

**East Witney, Shores Green Slip Roads
Engineer's Preliminary Estimate**

**WE01386
June 2010**

TABLE 1 : Cost Summary, Sub-Totals and Totals

Works/Item	Cost Option 1	Cost Option 2 (Crib Wall)
100 Series: Preliminaries (20%)	£ 506,816	£ 564,339
200 Series: Site Clearance	£ 13,709	£ 13,709
300 Series: Fencing	£ 17,634	£ 8,634
400 Series: Safety Fences etc.	£ 11,078	£ 11,078
500 Series: Drainage and Ducts	£ 218,875	£ 218,875
600 Series: Earthworks	£ 1,382,716	£ 1,727,713
700 Series: Pavements	£ 587,976	£ 587,976
1100 Series: Kerbs, Footways & Paved Areas	£ 54,969	£ 54,969
1200 Series: Traffic Signs and Road Markings	£ 16,550	£ 16,550
1300, 1400 Series: Road Lighting - Electrical Work	£ 18,540	£ 18,540
3000 Series: Landscaping and Ecology	£ 62,032	£ 13,652
Utilities	£ 165,000	£ 145,000
Traffic Management	£ 150,000	£ 150,000
Base Cost (2010 prices)	£ 3,205,895	£ 3,531,035
15% Contingencies	£ 480,884	£ 480,884
Risk Items - provision of replacement lay-bys (2no.)	£ 200,000	£ 200,000
Land purchase costs	£ 200,000	£ 200,000
Total (2010)	£ 4,086,780	£ 4,411,920

Notes:

Utility cost indicative only
Accommodation works assumed to be included in Contingencies

200 Series: Site Clearance

Item	Quantity	Units	Unit Cost	Cost	Assumptions
General site clearance					
Heavy density wooded	0.5	ha	£3,800.00	£ 1,900	
Take up or down and set aside for re-use					
Double side corrugated beam	300	m	£16.60	£ 4,980	
Chamber cover and frame	4	nr	£3.30	£ 13	
Gully grating and frame	10	nr	£3.30	£ 33	
Take up or down and remove to tip off site					
Precast concrete kerbs and channel	100	m	£6.55	£ 655	
Timber fence	600	m	£10.00	£ 6,000	
Traffic signs	5	nr	£25.50	£ 128	
Total				£ 13,709	

300 Series: Fencing

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Fencing, Gates and Stiles					
Timber fence to highway boundary	1,150	m	£15.00	£ 17,250	
Timber stiles	3	m	£128.00	£ 384	
Total				£ 17,634	

300 Series: Fencing

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Fencing, Gates and Stiles					
Timber fence to highway boundary	550	m	£15.00	£ 8,250	
Timber stiles	3	m	£128.00	£ 384	
Total				£ 8,634	

400 Series: Safety Fences etc.

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Beam Safety Barriers					
Remove from store and re-erect double side tensioned corrugated beam	300	m	£19.50	£ 5,850	
Post with concrete base	65	nr	£61.20	£ 3,978	
Terminal sections	2	nr	£625.00	£ 1,250	
Total				£ 11,078	

500 Series: Drainage and Ducts

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Drains and Service Ducts					
150mm clay pipe with type Z concrete bed and surround	250	m	£ 89.00	£ 22,250.00	
750mm dia pipes culvert in trench	20	m	£ 388.00	£ 7,760.00	
Two 100mm diameter service ducts in trench	300	m	£ 57.00	£ 17,100.00	
Excavation of V-section ditch, unlined 1.5-2.0 m²					
Excavation of ditch, lined with precast concrete slabs 1.5-2.0 m ²	200	m	£ 112.20	£ 22,440.00	Provisional
Filter Drains					
150mm dia filter drain	445	m	£ 65.00	£ 28,925.00	
225mm dia filter drain	400	m	£ 75.00	£ 30,000.00	
300mm dia filter drain	400	m	£ 109.00	£ 43,600.00	
Chambers and Gullies					
Precast concrete gullies, trapped 450mm dia x 900mm.	55	nr	£ 300.00	£ 16,500.00	
Reprovisioned road gullies	4	nr	£ 150.00	£ 600.00	
1200 dia concrete chamber catchpit	12	nr	£ 1,350.00	£ 16,200.00	
Concrete headwalls	2	nr	£ 3,000.00	£ 6,000.00	
Total				£ 218,875	

600 Series: Earthworks

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Excavation					
Topsoil strip 150mm thick and stockpile	5,239	m ³	£ 78.70	£ 412,289.63	
General excavation using backacters	75,557	m ³	£ 5.00	£ 377,787.00	
Excavation of hard material - pavements	400	m ³	£ 52.20	£ 20,880.00	
Deposition of Fill					
Deposition of material in embankments etc.	1,165	m ³	£ 1.00	£ 1,165.00	
Disposal of Material					
Disposal of surplus material off site - assume 5km haul distance	74,392	m ³	£ 6.90	£ 513,307.56	
Imported Fill					
Imported granulat fill - 6N rockfill	200	m ³	£ 32.00	£ 6,400.00	Provisional
Imported capping material	200	m ³	£ 25.00	£ 5,000.00	Provisional
Compaction of Fill					
Compaction of material in embankments	1,165	m ³	£ 0.90	£ 1,048.50	
Compaction of capping material	200	m ³	£ 1.62	£ 324.00	
Soft Spots and Other Voids					
Excavtion of soft spots below formation	200	m ³	£ 6.20	£ 1,240.00	
Filling of soft spots below formation	200	m ³	£ 37.10	£ 7,420.00	
Topsoiling and Storeage of Topsoil					
Topsoiling 150mm thick to verges and side slopes	23,796	m ²	£ 0.45	£ 10,708.20	
Completion of Formation					
Completion of Formation	34,925	m ²	£ 0.72	£ 25,146.00	
Total				£ 1,382,715.89	

600 Series: Earthworks

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Excavation					
Topsoil strip 150mm thick and stockpile	2,821	m ³	£ 78.70	£ 221,981.22	
General excavation using backacters	36,795	m ³	£ 5.00	£ 183,972.75	
Excavation of hard material - pavements	400	m ³	£ 52.20	£ 20,880.00	
Deposition of Fill					
Deposition of material in embankments etc.	1,165	m ³	£ 1.00	£ 1,165.00	
Disposal of Material					
Disposal of surplus material off site - assume 5km haul distance	35,630	m ³	£ 6.90	£ 245,843.90	
Imported Fill					
Imported granulat fill - 6N rockfill	200	m ³	£ 32.00	£ 6,400.00	Provisional
Imported capping material	200	m ³	£ 25.00	£ 5,000.00	Provisional
Compaction of Fill					
Compaction of material in embankments	1,165	m ³	£ 0.90	£ 1,048.50	
Compaction of capping material	200	m ³	£ 1.62	£ 324.00	
Soft Spots and Other Voids					
Excavtion of soft spots below formation	200	m ³	£ 6.20	£ 1,240.00	
Filling of soft spots below formation	200	m ³	£ 37.10	£ 7,420.00	
Topsoiling and Storeage of Topsoil					
Topsoiling 150mm thick to verges and side slopes	7,675	m ²	£ 0.45	£ 3,453.75	
Completion of Formation					
Completion of Formation	18,804	m ²	£ 0.72	£ 13,538.88	
Crib Walling					
Crib Walling precast concrete units, stone infill 6.0m high	360	m	£ 1,590.00	£ 572,400.00	
Crib Walling precast concrete units, stone infill 4.0m high	285	m	£ 1,097.00	£ 312,645.00	
Crib Walling precast concrete units, stone infill 2.5m high	120	m	£ 700.00	£ 84,000.00	
Crib Walling precast concrete units, stone infill 1.5m high	145	m	£ 320.00	£ 46,400.00	
Total				£ 1,727,713.00	

700 Series: Pavements

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Pavement (Flexible)					
150mm sub base type 1	1,679	m ³	£34.50	£ 57,938	
220mm DBM	10,029	m ²	£28.50	£ 285,827	
60mm binder course	10,029	m ²	£10.30	£ 103,299	
40mm surface course	11,129	m ²	£9.60	£ 106,838	
Tack coat Bituminous Spray BS 434 K1-40 to DTp clause 920, large areas over 20m ²	11,129	m ²	£0.70	£ 7,790	
Anti Skid surfacing	730	m ²	£20.50	£ 14,965	
Cold Milling					
Milling pavement 40mm deep; sacrificing surface	200	m ²	£5.60	£ 1,120	
Milling pavement 40mm deep; sacrificing surface	1,100	m ²	£5.60	£ 6,160	Resurface existing road 150m length say.
Milling pavement 100mm deep; sacrificing surface	200	m ²	£9.20	£ 1,840	
Saw cut existing pavement 100m deep	400	m	£5.50	£ 2,200	
Total				£ 587,976	

1100 Series: Kerbs, Footways & Paved Areas

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Concret Kebs					
Concrete kerb 125x250 MB2 on concrete base	2,165.0	m	£17.60	£ 38,104	
Concrete edging 255mm x 50mm	320.0	m	£14.50	£ 4,640	
Footways and Paved Areas					
Sub-base 200mm thick	440.0	m ²	£7.00	£ 3,080	
75mm DBM base	440.0	m ²	£12.50	£ 5,500	
25mm DBM surface course	540.0	m ²	£6.75	£ 3,645	
Total				£ 54,969	

1200 Series: Traffic Signs and Road Markings

Item	Quantity	Units	Unit Cost	Cost	Assumptions
ADS signs 11.5m2	4	nr	£ 1,650.00	£ 6,600	
Concrete bases for above	4	nr	£ 1,250.00	£ 5,000	
Misc. small road signs	10	nr	£ 50.00	£ 500	
Misc. medium road signs	4	nr	£150.00	£ 600	
Marker posts	10	nr	£25.00	£ 250	
Road Markings	3,000		£1.20	£ 3,600	
Total				£ 16,550	

1300, 1400 Series: Road Lighting - Electrical Work

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Lighting columns 10m nominal height	12	nr	£690.00	£ 8,280	
Laterns for above	12	nr	£530.00	£ 6,360	
Trench for cable	100	m	£16.00	£ 1,600	
Cable	100	m	£9.00	£ 900	
Feeder pillars	2	nr	£700.00	£ 1,400	
Total				£ 18,540	

3000 Series: Landscaping and Ecology

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Ground preparation and cultivation					
Supply and incorporate cultivation additives into topsoil by hand (1 m ³ /20m ²)	3,569	m ³	5.50	£ 19,632	
Seeding and turfing					
Grass seeding	5,000	m ²	1.00	£ 5,000	
Trees - light tree - assume 3m spacing	16,121	m ²	2.32	£ 37,401	3m spacing = 0.1111 trees/m ² and slopes replanted.
Total				£ 62,032	

3000 Series: Landscaping and Ecology

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Ground preparation and cultivation					
Supply and incorporate cultivation additives into topsoil by hand (1 m ³ /20m ²)	1,151	m ³	5.50	£ 6,332	
Seeding and turfing					
Grass seeding	5,000	m ²	1.00	£ 5,000	
Trees - light tree - assume 3m spacing	1,000	m ²	2.32	£ 2,320	3m spacing = 0.1111 trees/m ² and slopes replanted.
Total				£ 13,652	

Option 6

Utilities

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Utility Diversions					
Move 33kv posts and cable	1			£ 75,000	
Move 11kv posts and cable				£ 50,000	
Protection to gas main				£ 20,000	
150mm water main diversion				£ 20,000	
Total				£ 165,000	

Utilities

Item	Quantity	Units	Unit Cost	Cost	Assumptions
Utility Diversions					
Move 33kv posts and cable	1			£ 75,000	
Move 11kv posts and cable				£ 50,000	
Protection to gas main				£ 20,000	
Total				£ 145,000	

Traffic management

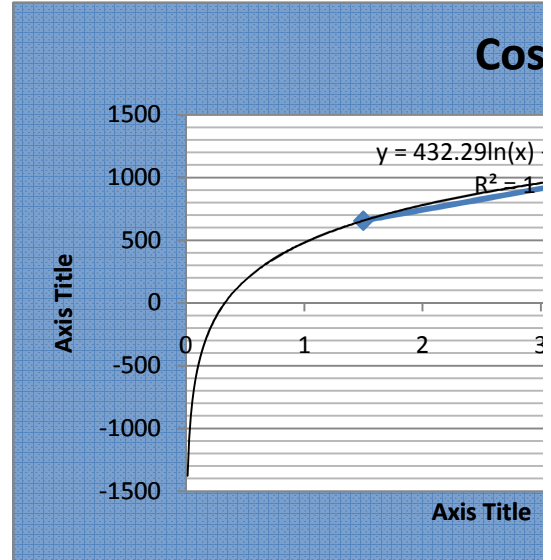
Item	Quantity	Units	Unit Cost	Cost	Assumptions
Traffic Management	1	sum	£150,000	£ 150,000	
Total				£ 150,000	

Item	Quantity	Units	Unit Cost	Cost
Excavation etc	525	m3	£ 12.00	£ 6,300.00
Pavement	1,050	m2	£ 100.00	£ 105,000.00
Kerbs	300	m2	£ 18.00	£ 5,400.00
				£ 116,700.00
Add prelims				£ 140,040.00
Add contingencies				£ 168,048.00
				£ 200,000.00

Assumptions
Say

Area	Cost
0	
1.5	656
4	1080

11.5 1536.522



H	Rate
1	209
1.5	302
2.5	659
4	1034
6	1499.038

