

Project Title:	South Wokingham SDL
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Author:	Rebecca Fletcher

MILLER TEMPORARY SALES ARENA

1. Introduction

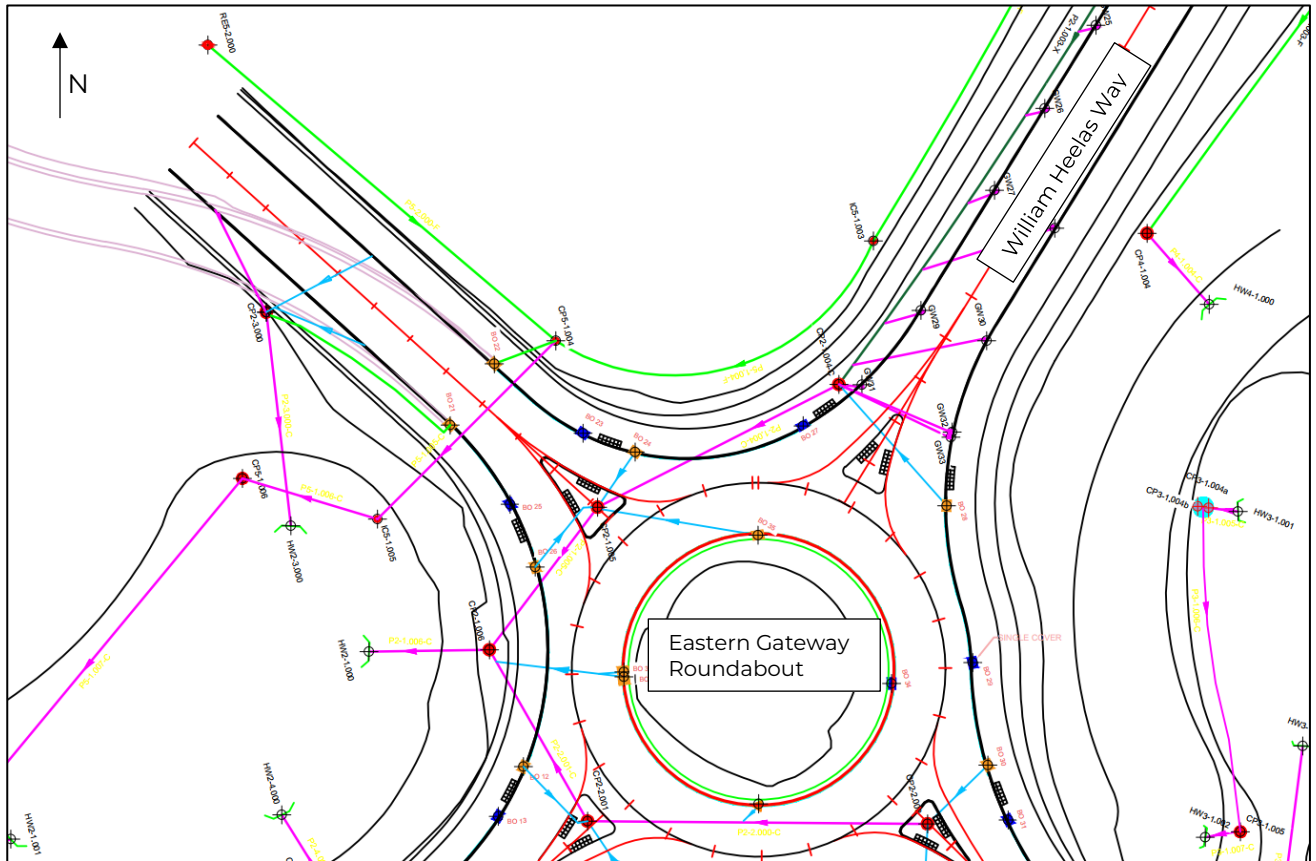
- 1.1. This note has been prepared by Abley Letchford on behalf of Miller Homes in support of planning application number 250993 to describe the proposed drainage systems for the temporary sales arena to be installed on the future R9 plot, for the marketing of the R10 development.
- 1.2. The temporary sales arena is to be located off the western arm of the Eastern Gateway roundabout. William Heelas Way, which forms the northern arm of the Eastern Gateway roundabout, is constructed on an embankment which gradually reduces in height from the railway crossing in the north to the roundabout in the south.
- 1.3. To the west of the site is the Balfour Beatty compound to support the construction of the SWDR.

2. Existing situation

- 2.1. The topography of the sales arena site shows the area to be reasonably flat with a slight fall from north to south – ie falling towards the road
- 2.2. The embankment on which William Heelas way has been constructed, includes a filter drain at its base. This filter drain runs parallel to the kerbline from the north and turns westwards to follow the western arm of the roundabout.
- 2.3. Approximately 15m west of the roundabout, the filter drain connects into a carrier pipe and passes beneath the road and ultimately discharges to a water course within the tree line to the east of the site. An extract printed from the Bafour Beatty As Built record model is shown in Figure 1.
- 2.4. As built records show the filter drains are 150mm diameter twin wall half perforated pipes, and the carrier pipe is 225mm diameter twin wall. The carrier pipe is laid at a gradient of approximately 1 in 122 giving an estimated pipe full capacity of 47.6l/s.
- 2.5. There are no other upstream connections shown on the drawings for the filter drains or directly to this pipe.



Figure 1 Extract from As Built Model WMHP-TG-EG-M2-DD-0501



3. Proposed Surface Water Drainage

- 3.1. The sales arena is proposed to be a temporary feature and will be in place until the more permanent sales area is constructed within the development.
- 3.2. Given the temporary nature of the development and the presence of existing drainage infrastructure, it is proposed to make a connection into the existing drainage.
- 3.3. The parking bays and access road will be laid to fall towards the existing road with surface run off collected in an aco channel at the site entrance. A connection will be made from the aco channel into to the adjacent kerb drainage connection which in turn discharges to the pipe running beneath the road and onwards to the water course. Refer to proposed drainage layout in **Appendix 1**.
- 3.4. Using the Modified Rational method, a maximum run off of 7.41l/s has been calculated for the parking area and access road for a 1 in 30 year, 15 minute storm. This can be accommodated within the existing piped network. Refer to **Appendix 2** for calculations.
- 3.5. It is proposed to install a waterbutt on the corner of the sales arena to collect roof run off primarily for reuse in watering plants.
- 3.6. The temporary walkway between the parking area and the sales arena will be laid to fall towards the adjacent landscaped area.



4. Proposed foul water drainage

- 4.1. A self contained septic unit will be installed for the sales arena to collect and store foul water with removal via tanker as needed.



Appendix 1

Proposed Drainage Layout



Appendix 2

Run off Calculations



Car park and access road area (A)	337	m ²	0.034	ha		
FEH 22 Rainfall Data						
Duration (hours)	Return period	0.25	0.5	1	2	6
Intensity (i) mm/hr	1yr	31.65	20.23	12.4	7.64	3.54
	2yr	53.44	33.61	20.6	12.3	5.36
	10yr	63.29	40.47	24.8	14.81	6.34
	30yr	79.07	51.36	31.48	19.11	8.18
	100yr	99.09	64.94	39.8	24.24	10.24
Modified Rational Method	$Q = 2.78C_v i A$					
Use $C_v = 1$						
Q	1yr	2.97	1.90	1.16	0.72	0.33
	2yr	5.01	3.15	1.93	1.15	0.50
	10yr	5.93	3.79	2.32	1.39	0.59
	30yr	7.41	4.81	2.95	1.79	0.77
	100yr	9.28	6.08	3.73	2.27	0.96