41

2.0 Existing & Post-Development Peak FW Discharges

2.1 Peak Discharge from the existing building

Table 1 below shows the estimated peak FW flow rate generated by the existing buildings which is current discharged to the receiving public sewer under gravity.

The total commercial/office GIA of the existing buildings is 7,150m² and the corresponding peak FW discharge rate is 1.78 l/s

Table 1: Peak Foul Flow Rate discharged from the Existing Building

	Type	Commercial Area (GIA) (m ²)	Uses	Time Period (hr)	Peak Factor	Total Design Flow (l/s)
Existing	Commercial	7,150	750 L/100M ² /DAY ¹	10	3	1.78

1. Guideline for office/commercial uses

The existing FW drainage outlet is to be retained to serve the permitted development. The existing and proposed peak FW flow rates generated by the converted building are shown in Table 2 below.

2.2 Peak Discharge from the Post-development Building

Table 2: Design Peak Foul Flow Rates (Existing and Proposed)

	Type	Commercial Area (GIA) (m ²)	No. of units	Uses	Time Period (hr)	Peak Factor	Peak Flow (l/s)
Existing	Commercial /Office	7,150	-	750 L/100M ² /DAY ²	10	3	1.78
Proposed	Residential	-	93	225 L/OCCUPANT/DAY ³	24	6	1.74

2. Guideline for office/commercial uses

3. Peak Domestic FW calculations based on Sewers for Adoption

Residential FW peak discharge rates are based on Sewers for Adoption and BS752.4.

- Building Regulations Water consumption = 110 l/person/d
- Domestic Peak FW design flow rate = 6 x Average Domestic FW flow rate
- No. of Occupants per flat = 1.2 (average between 1 and 2 bed flats)
- No. of flats = 93
- Peak Domestic FW flow rate = $93 \times (225 \times 1.2 \times 6) / (24 \times 3600) = 1.74 \text{ l/s}$

The calculation shows that there will be a decrease in peak FW discharge rate to the existing site from 1.78 l/s to 1.74 l/s as a result of the change of use from office to residential.

Consequently, the impact of the development on the existing FW system would be negligible.