

[illegible]

Opex	Scheme name	Min_115_Avon_U/S_WFD_Bath_Tr_Org
	Scheme option code	Min1
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (Ml/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_U/S_WFD_Bath_Tr_Org	

Asset life (years)	% spend by asset life
10	3%
20	23%
60	14%
80	50%

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_U/S_WFD_Bath_Tr_Org	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_U/S_WFD_Bath_Tr_Org	

Opex	Scheme name	Min_115_Avon_D/S_WFD_Bath_Tr_Org
	Scheme option code	Min2
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (MI/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_D/S_WFD_Bath_Tr_Org	

Asset life (years)	% spend by asset life
10	2%
20	21%
60	14%
80	52%

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_D/S_WFD_Bath_Tr_Org	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_D/S_WFD_Bath_Tr_Org	

Opex	Scheme name	Min_115_Avon_U/S_WFD_Bath
	Scheme option code	Min3
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (Ml/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Asset life (years)	% spend by asset life	
10		2%
20		11%
60		8%
80		65%

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_U/S_WFD_Bath	

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_U/S_WFD_Bath	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_U/S_WFD_Bath	

Opex	Scheme name	Min_115_Avon_D/S_WFD_Bath
	Scheme option code	Min4
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (Ml/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Asset life (years)	% spend by asset life
10	2%
20	10%
60	7%
80	66%

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_D/S_WFD_Bath	

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_D/S_WFD_Bath	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_D/S_WFD_Bath	

Opex	Scheme name	Min_115_Avon_U/S_WFD
	Scheme option code	Min5
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (Ml/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_U/S_WFD	

Asset life (years)	% spend by asset life
10	1%
20	10%
60	7%
80	68%

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_U/S_WFD	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_U/S_WFD	

Opex	Scheme name	Min_115_Avon_D/S_WFD
	Scheme option code	Min6
	Earliest construction start date (year)	2025
	Construction duration (years)	5
	Deployable output / water resources capacity yield (Ml/d)	115
	Assumed contract length (years)	80
	Assumed cost of capital / discount rate	
	Fixed opex uncertainty allowance (%)	
	Water resource "lock-up" charge (£)	
	Variable opex uncertainty allowance (%)	

Asset life (years)	% spend by asset life
10	1%
20	9%
60	7%
80	69%

Total Scheme Estimate (Column J)	Cost (£)
Min_115_Avon_D/S_WFD	

Fixed opex breakdown	Cost (£/yr)
Min_115_Avon_D/S_WFD	

Variable opex breakdown	Cost (£/m3)
Min_115_Avon_D/S_WFD	

Date Issued:

These on-cost rates may be adjusted from the default values

Rate	C-XXX-1	B&C	M&E	Mains & Sewers	Total
	Standard Cost				
	Non-Standard Cost				
	Non-Standard Adjustment				
	Construction Cost				
	Design Fee				
	Contractor D&B Cost				
	Internal Costs				
	External Costs				
	Project Total				
	Optimism Bias				
	Business Case Cost Estimate				

For Unit Rate Items set $P = 1$, $C = 0$

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Date Issued:

These on-cost rates may be adjusted from the default values

Rate	C-XXX-1	B&C	M&E	Mains & Sewers	Total
	Standard Cost				
	Non-Standard Cost				
	Non-Standard Adjustment				
	Construction Cost				
	Design Fee				
	Contractor D&B Cost				
	Internal Costs				
	External Costs				
	Project Total				
	Optimism Bias				
	Business Case Cost Estimate				

For Unit Rate Items set $P = 1$, $C = 0$

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Date Issued:

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Rate	C-XXX-1	B&C	M&E	Mains & Sewers	Total
	Standard Cost				
	Non-Standard Cost				
	Non-Standard Adjustment				
	Construction Cost				
	Design Fee				
	Contractor D&B Cost				
	Internal Costs				
	External Costs				
	Project Total				
	Optimism Bias				
	Business Case Cost Estimate				

For Unit Rate Items set $P = 1$, $C = 0$

Level 1	Level 2	Level 3	Level 4	B&C					M&E					Mains and Sewers					Notes
				M	P	C	Quantity	Cost	M	P	C	Quantity	Cost	M	P	C	Quantity	Cost	
INFRA	Distribution	Pressure Mains in Urban Highway	Diameter: 1050mm																
INFRA	Distribution	Pressure Mains in Field / Verges	Diameter: 1050mm																
INFRA	Distribution	Tunnelling / Pipejacking	Diameter: 1050mm																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Watercourse crossings																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Railway line crossings (Public)																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Major Road (M) crossings																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Major Road (A/B) crossings																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Canal Crossings																
		Pressure Mains in Rural/Suburban Highway	Diameter: 1050mm																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Minor Road (uncl) crossings																
FREE ENTRY	TREATMENT WORKS																		
FREE ENTRY	PUMPING STATION	ITEM UNITS	OTHER DETAILS																

<div>SEVERN</div> <div>TRENT</div> <div>WATER</div>				Water Puzzle: Element Report - Element Options CAPEX Costs																<div>ATKINS</div> <div>ARUP</div>									
				Element Reference: C-XXX-1																									
				Date Issued:																									
				Notice This sheet is designed to accompany the full Element Report. Values are rounded																									
<div>These on-cost rates may be adjusted from the default values</div>				Rate		C-XXX-1				B&C				M&E				Mains & Sewers				Total							
						Standard Cost																							
						Non-Standard Cost																							
						Non-Standard Adjustment																							
						Construction Cost																							
						Design Fee																							
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						Project Total																							
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						Business Case Cost Estimate																							
<div>These rates and notes may be adjusted from the standard rates</div> <div>Costs are calculated using a formula of $M \times (\text{Quantity})^{AP} + C$</div> <div>M is a multiplier adjuster, P is a power adjuster, C is a constant</div> <div>For Linear Cost Curves set $P = 1$</div> <div>For Unit Rate Items set $P = 1, C = 0$</div>																													
Level 1		Level 2		Level 3		Level 4		B&C				M&E				Mains and Sewers				Notes									
								M		P		C		Quantity		Cost		M		P		C		Quantity		Cost			
INFRA		Distribution		Pressure Mains in Urban Highway		Diameter: 1050mm																							
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SEVERN

TRENT

WATER

Water Puzzle: Element Report - Element Options CAPEX Costs

ATKINS

ARUP

Element Reference: C-XXX-1

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These on-cost rates may be adjusted from the default values

Rate	C-XXX-1	B&C	M&E	Mains & Sewers	Total
	Standard Cost				
	Non-Standard Cost				
	Non-Standard Adjustment				
	Construction Cost				
	Design Fee				
	Contractor D&B Cost				
	Internal Costs				
	External Costs				
	Project Total				
	Optimism Bias				
	Business Case Cost Estimate				

These rates and notes may be adjusted from the standard rates

Costs are calculated using a formula of $M \times (Quantity)^P + C$

M is a multiplier adjuster, P is a power adjuster, C is a constant

For Linear Cost Curves set $P = 1$

For Unit Rate Items set $P = 1, C = 0$

Level 1	Level 2	Level 3	Level 4	B&C					M&E					Mains and Sewers					Notes
				M	P	C	Quantity	Cost	M	P	C	Quantity	Cost	M	P	C	Quantity	Cost	
INFRA	Distribution	Pressure Mains in Urban Highway	Diameter: 1050mm																
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NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Major Road (A/B) crossings																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Canal Crossings																
INFRA	Distribution	Pressure Mains in Rural/Suburban Highway	Diameter: 1050mm																
NON-STANDARD	PIPELINE EXTRA OVERS	CROSSINGS	Minor Road (uncl) crossings																
FREE ENTRY	TREATMENT WORKS																		
FREE ENTRY	PUMPING STATION	ITEM UNITS	OTHER DETAILS																OTHER DETAILS

SEVERN

TRENT

WATER

Water Puzzle: Element Report - Element Options CAPEX Costs

ATKINS

ARUP

Element Reference: C-XXX-1

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These on-cost rates may be adjusted from the default values

Rate	C-XXX-1	B&C	M&E	Mains & Sewers	Total
	Standard Cost				
	Non-Standard Cost				
	Non-Standard Adjustment				
	Construction Cost				
	Design Fee				
	Contractor D&B Cost				
	Internal Costs				
	External Costs				
	Project Total				
	Optimism Bias				
	Business Case Cost Estimate				

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Level 1	Level 2	Level 3	Level 4	B&C					M&E					Mains and Sewers					Notes
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INFRA	Distribution	Pressure Mains in Urban Highway	Diameter: 1050mm																
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