

Client: The Market Bosworth School

Technical Note: SEDIMENT CONTROL PROPOSALS – CONSTRUCTION STAGE

Date: 1/11/2024

To: David Spring, Lead Planner

Dear David,

Our Hydrologists, Corner Water Consulting, have forwarded the following proposals for silt control during the construction stage, this now planned for April 2025. Also attached in the covering e-mail are the full storm network calculations, CWC_Construction SWMP Rev1:

With 3 number 150sqm plan area silt trap pits, taken as 1m deep, on this site there is no flow off-site even in the 1 in 100-year event. The pits are assumed to be open earth sided with 1 in 2.5 side slope, that should stand unaided. They have base areas of 61sqm and a max area of 150sqm at ground level. Infiltration is assumed but pumping to be available during a mayor storm event. Pumping with a floating boom will retain the silt at the base of the pit. No climate change has been allowed as we have only 2-3 months of construction.

There are 3 x 150 sq.m silt trap pits, with 11.7m³ of rainwater overflowing. In the current state the 1 in 100-year would generate about 238m³ of runoff – so we are much better than the existing set up in terms of volume. But this LLFA question was about silt not volumes of runoff. I would thus show the 3 pits and send the Planners the attached hydraulic modelling report.

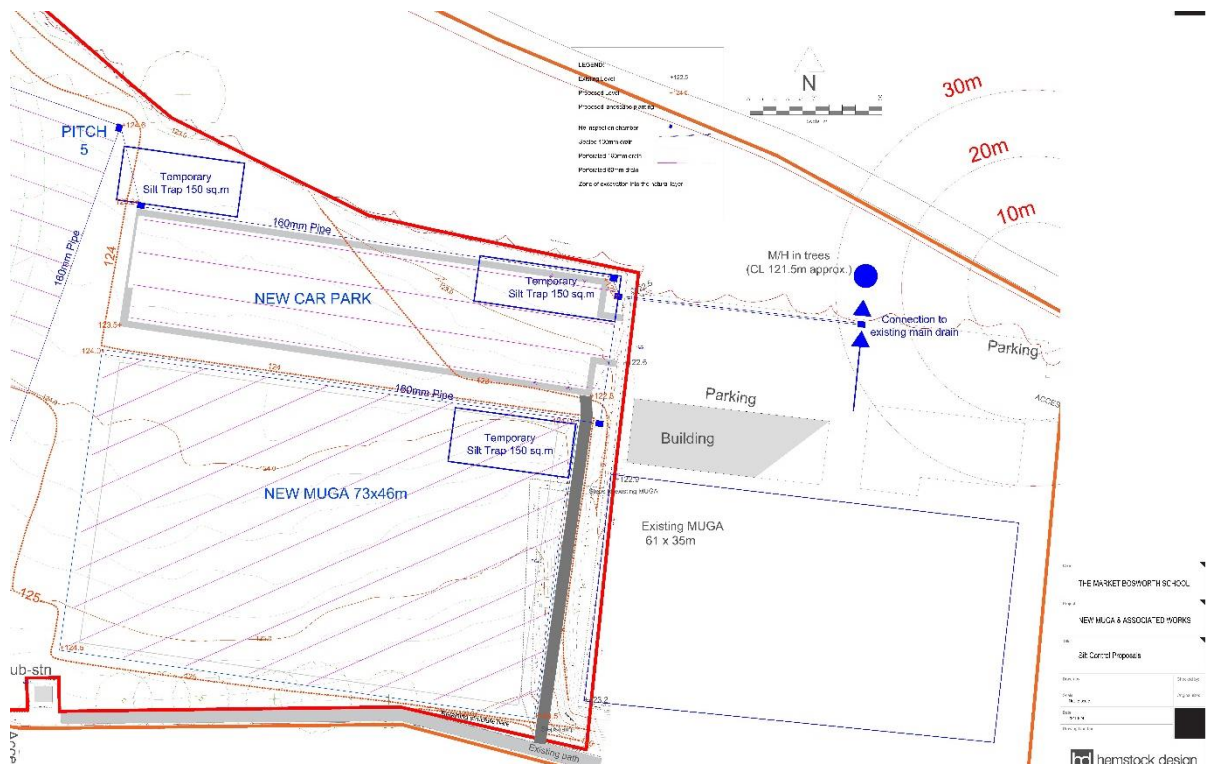


Fig. 1 – Three temporary silt traps proposed for the start of the earthworks stage

Corner Water Consulting	Corner Water Consulting Ltd	File: CWC363 Construction_2.pfc Network: Storm Network Alan Corner 01/11/2024					Page 12 The Market Bosworth School Construction SWMP	
	Results for 100 year Critical Storm Duration. Lowest mass balance: 99.97%							
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	SILT TRAP_1	570	123.110	0.010	6.9	92.6341	0.0000	OK
600 minute winter	MUGA_SILT	570	123.910	0.010	6.9	92.6529	0.0000	OK
10080 minute winter	CAR PARK	7380	122.303	0.403	0.6	0.4555	0.0000	FLOOD RISK
10080 minute winter	SILT TRAP_2	7380	122.303	0.603	0.9	92.4218	0.0000	OK
10080 minute winter	2	7380	121.708	0.008	0.2	0.0092	0.0000	OK
10080 minute winter	3	7380	121.009	0.009	0.2	0.0025	0.0000	OK
10080 minute winter	To Off-site	7380	120.909	0.009	0.2	0.0000	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	SILT TRAP_1	Infiltration		0.1				
600 minute winter	SILT TRAP_1	Weir	SILT TRAP_2	1.0				5.6
600 minute winter	MUGA_SILT	Infiltration		0.1				
600 minute winter	MUGA_SILT	Weir	CAR PARK	1.1				6.1
600 minute winter	CAR PARK	1.001	SILT TRAP_2	1.1	0.068	0.015	0.2084	
10080 minute winter	SILT TRAP_2	Infiltration		0.1				
10080 minute winter	SILT TRAP_2	Weir	2	0.2				11.7
10080 minute winter	2	1.002	3	0.2	0.344	0.002	0.0178	
10080 minute winter	3	1.003	To Off-site	0.2	0.326	0.003	0.0038	11.7

Fig. 2 – Storm network calculations for the silt trap sizing

David Hemstock

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