
PROJECT : Portman Road, Reading

NOTE TITLE : Surface Water Discharge Technical Note

DATE : 19th Decemeber 2019

1.0 Introduction

This technical note has been produced to summarise the existing and proposed surface water arrangements for the Portman Road development site.

The proposed surface water discharge rate will be restricted to 20 l/s by a hydrobrake and associated cellular storage located within the site in accordance with the approved drainage strategy.

2.0 Existing Surface Water

The exsting site is brownfield and the majority of the area was covered with existing buildings or hardstanding. The existing surface water discharge was calculated in the FRA as shown in Table 7.2 extract below.

Table 7.2: Existing and Proposed Surface Water Discharge Rates

Return Period	Existing Brownfield Discharge Rate (l/s)	Proposed Discharge Rate (l/s)
Q2	78.1	20
Q20	174.7	20
Q30	198.6	20
Q100	289.1	20
Q100 + 40% CC	-	20

A utilities scan of the site shows an existing surface water connection (225mm dia) from the site to Thames Water MH ref: 0951 in the north east corner (Drawing No. ENC-220118-U2A2).

The survery shows this manhole has an outgoing 450mm dia pipe which crosses Portman Road and is presumed to connect to the existing 600mm diameter surface water sewer in the vicinity of Thames Water MH ref 0956.

The existing full bore capacity of this 450mm diameter pipe has been calculated as approximately 315 l/s.

3.0 Proposed Surface Water

The proposed surface water connection from the site is to the existing Thames Water MH ref: 0951 in order to mimic the existing drainage arrangement. The proposed surface water discharge will be limited to 20 l/s by a hydrobrake and associated cellular storage located within the site.

The hierarchy of surface water disposal methods was explored at an early stage with infiltration ruled out as not feasible due to the underlying clay strata and discharge to a watercourse deemed not feasible due to the sites location meaning no available watercourses in close proximity.

Following the above it was agreed as part of the pre-development application process with Thames Water that a discharge rate of 20 l/s was acceptable due to brownfield nature of the site and the fact this discharge rate offered a significant reduction on the existing situation (over 50%).

As stated in Section 2.0, the existing Thames Water surface water sewer crossing Portman Road at the point of connection was found to be 450mm diameter not 225mm shown on the Thames Water record plans.

The existing drainage regime and the capacity of this pipe to accomodate approximately 315 l/s means that there is adequate capacity to accomodate the 20 l/s from the development site alongside the existing flows from the Barnwood Close connection.

4.0 Conclusion

As can be seen from above, the proposed surface water discharge offers a significant reduction in existing surface water flows from the site of over 50% and the capacity of the 450mm diameter pipe at the connection location is deemed more than adequate to accommodate the proposed development flows.