King's Pond - Maintenance Costs.

Data

Pond Size	Large Pond	17,500	m^2
	Area N of Island	12,150	m^2
	Smaller Pond	5,760	m^2
Lengths of Banks	Large Pond	880	m
	Smaller Pond	320	m
5R Siltation Figures	Total Silt present	11,000	m3
	From Upstream	5,500	m3
	Removed in Dredging Plus	7,100	m3
	Removed in River & Pond	4,400	m3
Calculated Volume of Trap		10	m3

This is upstream silt plus bank & island erosion plus leaf fall etc

Over 30 years this suggests 183m3 pa

Increase for climate change - increase in rainfall and flash flooding (say) 10% — 201m3 pa

To remain effective the silt trap must keep some depth so must be emptied well before it is full

But assume full volume is taken every year.

Extrapolation.

Large Pond:	Volume of silt carried in to the pond will be total siltation less amounts removed from silt trap	190m3 pa	Total over 30 years	5700m3	plus for leaf fall and erosion asssume volume as 2024 — 7100m3
Smaller Pond & River:	Volume of silt carried past the trap will be	190m3 pa			
	Smaller Pond is one third the size of Large	63m3 pa			
	However most silt is carried when river is at high flow levels or in flash events when most water of the water by-passes the pond. Reduce by 50%	32m3 pa	Total over 30 years	960m3	plus 50% for leaffall & erosion — 1440m3

2026 Capital Cost of Options — **Repeat Dredging Cost in 30years**

Dredging Plus

Preliminaries	98,402	11	%	55,990	0 pro rata
Temporary works	20,592			20,592	as before
Land Reclamation	89,651			-	none
Banks	142,409			142,409	880m as before — £162 per m
De-silting	176,972		7100m^3	176,972	as before — £25 per m3
Planting	94,516			47,258	say 50%
Other permanent works	64,525			-	none
Phase 2	172,674			172,674	as before
	859,741			**£615,895**	
				£20,530	pa plus inflation for future budgeting

		River & Pond						**Repeat Dredging Cost in 30? Years (Smaller Pond only)**											
		Preliminaries	185,931	8	%			15,205	0	pro rata										
		Temporary works	24,354					12,000		as before										
		Land Reclamation	1,451,699					-		none										
		Banks	177,588					51,840		Banks around pond at same rates as for Dredging										
		De-silting Pond	52,763		4400m3			36,000		1440m3 -Rate as Dredging										
		Planting & Seeding	130,469					17,185		Pro rata to Dredging by length of banks										
		Other permanent works	62,082					-												
		Phase 2	150,120					35,021		Pro -rata to Dredging by volume										
			2,235,006					**£167,251**		Would it really need to be done after 30 years with so little silting?										
								£5,575	pa	plus inflation for future budgeting										
		Maintenance Costs																		
		Allow 2.5% pa of the cost of forming banks and the planting & seeding																		
			Dredging Plus					River & Pond												
			236,925					308,057												
			£5,923	pa				**£7,701**	pa											
		Clearance of screen (based on current costs)																		
			Dredging Plus (Daily as with current pond)					River & Pond (Weekly)												
			£12,000	pa				**£1,710**	pa											
		Silt trap clearance every 3-5 years (average 4 years) - same for both options																		
			5,000																	
			£1,250	pa																
		TOTALS	**Dredging Plus**							**River & Pond**										
			£39,703.00							**£16,236**										