FRAMEWORK ESTIMATING ARTEFACT

Based on Thames Water
complex wastewater works

June 2026

The framework and the worked scheme

This estimate takes a planned sewer renewal from Thames Water's wider complex wastewater work. The Waste Network Services Lot 5 announcement covers planned, reactive and emergency work on gravity and pressurised assets, including repairs and follow-on work arising from blockages, flooding and pollution. The operational area includes London and the Thames Valley.

The March 2023 announcement gives a minimum five-year term, with an option for another three years. That is the period for the wider arrangement, not the programme for each repair. A six-week site period has been used for this exercise; it is an estimating assumption, rather than a construction window taken from an issued work order.

The worked scheme is 120m of 300mm offline sewer renewal in South London, with 30m in footway and 90m in carriageway. Repairs to three retained chambers, eight lateral reconnections, two tie-ins and a temporary bypass are included. The gang has 30 paid days within the six weeks, while the bypass and routine inspections continue for all 42 calendar days.

How the work was priced

The costing was built around the 120m planned renewal, rather than an average rate across planned and emergency work. Under the assumed NEC4 ECC Option C work order, these build-ups establish the target, with 12% Fee added once. Keeping the installation, site support and specialist packages separate gives each part of that target a resource budget to follow during delivery.

The division also follows how the work would be carried out. The main gang lays the sewer; specialist crews repair the retained chambers and provide the traffic and bypass arrangements. Laterals and tie-ins are counted separately because their number and local work do not follow the main sewer length. Their allowances cover the additional connections, not the ordinary trench already included in the laying rates.

A five-person gang was allowed 10m a day in footway and 6m in carriageway. The lower carriageway output makes allowance for the thicker paved construction and more restricted working around traffic. Imported backfill and disposal are included in both sections. Chamber specialists are planned alongside the laying gang, so their attendance has not been added again as a series of main-gang days.

Preliminaries follow the six-week occupation, with plant retained between tasks and the gang assumed to move to other work. The bypass runs throughout that period because the existing network must remain in service. Duty and standby pumps, pipework and alarms are therefore a separate package, with fuel and inspection for 42 calendar days. Traffic management follows the same dates, but has its own layout, equipment and attendance.

Normal restrictions sit in the outputs. The target also carries 0.007 gang and plant days per m for residual access and an expected half-day of emergency tanker attendance. Those allowances address different exposures; neither is a general emergency premium. The assumed price base is June 2026, with X1 assumed and no forward inflation added. For Option C, its adjustment concerns the target rather than another uplift to supplier invoices.

Payment would follow the relevant Defined Cost and Fee provisions, not the metre rates. Cost records therefore need to follow the packages, with eligibility checked rather than assumed from the estimate heading. A forecast overrun does not, by itself, revise the target. Compensation events, share data and the live Contract Data need their own assessment; Appendix A retains the programme basis used here.

Composite cost engine

The costing first separated the resources needed to lay the new sewer from those needed to keep the existing network working. Gang and plant were costed by the day and worked back against output. Pipe, bedding, fill and disposal then came from the trench take-off, with the bypass built as a separate operating package.

Excel was used to build the cost engine from scratch. For this size of estimate, keeping the resources close to the schedule made the target easier to work through. Causeway Estimating, CostX or the supplied Clearspan workbook could support the same approach where a wider resource library was needed.

Compatible units were grouped around sewer laying, chambers, connections and acceptance. Appendix A holds gang, plant and programme inputs; Appendix B holds materials and trench quantities. Preliminaries, traffic and bypass are in Appendix C, with specialist inputs and the unit register in Appendix D. Keeping those packages outside the laying rates leaves their full occupation cost visible in the target.

Gang cost	Number	Daily cost £
Ganger	1	272.00
Pipe layer	1	256.00
Excavator operator	1	256.00
Groundworker	2	416.00
Gang total	**5**	**1,200.00**

Plant cost	Daily cost £
13t excavator	127.00
6t dumper	37.00
Trench rammer	20.00
Support and running costs	288.00
Plant total	**472.00**

The five-person gang includes the excavator operator and two groundworkers. Plant is bare hire, with support and running costs added separately. This keeps the operator in labour and the machine in plant; delivery and collection sit in the opening and closing items.

Work type	Length m	Output m per day	Laying days	Gang and plant £ per m
Footway	30	10	3	167.20
Carriageway	90	6	15	278.67

Footway and carriageway use the same daily resource cost but different outputs. Bypass fuel and inspections follow 42 calendar days instead, so they are not reduced to the laying gang's working week.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
10	**0.101**	Undertake route survey and utility detection, review available service records and complete the stated trial holes, including setting out, protection of existing services, recording ground conditions, reinstatement of investigation holes and issue of a coordinated survey record for design development	item	**7,123.20**
11	0.102	Develop the construction design and work plan from the survey information, including design coordination, temporary works design input, permit administration, customer liaison before occupation and preparation of construction drawings, with traffic management design measured separately under the traffic management package	item	6,451.20
12	1.101	Establish the working area and temporary site facilities, including initial plant transport, welfare delivery, compound preparation, temporary fencing, environmental protection and site induction arrangements, ready for the planned construction sequence, with continuing management and welfare measured separately by the week	item	8,471.68
13	1.102	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	5,205.22
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60

F	G	H	I	J
Cost build-up 0.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Survey planning engineer	2	day	460.00	920.00
Utility detection crew	2	day	950.00	1,900.00
Trial holes complete	4	nr	360.00	1,440.00
Material classification tests	3	nr	160.00	480.00
Survey report and records	2	day	420.00	840.00
Initial sewer CCTV survey	120	m	6.50	780.00
Direct cost				**6,360.00**
Fee at 12%				763.20
Target rate per item				**7,123.20**

The investigation was kept ahead of construction because the existing sewer condition, service positions and ground findings affect both the renewal and the connection plan. Four trial holes, three material samples and an initial CCTV survey of the 120m sewer were allowed, with reporting to take those findings into design.

Trial-hole reinstatement is included with the investigation, not repeated in the sewer rate. Initial CCTV establishes what is there; final CCTV checks the completed work and sits in 5.101. The survey enquiry needs to preserve those two visits and confirm the investigation extent before its return replaces the allowance.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
10	0.101	Undertake route survey and utility detection, review available service records and complete the stated trial holes, including setting out, protection of existing services, recording ground conditions, reinstatement of investigation holes and issue of a coordinated survey record for design development	item	7,123.20
11	**0.102**	Develop the construction design and work plan from the survey information, including design coordination, temporary works design input, permit administration, customer liaison before occupation and preparation of construction drawings, with traffic management design measured separately under the traffic management package	item	**6,451.20**
12	1.101	Establish the working area and temporary site facilities, including initial plant transport, welfare delivery, compound preparation, temporary fencing, environmental protection and site induction arrangements, ready for the planned construction sequence, with continuing management and welfare measured separately by the week	item	8,471.68
13	1.102	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	5,205.22
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60

F	G	H	I	J
Cost build-up 0.102				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Design engineer	4	day	480.00	1,920.00
Temporary works designer	3	day	550.00	1,650.00
Permit application allowance	3	nr	150.00	450.00
Prestart customer liaison	3	day	300.00	900.00
Drawing production	2	day	420.00	840.00
Direct cost				**5,760.00**
Fee at 12%				691.20
Target rate per item				**6,451.20**

Design and planning cover turning the investigation into the sewer layout, temporary works input and construction sequence. The design and drawing days come from the planning resources in Appendix D, with prestart liaison and three permit applications allowed alongside them.

Traffic design remains with 2.101 and bypass sizing with 2.102, so each specialist prices the design and delivery of the same arrangement. The general temporary works input here is not a second pumping design allowance. Permit charges and design responsibilities still need checking against the live requirements, with any outstanding basis carried into the tender qualifications.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
10	0.101	Undertake route survey and utility detection, review available service records and complete the stated trial holes, including setting out, protection of existing services, recording ground conditions, reinstatement of investigation holes and issue of a coordinated survey record for design development	item	7,123.20
11	0.102	Develop the construction design and work plan from the survey information, including design coordination, temporary works design input, permit administration, customer liaison before occupation and preparation of construction drawings, with traffic management design measured separately under the traffic management package	item	6,451.20
12	**1.101**	Establish the working area and temporary site facilities, including initial plant transport, welfare delivery, compound preparation, temporary fencing, environmental protection and site induction arrangements, ready for the planned construction sequence, with continuing management and welfare measured separately by the week	item	**8,471.68**
13	1.102	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	5,205.22
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60

F	G	H	I	J
Cost build-up 1.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Plant delivery movements	2	nr	600.00	1,200.00
Welfare and store deliveries	2	nr	350.00	700.00
Set up gang	2	day	1,200.00	2,400.00
Set up plant and fuel	2	day	472.00	944.00
Compound surface protection	80	m2	9.00	720.00
Fencing and site notices	1	item	950.00	950.00
Environmental protection	1	item	650.00	650.00
Direct cost				**7,564.00**
Fee at 12%				907.68
Target rate per item				**8,471.68**

Mobilisation was priced for establishing the compound and facilities before sewer laying starts. Two setup days use the five-person gang and plant resources, with deliveries, fencing and 80m2 of surface protection. Those days are for getting the site ready, not additional installation output within the six-week laying programme.

Continuing welfare and compound hire sit in preliminaries. Pump installation and traffic setup stay in their own packages, where the specialist resources are allowed. A local compound has been assumed; its location and access need confirming because they affect transport and establishment rather than the sewer pipe price.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
11	0.102	Develop the construction design and work plan from the survey information, including design coordination, temporary works design input, permit administration, customer liaison before occupation and preparation of construction drawings, with traffic management design measured separately under the traffic management package	item	6,451.20
12	1.101	Establish the working area and temporary site facilities, including initial plant transport, welfare delivery, compound preparation, temporary fencing, environmental protection and site induction arrangements, ready for the planned construction sequence, with continuing management and welfare measured separately by the week	item	8,471.68
13	**1.102**	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	**5,205.22**
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60
15	2.102	Provide a temporary wastewater bypass for the six week construction and connection period, including bypass design, duty and standby pumps, pipework, installation, commissioning, fuel, daily inspection, remote alarm provision, removal and the stated emergency attendance allowance, subject to confirmation of flow and head requirements	item	22,176.00

F	G	H	I	J
Cost build-up 1.102				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Site agent	5	day	340.00	1,700.00
Site engineer	1.5	day	440.00	660.00
Project commercial support	2	day	480.00	960.00
Customer liaison	1	day	300.00	300.00
Welfare cabin hire	1	week	260.00	260.00
Compound occupation	1	week	180.00	180.00
Welfare services	1	week	90.00	90.00
Site insurance allocation	1	week	100.00	100.00
Support vehicle	1	week	150.00	150.00
Standing plant allocation	0.693333	day	357.00	247.52
Direct cost				**4,647.52**
Fee at 12%				557.70
Target rate per week				**5,205.22**

The six-week occupation was used for site management, engineering, welfare and compound costs. Appendix A leaves 4.16 days between the main-gang tasks. Retained plant hire for those gaps sits here, while productive plant is already charged through the work items. The gang is assumed to be redeployed rather than held on standby.

Two days of commercial support a week were allowed for the cost records and target reporting needed by the assumed Option C approach. This is a resource budget, not confirmation of payment eligibility. Its treatment against Defined Cost and Fee, and the proposed gang redeployment, both need settling before the target is agreed.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
12	1.101	Establish the working area and temporary site facilities, including initial plant transport, welfare delivery, compound preparation, temporary fencing, environmental protection and site induction arrangements, ready for the planned construction sequence, with continuing management and welfare measured separately by the week	item	8,471.68
13	1.102	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	5,205.22
14	**2.101**	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	**11,681.60**
15	2.102	Provide a temporary wastewater bypass for the six week construction and connection period, including bypass design, duty and standby pumps, pipework, installation, commissioning, fuel, daily inspection, remote alarm provision, removal and the stated emergency attendance allowance, subject to confirmation of flow and head requirements	item	22,176.00
16	3.201	Supply, lay and joint 300mm gravity sewer in footway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	641.04

F	G	H	I	J
Cost build-up 2.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Traffic management design	2	day	450.00	900.00
Initial installation	1	item	1,200.00	1,200.00
Temporary signal set	6	week	260.00	1,560.00
Signs, cones and barriers	6	week	160.00	960.00
Pedestrian access equipment	6	week	90.00	540.00
Daily inspection provision	42	day	60.00	2,520.00
Planned layout moves	5	nr	250.00	1,250.00
Call out allowance	2	nr	350.00	700.00
Final removal	1	item	800.00	800.00
Direct cost				**10,430.00**
Fee at 12%				1,251.60
Target rate per item				**11,681.60**

Traffic management was priced as one six-week signal-controlled arrangement because it serves the work area, not the sewer length. Design, installation, pedestrian measures, five moves, two call-outs and removal are included. The 42 inspection days cover weekends as well as the laying gang's working days.

The bypass has the same occupation period but a different purpose and specialist scope. A changed road layout therefore belongs in this package unless it also affects pumping access or pipework. Closures, diversions, night work and continuous manual control have not been allowed; the traffic plan needs to confirm that basis before submission.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
13	1.102	Provide the site management, engineering, commercial support, customer liaison, welfare, compound and support facilities required for one week of the stated programme, including routine coordination, record keeping and the stated standing plant allocation, but excluding the working gang, active production plant, traffic management and separately priced specialist operations	week	5,205.22
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60
15	**2.102**	Provide a temporary wastewater bypass for the six week construction and connection period, including bypass design, duty and standby pumps, pipework, installation, commissioning, fuel, daily inspection, remote alarm provision, removal and the stated emergency attendance allowance, subject to confirmation of flow and head requirements	item	**22,176.00**
16	3.201	Supply, lay and joint 300mm gravity sewer in footway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	641.04
17	3.202	Supply, lay and joint 300mm gravity sewer in carriageway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	797.70

F	G	H	I	J
Cost build-up 2.102				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Bypass design and sizing	2	day	550.00	1,100.00
Duty and standby pump sets	12	pump week	390.00	4,680.00
Bypass pipework hire	6	week	210.00	1,260.00
Installation and commissioning	2	day	1,100.00	2,200.00
Fuel provision	42	day	100.00	4,200.00
Daily inspection attendance	42	day	85.00	3,570.00
Remote alarm provision	6	week	90.00	540.00
Removal and cleaning	1	item	1,500.00	1,500.00
Direct cost				**19,050.00**
Emergency tanker attendance	0.5	day	1,500.00	750.00
Cost including identified risk				19,800.00
Fee at 12%				2,376.00
Target rate per item				**22,176.00**

The bypass was priced to keep the existing network operating while the offline sewer is built and connected. One duty and one standby set over six weeks give 12 pump weeks. The operating package also carries pipework, alarms, installation, fuel and inspections for 42 calendar days, because flows do not stop when the laying gang finishes work.

Keeping that scope in 2.102 leaves one specialist responsible for sizing and the operating arrangement. Capacity, head, discharge and response still need confirming. The half-day tanker provision is an expected risk allowance in the target, not attendance already incurred. The hire and running-cost inputs are in Appendix C.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
14	2.101	Design, install, maintain, alter and remove temporary traffic management for the stated rolling work area, including temporary signals, signs, cones, barriers, pedestrian access arrangements, daily inspection provision, planned layout moves and the stated call out allowance, for the complete planned occupation period	item	11,681.60
15	2.102	Provide a temporary wastewater bypass for the six week construction and connection period, including bypass design, duty and standby pumps, pipework, installation, commissioning, fuel, daily inspection, remote alarm provision, removal and the stated emergency attendance allowance, subject to confirmation of flow and head requirements	item	22,176.00
16	**3.201**	Supply, lay and joint 300mm gravity sewer in footway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	**641.04**
17	3.202	Supply, lay and joint 300mm gravity sewer in carriageway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	797.70
18	4.101	Rehabilitate an existing sewer chamber at the connection location, including controlled access, cleaning, local benching repairs, seal repairs, replacement cover and frame, waste removal and inspection records, based on retaining the existing chamber walls and base rather than constructing a new chamber	nr	4,754.40

F	G	H	I	J
Cost build-up 3.201				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
300mm sewer pipe	1.01	m	88.00	88.88
Jointing materials	1	m	12.00	12.00
Bedding and surround	0.502057	m3	48.00	24.10
Imported granular backfill	1.09242	m3	46.00	50.25
Five person sewer gang	0.1	day	1,200.00	120.00
13t excavator	0.1	day	127.00	12.70
6t dumper	0.1	day	37.00	3.70
Trench rammer	0.1	day	20.00	2.00
Trench support	0.1	day	140.00	14.00
Fuel and lubricants	0.1	day	90.00	9.00
Small tools	0.1	day	25.00	2.50
Plant insurance and cleaning	0.1	day	8.00	0.80
London plant allowance	0.1	day	25.00	2.50
Soil haulage	3.08025	t	16.00	49.28
Soil disposal gate fee	3.08025	t	22.00	67.77
Paving removal and disposal	0.3105	t	36.00	11.18
Footway reinstatement	0.9	m2	100.00	90.00
Direct cost				**560.66**
Local access delay allowance	0.007	day	1,672.00	11.70
Cost including identified risk				572.36
Fee at 12%				68.68
Target rate per m				**641.04**

The 30m footway section uses the five-person gang at 10m a day. Gang and plant come from Appendix A; the 0.9m wide, 2m deep trench in Appendix B sets the material quantities. The assumed 360mm pipe outside diameter is deducted from the trench volume before bedding and imported fill are priced, so that pipe dimension needs confirming.

The backfill policy here is import and disposal, not reuse. It gives 1.071m3 of net fill per metre, with soil and paving removed separately. The residual 0.007 gang and plant days per m is an access allowance beyond the normal output. Pipe, trench and reinstatement details would be checked together before the quantities go into supplier enquiries.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
15	2.102	Provide a temporary wastewater bypass for the six week construction and connection period, including bypass design, duty and standby pumps, pipework, installation, commissioning, fuel, daily inspection, remote alarm provision, removal and the stated emergency attendance allowance, subject to confirmation of flow and head requirements	item	22,176.00
16	3.201	Supply, lay and joint 300mm gravity sewer in footway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	641.04
17	**3.202**	Supply, lay and joint 300mm gravity sewer in carriageway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	**797.70**
18	4.101	Rehabilitate an existing sewer chamber at the connection location, including controlled access, cleaning, local benching repairs, seal repairs, replacement cover and frame, waste removal and inspection records, based on retaining the existing chamber walls and base rather than constructing a new chamber	nr	4,754.40
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32

F	G	H	I	J
Cost build-up 3.202				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
300mm sewer pipe	1.01	m	88.00	88.88
Jointing materials	1	m	12.00	12.00
Bedding and surround	0.502057	m3	48.00	24.10
Imported granular backfill	1.00062	m3	46.00	46.03
Five person sewer gang	0.166667	day	1,200.00	200.00
13t excavator	0.166667	day	127.00	21.17
6t dumper	0.166667	day	37.00	6.17
Trench rammer	0.166667	day	20.00	3.33
Trench support	0.166667	day	140.00	23.33
Fuel and lubricants	0.166667	day	90.00	15.00
Small tools	0.166667	day	25.00	4.17
Plant insurance and cleaning	0.166667	day	8.00	1.33
London plant allowance	0.166667	day	25.00	4.17
Soil haulage	2.91375	t	16.00	46.62
Soil disposal gate fee	2.91375	t	22.00	64.10
Paving removal and disposal	0.5175	t	36.00	18.63
Carriageway reinstatement	0.9	m2	135.00	121.50
Direct cost				**700.53**
Local access delay allowance	0.007	day	1,672.00	11.70
Cost including identified risk				712.23
Fee at 12%				85.47
Target rate per m				**797.70**

The 90m carriageway section uses the same gang at 6m a day. That lower output makes room for breaking the thicker paved construction and working within the traffic arrangement; it is not a higher daily labour charge. Carriageway surfacing is then added as its own input within the metre rate.

The trench geometry gives 0.981m3 of net fill per metre. There is less soil but more paving to remove than in footway because more of the excavation is paved construction. Appendix B keeps those waste streams separate. The pipe outside diameter and final surface detail remain to be confirmed before these quantities are used for buying.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
16	3.201	Supply, lay and joint 300mm gravity sewer in footway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	641.04
17	3.202	Supply, lay and joint 300mm gravity sewer in carriageway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	797.70
18	**4.101**	Rehabilitate an existing sewer chamber at the connection location, including controlled access, cleaning, local benching repairs, seal repairs, replacement cover and frame, waste removal and inspection records, based on retaining the existing chamber walls and base rather than constructing a new chamber	nr	**4,754.40**
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32
20	4.103	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	4,173.12

F	G	H	I	J
Cost build-up 4.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Confined space specialist crew	1.5	day	1,450.00	2,175.00
Cleaning and waste removal	1	item	480.00	480.00
Benching and repair materials	1	set	380.00	380.00
Cover and frame	1	set	520.00	520.00
Lifting and local plant	1	day	210.00	210.00
Local surface completion	2	m2	135.00	270.00
Inspection and records	0.5	day	420.00	210.00
Direct cost				**4,245.00**
Fee at 12%				509.40
Target rate per nr				**4,754.40**

The three retained chambers were priced as repair work, with 1.5 days of confined-space specialist attendance per chamber. Cleaning, benching materials, a new cover, local plant and completion were kept in that package because they are needed to restore the existing structure, not to lay the new sewer.

Those specialists are planned alongside the main gang; their time has not been added again to the laying resources. The allowance depends on the chambers being suitable for repair. A replacement would need a different excavation, material and access build-up, so the condition survey and repair limit need to travel with the tender and handover.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
17	3.202	Supply, lay and joint 300mm gravity sewer in carriageway, in an offline trench 0.90m wide and 2.00m deep to formation, including excavation, temporary support, bedding and surround, imported backfill, surplus material disposal and permanent reinstatement, with flow management, chambers, lateral connections and acceptance testing measured separately	m	797.70
18	4.101	Rehabilitate an existing sewer chamber at the connection location, including controlled access, cleaning, local benching repairs, seal repairs, replacement cover and frame, waste removal and inspection records, based on retaining the existing chamber walls and base rather than constructing a new chamber	nr	4,754.40
19	**4.102**	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	**1,776.32**
20	4.103	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	4,173.12
21	5.101	Clean and inspect the completed sewer by CCTV, including survey mobilisation, controlled flushing, recording the full renewed length and associated connections, coding the observations and issuing the video and survey report for client review, after completion of the main installation and connection works	m	20.07

F	G	H	I	J
Cost build-up 4.102				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Branch and connection fittings	1	set	280.00	280.00
Lateral pipework	2	m	38.00	76.00
Connection gang	0.5	day	1,200.00	600.00
Connection plant and fuel	0.5	day	472.00	236.00
Additional local spoil	2	t	38.00	76.00
Additional bedding and fill	1	m3	48.00	48.00
Local permanent reinstatement	2	m2	135.00	270.00
Direct cost				**1,586.00**
Fee at 12%				190.32
Target rate per nr				**1,776.32**

Eight laterals were allowed, each with 2m of connection pipework. The branch fittings, half-day gang and plant allowance, additional bedding and local completion cover the short connection from the existing lateral to the renewed sewer. They are counted separately because their number and length do not follow the 120m main run.

Ordinary sewer-trench work is already in the linear rate. This item carries only the extra branch work and its spoil. The developed connection plan needs to confirm the 2m basis before enquiry; a longer run would change this local allowance rather than add the main excavation again.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
18	4.101	Rehabilitate an existing sewer chamber at the connection location, including controlled access, cleaning, local benching repairs, seal repairs, replacement cover and frame, waste removal and inspection records, based on retaining the existing chamber walls and base rather than constructing a new chamber	nr	4,754.40
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32
20	**4.103**	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	**4,173.12**
21	5.101	Clean and inspect the completed sewer by CCTV, including survey mobilisation, controlled flushing, recording the full renewed length and associated connections, coding the observations and issuing the video and survey report for client review, after completion of the main installation and connection works	m	20.07
22	5.102	Complete the agreed sewer acceptance testing and handover checks, including specialist attendance, test equipment, preparation of records and coordinated inspection of the completed connections, before removing temporary flow management, with final CCTV survey measured separately and no allowance for extensive defect correction	item	2,329.60

F	G	H	I	J
Cost build-up 4.103				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Transition fittings and seals	1	set	620.00	620.00
Tie in gang	1	day	1,200.00	1,200.00
Tie in plant and fuel	1	day	472.00	472.00
Specialist access attendance	0.5	day	1,450.00	725.00
Benching and concrete materials	1	set	190.00	190.00
Additional spoil disposal	3	t	38.00	114.00
Local permanent reinstatement	3	m2	135.00	405.00
Direct cost				**3,726.00**
Fee at 12%				447.12
Target rate per nr				**4,173.12**

The two tie-ins were priced for connecting the completed renewal into the existing network within the bypass window. A gang and plant day per connection covers assembling the transition fittings and completing the local benching, with separate specialist access attendance. That work differs from laying an uninterrupted length of sewer, so it has its own counted item.

Pumping is already in 2.102 and has not been added again here. The connection sequence needs checking against that package, particularly the access window and when flows can be transferred. Any unresolved restriction would be recorded at submission and carried through handover with the affected resources identified.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32
20	4.103	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	4,173.12
21	**5.101**	Clean and inspect the completed sewer by CCTV, including survey mobilisation, controlled flushing, recording the full renewed length and associated connections, coding the observations and issuing the video and survey report for client review, after completion of the main installation and connection works	m	**20.07**
22	5.102	Complete the agreed sewer acceptance testing and handover checks, including specialist attendance, test equipment, preparation of records and coordinated inspection of the completed connections, before removing temporary flow management, with final CCTV survey measured separately and no allowance for extensive defect correction	item	2,329.60
23	9.101	Remove the remaining site facilities and collect plant after acceptance of the completed sewer, reinstate the compound and access areas, clear the site and submit the as built asset information, test records and completion file, with removal of the bypass and traffic management included in their respective packages	item	6,106.24

F	G	H	I	J
Cost build-up 5.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Survey crew allocation	0.008333	day	950.00	7.92
Cleaning tanker allocation	0.008333	day	780.00	6.50
Survey reporting	0.008333	day	420.00	3.50
Direct cost				**17.92**
Fee at 12%				2.15
Target rate per m				**20.07**

Final CCTV was allowed as one visit over the completed 120m sewer, with a survey crew, cleaning tanker and reporting day spread over that length. The metre rate is therefore an allocation of that visit, rather than an assumption that each extra metre can be surveyed independently at the same cost.

The earlier condition survey remains in 0.101. Keeping the visits separate gives the specialist enquiry a clear initial-survey scope and a clear acceptance scope. If the renewal is handed over in several sections, the mobilisation, cleaning and reporting time would need reviewing before this rate is reused.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32
20	4.103	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	4,173.12
21	5.101	Clean and inspect the completed sewer by CCTV, including survey mobilisation, controlled flushing, recording the full renewed length and associated connections, coding the observations and issuing the video and survey report for client review, after completion of the main installation and connection works	m	20.07
22	**5.102**	Complete the agreed sewer acceptance testing and handover checks, including specialist attendance, test equipment, preparation of records and coordinated inspection of the completed connections, before removing temporary flow management, with final CCTV survey measured separately and no allowance for extensive defect correction	item	**2,329.60**
23	9.101	Remove the remaining site facilities and collect plant after acceptance of the completed sewer, reinstate the compound and access areas, clear the site and submit the as built asset information, test records and completion file, with removal of the bypass and traffic management included in their respective packages	item	6,106.24

F	G	H	I	J
Cost build-up 5.102				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Acceptance test crew	1	day	980.00	980.00
Test equipment and consumables	1	set	260.00	260.00
Client inspection attendance	1	day	420.00	420.00
Test and connection records	1	day	420.00	420.00
Direct cost				**2,080.00**
Fee at 12%				249.60
Target rate per item				**2,329.60**

Acceptance testing was kept beside, rather than inside, final CCTV because the survey record and the specified test evidence are different deliverables. This item carries the test crew, equipment, inspection attendance and connection records. The camera crew and tanker are already in 5.101.

The final sewer specification needs to settle the test method and witness requirements before the specialist allowance is agreed. No repeat-testing allowance has been included in this build-up. That is an estimating limit to record at tender review; it does not remove any obligation to correct and retest defective work under the live contract.

	A	B	C	D
	Item	**Description**	**Unit**	**Rate £**
19	4.102	Reconnect an existing lateral drain to the renewed sewer using the stated branch arrangement, including local excavation beyond the main trench, short connection pipework, compatible fittings, local support, backfill, waste removal and permanent reinstatement, complete with a local connection check	nr	1,776.32
20	4.103	Connect the renewed sewer to the existing upstream or downstream asset during a planned flow management window, including local opening, compatible transition fittings, benching adjustment, sealing, additional excavation and local reinstatement, with the temporary bypass already provided under its separate package	nr	4,173.12
21	5.101	Clean and inspect the completed sewer by CCTV, including survey mobilisation, controlled flushing, recording the full renewed length and associated connections, coding the observations and issuing the video and survey report for client review, after completion of the main installation and connection works	m	20.07
22	5.102	Complete the agreed sewer acceptance testing and handover checks, including specialist attendance, test equipment, preparation of records and coordinated inspection of the completed connections, before removing temporary flow management, with final CCTV survey measured separately and no allowance for extensive defect correction	item	2,329.60
23	**9.101**	Remove the remaining site facilities and collect plant after acceptance of the completed sewer, reinstate the compound and access areas, clear the site and submit the as built asset information, test records and completion file, with removal of the bypass and traffic management included in their respective packages	item	**6,106.24**

F	G	H	I	J
Cost build-up 9.101				
Description	**Quantity**	**Unit**	**Rate £**	**Amount £**
Plant collection movements	2	nr	600.00	1,200.00
Welfare and store collection	2	nr	350.00	700.00
Site clearance gang	1	day	1,200.00	1,200.00
Clearance plant and fuel	1	day	472.00	472.00
Compound restoration	80	m2	7.00	560.00
As built asset records	2	day	420.00	840.00
Handover review	1	day	480.00	480.00
Direct cost				**5,452.00**
Fee at 12%				654.24
Target rate per item				**6,106.24**

The closing item covers one clearance day, the remaining plant and welfare collections, restoration of the 80m2 compound and the asset records. The gang and plant rates come from the same resource library as the installation, but the time here is for clearing the site rather than laying sewer.

Pump removal is already in the bypass package and traffic removal in 2.101. They have not been carried again in demobilisation. The compound condition and required asset records need settling with the delivery team, so the closing budget covers the remaining work without paying twice for a specialist's removal.

Where the target lands

The build-ups give a target of £225,823.44 excluding VAT, with the assumed 12% Fee included. The item schedule retains the pricing detail, while the four activity groups bring those same costs together for the target.

Item	Description	Quantity	Unit	Rate £	Amount £
0.101	Surveys and investigations	1	item	7,123.20	7,123.20
0.102	Design and work planning	1	item	6,451.20	6,451.20
1.101	Site mobilisation	1	item	8,471.68	8,471.68
1.102	Site preliminaries	6	week	5,205.22	31,231.32
2.101	Traffic management package	1	item	11,681.60	11,681.60
2.102	Temporary flow management	1	item	22,176.00	22,176.00
3.201	300mm sewer in footway	30	m	641.04	19,231.20
3.202	300mm sewer in carriageway	90	m	797.70	71,793.00
4.101	Existing chamber rehabilitation	3	nr	4,754.40	14,263.20
4.102	Lateral reconnection	8	nr	1,776.32	14,210.56
4.103	Sewer tie in	2	nr	4,173.12	8,346.24
5.101	Final sewer CCTV	120	m	20.07	2,408.40
5.102	Acceptance testing and records	1	item	2,329.60	2,329.60
9.101	Demobilisation and handover	1	item	6,106.24	6,106.24
	Initial target				**225,823.44**

Price composition	Amount £
Direct cost and allowances	199,474.02
Identified risk in priced units	2,154.00
Fee assumption	24,195.42
Total	**225,823.44**

Activity target	Amount £
Surveys, design and establishment	22,046.08
Site support, traffic and bypass	65,088.92
Sewer, chambers and connections	127,844.20
Acceptance and handover	10,844.24

Across the 120m route, the target works out at £1,881.86 per m. That includes chambers, connections, site support and bypass, rather than sewer laying alone. Weekly preliminaries account for 13.8% of the target; traffic management and bypass together account for 15.0%.

For the assumed Option C work order, these activity values form the target. Payment would follow the relevant Defined Cost and Fee provisions. The included risk allowances would not be payable simply because they appear in the estimate.

Before the estimate is handed over

The target needs to be handed over with the six-week sequence, not just the schedule total. The laying gang, chamber specialists and bypass crew have different work to do. Their attendance overlaps, while pumps and inspections continue through weekends. Those arrangements explain why the support packages cannot be reduced simply in proportion to the sewer metres laid.

The design review should work through the outstanding points against those packages. Pipe size and trench detail change bedding, fill and spoil. Chamber condition decides whether the repair allowance is still appropriate. Lateral lengths alter the local connections, while pump duty and discharge affect the bypass. Any open point needs an owner and an affected item in the tender qualifications and handover record.

Supplier returns need to cover those same boundaries. A pumping quotation should identify design, hire, operating attendance and removal; a chamber return should distinguish repair from replacement. The excavator, dumper and rammer inputs are public hire benchmarks, converted in the model to net hire and five paid days. They are not London delivery offers. Materials, disposal and specialist inputs also need matching enquiries before the resource budgets are committed.

Under the assumed Option C basis, the cost headings support the target but do not decide payment eligibility. Fee, cost-component treatment, share data, X1 and amendments need to be settled against the actual call-off. Job-specific commercial support and insurance allocations deserve particular attention so they are not carried as both a direct cost and part of Fee.

The original target, implemented changes, forecast and cost records would remain separate during delivery. The package build-ups explain a movement; the contract establishes whether it changes the target or payment. This resource library could also support measured or activity-priced work, but a reactive term service would need response cover and task allowances that are not included in this planned renewal.

Appendix A Labour, plant and programme
Appendix B Materials, quantities and spoil
Appendix C Preliminaries and site packages
Appendix D Resource library and compatible units

	A	B	C	D	E	F
1	**Appendix A Labour, plant and programme**					
2	Daily costs before commercial additions. Labour and other unreferenced allowances are estimating inputs; linked plant prices are public hire benchmarks.					
3	**Gang cost**					
4	**Description**	**Number**	**Hours**	**Cost per hr £**	**Cost per day £**	**Basis**
5	Ganger	1	8	34.00	272.00	Employer cost
6	Pipe layer	1	8	32.00	256.00	Employer cost
7	Excavator operator	1	8	32.00	256.00	Employer cost
8	Groundworker	2	8	26.00	416.00	Employer cost
9	**Gang total**	**5**			**1,200.00**	**Eight-hour day**
10	**Plant cost and retained hire**					
11	**Description**	**Number**	**Unit**	**Working day £**	**Standing day £**	**Basis**
12	13t excavator	1	day	127.00	127.00	Net hire benchmark
13	6t dumper	1	day	37.00	37.00	Net hire benchmark
14	Trench rammer	1	day	20.00	20.00	Net hire benchmark
15	Trench support	1	day	140.00	140.00	Exercise input
16	Fuel and lubricants	1	day	90.00	0.00	Exercise input
17	Small tools	1	day	25.00	0.00	Exercise input
18	Plant insurance and cleaning	1	day	8.00	8.00	Exercise input
19	London availability allowance	1	day	25.00	25.00	Exercise input
20	**Plant total**			**472.00**	**357.00**	**Operator in gang**
21	Standing hire retains the excavation plant, support and insurance. Fuel and small tools are charged on working days only. Delivery and collection remain separate.					
22	**Output used by the installation units**					
23	**Description**	**Length m**	**Output m per day**	**Days**	**Daily cost £**	**Cost per m £**
24	Footway	30	10	3	1,672.00	167.20
25	Carriageway	90	6	15	1,672.00	278.67
26	**Laying total**	**120**		**18**		
27	**Programme and occupation**					
28	**Description**	**Quantity**	**Unit**	**Resource rate £**	**Cost £**	**Treatment**
29	Site window	6	week			Five paid days
30	Available site days	30	day			Window, not float
31	Laying	18	day	1,672.00	30,096.00	Installation units
32	Laterals	4	day	1,672.00	6,688.00	4.102
33	Sewer tie-ins	2	day	1,672.00	3,344.00	4.103
34	Chamber crew	4.5	day	1,450.00	6,525.00	Parallel specialist
35	Clearance	1	day	1,672.00	1,672.00	9.101
36	Residual access delay	0.84	day	1,672.00	1,404.48	Days before rounding
37	**Main-gang time accounted for**	**25.84**	**day**			**Chambers parallel**
38	Unallocated main-gang days	4.16	day			Gang redeployed
39	Standing plant over balance	4.16	day	357.00	1,485.12	In weekly prelims
40	Standing allocation per week	0.693333	day	357.00	247.52	1.102
41	Traffic inspection period	42	day			Calendar days
42	Bypass operating period	42	day			Calendar days
43	The 4.16 days above carry retained hire, with the gang moved to other work. Add standby labour if that cannot be done. Priced risk is rounded by unit; programme days use the original allowance.					

Return to the composite cost engine

	A	B	C	D	E	F
1	**Appendix B Materials, quantities and spoil**					
2	Material prices and trench dimensions are estimating assumptions. This sheet covers the linear trench; additional local work at chambers, laterals and connections sits in those items.					
3	**Material, disposal and surface inputs**					
4	**Description**	**Quantity**	**Unit**	**Rate £**	**Cost £**	**Used in**
5	300mm pipe	1	m	88.00	88.00	Installation
6	Jointing materials	1	m	12.00	12.00	Installation
7	Bedding and surround	1	m3	48.00	48.00	Installation
8	Imported backfill	1	m3	46.00	46.00	Paved areas
9	Soil haulage	1	t	16.00	16.00	Exported soil
10	Soil gate fee	1	t	22.00	22.00	Exported soil
11	Paving waste removal	1	t	36.00	36.00	Paved areas
12	Footway reinstatement	1	m2	100.00	100.00	Installation
13	Carriageway reinstatement	1	m2	135.00	135.00	Installation
14	**Trench geometry and quantities per m**					
15	**Description**	**Unit**	**Footway**	**Carriageway**		**Route total**
16	Length	m	30	90		120
17	Trench width	m	0.9	0.9		
18	Depth to formation	m	2	2		
19	Pipe outside diameter	m	0.36	0.36		
20	Paving thickness	m	0.15	0.25		
21	**Total excavation**	**m3**	**1.8**	**1.8**		
22	Paving excavation	m3	0.135	0.225		
23	Soil excavation	m3	1.665	1.575		
24	Pipe displacement	m3	0.101788	0.101788		
25	Bedding and surround, net	m3	0.492212	0.492212		
26	Bedding bought, including 2%	m3	0.502057	0.502057		
27	Backfill space, net	m3	1.071	0.981		
28	Soil retained for reuse	m3	0	0		
29	Imported backfill, including 2%	m3	1.09242	1.00062		
30	Exported soil	m3	1.665	1.575		
31	Exported soil mass	t	3.08025	2.91375		
32	Paving waste mass	t	0.3105	0.5175		
33	**Route purchases and exports**					
34	**Description**	**Unit**	**Footway**	**Carriageway**		**Route total**
35	Pipe ordered	m	30.3	90.9		121.2
36	Bedding ordered	m3	15.061699	45.185098		60.246798
37	Imported backfill ordered	m3	32.7726	90.0558		122.8284
38	Soil retained	m3	0	0		0
39	Soil exported	t	92.4075	262.2375		354.645
40	Paving waste exported	t	9.315	46.575		55.89
41	Surface reinstatement	m2	27	81		108
42	Soil density is 1.85t per m3 and paving density is 2.30t per m3. Purchased pipe includes 1% cutting loss. Bedding and imported fill include 2% waste. Tonnage is not increased by a bulking factor.					
43	**Fittings and additional local materials**					
44	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
45	Benching and repair materials	1	set	380.00	380.00	4.101
46	Cover and frame	1	set	520.00	520.00	4.101
47	Branch and connection fittings	1	set	280.00	280.00	4.102
48	Lateral pipework	2	m	38.00	76.00	4.102
49	Transition fittings and seals	1	set	620.00	620.00	4.103
50	Benching and concrete materials	1	set	190.00	190.00	4.103

Return to the composite cost engine

	A	B	C	D	E	F
1	**Appendix C Preliminaries and site packages**					
2	The preliminaries below are for one week. Traffic and any flow-management quantities cover the whole occupation. These costs are already included in the priced schedule.					
3	**Weekly preliminaries**					
4	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
5	Site agent	5	day	340.00	1,700.00	1.102
6	Site engineer	1.5	day	440.00	660.00	1.102
7	Project commercial support	2	day	480.00	960.00	1.102
8	Customer liaison	1	day	300.00	300.00	1.102
9	Welfare cabin hire	1	week	260.00	260.00	1.102
10	Compound occupation	1	week	180.00	180.00	1.102
11	Welfare services	1	week	90.00	90.00	1.102
12	Site insurance allocation	1	week	100.00	100.00	1.102
13	Support vehicle	1	week	150.00	150.00	1.102
14	Standing plant allocation	0.693333	day	357.00	247.52	1.102
15	**Cost before commercial additions**				**4,647.52**	**1.102**
16	**Traffic management for the work order**					
17	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
18	Traffic management design	2	day	450.00	900.00	2.101
19	Initial installation	1	item	1,200.00	1,200.00	2.101
20	Temporary signal set	6	week	260.00	1,560.00	2.101
21	Signs, cones and barriers	6	week	160.00	960.00	2.101
22	Pedestrian access equipment	6	week	90.00	540.00	2.101
23	Daily inspection provision	42	day	60.00	2,520.00	2.101
24	Planned layout moves	5	nr	250.00	1,250.00	2.101
25	Call out allowance	2	nr	350.00	700.00	2.101
26	Final removal	1	item	800.00	800.00	2.101
27	**Cost before commercial additions**				**10,430.00**	**2.101**
28	**Flow management for 42 calendar days**					
29	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
30	Bypass design and sizing	2	day	550.00	1,100.00	2.102
31	Duty and standby pump sets	12	pump week	390.00	4,680.00	2.102
32	Bypass pipework hire	6	week	210.00	1,260.00	2.102
33	Installation and commissioning	2	day	1,100.00	2,200.00	2.102
34	Fuel provision	42	day	100.00	4,200.00	2.102
35	Daily inspection attendance	42	day	85.00	3,570.00	2.102
36	Remote alarm provision	6	week	90.00	540.00	2.102
37	Removal and cleaning	1	item	1,500.00	1,500.00	2.102
38	Emergency tanker attendance	0.5	day	1,500.00	750.00	Risk in 2.102
39	**Cost before commercial additions**				**19,800.00**	**2.102**
40	**Mobilisation**					
41	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
42	Plant delivery movements	2	nr	600.00	1,200.00	1.101
43	Welfare and store deliveries	2	nr	350.00	700.00	1.101
44	Set up gang	2	day	1,200.00	2,400.00	1.101
45	Set up plant and fuel	2	day	472.00	944.00	1.101
46	Compound surface protection	80	m2	9.00	720.00	1.101
47	Fencing and site notices	1	item	950.00	950.00	1.101
48	Environmental protection	1	item	650.00	650.00	1.101
49	**Cost before commercial additions**				**7,564.00**	**1.101**
50	Site commercial support is separated from head office recovery. Insurance and indirect allocations still need a live contract review. Full closures, out-of-hours work and additional working fronts are not included in the traffic package.					

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	A	B	C	D	E	F
1	**Appendix D Resource library and compatible units**					
2	The compatible units draw from this resource library. Use each unit with its schedule description; a matching pipe diameter alone does not make the rate suitable for different scope or working conditions.					
3	**Planning, investigation and specialist resources**					
4	**Description**	**Quantity**	**Unit**	**Rate £**	**Amount £**	**Used in**
5	Survey planning engineer	1	day	460.00	460.00	0.101
6	Utility detection crew	1	day	950.00	950.00	0.101
7	Trial hole complete	1	nr	360.00	360.00	0.101
8	Material classification test	1	nr	160.00	160.00	0.101
9	Reporting and drawing production	1	day	420.00	420.00	Several items
10	Design engineer	1	day	480.00	480.00	0.102
11	Temporary works designer	1	day	550.00	550.00	0.102
12	Permit application allowance	1	nr	150.00	150.00	0.102
13	Confined space specialist crew	1	day	1,450.00	1,450.00	4.101 and 4.103
14	Initial CCTV survey	1	m	6.50	6.50	0.101
15	Final survey crew	1	day	950.00	950.00	5.101
16	Cleaning tanker	1	day	780.00	780.00	5.101
17	Acceptance test crew	1	day	980.00	980.00	5.102
18	Emergency tanker	1	day	1,500.00	1,500.00	Risk in 2.102
19	**Compatible unit register**					
20	**Description**	**Item**	**Unit**	**Rate £**	**Quantity**	**Rate purpose**
21	Surveys and investigations	0.101	item	7,123.20	1	Target build-up
22	Design and work planning	0.102	item	6,451.20	1	Target build-up
23	Site mobilisation	1.101	item	8,471.68	1	Target build-up
24	Site preliminaries	1.102	week	5,205.22	6	Target build-up
25	Traffic management package	2.101	item	11,681.60	1	Target build-up
26	Temporary flow management	2.102	item	22,176.00	1	Target build-up
27	300mm sewer in footway	3.201	m	641.04	30	Target build-up
28	300mm sewer in carriageway	3.202	m	797.70	90	Target build-up
29	Existing chamber rehabilitation	4.101	nr	4,754.40	3	Target build-up
30	Lateral reconnection	4.102	nr	1,776.32	8	Target build-up
31	Sewer tie in	4.103	nr	4,173.12	2	Target build-up
32	Final sewer CCTV	5.101	m	20.07	120	Target build-up
33	Acceptance testing and records	5.102	item	2,329.60	1	Target build-up
34	Demobilisation and handover	9.101	item	6,106.24	1	Target build-up
35	**Commercial inputs and recovery**					
36	**Description**	**Input**	**Unit**	**Basis**	**Treatment**	**Used in**
37	Fee	12	%	Cost incl. risk	Once	Target build-up
38	Share ranges	Not set		Live terms	Not modelled	Target review
39	Residual access time	0.007	day per m	Gang and plant	In linear units	Programme also
40	Price base	June 2026		Unescalated	No forward uplift	Exercise
41	X1 price adjustment	Assumed		Indices not set	Terms to confirm	Call-off review
42	Schedule quantities	Stated		Worked scenario	Not guaranteed	This work order
43	Rates and commercial additions are rounded by unit. The summary uses those rates and the stated quantities. Working resource quantities keep their full precision. Do not add overhead, profit or Fee again.					

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