

## Appendix 1 - calculations for determined final requisition charge

### Inputs

Total scheme cost (£): Combined costs of all applicable works

Basic average income per property (£): Average metered charge per property (£) in year 1 (before inflation is taken into account)

Borrowing interest rate (%): This should be provided by the company. It is the rate as of year 1 and is linked to the ten-year gilt yield plus a premium.

Long term annual inflation (%): Estimate for long term inflation

Cumulative occupancy - The rate of occupation for each year

		Source
Total scheme cost (£)	£41,507.59	Thames Water MDH revised DAD model.docx
Basic average income per property (£)	£154.53	Thames Water MDH revised DAD model.docx
Borrowing interest rate (%)	6.00%	Thames Water MDH revised DAD model.docx
Long term annual inflation (%)	2.50%	Thames Water MDH revised DAD model.docx

Year	Cumulative occupancy	
Year 1		See paragraphs 4.25 and 4.26 of determination
Year 2	12	
Year 3	12	
Year 4	12	
Year 5	12	
Year 6	12	
Year 7	12	
Year 8	12	
Year 9	12	
Year 10	12	
Year 11	12	
Year 12	12	

### Intermediate calculations

Annuity factor: Sum of annual annuity factor calculations

Annual repayment (£): Total scheme cost (£) / Annuity factor

Discount rate (%): Equal to the borrowing interest rate

Annuity factor calculation:  $1 / (1 + \text{Borrowing interest rate (\%)}) * (\text{Number of year})$

Calculation of the annual discount factor:  $1 / (1 + \text{Discount rate (\%)}) * (\text{Number of year})$

Annuity factor	8.38
Annual repayment (£)	£4,950.90
Discount rate (%)	6.00%

Year	Long term inflation (%)	Annuity factor calculation	Annual discount factor calculation
Year 1		0.94	0.94
Year 2	2.50%	0.89	0.89
Year 3	2.50%	0.84	0.84
Year 4	2.50%	0.79	0.79
Year 5	2.50%	0.75	0.75
Year 6	2.50%	0.70	0.70
Year 7	2.50%	0.67	0.67
Year 8	2.50%	0.63	0.63
Year 9	2.50%	0.59	0.59
Year 10	2.50%	0.56	0.56
Year 11	2.50%	0.53	0.53
Year 12	2.50%	0.50	0.50

### Main calculations

Cumulative occupancy: As above

Basic revenue (£): Cumulative occupancy \* Basic average income per property (£) (Note this is different for year 1 - see above)

Long term inflation index (%): Year 1 = 1, Year 2 onwards = Inflation factor (t-1) \* (1 + long run inflation in year t)

Reckonable revenue (£): Basic revenue \* Long term inflation index

Discount factor: Linked from the intermediate calculations

Discounted value of reckonable revenue (£): Reckonable revenue (£) \* Discount factor

Annual repayments of the loan (£): Linked from intermediate calculations

Capital payable per year (£): Annual repayments of the loan (£) - Interest on the loan payable per year (£)

Interest on the loan payable per year (£): Year 1, Borrowing interest rate (%) \* Total scheme cost (£), Year 2 onwards = Borrowing interest rate (%) \* Year end principal outstanding (t-1) (£)

Year end principal outstanding (£): Year 1 = Total scheme cost (£) - Capital payable per year (£), Year 2 onwards = Year end principal outstanding (t-1) (£) - Capital payable per year (£)

Projected relevant deficit (£): Annual repayments of the loan (£) - Reckonable income (£) (will be zero if reckonable income > annual repayments of the loan)

Statutory Commuted sum (£): Project relevant deficit (£) \* Discount factor

Year	Cumulative occupancy	Basic revenue (£)	Long term inflation index (%)	Reckonable revenue (£)	Discount factor	Discounted value of reckonable revenue (£)	Annual repayments of the loan (£)	Capital payable per year (£)	Interest on the loan payable per year (£)	Year end principal outstanding (£)	Projected relevant deficit (£)	Statutory Commuted sum (£)
Year 1	As above	£1,751.34	100.00%	£1,751.34	0.94	£1,652.21	£4,950.90	£2,460.45	£2,490.46	£39,047.14	£3,199.56	£3,018.45
Year 2	12	£1,854.36	102.50%	£1,900.72	0.89	£1,691.63	£4,950.90	£2,608.07	£2,342.83	£36,439.07	£3,050.18	£2,714.65
Year 3	12	£1,854.36	105.06%	£1,948.24	0.84	£1,635.78	£4,950.90	£2,764.56	£2,186.34	£33,674.51	£3,002.67	£2,521.10
Year 4	12	£1,854.36	107.69%	£1,996.94	0.79	£1,581.77	£4,950.90	£2,930.43	£2,020.47	£30,744.08	£2,953.96	£2,339.81
Year 5	12	£1,854.36	110.38%	£2,046.87	0.75	£1,529.54	£4,950.90	£3,106.26	£1,844.64	£27,637.82	£2,904.04	£2,170.06
Year 6	12	£1,854.36	113.14%	£2,098.04	0.70	£1,479.03	£4,950.90	£3,292.63	£1,658.27	£24,345.19	£2,852.86	£2,011.16
Year 7	12	£1,854.36	115.97%	£2,150.49	0.67	£1,430.20	£4,950.90	£3,490.19	£1,460.71	£20,855.00	£2,800.41	£1,862.43
Year 8	12	£1,854.36	118.87%	£2,204.25	0.63	£1,382.97	£4,950.90	£3,699.60	£1,251.30	£17,155.40	£2,746.65	£1,723.28
Year 9	12	£1,854.36	121.84%	£2,259.36	0.59	£1,337.31	£4,950.90	£3,921.58	£1,029.32	£13,233.82	£2,691.54	£1,593.12
Year 10	12	£1,854.36	124.89%	£2,315.84	0.56	£1,293.15	£4,950.90	£4,156.87	£794.03	£9,076.95	£2,635.06	£1,471.40
Year 11	12	£1,854.36	128.01%	£2,373.74	0.53	£1,250.46	£4,950.90	£4,406.29	£544.62	£4,670.66	£2,577.16	£1,357.62
Year 12	12	£1,854.36	131.21%	£2,433.08	0.50	£1,209.17	£4,950.90	£4,670.66	£280.24	-£0.00	£2,517.82	£1,251.28
<b>Total</b>		<b>£22,149.30</b>		<b>£25,478.90</b>		<b>£17,473.21</b>	<b>£59,410.82</b>	<b>£41,507.59</b>	<b>£17,903.23</b>	<b>£256,879.65</b>	<b>£33,931.92</b>	<b>£24,034.38</b>