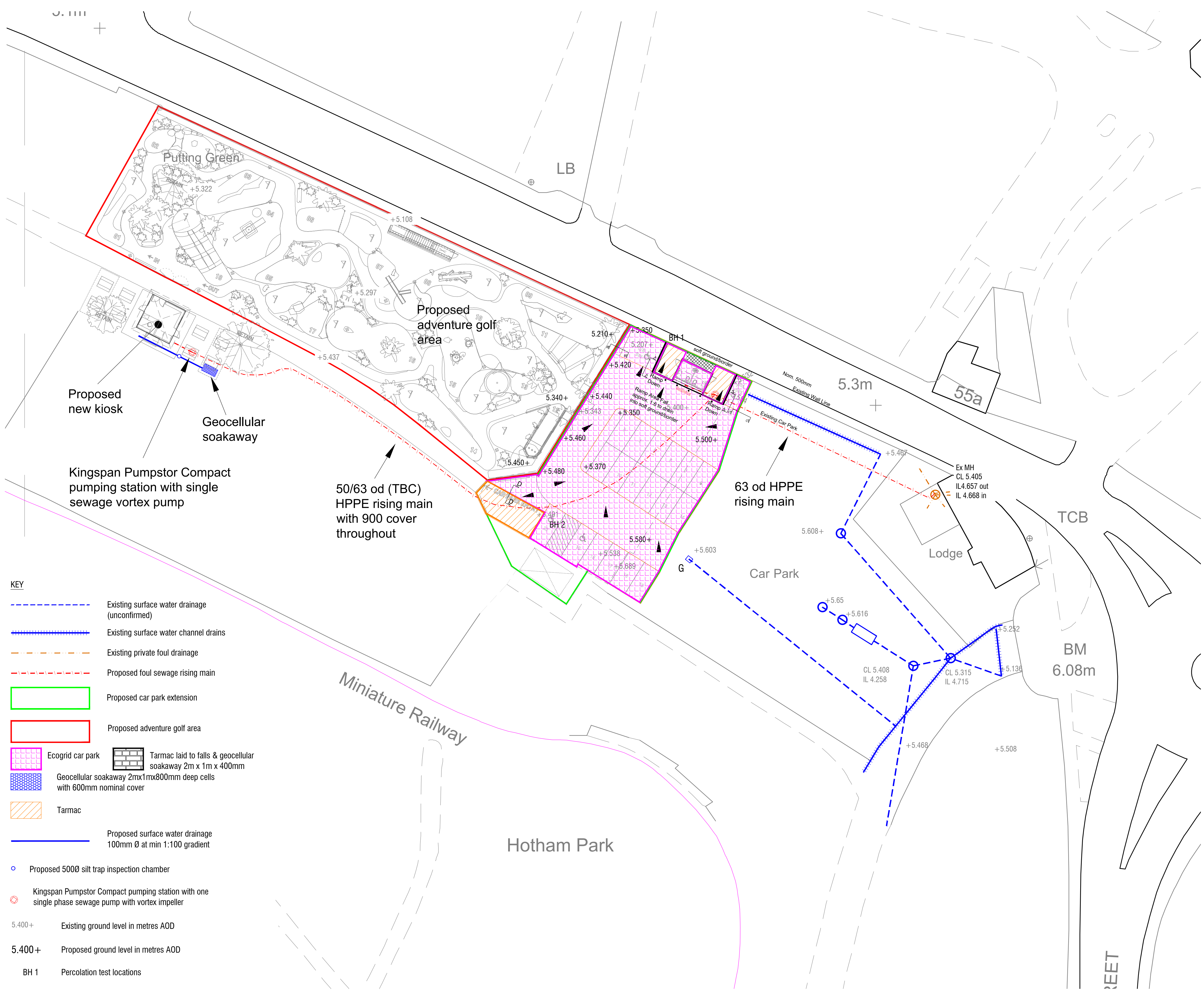

Surface Water Drainage Design Notes

Ground conditions here comprise Topsoil over Alluvium and Brickearth (soft to firm silty sandy clays) lying over the Lambeth Group of similar material. Bedrock of Upper Chalk lies just to the north and London Clay just to the south.

The Alluvium/Brickearth was encountered at 160mm below ground level as soft to firm silty clay becoming more compact with some sand/grit at depth. Groundwater was encountered at 1.9m below ground level rising to 1.77m in 4 hours.

As groundwater levels are known to be high here, the percolation tests were undertaken in shallow pits at 900mm below ground level. Percolation tests carried out to BRE365 principles in two separate test holes in late August 2017 gave soil infiltration rates of 4.36x10^{-5} m/s and 3.18x10^{-5} m/s.

A permeable surface is proposed for the car park extension using either a plastic cellular grid such as Ecogrid or a more formal concrete block. Either would be laid over a geotextile wrapped coarse aggregate sub-base for water storage with infiltration into the subsoil. The coarse graded aggregate will extend over the whole of the car park extension as shown on the construction details in order to provide a large shallow surface area for water storage and infiltration into the sub-soil. As the system will only need to cater hydraulically for rainfall directly onto its surface, it will only require 61mm of CGA for water storage. The structural design of the paving will therefore be the critical factor which can be determined following CBR testing of the formation and consideration of likely vehicular loadings.

KEY

– – – – – –	Existing surface water drainage (unconfirmed)
┼┼┼┼┼┼┼┼	Existing surface water channel drains
— · · — · · —	Existing private foul drainage
—\—\—\—	Proposed foul sewage rising main
🟩	Proposed car park extension
🟥	Proposed adventure golf area
▦	Ecogrid car park
▤	Tarmac laid to falls & geocellular soakaway 2m x 1m x 400mm
▩	Geocellular soakaway 2mx1mx800mm deep cells with 600mm nominal cover
▨	Tarmac
——	Proposed surface water drainage 100mm Ø at min 1:100 gradient
○	Proposed 500Ø silt trap inspection chamber
◎	Kingspan Pumpstor Compact pumping station with one single phase sewage pump with vortex impeller
5.400+	Existing ground level in metres AOD
5.400+	Proposed ground level in metres AOD
BH 1	Percolation test locations

Rev	Date	By	Chk	Comment

Hush Minoan
PARTNERSHIP

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Client
Hotham Park

Project Title
Hotham Park
Golf Course

Drawing Title
New car park drainage

Drawn by:	Scale:	Date:
MJF	1:500 - A3	Nov 2017

Drawing No.	Rev.
SK3	D