



SEGRO PLC

Planning Application for
Development at the former
Nestlé Factory
Nestles Avenue
Hayes
UB3 4RF

Potable Water
Consumption Reduction
Review

Draft



Client Name: SEGRO PLC

Client Address: 258 Bath Road
Slough
SL1 4DX

Property: Former Nestlé Factory
Nestle Avenue
Hayes
UB3 4RF

Project Reference: 3660

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1.00 INTRODUCTION

This report has been prepared on behalf of SEGRO PLC for the proposed development. This document summarises the potable water consumption measures to be incorporated in to the Former Nestlé Factory, Hayes commercial development. The report is associated with the discharge of **Draft Condition XXX** of the development planning application.

The water consumption reduction requirement is as set out in the following extract from **Draft Condition XXX**.

“The scheme shall also demonstrate the use of methods to minimise the use of potable water through water collection, reuse and recycling and will:

iii. incorporate water saving measures and equipment.

iv. provide details of water collection facilities to capture excess rainwater;

v. provide details of how rain and grey water will be recycled and reused in the development.”

The baseline used to measure the predicted reduction in potable water consumption for the commercial element of the development is the BREEAM credit Wat 01 water calculator. The water calculator is an online calculator provided as part of the BREEAM assessment tools.

The target water consumption reduction for the project is to achieve a minimum 40% reduction in predicted potable water consumption based on the BREEAM credit Wat 01 water credit. A 40% reduction is equivalent to obtaining 3 out of the 5 credits available under BREEAM credit Wat 01.

2.00 WATER CONSUMPTION REVIEW

Industrial units have relatively low water consumption when compared to the relatively large area of the building and therefore the water consumption review will test scenarios to establish the benefit of incorporating low flow sanitary and brassware only and low flow sanitary and brassware used in conjunction with a harvested rainwater system for the flushing of toilets and urinals.

In addition to the two scenarios noted above both scenarios will incorporate the following addition water saving measures in each of the units:

1. Major leak detection systems which will can identify major leaks both within the building and between the building and the site boundary, and shall cover all main water supplies to the building. Additionally, monitoring of the incoming mains water supply for a continuous, high and/or low level leak over a set period for the predicted average water consumption of the building will be pre-set until altered by the Facilities Manager to suit the incoming tenant.
2. Sanitary Supply shut-off will be provided to the cold water supply to all toilet areas in each of the units. PIR operated solenoid valves will be fitted to the mains cold water and harvested rainwater supplies to all of the toilet areas at each floor level. The PIRs shall be located at high level adjacent to the entrance to the toilet areas.

The sanitary and brassware flow rate specification limits used in this assessment are as set out below:



Sanitary Item	Flush Volume / Flow Rate
All WCs	4.5/3 Litre Dual Flush
All Doc M / Ambulant WCs	4.5 Litre Single Flush
All Urinals	0.5 Litres per Flush
All Wash Hand Basin Taps	4 Litres/min
All Showers	9 Litres/min

The details of the specified sanitary and brassware have been inputted to the BREEAM 2014 Industrial Shell & Core water calculator to produce the following water consumption reduction results with and without rainwater harvesting:

Unit	Reduction in Potable Water Consumption of a BREEAM Water Calculator Baseline	
	Without Rainwater Harvesting	With Rainwater Harvesting
1	49.23%	49.25%
2	52.79%	52.81%
3	tbc	tbc
4	tbc	tbc

The full BREEAM water calculator results are included in the appendix.

As the addition of rainwater harvesting to each unit has a very minor effect on the predicted water consumption it is determined that low flow sanitary and brassware fittings alone shall achieve the necessary water savings. Therefore rainwater and greywater harvesting systems are not predicted to be of benefit to the development and therefore will not be considered for this development.

Therefore the use of potable water in each of the industrial units at the development will be minimised by employing the following measures:

1. The choice and specification of the sanitary and brassware.

3.00 CONCLUSION

The water conservation measures incorporated in to each unit show a predicted potable water consumption reduction of more than 40% when compared to a BREEAM water calculator baseline. This is a significant saving over the baseline requirements (equivalent to 3 of the 5 available credits for water saving) and therefore rainwater harvesting was considered to be unnecessary given the relatively low water use.



APPENDICES

UNIT 1 - BREEAM Water Calculator Output

UNIT 2 - BREEAM Water Calculator Output

UNIT 3 - BREEAM Water Calculator Output

UNIT 4 - BREEAM Water Calculator Output