

5. Summary of Basic Work Costs

Item No.	Description	Unit	Unit Rate					Total (PP)	Remarks
			Components (%)						
			Lab.	Mat.	Equip.	For.	Local		
W0001	Grass Cutting	m2	90.9%	0.9%	8.2%	4.5%	95.5%	1.09	
W0002	Tree Cutting	m2	92.6%	0.7%	6.7%	3.7%	96.3%	0.91	
W0003	Grubbing	m2	4.0%	7.9%	88.1%	53.0%	47.0%	24.90	
W0004	Burning	m2	100.0%	0.0%	0.0%	0.0%	100.0%	1.90	
W0011	Demolition by Crawler Drill (Lightly Reinforced Structures)	m3	11.6%	6.3%	82.0%	48.7%	51.3%	624.00	
W0012	Demolition by Crawler Drill (Heavily Reinforced Structures)	m3	12.5%	7.5%	80.0%	48.2%	51.8%	1,280.00	
W0013	Demolition by Pneumatic Handhold Breaker (Lightly Reinforced Structures)	m3	27.3%	14.7%	58.0%	40.9%	59.1%	892.00	
W0014	Demolition by Pneumatic Handhold Breaker (Heavily Reinforced Structures)	m3	46.2%	11.0%	42.8%	30.3%	69.7%	1,680.00	
W0015	Demolition of PCC Pavement by Crawler Drill	m2	3.4%	6.5%	90.1%	53.2%	46.8%	56.50	
W0016	Excavation of Gravel Pavement	m3	4.4%	8.4%	87.2%	52.9%	47.1%	10.30	
W0025	Disposal of Demolished Debris	m3	16.2%	12.9%	70.9%	46.9%	53.1%	137.00	
W0101	Excavation, Bulldozer 21t	m3	1.5%	8.2%	90.3%	54.4%	45.6%	25.30	
W0102	Excavation, Backhoe 0.35m3	m3	6.4%	8.4%	85.2%	51.8%	48.2%	49.40	
W0105	Excavation, Backhoe 0.61m3	m3	4.4%	8.4%	87.2%	52.9%	47.1%	40.90	
W0106	Excavation, Backhoe 0.61m3 + Manpower	m3	24.6%	6.6%	68.8%	41.7%	58.3%	59.50	
W0107	Excavation, Clamshell + Backhoe	m3	7.9%	8.1%	84.1%	52.8%	47.2%	91.50	
W0108	Excavation, Backhoe 0.61m3 + Crawler Drill	m3	3.4%	6.5%	90.1%	53.2%	46.8%	185.00	
W0109	Excavation, Manpower	m3	100.0%	0.0%	0.0%	0.0%	100.0%	132.00	
W0111	Disposal of Surplus Soil (backhoe loading)	m3	8.1%	14.8%	77.1%	51.5%	48.5%	93.00	
W0115	Disposal of Surplus Soil (manpower loading)	m3	45.7%	10.8%	43.5%	30.6%	69.4%	103.00	
W0121	Borrow Soil, transported	m3	6.7%	22.8%	70.5%	47.9%	52.1%	189.00	
W0122	Crushed Aggregate, transported	m3	9.1%	15.5%	75.4%	47.0%	53.0%	258.00	
W0123	Excavated Soil, transported	m3	7.4%	13.5%	79.1%	51.8%	48.2%	66.30	
W0128	Selected Sand, transported	m3	12.7%	20.0%	67.2%	43.6%	56.4%	166.00	
W0129	Gravel/Stone, transported	m3	11.7%	18.7%	69.7%	44.9%	55.1%	196.00	
W0131	Backfill A	m3	3.5%	8.0%	88.4%	53.3%	46.7%	88.80	
W0132	Backfill B	m3	7.7%	10.0%	82.3%	51.3%	48.7%	111.00	
W0133	Backfill C	m3	11.4%	11.8%	76.7%	49.4%	50.6%	145.00	
W0134	Backfill D	m3	13.3%	12.6%	74.1%	48.5%	51.5%	200.00	
W0135	Backfill, Manpower + Compactor	m3	78.1%	5.6%	16.3%	12.5%	87.5%	76.40	
W0141	Filling & Laying, bulldozer 15t	m3	3.0%	7.8%	89.2%	53.6%	46.4%	27.50	
W0142	Filling & Laying, bulldozer 21t	m3	1.5%	8.2%	90.3%	54.4%	45.6%	29.50	
W0145	Compaction, bulldozer 15t	m3	3.0%	7.8%	89.2%	53.6%	46.4%	24.00	
W0146	Compaction, bulldozer 21t	m3	1.5%	8.2%	90.3%	54.4%	45.6%	26.10	
W0147	Compaction, tire roller 8~20t	m3	4.3%	8.0%	87.7%	52.7%	47.3%	10.40	
W0148	Compaction, tamper	m3	12.4%	17.3%	70.3%	49.4%	50.6%	76.10	
W0149	Filling, Laying & Compaction, bulldozer 21t	m3	1.5%	8.2%	90.3%	54.4%	45.6%	56.00	
W0150	Filling, Laying & Compaction, bulldozer 15t	m3	3.0%	7.8%	89.2%	53.6%	46.4%	51.60	
W0151	Slope Formation by Bulldozer	m2	7.5%	7.4%	85.1%	51.1%	48.9%	39.60	
W0152	Slope Formation by Backhoe	m2	9.9%	7.9%	82.2%	49.8%	50.2%	48.00	
W0161	Gravel Foundation Fill	m3	24.8%	13.1%	62.1%	39.0%	61.0%	390.00	
W0162	Selected Sand Fill	m3	34.0%	15.2%	50.7%	33.1%	66.9%	276.00	
W0201	Lean Concrete (17MPa, max agg. 38mm)	m3	2.7%	79.2%	18.2%	56.5%	43.5%	1,490.00	
W0202	Concrete (Class B, 17MPa, max agg. 50mm)	m3	2.9%	76.6%	20.4%	56.2%	43.8%	1,380.00	
W0203	Concrete (Class A, 21MPa, max agg. 38mm)	m3	2.5%	80.7%	16.8%	56.8%	43.2%	1,600.00	
W0203a	Concrete (Class A1, 21MPa, max agg. 20mm)	m3	2.3%	81.9%	15.8%	56.9%	43.1%	1,670.00	
W0204	Concrete (Class C, 21MPa, max agg. 12mm)	m3	2.3%	82.5%	15.3%	57.0%	43.0%	1,700.00	
W0205	Concrete (Class AA1, 28MPa, max agg. 25mm)	m3	2.3%	82.3%	15.4%	57.7%	42.3%	1,760.00	
W0206	Concrete (Class AA2, 28MPa, max agg. 20mm)	m3	2.1%	83.6%	14.3%	57.9%	42.1%	1,840.00	
W0208	Concrete (Class PP, 41MPa, max agg. 20mm)	m3	1.8%	85.8%	12.3%	58.3%	41.7%	2,130.00	
W0211	Concrete (for PCC Pavement, 24.1MPa, max agg. 20mm)	m3	2.7%	78.6%	18.7%	57.2%	42.8%	1,510.00	
W0215	Concrete (for RCPC, 25MPa, max agg. 20mm)	m3	2.2%	82.6%	15.1%	57.7%	42.3%	1,740.00	
W0216	Concrete (for RCPC, 32MPa, max agg. 20mm)	m3	2.0%	84.9%	13.1%	58.1%	41.9%	1,990.00	
W0221	Mortar (1:3)	m3	1.6%	93.8%	4.6%	58.1%	41.9%	1,820.00	
W0222	Mortar (1:2)	m3	1.5%	94.1%	4.5%	58.2%	41.8%	2,340.00	
W0225	Grout (non-shrink)	m3	1.0%	96.5%	2.6%	61.3%	38.7%	3,050.00	
W0231	Concrete Pouring by Pump Vehicle (plain concrete)	m3	18.8%	0.2%	81.0%	43.4%	56.6%	213.00	
W0232	Concrete Pouring by Pump Vehicle (reinforced concrete)	m3	15.5%	0.2%	84.3%	45.2%	54.8%	257.00	
W0233	Concrete Pouring by Pump Vehicle for PC box girder cantilever construction	m3	29.1%	0.2%	70.7%	37.9%	62.1%	508.00	
W0234	Concrete Pouring by Truck Crane	m3	30.6%	5.8%	63.6%	38.4%	61.6%	281.00	
W0235	Concrete Pouring by Manpower for small concrete	m3	98.0%	0.2%	1.8%	1.1%	98.9%	224.00	
W0236	Concrete Curing (plain concrete)	m3	70.9%	8.7%	20.4%	16.0%	84.0%	8.85	
W0237	Concrete Curing (reinforced concrete)	m3	74.6%	7.6%	17.8%	14.0%	86.0%	4.21	
W0240	Formwork (plain concrete H<4m)	m2	58.9%	40.4%	0.8%	2.9%	97.1%	222.00	
W0241	Formwork (reinforced concrete H<4m)	m2	59.3%	39.9%	0.8%	2.9%	97.1%	224.00	
W0242	Formwork (reinforced concrete H≥4m)	m2	47.1%	33.6%	19.3%	13.6%	86.4%	283.00	
W0243	Formwork (lean concrete)	m2	41.3%	58.0%	0.8%	3.8%	96.2%	152.00	
W0244	Formwork for Bridge Superstructures	m2	57.7%	26.8%	15.5%	11.1%	88.9%	354.00	
W0245	Formwork Installation and Removal for PC Box Girder (Cantilever Construction)	m2	62.6%	21.6%	15.8%	11.4%	88.6%	468.00	
W0251	Reinforcement Grade 40, cutting, bending & assembly	kg	15.2%	77.0%	7.8%	54.0%	46.0%	23.30	
W0252	Reinforcement Grade 60, cutting, bending & assembly	kg	14.5%	77.9%	7.7%	54.5%	45.5%	24.50	

Item No.	Description	Unit	Unit Rate					Total (PP)	Remarks
			Components (%)						
			Lab.	Mat.	Equip.	For.	Local		
W0303	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 460 (18")	m	9.7%	66.4%	24.0%	53.5%	46.5%	528.00	
W0304	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 610 (24")	m	9.9%	66.6%	23.5%	53.5%	46.5%	871.00	
W0305	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 760 (30")	m	10.0%	66.8%	23.2%	53.5%	46.5%	1,300.00	
W0306	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 910 (36")	m	10.5%	67.2%	22.3%	53.4%	46.6%	1,990.00	
W0307	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 1070 (42")	m	10.5%	67.2%	22.3%	53.4%	46.6%	2,610.00	
W0308	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 1220 (48")	m	10.5%	67.2%	22.3%	53.4%	46.6%	3,280.00	
W0309	Precast Reinforced Concrete Pipe (Standard Strength 25MPa), fabrication ϕ 1520 (60")	m	10.5%	67.2%	22.3%	53.4%	46.6%	4,900.00	
W0313	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 460 (18")	m	10.4%	68.4%	21.2%	53.6%	46.4%	581.00	
W0314	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 610 (24")	m	10.3%	68.4%	21.3%	53.6%	46.4%	953.00	
W0315	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 760 (30")	m	10.2%	68.3%	21.5%	53.6%	46.4%	1,330.00	
W0316	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 910 (36")	m	10.8%	68.7%	20.5%	53.5%	46.5%	2,140.00	
W0317	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 1070 (42")	m	10.7%	68.6%	20.6%	53.5%	46.5%	2,700.00	
W0318	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 1220 (48")	m	10.7%	68.6%	20.6%	53.5%	46.5%	3,500.00	
W0319	Precast Reinforced Concrete Pipe (Standard Strength 32MPa), fabrication ϕ 1520 (60")	m	10.8%	68.7%	20.5%	53.5%	46.5%	5,210.00	
W0331	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 460 (18")	m	10.4%	68.4%	21.2%	53.6%	46.4%	749.00	
W0332	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 610 (24")	m	10.2%	68.3%	21.5%	53.6%	46.4%	1,110.00	
W0333	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 760 (30")	m	10.3%	68.4%	21.3%	53.6%	46.4%	1,650.00	
W0334	Precast Reinforced Concrete Pipe (Extra Strength), fabrication ϕ 910 (36")	m	10.8%	68.3%	20.9%	53.5%	46.5%	2,640.00	
W0335	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 1070 (42")	m	11.2%	68.6%	20.2%	53.4%	46.6%	3,970.00	
W0336	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 1220 (48")	m	10.8%	68.3%	20.9%	53.5%	46.5%	4,320.00	
W0337	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication ϕ 1520 (60")	m	11.2%	68.5%	20.4%	53.4%	46.6%	7,500.00	
W0341	Precast Concrete Pipe Laying ϕ 460 (18")	m	46.9%	8.1%	45.0%	28.9%	71.1%	200.00	
W0342	Precast Concrete Pipe Laying ϕ 610 (24")	m	45.6%	8.2%	46.2%	29.7%	70.3%	244.00	
W0343	Precast Concrete Pipe Laying ϕ 760 (30")	m	46.9%	8.1%	45.0%	29.0%	71.0%	301.00	
W0344	Precast Concrete Pipe Laying ϕ 910 (36")	m	31.0%	8.6%	60.4%	37.7%	62.3%	513.00	
W0345	Precast Concrete Pipe Laying ϕ 1070 (42")	m	31.4%	8.6%	60.0%	37.4%	62.6%	590.00	
W0346	Precast Concrete Pipe Laying ϕ 1220 (48")	m	31.2%	8.6%	60.2%	37.6%	62.4%	661.00	
W0347	Precast Concrete Pipe Laying ϕ 1520 (60")	m	26.8%	8.5%	64.7%	40.0%	60.0%	934.00	
W0351	Precast Concrete Pipe Removal ϕ 460 (18")	m	46.3%	5.9%	47.8%	29.3%	70.7%	61.50	
W0352	Precast Concrete Pipe Removal ϕ 610 (24")	m	44.9%	6.1%	49.1%	30.1%	69.9%	75.30	
W0353	Precast Concrete Pipe Removal ϕ 760 (30")	m	46.2%	5.9%	47.9%	29.4%	70.6%	92.80	
W0354	Precast Concrete Pipe Removal ϕ 910 (36")	m	30.7%	6.4%	62.8%	37.9%	62.1%	158.00	
W0355	Precast Concrete Pipe Removal ϕ 1070 (42")	m	31.2%	6.4%	62.4%	37.6%	62.4%	182.00	
W0356	Precast Concrete Pipe Removal ϕ 1220 (48")	m	30.9%	6.4%	62.7%	37.8%	62.2%	204.00	
W0357	Precast Concrete Pipe Removal ϕ 1520 (60")	m	26.7%	6.3%	67.0%	40.1%	59.9%	288.00	
W0401	Temporary Sheet Pile Driving for excavation, (Vibro Hammer, Common Soil)	m2	10.2%	13.5%	76.3%	49.9%	50.1%	199.00	
W0402	Temporary Sheet Pile Driving for excavation, (Vibro Hammer, Rocky Soil)	m2	10.2%	13.5%	76.3%	49.9%	50.1%	255.00	
W0403	Temporary Sheet Pile Removal for excavation, (Vibro Hammer)	m2	10.2%	13.5%	76.3%	49.9%	50.1%	169.00	
W0406	H-Pile Driving for Temporary Access Bridge (Vibro Hammer)	m	10.2%	13.5%	76.2%	49.9%	50.1%	117.00	
W0407	H-Pile Removal for Temporary Access Bridge (Vibro Hammer)	m	10.2%	13.5%	76.4%	49.9%	50.1%	102.00	
W0411	Temporary Struts & Supports Installation	t	33.7%	9.5%	56.9%	36.9%	63.1%	1,390.00	
W0412	Temporary Struts & Supports Removal	t	35.3%	9.1%	55.5%	35.7%	64.3%	827.00	
W0413	Temporary Struts & Tie Rod Installation	t	31.0%	11.1%	58.0%	38.4%	61.6%	4,210.00	
W0414	Temporary Struts & Supports Removal	t	28.8%	9.4%	61.7%	39.3%	60.7%	2,120.00	
W0415	Temporary Deck Plate Installation	m2	35.3%	5.9%	58.8%	35.8%	64.2%	78.20	
W0416	Temporary Deck Plate Removal	m2	35.3%	5.9%	58.8%	35.8%	64.2%	42.70	
W0417	Temporary Deck Plate Support Beam Installation	t	36.7%	9.5%	53.8%	35.2%	64.8%	1,240.00	
W0418	Temporary Deck Plate Support Beam Removal	t	38.0%	8.2%	53.8%	34.3%	65.7%	740.00	
W0421	Temporary Access Bridge Superstructure Installation	t	21.6%	8.0%	70.4%	43.3%	56.7%	1,450.00	
W0422	Temporary Access Bridge Superstructure Removal	t	23.1%	8.2%	68.7%	42.5%	57.5%	1,010.00	
W0423	Temporary Access Bridge Railing Installation	m	36.1%	6.8%	57.1%	35.3%	64.7%	106.00	
W0424	Temporary Access Bridge Railing Removal	m	38.1%	5.4%	56.5%	34.2%	65.8%	56.90	
W0431	Temporary Drain Pump Installation & Removal	set	46.2%	7.1%	46.6%	29.9%	70.1%	2,880.00	
W0432	Temporary Drain Pump Operation	day	8.2%	20.8%	71.1%	51.3%	48.7%	1,190.00	
W0441	Temporary Frame Support Installation & Removal	m3	58.9%	3.9%	37.1%	22.5%	77.5%	52.50	

Item No.	Description	Unit	Unit Rate					Total (PP)	Remarks
			Components (%)						
			Lab.	Mat.	Equip.	For.	Local		
W0442	Temporary Frame Support Depreciation	m ³ ·d	0.0%	96.3%	3.7%	50.0%	50.0%	0.76	
W0451	Temporary Sheet Pile Driving for cofferdam, (Vibro Hammer)	m	9.6%	14.8%	75.6%	50.4%	49.6%	126.00	
W0452	Temporary Sheet Pile Removal for cofferdam, (Vibro Hammer)	m	9.6%	14.8%	75.6%	50.4%	49.6%	77.70	
W0455	H-Pile Driving for Temporary Access Bridge (Vibro Hammer)	m	9.6%	14.9%	75.5%	50.4%	49.6%	149.00	
W0456	H-Pile Removal for Temporary Access Bridge (Vibro Hammer)	m	9.7%	14.9%	75.4%	50.4%	49.6%	85.70	
W0501	Ground Assembly of Structural Steel Bridge	t	11.4%	3.1%	85.5%	48.2%	51.8%	1,260.00	
W0502	Erection of Structural Steel Bridge Members	t	10.8%	4.8%	84.4%	48.4%	51.6%	1,290.00	
W0503	Bolting of Structural Steel Bridge Members	each	4.4%	93.3%	2.3%	66.1%	33.9%	43.60	
W0504	Finish Painting of Structural Steel Bridge	m ²	42.1%	48.8%	9.1%	36.3%	63.7%	132.00	
W0505	Temporary Bent for Steel Bridge Erection	t	4.5%	91.3%	4.2%	48.3%	51.7%	16,000.00	
W0506	Site Welding for Steel Bridge	m	23.4%	34.6%	42.0%	44.5%	55.5%	3,120.00	
W0521	Precast PC Girder Fabrication Base Construction & Removal	girder	76.3%	11.8%	11.8%	13.0%	87.0%	728.00	
W0522	Precast PC Girder Fabrication Base Maintenance	girder	100.0%	0.0%	0.0%	0.0%	100.0%	433.00	
W0536	PC Strand (8-T12.7, 150t) Installation for Precast PC Girder	m	5.9%	93.9%	0.2%	65.0%	35.0%	934.00	
W0536	PC Strand (10-T12.7, 190t) Installation for Precast PC Girder	m	5.3%	94.5%	0.2%	65.5%	34.5%	1,140.00	
W0537	PC Strand (12-T12.7, 225t) Installation for Precast PC Girder	m	4.8%	95.0%	0.2%	65.9%	34.1%	1,340.00	
W0538	PC Strand (1-T15.2, 30t) Installation for Precast PC Deck Slab	m	8.2%	91.6%	0.2%	62.8%	37.2%	216.00	
W0545	PC Strand (8-T12.7, 150t) Tensioning for Precast PC Girder	cable	3.0%	96.0%	1.1%	72.2%	27.8%	14,600.00	
W0546	PC Strand (10-T12.7, 190t) Tensioning for Precast PC Girder	cable	2.4%	96.7%	0.9%	72.7%	27.3%	19,600.00	
W0547	PC Strand (12-T12.7, 225t) Tensioning for Precast PC Girder	cable	2.5%	96.6%	1.0%	72.6%	27.4%	19,600.00	
W0548	PC Strand (1-T15.2, 30t) Tensioning for Precast PC Deck Slab	cable	4.9%	93.5%	1.7%	70.7%	29.3%	2,060.00	
W0549	Secondary Concrete for Precast PC Deck Slab	m ³	6.0%	74.7%	19.3%	55.4%	44.6%	2,120.00	
W0551	Precast PC Girder Erection (W < 12.5t)	t	25.1%	3.9%	70.9%	41.1%	58.9%	218.00	
W0552	Precast PC Girder Erection (12.5 ≤ W < 15.0t)	t	21.4%	3.4%	75.3%	43.1%	56.9%	230.00	
W0553	Precast PC Girder Erection (15.0 ≤ W < 17.5t)	t	21.4%	3.4%	75.3%	43.1%	56.9%	218.00	
W0554	Precast PC Girder Erection (17.5 ≤ W < 20t)	t	21.4%	3.4%	75.3%	43.1%	56.9%	198.00	
W0555	Precast PC Girder Erection (20.0 ≤ W < 35.0 t)	t	15.3%	3.6%	81.0%	46.4%	53.6%	213.00	
W0556	Precast PC Girder Erection (35.0 ≤ W < 60.0 t)	t	7.3%	1.8%	90.9%	50.5%	49.5%	377.00	
W0557	Precast PC Girder Erection (60.0 ≤ W < 75.0 t)	t	6.2%	1.8%	92.0%	51.1%	48.9%	423.00	
W0558	Precast PC Girder Erection (75.0 ≤ W < 80.0 t)	t	5.7%	1.8%	92.5%	51.4%	48.6%	430.00	
W0601	Pier Protection Concrete Block Type A Production & Laying	each	14.3%	62.3%	23.4%	50.3%	49.7%	3,050.00	
W0602	Pier Protection Concrete Block Type B Production & Laying	each	14.7%	62.0%	23.3%	50.1%	49.9%	2,900.00	
W0603	Pier Protection Concrete Block Type C Production & Laying	each	14.7%	61.8%	23.6%	50.0%	50.0%	2,860.00	
W0611	Stone Laying	m ³	9.9%	14.3%	75.8%	47.5%	52.5%	378.00	
W0651	Temporary Support at Pier Head for Cantilever Construction	v·m ³	34.3%	17.8%	47.9%	35.4%	64.6%	426.00	
W0652	Temporary Bracket Support at Pier Head for Cantilever Construction	t	24.4%	44.6%	31.0%	39.2%	60.8%	7,840.00	
W0653	Temporary External & Internal Support at Pier Head for Cantilever Construction	v·m ³	29.2%	30.0%	40.8%	37.5%	62.5%	172.00	
W0654	Temporary Suspension Support at Center Connection for Cantilever Construction	t	24.6%	29.2%	46.2%	39.9%	60.1%	8,330.00	
W0655	Temporary External & Internal Support at Center Connection for Cantilever Construction	v·m ³	28.0%	28.7%	43.3%	38.0%	62.0%	179.00	
W0656	Temporary Frame Support at Side Span for Cantilever Construction	v·m ³	21.4%	40.6%	38.0%	41.2%	58.8%	93.90	
W0657	Temporary External & Internal Support at Side Span for Cantilever Construction	v·m ³	29.7%	28.8%	41.5%	37.3%	62.7%	169.00	
W0661	Assembly & Disassembly of Form Traveler	set	23.4%	17.7%	58.9%	41.0%	59.0%	335,000.00	
W0662	Form Traveler Shifting	time	78.7%	12.8%	8.5%	10.6%	89.4%	2,080.00	
W0663	Form Traveler Lifting	time	100.0%	0.0%	0.0%	0.0%	100.0%	4,980.00	
W0664	Form Traveler Pulling Back	m	100.0%	0.0%	0.0%	0.0%	100.0%	114.00	
W0671	PC Cable Installation, (12-T12.7, 225t) for PC Box Girder (Longitudinal)	t	11.5%	84.4%	4.1%	60.4%	39.6%	153,000.00	
W0672	PC Cable Anchorage, (12-T12.7, 225t) for PC Box Girder (Longitudinal)	each	0.9%	92.4%	6.7%	71.0%	29.0%	12,900.00	
W0673	PC Cable Tensioning, (12-T12.7, 225t) for PC Box Girder (Longitudinal)	each	6.3%	87.5%	6.2%	68.3%	31.7%	9,560.00	
W0676	PC Cable Installation, (5-T12.7, 90t) for PC Box Girder (Transversal)	t	11.2%	84.7%	4.1%	60.6%	39.4%	152,000.00	
W0677	PC Cable Anchorage, (5-T12.7, 90t) for PC Box Girder (Transversal)	each	5.0%	86.7%	8.3%	67.1%	32.9%	1,680.00	
W0678	PC Cable Tensioning, (5-T12.7, 90t) for PC Box Girder (Transversal)	each	40.1%	23.4%	36.5%	34.6%	65.4%	823.00	
W0681	PC Bar Installation, (1-φ32mm) for PC Box Girder (Transversal)	t	5.7%	91.1%	3.3%	64.8%	35.2%	157,000.00	

Item No.	Description	Unit	Unit Rate					Total (PP)	Remarks
			Components (%)						
			Lab.	Mat.	Equip.	For.	Local		
W0682	PC Bar Anchorage, (1-φ32mm) for PC Box Girder (Transversal)	each	2.4%	92.0%	5.5%	70.4%	29.6%	1,810.00	
W0683	PC Bar Tensioning, (φ32mm) for PC Box Girder (Transversal)	each	16.3%	71.4%	12.2%	59.9%	40.1%	1,800.00	
W0686	PC Bar Installation, (1-φ32mm) for PC Box Girder (Vertical in Web)	t	5.7%	91.1%	3.3%	64.8%	35.2%	157,000.00	
W0687	PC Bar Anchorage, (1-φ32mm) for PC Box Girder (Vertical in Web)	each	2.4%	92.0%	5.5%	70.4%	29.6%	1,810.00	
W0688	PC Bar Tensioning, (1-φ32mm) for PC Box Girder (Vertical in Web)	each	16.3%	71.4%	12.2%	59.9%	40.1%	1,800.00	
W0701	Precast Concrete Cover (580x480x70), furnish	each	1.3%	90.6%	8.1%	62.9%	37.1%	117.00	
W0702	Precast Concrete Cover (580x480x70),	each	89.3%	1.1%	9.6%	5.4%	94.6%	10.30	
W0703	Precast Concrete Cover (680x580x75), furnish	each	4.2%	90.5%	5.3%	60.7%	39.3%	189.00	
W0704	Precast Concrete Cover (680x580x75),	each	89.3%	0.0%	10.7%	5.4%	94.6%	10.30	
W0711	Iron Step for Drop Inlet Manholes, furnish & installation	each	8.0%	86.1%	5.9%	63.0%	37.0%	58.40	
W0712	Iron Step for Special Junction Box Manholes, furnish & installation	each	8.5%	85.5%	5.9%	62.5%	37.5%	54.40	
W0716	Steel Grate for Manhole Inlet, furnish & installation	kg	38.3%	55.0%	6.7%	39.0%	61.0%	30.30	
W0721	Grating Cover for U-Ditch (W=300mm), furnish & installation	m2	9.0%	90.1%	1.0%	63.2%	36.8%	1,140.00	
W0731	Rubble Concrete	m3	6.2%	50.9%	43.0%	52.6%	47.4%	939.00	
W0732	Granular Bedding for Rubble Concrete	m3	27.4%	12.5%	60.1%	37.5%	62.5%	399.00	
W0733	Washout Prevention Filter, furnish and laying	m2	2.1%	96.2%	1.8%	58.6%	41.4%	91.70	
W0741	Grouted Riprap Class A	m3	15.6%	63.8%	20.6%	48.0%	52.0%	734.00	
W0742	Stone Masonry, laid	m3	14.3%	70.1%	15.6%	49.3%	50.7%	1,000.00	
W0751	Concrete Hollow Block (150x200x400mm), furnish & Laying including mortar fill	each	48.2%	50.0%	1.8%	19.0%	81.0%	39.00	
W0852	Aggregate Subbase Course for Side Walk (t=100mm)	m2	26.4%	12.7%	60.9%	38.7%	61.3%	54.00	
W0853	PCC Pavement (Plain), t=100mm for Side Walk	m2	16.7%	69.1%	6.7%	46.1%	46.5%	416.00	
W0871	Guardrail Type A, furnish	m	8.0%	78.8%	13.2%	59.1%	40.9%	902.00	
W0872	Guardrail Type B, furnish	m	9.2%	76.5%	14.3%	58.1%	41.9%	707.00	
W0882	Chain Link Fence 25mm mesh (H=1.87m), furnished	m	7.1%	81.7%	11.3%	60.2%	39.8%	876.00	
W0911	Digging Out Tree, Low Tree H≤1.5m	each	100.0%	0.0%	0.0%	0.0%	100.0%	18.60	
W0912	Digging Out Tree, Medium Tree 1.5m<H≤3.0m	each	100.0%	0.0%	0.0%	0.0%	100.0%	35.70	
W0913	Digging Out Tree, High Tree (young tree) 1.5m<H≤3.0m	each	100.0%	0.0%	0.0%	0.0%	100.0%	63.00	
W0921	Tree Haulage, Low Tree H≤1.5m	each	13.5%	19.3%	67.2%	49.0%	51.0%	25.50	
W0922	Tree Haulage, Medium Tree 1.5m<H≤3.0m	each	13.5%	19.3%	67.2%	49.0%	51.0%	48.20	
W0923	Tree Haulage, High Tree (young tree) 1.5m<H≤3.0m	each	13.5%	19.3%	67.2%	49.0%	51.0%	83.80	
W0931	Tree Planting, Low Tree H≤1.5m	each	100.0%	0.0%	0.0%	0.0%	100.0%	9.11	
W0932	Tree Planting, Medium Tree 1.5m<H≤3.0m	each	100.0%	0.0%	0.0%	0.0%	100.0%	27.20	
W0933	Tree Planting, High Tree (young tree) 1.5m<H≤3.0m	each	100.0%	0.0%	0.0%	0.0%	100.0%	113.00	
W0951	Precast Curbstone for Planter Square, Furnish	m	13.1%	68.4%	18.5%	49.9%	50.1%	46.80	
W0952	Precast Curbstone for Planter Square, Laying	m	96.2%	3.1%	0.8%	1.9%	98.1%	34.40	
W0956	Treading Prevention Board for Planter Square, Furnish	m2	13.5%	71.6%	14.9%	51.8%	48.2%	247.00	
W0957	Treading Prevention Board for Planter Square, Laying	m2	93.5%	4.6%	2.0%	3.3%	96.7%	32.20	
W1001	Underground Cable Duct	m	13.0%	67.8%	19.2%	47.1%	52.9%	364.00	
W1011	Electric Cable Laying	m	21.8%	76.3%	1.9%	42.8%	57.2%	83.80	
W1101	Traffic Signal Post Type A (Mast Arms) H=6.7m, Furnished	each	6.8%	68.8%	24.4%	59.7%	40.3%	22,400.00	
W1102	Traffic Signal Post Type A (Mast Arms) H=6.0m, Furnished	each	7.1%	68.0%	24.9%	59.3%	40.7%	21,400.00	
W1103	Traffic Signal Posts Type B φ114.3mm x 4.2m, Furnished	each	12.2%	52.9%	34.9%	53.7%	46.3%	9,430.00	
W1104	Traffic Signal Posts Type C φ114.3mm x 3.4m, Furnished	each	12.6%	51.7%	35.7%	53.2%	46.8%	9,080.00	
W1105	Pedestrian Signal Posts Type D φ114.3mm x 3.0m, Furnished	each	12.8%	51.1%	36.1%	53.0%	47.0%	8,910.00	
W1201	Street Lighting Pole (single lamp), furnished	each	10.4%	60.1%	29.5%	56.6%	43.4%	16,700.00	
W1202	Street Lighting Pole (double lamp), furnished	each	10.1%	60.9%	29.1%	56.8%	43.2%	17,300.00	
W2001	Heavy Equipment Assembly & Disassembly	LS	23.7%	8.2%	68.2%	42.2%	57.8%	67,200.00	
W2002	Transportation of Disassembled Equipment	LS	3.9%	9.8%	86.4%	53.3%	46.7%	224,000.00	
W2003	Other Equipment & Material Haulage	LS	9.0%	15.4%	75.6%	51.1%	48.9%	177,000.00	
W2004	Establishment of Temporary Site Office & Yard	LS	10.0%	50.0%	40.0%	45.0%	55.0%	946,000.00	
W3001	Site Preparation for Engineer's Field Office and Living Quarters	m2	1.5%	8.2%	90.3%	54.4%	45.6%	2.53	
W3002	150mm Thick Concrete Hollow Block Wall	m2	12.5%	84.4%	3.0%	36.5%	63.5%	331.00	
W3002a	100mm Thick Concrete Hollow Block Wall	m2	13.6%	83.1%	3.4%	37.4%	62.6%	305.00	
W3003	Structural Steel Fabrication and Erection for Engineers Office and Living Quarter	t	7.6%	66.4%	25.9%	60.1%	39.9%	39,500.00	
W3004	Prepainted Corrugated G. I. Roofing Fabrication & Erection	m2	8.2%	79.7%	12.1%	54.4%	45.6%	160.00	
W3005	Prepainted Steel Wall Panels on Steel Frames with Insulation	m2	2.5%	92.9%	4.6%	62.1%	37.9%	628.00	

Item No.	Description	Unit	Unit Rate					Total (PP)	Remarks
			Components (%)						
			Lab.	Mat.	Equip.	For.	Local		
W3006	Prepainted Steel Wall Partitions on Steel Frames with Insulation (Double Walling)	m2	2.5%	92.9%	4.6%	62.1%	37.9%	624.00	
W3007	Plain Cement Floor Finish	m2	7.6%	85.6%	6.9%	54.3%	45.7%	63.20	
W3008	Plain Cement Floor Finish with non skid cement with groove lines	m2	8.0%	85.1%	6.8%	54.1%	45.9%	63.50	
W3009	Unglazed Tile Finish (8" x 8")	m2	1.6%	97.9%	0.5%	60.2%	39.8%	589.00	
W3010	Gypsum Board Ceiling	m2	1.6%	97.9%	0.5%	60.2%	39.8%	351.00	
W3011	Plain Cement Mortar Wall Finish	m2	8.9%	84.3%	6.8%	53.5%	46.5%	64.20	
W3012	Steel Fixed Louver	each	14.8%	35.9%	49.2%	49.3%	50.7%	7,120.00	
W3013	Doors & Windows for Engineer's Field Office and Living Quarters	L. S.	5.2%	90.7%	4.1%	41.3%	58.7%	355,000.00	
W3014	Lighting and Powers	L. S.	5.0%	93.5%	1.5%	56.6%	43.4%	138,000.00	
W3015	Sewer Water Line	L. S.	4.4%	94.9%	0.7%	49.8%	50.2%	115,000.00	
W3016	Septic Tank	each	14.4%	63.7%	21.9%	44.2%	55.8%	20,600.00	
W3017	Cyclone Fence and Gate for the Engineer's Office	m	3.2%	93.2%	3.6%	49.1%	50.9%	1,840.00	
W3018	Barbed Wire Fence for the Engineer's Office	m	5.4%	92.8%	1.7%	14.7%	85.3%	127.00	
W3019	Temporary Office Rental	month	0.0%	0.0%	100.0%	15.0%	85.0%	18,000.00	
W3101	Miscellaneous for Office & Living Quarter Maintenance	month	0.0%	85.9%	14.1%	34.4%	65.6%	1,010.00	
W3102	Furniture and Fixtures for Field Office	L. S.	0.1%	99.1%	0.8%	34.5%	65.5%	332,000.00	
W3103	Equipment and Appliances for Field Office	L. S.	0.1%	99.1%	0.8%	73.0%	27.0%	225,000.00	
W3105	Furniture and Fixtures for Living Quarter	L. S.	0.1%	99.1%	0.8%	31.9%	68.1%	217,000.00	
W3106	Equipment and Appliances for Living Quarter	L. S.	0.1%	99.1%	0.8%	39.8%	60.2%	87,600.00	
W3111	Office & Living Quarter Supplies	L. S.	0.3%	98.1%	1.6%	50.9%	49.1%	14,300.00	
W3112	Office & Living Quarter Consumables	month	0.3%	98.1%	1.6%	35.6%	64.4%	16,200.00	
W3401	Toll Gate Canopy Structure with Catwalk & Stairways	m2	7.0%	50.0%	43.0%	55.0%	45.0%	3,310.00	canopy area
W3402	Toll Islands with barriers, cable duct & trench, protection gate, etc.	m2	12.0%	44.0%	44.0%	45.0%	55.0%	980.00	
W3403	Administration Building with fixtures, equipment and furniture	m2	10.0%	50.0%	40.0%	50.0%	50.0%	6,960.00	floor area
W3404	Electrical Service Center with fixtures, generator, and equipment	m2	10.0%	54.0%	36.0%	50.0%	50.0%	5,660.00	floor area
W3405	Mini Building with fixtures	m2	10.0%	54.0%	36.0%	50.0%	50.0%	5,220.00	floor area
W3406	Water Tank System (deep well with elevated tank)	L. S.	9.0%	54.0%	37.0%	55.0%	45.0%	380,000.00	
W3407	Toll Operation Equipment	L. S.	6.0%	75.0%	19.0%	80.0%	20.0%	78,400,000.00	US\$1.50 million
W3501	Relocation of Existing Lighting Poles	each	27.0%	22.5%	50.5%	39.0%	61.0%	6,680.00	
W3502	Relocation of Underground Conduit	m	18.0%	24.7%	57.3%	44.7%	55.3%	443.00	
W3503	Relocation of Watermain	m	5.1%	77.1%	17.8%	55.8%	44.2%	1,460.00	
W3504	Relocation of Sewer Pipe	m	16.2%	46.9%	37.0%	48.2%	51.8%	3,310.00	
W3511	Repair & Maintenance of Existing Access Road	m2	20.8%	16.4%	62.8%	41.2%	58.8%	75.20	
W4001	Soil Investigation Boring	m	18.0%	8.0%	74.0%	50.0%	50.0%	2,950.00	
W4002	Soil Investigation Standard Penetration Test	each	25.0%	5.0%	70.0%	50.0%	50.0%	1,630.00	
W4003	Soil Investigation Laboratory Test	set	30.0%	15.0%	55.0%	50.0%	50.0%	18,900.00	
W4101	Environmental Compliance	km	50.2%	49.0%	0.8%	0.8%	99.2%	97,700.00	
W4111	Health and Safety Requirements	day	10.0%	55.0%	35.0%	40.0%	60.0%	674.00	
W4121	Overseas Development Assistance (ODA) Recognition Plate	each	1.8%	96.1%	2.1%	63.1%	36.9%	93,600.00	
W4201	Contingency	L. S.	15.0%	45.0%	40.0%	50.0%	50.0%	1,800,000.00	

W016 Excavation of Gravel Pavement

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	0.59	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	45.17	86.23	885.20	542.85	483.75	1,026.60	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									45.17	86.23	885.20	542.85	483.75	1,026.60	
	Components (%)									4.4%	8.4%	87.2%	52.9%	47.1%	100.0%	
	Unit Rate	m3								0.45	0.87	8.93	5.45	4.85	10.30	

Q = 3500-q-f-E/Cm
 Q : Excavation capacity per hour = 42.48 m3/hr
 q : Standard capacity per cycle = 0.59 m3/cycle
 f : Volume coefficient = 1.00
 E : Efficiency = 0.50
 Cm : Cycle Time = 30.00 sec

W025 Disposal of Demolished Debris

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L020	Unskilled Labor	md	0.40	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	125.60	0.00	0.00	0.00	125.60	125.60	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	0.28	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	21.44	40.92	424.84	257.62	229.58	487.20	
R0601-006	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	1.26	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	73.98	136.00	547.80	385.80	373.98	759.78	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									223.01	176.93	972.64	643.43	729.15	1,372.58	
	Components (%)									16.2%	12.9%	70.9%	46.9%	53.1%	100.0%	
	Unit Rate	m3								22.26	17.66	97.08	64.22	72.78	137.00	

Q = 3600-q-f-E/Cm (Backhoe)
 Q : Excavation capacity per hour = 35.4 m3/hr
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.50
 Cm : Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck)
 Q : Transportation Volume per hour = 7.91 m3/hr
 q : Loading Capacity of a Truck = 5.30 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm : Cycle Time = A + 2-L/V = 0.60 hr
 V : Vehicle speed = 30.00 km/hr
 A : Loading time = 0.27 hr
 L : Average Distance to Disposal Point = 5.00 km

W0101 Excavation, Bulldozer 21t

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
R0101-021	Tractor, crawler w/dozer (Bulldozer, 21t)	hr	0.61	1.6%	8.2%	90.3%	54.4%	45.6%	4,150.00	37.97	207.58	2,285.94	1,377.19	1,154.31	2,531.50	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									37.97	207.58	2,285.94	1,377.19	1,154.31	2,531.50	
	Components (%)									1.6%	8.2%	90.3%	54.4%	45.6%	100.0%	
	Unit Rate	m3								0.39	2.07	22.62	13.76	11.54	23.30	

Q = 60-q-f-E/Cm
 Q : Excavation capacity per hour = 164.04 m3/hr
 q : Standard capacity per cycle = 2.81 m3/cycle
 f : Volume coefficient = 1.00
 E : Efficiency = 0.90
 Cm : Cycle Time = 0.027-L + 0.79 = 0.93 min
 L : Average pushing distance = 5.00 m

W0102 Excavation, Backhoe 0.35m3

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-035	Backhoe, hydraulic, crawler, 0.35m3	hr	4.08	6.4%	8.4%	83.2%	51.8%	48.2%	1,210.00	315.96	414.69	4,206.15	2,357.58	3,376.22	4,936.80	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									315.96	414.69	4,206.15	2,357.58	3,376.22	4,936.80	
	Components (%)									6.4%	8.4%	83.2%	51.8%	48.2%	100.0%	
	Unit Rate	m3								3.16	4.15	42.09	25.59	23.91	49.40	

Q = 3800-q-f-E/Cm
 Q : Excavation capacity per hour = 24.46 m3/hr
 q : Standard capacity per cycle = 0.34 m3/cycle
 f : Volume coefficient = 1.00
 E : Efficiency = 0.60
 Cm : Cycle Time = 30.00 sec

W0105 Excavation, Backhoe 0.61m3

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	2.35	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	179.92	343.48	3,565.61	2,162.21	1,926.79	4,089.00	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									179.92	343.48	3,565.61	2,162.21	1,926.79	4,089.00	
	Components (%)									4.4%	8.4%	87.2%	52.9%	47.1%	100.0%	
	Unit Rate	m3								1.80	3.44	35.68	21.63	19.27	40.90	

Q = 3600-q-f-E/Cm
 Q : Excavation capacity per hour = 42.48 m3/hr
 q : Standard capacity per cycle = 0.59 m3/cycle
 f : Volume coefficient = 1.00
 E : Efficiency = 0.60
 Cm : Cycle Time = 30.00 sec

W0106 Excavation, Backhoe 0.61m3 + Manpower

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L020	Unskilled Labor	md	0.40	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	125.60	0.00	0.00	0.00	125.60	125.60	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	0.27	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	20.67	39.46	409.67	248.42	221.38	469.80	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									146.27	39.46	409.67	248.42	221.38	595.40	
	Components (%)									24.6%	6.6%	68.8%	41.7%	56.3%	100.0%	
	Unit Rate	m3								14.62	3.94	40.94	24.83	22.14	69.50	

W0107 Excavation, Classshell + Backhoe

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L020	Unskilled Labor	md	1.00	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	314.00	0.00	0.00	0.00	314.00	314.00	
Q0106-006	Classshell, crawler, 0.6m3	hr	2.90	2.9%	8.3%	88.6%	56.3%	43.7%	2,330.00	195.26	561.21	6,000.53	3,801.78	2,955.22	6,757.00	
R0102-010	Backhoe, hydraulic, crawler, 0.11m3	day	0.50	10.1%	8.5%	81.4%	49.7%	50.3%	4,180.00	210.08	176.80	1,693.12	1,034.15	1,046.25	2,080.00	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									719.34	738.01	7,693.65	4,835.53	4,315.47	9,151.00	
	Components (%)									7.9%	8.1%	84.1%	52.6%	47.2%	100.0%	
	Unit Rate	m3								7.19	7.38	76.93	48.35	43.15	91.50	

W0108 Excavation, Backhoe 0.61m3 + Crawler Drill

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	0.82	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	62.78	119.65	1,244.17	754.47	672.33	1,426.80	
R0202-000	Crawler Drill	hr	0.82	0.0%	0.0%	100.0%	54.3%	45.7%	518.00	0.00	0.00	424.76	230.60	194.15	424.76	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									62.78	119.65	1,668.93	985.07	866.49	1,851.56	
	Components (%)									3.4%	6.5%	90.1%	53.2%	46.6%	100.0%	
	Unit Rate	m3								6.27	11.98	186.75	98.42	86.58	185.05	

W0109 Excavation, Manpower

Item No.	Description	Unit	Quantity	Unit Rate					Total (PP)	Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L020	Unskilled Labor	md	4.20	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	1,318.80	0.00	0.00	0.00	1,318.80	1,318.80	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total									1,318.80	0.00	0.00	0.00	0.00	1,318.80	
	Components (%)									100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
	Unit Rate	m3								132.90	0.00	0.00	0.00	0.00	132.90	

W011 Disposal of Surplus Soil (backhoe loading)

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	1.77	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	135.51	258.70	2,685.59	1,628.56	1,451.24	3,079.80	
R0601-006	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	10.31	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	621.69	1,112.83	4,482.41	3,158.83	3,060.10	6,216.93	
	Miscellaneous	LS	1.00						0.00	0.00	0.00	0.00	0.00	0.00	0.0%	
Total									757.20	1,371.53	7,167.99	4,787.39	4,511.34	9,298.73		
Components (%)									8.1%	14.8%	77.1%	51.8%	48.5%	100.0%		
Unit Rate			m3						7.57	13.72	71.71	47.87	45.13	93.00		

Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 9.70 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 0.60 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance to Disposal Point = 5.00 km

W015 Disposal of Surplus Soil (manpower loading)

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R020	Unskilled Labor	md	1.30	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	408.20	0.00	0.00	0.00	408.20	408.20	
R0601-006	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	1.03	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	62.11	111.18	447.81	315.38	305.71	621.09	
	Miscellaneous	LS	1.00						0.00	0.00	0.00	0.00	0.00	0.00	0.0%	
Total									470.31	111.18	447.81	315.38	305.71	1,023.29		
Components (%)									45.7%	10.8%	43.5%	30.8%	29.4%	100.0%		
Unit Rate			m3						47.06	11.13	44.81	31.56	30.57	103.00		

Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 9.70 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 0.60 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance to Disposal Point = 5.00 km

W021 Borrow Soil, transported

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R03001	Quarry Royalty (Borrow Soil)	m3	100.00	0.0%	100.0%	0.0%	0.0%	100.0%	15.00	0.00	1,500.00	0.00	0.00	1,500.00	1,500.00	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	1.88	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	143.93	274.78	2,852.49	1,729.77	1,541.43	3,271.20	
R0601-009	Dump Truck, 9.0-12.0 cu-yds (6.9-9.2m3)	hr	18.64	8.0%	17.9%	74.1%	51.9%	48.1%	755.00	1,127.35	2,522.44	10,442.05	7,314.49	6,777.35	14,091.84	
	Miscellaneous	LS	1.00						0.00	0.00	0.00	0.00	0.00	0.00	0.0%	
Total									1,271.28	4,297.22	13,294.54	9,044.23	9,818.79	18,863.04		
Components (%)									6.7%	22.8%	70.8%	47.9%	52.1%	100.0%		
Unit Rate			m3						12.74	43.06	133.21	90.62	98.38	189.00		

Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 9.70 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 1.52 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance from Quarry = 18.70 km

W022 Crushed Aggregate, transported

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R03003	Quarry Royalty (Aggregate)	m3	100.00	0.0%	100.0%	0.0%	0.0%	100.0%	15.00	0.00	1,500.00	0.00	0.00	1,500.00	1,500.00	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	2.82	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	215.90	412.17	4,278.73	2,594.65	2,312.15	4,906.80	
L020	Unskilled Labor	md	3.50	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	1,099.00	0.00	0.00	0.00	1,099.00	1,099.00	
R0716-010	Aggregate Crusher 100t/hr	hr	2.24	0.0%	3.2%	94.5%	54.1%	45.9%	2,700.00	0.00	332.64	5,715.36	3,272.89	2,775.11	6,048.00	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	2.82	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	215.90	412.17	4,278.73	2,594.65	2,312.15	4,906.80	
R0601-005	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	11.36	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	685.01	1,226.16	4,938.91	3,478.33	3,371.75	6,850.08	
	Miscellaneous	LS	1.00	25.0%	25.0%	50.0%	40.0%	60.0%	128.55	128.55	263.11	206.49	308.73	508.21	2.0%	
Total									2,342.36	4,009.70	19,464.03	12,142.01	13,623.89	25,816.89		
Components (%)									9.1%	15.5%	75.4%	47.0%	53.0%	100.0%		
Unit Rate			m3						23.41	40.07	194.62	121.35	136.65	258.00		

Miscellaneous covers the costs for sieves, screens, washing, minor tools, etc.
 Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 9.70 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 0.60 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance from Quarry = 5.00 km

W023 Excavated Soil, transported

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	1.77	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	135.51	258.70	2,685.59	1,628.56	1,451.24	3,079.80	
R0601-006	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	5.89	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	355.17	635.73	2,560.70	1,803.47	1,748.20	3,551.67	
	Miscellaneous	LS	1.00						0.00	0.00	0.00	0.00	0.00	0.00	0.0%	
Total									490.68	894.43	5,246.34	3,432.02	3,199.44	6,631.47		
Components (%)									3.4%	13.5%	79.1%	51.8%	48.2%	100.0%		
Unit Rate			m3						4.91	8.94	52.45	34.31	31.99	68.30		

Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 16.97 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 0.35 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance from Quarry = 1.20 km

W028 Selected Sand, transported

Item No.	Description	Unit	Quantity	Unit Rate						Amount					Remarks	
				Component (%)						Component (PP)						
				Lab.	Mat.	Equip.	For.	Local	Total (PP)	Labor	Material	Equipment	Foreign	Local		Total (PP)
R03002	Quarry Royalty (Sand, Pebbles)	m3	100.00	0.0%	100.0%	0.0%	0.0%	100.0%	15.00	0.00	1,500.00	0.00	0.00	1,500.00	1,500.00	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	2.17	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	166.14	317.17	3,292.50	1,996.59	1,779.21	3,775.80	
L020	Unskilled Labor	md	3.50	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	1,099.00	0.00	0.00	0.00	1,099.00	1,099.00	
R0102-061	Backhoe, hydraulic, crawler, 0.61m3	hr	2.17	4.4%	8.4%	87.2%	52.9%	47.1%	1,740.00	166.14	317.17	3,292.50	1,996.59	1,779.21	3,775.80	
R0601-006	Dump Truck, 6.0-9.0 cu-yds (4.6-6.9m3)	hr	10.16	10.0%	17.9%	72.1%	50.8%	49.2%	603.00	612.65	1,096.64	4,417.19	3,110.90	3,015.58	6,126.49	
	Miscellaneous	LS	1.00	20.0%	30.0%	50.0%	40.0%	60.0%	85.11	85.11	162.77	130.22	193.37	325.54	2.0%	
Total									2,108.03	3,328.64	11,164.96	7,234.31	9,368.37	16,602.62		
Components (%)									12.7%	20.0%	67.2%	43.6%	56.4%	100.0%		
Unit Rate			m3						21.08	33.28	111.63	72.33	93.67	166.00		

Miscellaneous covers the costs for sieves, screens, washing, minor tools, etc.
 Q = 3600-q-f-E/Cm (Backhoe) = 56.64 m3/h
 Q : Excavation Volume per hour = 56.64 m3/h
 q : Excavation Volume per Cycle = 0.59 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.80
 Cm: Cycle Time = 30 sec
 Q = q-f-E/Cm (Dump Truck) = 9.70 m3/hr
 Q : Transportation Volume per hour = 9.65 m3/hr
 q : Loading Capacity of a Truck = 6.50 m3
 f : Volume Coefficient = 1.00
 E : Efficiency = 0.90
 Cm: Cycle Time = A + 2-L/V = 0.60 hr
 V : Vehicle speed = 30.00 km/hr
 a : Loading time = 0.27 hr
 L : Average Distance from Quarry = 5.00 km

W0146 Compaction, bulldozer 21t

Unit: 100.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Tractor, crawler w/dozer (Bulldozer, 21t) and Miscellaneous.

Q = V*W*D/E*N
Q : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 4 times

W0147 Compaction, tire roller 8-20t

Unit: 100.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Four Tamping Foot Wheels (Tire Roller) 15t and Miscellaneous.

Q = V*W*D/E*N
Q : Compaction Volume per hour = 189 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 1.800 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.60
N : Number of Compaction = 5 times

W0148 Compaction, tamper

Unit: 10.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Unskilled Labor, Vibration Rammer, 6in Plate Compactor, and Miscellaneous.

Q = V*W*D/E*N
Q1 : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 4 times

W0149 Filling, Laying & Compaction, bulldozer 21t

Unit: 100.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Tractor, crawler w/dozer (Bulldozer, 21t) and Miscellaneous.

Q = Q1*Q2/(Q1+Q2)
Q1 = V*W*D/E*N
Q2 = 10-E*(19-D+13)
Q1 : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 4 times
Q2 : Filling Volume per hour = 140.00 m3/hr
E : Efficiency = 0.80
D : Layer thickness = 0.250 m

W0150 Filling, Laying & Compaction, bulldozer 15t

Unit: 100.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Tractor, crawler w/dozer (Bulldozer, 15t) and Miscellaneous.

Q = Q1*Q2/(Q1+Q2)
Q1 = V*W*D/E*N
Q2 = 10-E*(13-D+D)
Q1 : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 5 times
Q2 : Filling Volume per hour = 98.00 m3/hr
E : Efficiency = 0.80
D : Layer thickness = 0.250 m

W0151 Slope Formation by Bulldozer

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Foreman, Unskilled Labor, Tractor, crawler w/dozer (Bulldozer, 15t), and Miscellaneous.

Q = Q1*Q2/(Q1+Q2)
Q1 = V*W*D/E*N
Q2 = 10-E*(13-D+D)
Q1 : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 5 times
Q2 : Filling Volume per hour = 98.00 m3/hr
E : Efficiency = 0.80
D : Layer thickness = 0.250 m

W0152 Slope Formation by Backhoe

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Foreman, Unskilled Labor, Backhoe, hydraulic, crawler, 0.61m3, and Miscellaneous.

Q = Q1*Q2/(Q1+Q2)
Q1 = V*W*D/E*N
Q2 = 10-E*(13-D+D)
Q1 : Compaction Volume per hour = 157.5 m3/hr
V : Compaction speed = 3500 m/hr
W : Effective compaction width = 0.900 m
D : Layer thickness = 0.250 m
E : Efficiency = 0.80
N : Number of Compaction = 5 times
Q2 : Filling Volume per hour = 98.00 m3/hr
E : Efficiency = 0.80
D : Layer thickness = 0.250 m

W0161 Gravel Foundation Fill

Unit: 10.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Skilled Labor, Unskilled Labor, Crushed Aggregate, transported, and Miscellaneous.

Miscellaneous covers the cost for depreciation of compaction equipment, fuel, etc.

W0162 Selected Sand Fill

Unit: 10.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Total (PP), Labor, Material, Equipment, Foreign, Local, Total (PP), Remarks. Includes rows for Skilled Labor, Unskilled Labor, Selected Sand, transported, and Miscellaneous.

Miscellaneous covers the cost for depreciation of compaction equipment, fuel, etc.

W0216 Concrete (for RCPC, 32MPa, max agg 20mm)

Table for W0216 Concrete (for RCPC, 32MPa, max agg 20mm) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for minor materials and tools for washing, screening, weighing, testing, cleaning, etc.
Cement = 434.00 kg/m3
Aggregate (max 20mm) = 979.00 kg/m3
Sand = 699.00 kg/m3
Water = 165.00 kg/m3
Admixture = 1.09 kg/m3

W0221 Mortar (1:3)

Table for W0221 Mortar (1:3) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for minor materials and tools for washing, screening, weighing, testing, cleaning, etc.
Cement = 483.00 kg/m3
Sand = 1,449.00 kg/m3
Water = 217.00 kg/m3

W0222 Mortar (1:2)

Table for W0222 Mortar (1:2) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for minor materials and tools for washing, screening, weighing, testing, cleaning, etc.
Cement = 623.00 kg/m3
Sand = 1,869.00 kg/m3
Water = 280.00 kg/m3

W0225 Grout (non-shrink)

Table for W0225 Grout (non-shrink) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for minor materials and tools for washing, screening, weighing, testing, cleaning, etc.
Cement = 623.00 kg/m3
Sand = 1,246.00 kg/m3
Water = 280.00 kg/m3
Admixture = 1.87 kg/m3

W0231 Concrete Pouring by Pump Vehicle (plain concrete)

Table for W0231 Concrete Pouring by Pump Vehicle (plain concrete) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for vibrator, generator, etc.

W0232 Concrete Pouring by Pump Vehicle (reinforced concrete)

Table for W0232 Concrete Pouring by Pump Vehicle (reinforced concrete) with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for vibrator, generator, etc.

W0233 Concrete Pouring by Pump Vehicle for PC box girder cantilever construction

Table for W0233 Concrete Pouring by Pump Vehicle for PC box girder cantilever construction with columns for Item No., Description, Unit, Quantity, Unit Rate, Component (%), Total (PP), Amount (Labor, Material, Equipment, Foreign, Local, Total (PP)), and Remarks.

Miscellaneous covers the cost for vibrator, generator, etc.

#0422 Temporary Access Bridge Superstructure Removal

Unit: 10.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Skilled Labor, Welder, Unskilled Labor, and Miscellaneous.

#0423 Temporary Access Bridge Railing Installation

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Skilled Labor, Welder, Unskilled Labor, and Miscellaneous.

#0424 Temporary Access Bridge Railing Removal

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Skilled Labor, Welder, Unskilled Labor, and Miscellaneous.

#0431 Temporary Drain Pump Installation & Removal

Unit: 1.00 set

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Unskilled Labor, and Truck Crane.

#0432 Temporary Drain Pump Operation

Unit: 1.00 day

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Skilled Labor, Electric Water Pump, Generator, and Miscellaneous.

#0441 Temporary Frame Support Installation & Removal

Unit: 100.00 m3

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Skilled Labor, Unskilled Labor, and Truck Crane.

#0442 Temporary Frame Support Depreciation

Unit: 100.00 m3-d

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Temporary Frame Support (Portal) and Temporary Frame Support (bracing).

#0451 Temporary Sheet Pile Driving for cofferdam, (Vibro Hammer)

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes rows for Foreman, Skilled Labor, Unskilled Labor, Vibratory Pile Driver, and Truck Crane.

Te = ((0.75 * y^1.5) / (N * L)) * L + a / K/F
Te : Construction time per pile = 25.0 min/pile
a : Coefficient = 3.57
y : Coefficient = 0.02
L : Pile driving length = 15.00 m
Nmax : Maximum N-value = 30.00
K : Coefficient = 1.05
F : Work factor = 1.00
T : Operation hour per day = 6.56 hr/day
Sheet Pile width = 0.400 m
Sheet Pile length = 15.000 m

W0504 Finish Painting of Structural Steel Bridge Members

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Painter, Skilled Labor, Unskilled Labor, and Miscellaneous.

Miscellaneous covers the cost for falseworks, thinner, spray guns, brushes and other minor materials and tools. Paint volume (middle coat) = 0.120 kg/m2. Paint volume (finish coat) = 0.110 kg/m2.

W0505 Temporary Bent for Steel Bridge Erection

Unit: 1.00 t

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Skilled Labor, Unskilled Labor, and Concrete pouring.

Miscellaneous covers the cost for preparation of foundation bed, maintenance, etc. Depreciation period = 444 days. Base Concrete = 288.00 m3.

W0506 Site Welding for Steel Bridge

Unit: 10.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Welder, Skilled Labor, Unskilled Labor, Generator, and Air Compressor.

Miscellaneous covers the cost for welding rods, acetylene gas, falseworks, testing, etc. C = 2.27 * 1.4. G = Daily productivity = 6.68 m/day. M = Total length of welding = 446.5 m. n = Coefficient due to average thickness = 0.85.

W0521 Precast PC Girder Fabrication Base Construction & Removal

Unit: 40.00 girder

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Skilled Labor, Unskilled Labor, and Miscellaneous.

Miscellaneous covers the cost for lumber, plywood, nail, etc. Total number of girders = 40. Maximum Girder Length = 35.000 m. Number of bases = 4.

W0522 Precast PC Girder Fabrication Base Maintenance

Unit: 1.00 girder

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Carpenter, Unskilled Labor, and Miscellaneous.

Base Length = 36.000 m

W0535 PC Strand (8-T12.7, 150t) Installation for Precast PC Girder

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Skilled Labor, Unskilled Labor, PC Strand, Sheath, Grout, and Miscellaneous.

Miscellaneous covers the cost for tapes, binding wires, minor tools, etc.

W0536 PC Strand (10-T12.7, 180t) Installation for Precast PC Girder

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Skilled Labor, Unskilled Labor, PC Strand, Sheath, Grout, and Miscellaneous.

Miscellaneous covers the cost for tapes, binding wires, minor tools, etc.

W0537 PC Strand (12-T12.7, 225t) Installation for Precast PC Girder

Unit: 100.00 m

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), Total (PP), Remarks. Includes items for Foreman, Skilled Labor, Unskilled Labor, PC Strand, Sheath, Grout, and Miscellaneous.

Miscellaneous covers the cost for tapes, binding wires, minor tools, etc.

W0657 Temporary External & Internal Support at Side Span for Cantilever Construction

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0661 Assembly & Disassembly of Form Traveler

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0662 Form Traveler Shifting

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0663 Form Traveler Lifting

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0664 Form Traveler Pulling Back

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0671 PC Cable Installation, (12-T12.7, 225t) for PC Box Girder (Longitudinal)

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0672 PC Cable Anchorage, (12-T12.7, 225t) for PC Box Girder (Longitudinal)

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0673 PC Cable Tensioning, (12-T12.7, 225t) for PC Box Girder (Longitudinal)

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W0676 PC Cable Installation, (S-T12.7, 90t) for PC Box Girder (Transversal)

Table with columns: Item No., Description, Unit, Quantity, Unit Rate (Component %), Total (PP), Amount (Component (PP)), Total (PP), Remarks. Includes sub-totals for Components (%) and Unit Rate.

W1102 Traffic Signal Post Type A (Must Arms) H=6.0m, Furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the cost for fittings, painting, haulage, overhead and facilities of fabricator, etc.

W1103 Traffic Signal Posts Type B @114.3mm x 4.2m, Furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the cost for painting, haulage, overhead and facilities of fabricator, etc.

W1104 Traffic Signal Posts Type C @114.3mm x 3.4m, Furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the cost for fittings, painting, haulage, overhead and facilities of fabricator, etc.

W1105 Pedestrian Signal Posts Type D @114.3mm x 3.0m, Furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the cost for fittings, painting, haulage, overhead and facilities of fabricator, etc.

W1201 Street Lighting Pole (single lamp), furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the costs for fittings, overhead and facilities of fabricator, painting, etc.

W1202 Street Lighting Pole (double lamp), furnished

Table with 14 columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount (Component (PP)), and Remarks. Includes sub-headers for Component (%) and Amount (Component (PP)).

Miscellaneous covers the costs for fittings, overhead and facilities of fabricator, painting, etc.

W3003 Structural Steel Fabrication and Erection for Engineers Office and Living Quarter

Unit: 1.00 c

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Foreman, Welder, Skilled Labor, and Structural Steel.

W3004 Pre-painted Corrugated G.I. Roofing Fabrication & Erection

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Foreman, Skilled Labor, and Corrugated Galvanized Iron Sheet.

W3005 Pre-painted Steel Wall Panels on Steel Frames with Insulation

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Foreman, Welder, Skilled Labor, and Galvanized Iron Sheet.

W3006 Pre-painted Steel Wall Partitions on Steel Frames with Insulation (Double Walling)

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Foreman, Welder, Skilled Labor, and Galvanized Iron Sheet.

W3007 Plain Cement Floor Finish

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Masonry, Skilled Labor, and Mortar.

W3008 Plain Cement Floor Finish with non skid cement with groove lines

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Masonry, Skilled Labor, and Mortar.

W3009 Unglazed Tile Finish (8" x 8")

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Masonry, Skilled Labor, and Unglazed Tile.

W3010 Gypsum Board Ceiling

Unit: 100.00 m2

Table with columns: Item No., Description, Unit, Quantity, Component (%), Unit Rate, Amount, and Remarks. Includes items like Skilled Labor, Unglazed Labor, and Gypsum Board Ceiling.

W3504 Relocation of Sewer Pipe		Unit: 10.00 m														
Item No.	Description	Unit	Quantity	Component (%)					Total (PP)	Amount					Remarks	
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
W0106	Excavation, Backhoe 0.61m3 + Manpower	m3	22.87	24.6%	6.6%	68.8%	41.7%	58.5%	59.50	354.50	90.19	938.28	567.77	793.00	1,360.77	
W0133	Backfill C	m3	22.87	11.4%	11.8%	76.7%	49.4%	50.6%	145.00	378.70	392.35	2,545.10	1,638.26	1,677.89	3,316.15	
W0105	Excavation, Backhoe 0.61m3	m3	22.87	4.4%	8.4%	87.2%	52.9%	47.1%	40.90	41.16	78.57	815.65	494.62	440.76	935.38	
W0203	Concrete (Class A, 21MPa, max agg. 38mm)	m3	5.02	2.5%	80.7%	16.8%	56.8%	43.2%	1,600.00	198.82	6,483.11	1,350.07	4,559.33	3,472.17	8,032.00	Loss 2.0%
W0235	Concrete Pouring by Manpower for small structures	m3	4.92	98.0%	0.2%	1.8%	1.1%	98.9%	224.00	1,080.47	2.16	19.45	11.89	1,090.19	1,102.08	
W0236	Concrete Curins (plain concrete)	m3	4.92	70.9%	8.7%	20.4%	16.0%	84.0%	8.85	30.88	3.80	8.86	6.90	36.58	43.54	
W0162	Selected Sand Fill	m3	8.86	34.0%	15.2%	50.7%	33.1%	66.9%	276.00	832.55	371.85	1,240.96	808.64	1,638.72	2,445.36	
W0133	Backfill C	m3	4.53	11.4%	11.8%	76.7%	49.4%	50.6%	145.00	77.72	77.72	504.12	324.50	332.35	656.85	
W0111	Disposal of Surplus Soil (backhoe loadline)	m3	18.34	8.1%	14.8%	77.1%	51.5%	48.5%	93.00	138.92	251.63	1,315.07	877.95	827.67	1,705.62	
W0332	Precast Reinforced Concrete Pipe (Extra Strength 32MPa), fabrication 6610	m	10.00	10.2%	65.3%	21.5%	53.6%	46.4%	1,110.00	1,134.66	7,582.06	2,383.28	5,950.32	3,149.68	11,190.00	
W0342	Precast Concrete Pipe Laving 6610	m	10.00	45.6%	8.2%	46.2%	29.7%	70.3%	244.00	1,111.80	200.86	1,127.34	724.50	1,715.50	2,440.00	0.0%
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	
	Total								5,357.27	15,534.30	12,246.13	15,965.23	17,172.52	33,137.75		
	Components (%)								16.2%	46.9%	37.0%	48.2%	51.8%	100.0%		
	Unit Rate								535.12	1,551.66	1,224.22	1,594.70	1,715.30	3,310.00		

W3511 Repair & Maintenance of Existing Access Road		Unit: 100.00 m2														
Item No.	Description	Unit	Quantity	Component (%)					Total (PP)	Amount					Remarks	
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L020	Unskilled Labor	md	3.00	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	942.00	0.00	0.00	0.00	942.00	942.00	
W0122	Crushed Ascrete, transported	m2	19.90	9.1%	15.5%	75.4%	47.0%	53.0%	258.00	463.48	793.40	3,851.52	2,402.74	2,705.66	5,108.40	Loss 32.0%
R0307-000	Plate Connector	day	0.85	0.0%	17.7%	82.3%	56.2%	43.8%	750.00	0.00	117.35	545.65	372.62	290.38	603.00	
	Miscellaneous	LS	1.00	20.0%	40.0%	40.0%	40.0%	60.0%		161.12	322.24	322.24	322.24	322.24	322.24	12.0%
	Total								1,566.81	1,233.00	4,719.41	3,097.51	4,421.40	7,519.01		
	Components (%)								20.8%	16.4%	62.8%	41.2%	58.8%	100.0%		
	Unit Rate								15.67	12.33	47.20	30.98	44.22	75.20		

Miscellaneous covers the cost for maintenance cleaning, falseworks, etc.
Repair thickness = 0.150 m

W4101 Environmental Compliance		Unit: 1.00 km														
Item No.	Description	Unit	Quantity	Component (%)					Total (PP)	Amount					Remarks	
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
L002	Foreman	md	1.00	100.0%	0.0%	0.0%	0.0%	100.0%	566.00	0.00	0.00	0.00	0.00	566.00	566.00	
L020	Unskilled Labor	md	3.00	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	942.00	0.00	0.00	0.00	942.00	942.00	
	Compensation	LS	1.00	30.0%	50.0%	0.0%	0.0%	100.0%	94,290.00	47,145.00	47,145.00	0.00	0.00	94,290.00	94,290.00	2.0%
	Miscellaneous	LS	1.00	20.0%	40.0%	40.0%	40.0%	60.0%		363.19	726.38	726.38	726.38	726.38	1,919.95	
	Total								49,036.19	47,811.38	766.38	766.38	766.38	96,917.53	97,712.91	
	Components (%)								50.2%	49.0%	0.8%	0.8%	0.8%	100.0%		
	Unit Rate								49,029.19	47,904.54	766.21	766.21	766.21	96,933.73	97,700.00	

Miscellaneous covers the costs for minor repair works, vehicle depreciation, contingency, etc.
Compensation = affected household x number of persons x minimum wage x affected duration
Affected households = 20 households
Number of person per household = 3 persons/household
Minimum wage = 224.50 PP/day
Affected duration = 7 days

W4111 Health and Safety Requirements		Unit: 1.00 day														
Item No.	Description	Unit	Quantity	Component (%)					Total (PP)	Amount					Remarks	
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
	Health and safety Requirements	day	1.00	10.0%	55.0%	35.0%	40.0%	60.0%	674.00	67.40	370.70	235.90	269.60	404.40	674.00	
	Miscellaneous	LS	1.00							0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Total								674.00	67.40	370.70	235.90	269.60	404.40	674.00	
	Components (%)								10.0%	55.0%	35.0%	40.0%	60.0%	100.0%		
	Unit Rate								674.00	67.40	370.70	235.90	269.60	404.40	674.00	

Health and Safety Requirements = Minimum wage x a
Minimum wage = 224.50 PP/day
a: Coefficient = 3.00

W4121 Overseas Development Assistance (ODA) Recognition Plats		Unit: 1.00 each														
Item No.	Description	Unit	Quantity	Component (%)					Total (PP)	Amount					Remarks	
				Lab.	Mat.	Equip.	For.	Local		Labor	Material	Equipment	Foreign	Local		Total (PP)
W0106	Excavation, Backhoe 0.61m3 + Manpower	m3	4.70	24.6%	6.6%	68.8%	41.7%	58.5%	59.50	68.70	18.54	192.41	116.68	162.97	279.85	
W0111	Disposal of Surplus Soil (backhoe loadline)	m3	0.60	8.1%	14.8%	77.1%	51.5%	48.5%	93.00	4.54	8.23	43.02	28.72	27.08	55.80	
W0133	Backfill C	m3	4.10	11.4%	11.8%	76.7%	49.4%	50.6%	145.00	67.99	70.34	456.27	293.70	300.80	594.50	
W0203	Concrete (Class A, 21MPa, max agg. 38mm)	m3	0.61	2.5%	80.7%	16.8%	56.8%	43.2%	1,600.00	24.16	787.79	164.05	554.08	421.92	976.00	Loss 2.0%
W0235	Concrete Pouring by Manpower for small structures	m3	0.60	98.0%	0.2%	1.8%	1.1%	98.9%	224.00	131.76	0.26	2.37	1.45	132.95	134.40	
W0236	Concrete Curins (plain concrete)	m3	0.60	70.9%	8.7%	20.4%	16.0%	84.0%	8.85	3.77	0.46	1.08	0.85	4.46	5.31	
W0240	Formwork (plain concrete H4m)	m2	4.80	58.9%	40.4%	0.8%	2.9%	97.1%	222.00	627.21	430.03	8.38	31.32	1,034.28	1,065.60	
W07201	Traffic Sign Board (aluminum)	m	5.94	0.0%	100.0%	0.0%	65.0%	35.0%	13,800.00	0.00	81,972.00	0.00	53,281.80	28,690.20	81,972.00	
W08708	Steel Gas Pipe, 6125	m	11.20	0.0%	100.0%	0.0%	60.0%	40.0%	503.00	0.00	5,633.50	0.00	3,380.16	2,253.44	5,633.00	
L002	Foreman	md	0.11	100.0%	0.0%	0.0%	0.0%	100.0%	566.00	62.26	0.00	0.00	0.00	62.26	62.26	
L020	Unskilled Labor	md	0.37	100.0%	0.0%	0.0%	0.0%	100.0%	314.00	116.18	0.00	0.00	0.00	116.18	116.18	
	Miscellaneous	LS	1.00	20.0%	40.0%	40.0%	50.0%	50.0%		545.37	1,090.74	1,090.74	1,363.43	1,363.43	3.0%	
	Total								1,651.85	90,012.00	1,958.31	59,052.19	34,569.96	83,622.16		
	Components (%)								1.8%	96.1%	2.1%	63.1%	35.9%	100.0%		
	Unit Rate								1,651.46	89,990.69	1,957.85	59,038.22	34,561.76	83,600.00		

Miscellaneous covers the costs for fixtures, paints, etc.