THE GOVERNMENT OF MAURITUS MINISTRY OF ENERGY, WAREN RESOLUCES AND POSTAL BERHICES CENTRAL WATCH AUTHOMPS

THE DETAILED DESIGN

THE PORT LOUIS WATER SUPPLY PROJECT

FINAL REPORT (2)

COST ESTIMATE

FOR LOT 11 E

CIVIL WORKS (DAM AND APPURITENANT STRUCTURES INCLUDING CLOSURES OF DIVERSION TUNNEL)

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MARCH 1982

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FINAL REPORT (2)

COST ESTIMATE FOR LOT U

THE GOVERNMENT OF MAURITIUS MINISTRY OF ENERGY, WATER RESOURCES AND POSTAL SERVICES CENTRAL WATER AUTHORITY

THE DETAILED DESIGN ON THE PORT LOUIS WATER SUPPLY PROJECT IN MAURITIUS

FINAL REPORT (2)

COST ESTIMATE

FOR

LOT II : CIVIL WORKS(DAM AND APPURTENANT STRUCTURES INCLUDING CLOSURES OF DIVERSION TUNNEL)

MARCH 1992

JAPAN INTERNATIONAL COOPERATION AGENCY



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THE PORT LOUIS WATER SUPPLY PROJECT COST ESTIMATE

FOR

LOT II : CIVIL WORKS (DAM AND APPURTENANT STRUCTURES INCLUDING CLOSURE OF DIVERSION TUNNEL)

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1. GENERAL

This report presents the construction cost for the implementation of the Lot II, Civil Works for Dam and Appurtenant Structures including Closure of Diversion Tunnel of the Port Louis Water Supply Project. The Project is divided into three contract lots which will be scheduled to be concluded through the international competitive tenders.

The total construction cost of the Lot II of the Project is estimated at the price level of January 1991 as follows:

Foreign currency	;	US\$43,091,893	(68%)
Local currency	:	RS.282,651,029	(32%)
Total (equivalent to)	:	US\$63,723,344	(100%)

Construction cost of the Lot II Work is estimated on the basis of the detailed design drawings, specifications and the proposed construction plan and schedule developed in the study of this design stage. In order to make an accurate cost estimate, unit price estimate method is mainly applied for each work. Furthermore, the estimate procedures and the breakdown of the unit cost are applied taking into account of a prevailing estimate procedures in Mauritius, a recent international tendering system and a financial source.

The unit prices are estimated and analyzed on the basis of local conditions, the proposed construction method, accurate unit rates of labour wages, material and equipment costs, and cost data referring to the recent tender prices on the similar projects in Mauritius.

The summary of construction cost is shown in Table 1.1

Division No.	Description	Foreign Currency (USS)	Local Currency (Rs.)	Total Amount Equivalent (USS)
А.	General	1,011,000	10,104,000	1,748,518
В.	Cofferdams	1,525,969	8,635,197	2,156,276
C.	Main Dam	16,255,981	96,341,175	23,288,180
D.	Spillway	8,590,031	45,703,113	11,926,021
E.	Intake	438,092	2,406,670	613,761
F.	River Outlet Works	312,007	3,043,390	534,161
G.	Hydro-Mechanical Works	1,759,250	2,430,920	1,936,690
Н.	Electrical Works	576,286	804,147	634,979
I.	Building Works	312,988	2,236,906	476,263
J.	Repair for Existing Municipal Dike	320,457	3,938,197	607,917
<u></u>	Total of Direct Cost	31,102,061	175,643,715	43,922,759
К.	Engineering and Administration Cost	3,732,247	21,077,246	5,270,732
	Sub-total	34,834,308	196,720,961	49,193,491
L.	Physical Contingency	3,483,431	19,672,096	4,919,350
	Sub-total	38,317,739	216,393,057	54,112,841
м.	Price Contingency	4,774,154	66,257,972	9,610,503
	Total of Construction Cost	43,091,893	282,651,029	63,723,344

Table 1.1 Summary of Construction Cost for Lot II Work

2. BASIC CONDITIONS

Basic conditions and assumptions applied for this cost estimate are presented below:

- The unit prices and rates are based on the current prices for labour, material and equipment as of January 1991.
- The estimated cost is imposed of a foreign currency portion expressed in US Dollar and a local currency portion of Mauritian Rupee. The total amount is converted into US Dollar as an equivalent price.
- The exchange rates are employed in consideration of the prevailing exchange rate in January 1991 same as those applied for cost estimate of the Lot I Work. The exchange rates used in this cost estimate are as follows:

US\$ 1.0 = Yen 130 = Rs. 13.7

- The work quantities are calculated from the detailed design drawings and the technical specifications of the tender documents of Lot II Contract. The work quantities are shown in APPENDIX A, PRICED BILL OF QUANTITIES.
- The construction works will be carried out by a contractor selected through an international competitive tender in accordance with a guidelines of CWA in Mauritius and a financial source.
- The Employer will furnish the construction plants, equipment and facilities listed in Section 4.2 c and will lease them to the contractor free of charge.
- Annual price escalation rates are assumed to be 3 per cent for the foreign currency portion and 7 per cent for the local currency portion.
- In principle, the import taxes and duties on construction equipment and material which are imported for construction of the Project are excluded from this cost estimate.

3. CONSTITUTION OF CONSTRUCTION COST

The construction cost consists of a direct cost (contract cost) and an indirect cost. The direct construction cost is estimated based on the work items and quantities derived from the detailed design. This cost includes the labour wages, material cost, equipment cost and contractor's indirect cost such as overhead and profit. The direct construction cost is estimated in the Priced Bill of Quantities as shown in APPENDIX A.

While, the indirect cost includes the administration expenses of the CWA, engineering services, physical contingency and price escalation.

(1) Direct Construction Cost (Contract Cost)

Lot II: Civil Works for Dam and Appurtenant Structures including Closure of Diversion Tunnel

- (2) Indirect Cost
 - Administration expenses
 - Engineering services
 - physical contingency
 - Price escalation

4. DIRECT CONSTRUCTION COST

4.1 General

Lot II Civil Works for Dam and Appurtenant Structures including Closure of Diversion Tunnel consist of;

A: GENERAL

Costs for insurance of Works and third party insurance; supply, installation, operation and subsequent removal of temporary water supply facility, electric power supply and telecommunication system; operation and subsequent removal of waste water treatment and sewerage system; supply, installation, operation and subsequent removal of soil testing equipment; and boreholes and exploratory excavation.

B: COFFERDAMS

Diversion and care of water during construction in the Terre Rouge River including removal of water from foundation of cofferdams; construction and subsequent removal of upstream and downstream primary cofferdams; construction of main cofferdam; and maintenance and closure of the diversion tunnel gate.

C: MAIN DAM

Construction of main dam including drilling and grouting for foundation treatment; inspection gallery and grout tunnels; measuring apparatus; and slope protection on both abutments.

D: SPILLWAY

Construction of spillway including steel bridge and roadway.

E: INTAKE

Construction of intake structure.

F: WATER SUPPLY AND RIVER OUTLET WORKS

Construction of water supply and river outlet facilities including valve chamber access shaft; and plug concrete in the diversion tunnel.

G: HYDRO-MECHANICAL WORKS

Intake gates and hoists, trash racks, steel conduit with valves for water supply; and trash racks, bulkhead gate, steel conduit with valves for river outlet.

H: ELECTRICAL WORKS

Electrical facilities for dam control house, inspection gallery, gate control house, valve chamber including access shaft, grouting tunnel, outdoor lighting, grounding system, power receiving and distribution system, emergency power supply system and dam leakage water drainage system.

I: BUILDING AND BUILDING SERVICE WORKS

Construction of dam control house, gate control house, and valve chamber.

J: REPAIR FOR EXISTING MUNICIPAL DIKE

Repairing work by boulder backfill, concrete blocks and cement grouting.

Division No.	Foreign Currency Portion (%)	Local Currency Portion (%)	Weight (%)
A.	57.8	42.2	4.0
В.	70.8	29.2	4.9
С.	69.8	30.2	53.0
D.	72.0	28.0	27.2
Ε.	71.4	28.6	1.4
F.	58.4	41.6	1.2
G.	90.8	9.2	4.4
Н.	90.8	9.2	1.4
I.	65.7	34.3	1.1
J.	52.7	47.3	1.4
TOTAL	70.8	29.2	100.0

Proportion of the above-mentioned costs are as follows:

4.2 Cost Component of Direct Construction Cost

The direct construction costs of civil works are estimated by adopting the method of unit price multiplied by the corresponding work quantity and lump sum prices, based on labour wages and the cost of materials, construction equipment and plants. However, major construction plants, facilities and most of the access and haul roads; such as aggregate production and concrete batcher plants, and waste water treatment plant; main building works including the office, quarters, concrete and soil testing laboratory; electrical power supply system; water supply system; and telecommunication system; and access roads around the damsite and haul roads to the quarry site; are excluded from the Lot II Civil Works. The contractor's indirect cost consisting of overhead expense and profit is included in the unit price of each work item.

The Lot II Civil Works also include hydromechanical works such as intake gates, trash racks, guide frames and hoists, steel conduit pipes and valves for the water supply and river outlet works, and closure of the diversion tunnel gate.

These are planned to be manufactured abroad and imported to Port Louis and transported to and installed at the job site. These prices are estimated on the basis of the recent international contract prices of similar equipment units in Mauritius, and include costs of design, materials, manufacturing, painting, packing, delivery and other costs necessary for transporting to the Project site.

The cost of imported equipment and materials is estimated at CIF price at Port Louis in foreign currency portion. The import tax and duties for the construction equipment procured from foreign countries are not included in the cost estimate, on the condition that such equipment shall be exported immediately after completion of the Project.

The costs for supply and delivery of imported items, ocean freight and insurance are considered in foreign currency portion. The cost for unloading and other charges at port and inland transportation expenses are estimated in local currency portion.

The main components of the cost are described as follows:

a. Labour Wages

All the labours required for the construction are assumed to be local labours and the cost is computed in the local currency portion. However, some foreign technicians such as foreman, mechanics and specialist are considered for the special works. This foreign labour wage is computed in the foreign and local currencies taking into account the annual income, air fare and living allowances, etc.

Daily labour wages are estimated at the average rates between the standard and currently prevailing wages obtained in Mauritius. The labour wages are estimated at the rate of 7 working hours per day and 40 hours per week according to the labour regulation.

The applied labour wages, which include the labour's all fringe benefits such as vacation and sick leaves, charge of insurance, medical care, living allowance and others, are shown in Table 4.1

<u> </u>		Foreign Currency	Local Currency (Rs.)		
Description	Unit (US\$)		Open	Tunnel	
Foreign, foremen	m.d.	171.23	5	70	
Foreman	m.d.		350	525	
Mechanic	m.d.		300	450	
Electrician	m.d.		300	450	
Operator	m.d.		300	450	
Assistant operator	m.d.		220	330	
Driver A	m.d.		270	405	
Driver B	m.d.		240	360	
Rigger	m.d.		240	360	
Carpenter	m.d.		220	330	
Concrete worker	m.d.		200	300	
Driller	m.d.		220	330	
Mason	m.d.		240	360	
Steel worker	m.d.		220	330	
Skilled labour	m.d.		240	360	
Common labour	m.d.		170	225	

Table 4.1 Basic Labour Wages for Cost Estimate

Notes:	1.	Exchange rate Extra payment for over time	:	US\$1.0 = Rs.13.7 = ¥130.0
	20,	- Normal overtime	:	50%
		- Night work	:	50%
		- Holidays and Sundays	:	100%
	3	Extra payment for tunnelling	:	50% up

b. Material Cost

Several construction materials may be purchased by the contractor in local markets. However, availability of these materials in large amount is little. Therefore, local materials employed in the cost estimate are only sand, gravel, rubble stone, ready mixed concrete, concrete products and timber. Some material prices of the said items were collected in the Port Louis area. These prices are assumed to be purchased price at site including inland transportation expenses from the markets. Here, the local materials are considered to include the indirect foreign cost such as the equipment depreciation cost and imported raw material cost, etc. Most of major material costs could not be collected in Mauritius. Therefore, the costs other than the above-mentioned items are all assumed as the imported materials from abroad, taking into consideration of the insufficient supply in Mauritius.

As for the costs of all imported materials, these are estimated on the basis of CIF prices at Port Louis including freight and insurance premium in the foreign currency portion, referring to the prevailing prices in Japanese market. The costs of handling charge at port and inland transportation expenses to the damsite are estimated in the material prices in the local currency portion.

Material costs used for the cost estimate are listed in Table 4.2

Description	Unit	Foreign Portion (US\$)	Local Portion (Rs.)
Gasoline	lit.	0.91	0.62
Light oil (Diesel)	lit.	0.52	0.36
Lubricant	lit.	2.41	1.65
Portland cement	ton	111.68	76.5
Air-entraining agent	kg	1.85	1.26
Reinforcing bar, deformed	ton	584.62	400.46
Annealed iron wire, 0.8 mm	kg	1.06	0.73
Structural steel	ton	619.50	424.36
H-shape steel, 150 x 150 mm	ton	588.30	423.00
Joint plate	kg	0.56	0.43
Base plate	kg	0.56	0.43
Bolt	pc.	0.24	0.18
Tie rod	no.	3.82	2.92
Steel pipe	no.	4.08	3.12
Nail	kg	0.93	0.64
Dynamite, open	kg	8.41	5.76

Table 4.2 Construction Material Cost for Lot II Work

Description	Unit	Foreign Portion (US\$)	Local Portion (Rs.)
Dynamite, tunnel	kg	12.39	8.49
Electric detonator, std. 6	pc.	3.01	2.06
Timber, plank	m ³	238.69	13,080.00
Timber, square	m ³	211.68	11,600.00
Timber, plate	m ³	243.21	13,328.00
Plywood	m ²	10.34	7.09
Metal form, 300 x 1,500 mm	pc.	22.92	15.70
Metal form, 200 x 1,500 mm	pc.	22.21	15.21
Metal form, 150 x 1,500 mm	pc.	18.00	12.33
Metal form, 100 x 1,500 mm	pc.	15.58	10.67
Separator	pc.	0.42	0.32
Cone	pc.	0.29	0.22
Steel batter	kg	0.39	0.30
U-clip	pc.	0.50	0.38
Hook bolt	pc.	1.57	1.20
Pipe support	pc.	0.45	0.34
Form release agent	lit.	2.21	1.52
P.V.C. waterstop, type A	m	10.93	7.81
P.V.C. waterstop, type B	m	10.50	7.67
Concrete aggregate, fine	m ³	10.12	92.40
Concrete aggregate, coarse	m ³	7.53	68.80
Sand	m ³	16.64	152.00
Gravel	m ³	11.82	108.00
Rubble stone	m ³	8.32	76.00
Fresh concrete, ready mixed	m ³	72.26	660.00
Wire fabric net	m²	4.69	3.21
Wire mesh	m ²	2.66	1.82
Gabion mattress	m	13.39	10.24
Concrete block	pc.	0.44	4.00
Reinforced concrete pipe, 1,000 mm dia.	m	70.56	414.30
Reinforced concrete pipe, 600 mm dia.	m	53.20	312.36
Reinforced concrete pipe, 250 mm dia.	m	14.00	82.20

Description	Unit	Foreign Portion (US\$)	Local Portion (Rs.)
Perforated P.V.C. pipe, 250 mm dia.	m	24.03	17.40
P.V.C. pipe, 75 mm dia.	m	6.56	4.66
Geo-textile pipe	m	18.50	13.30
Perforated steel pipe, 400 mm dia.	m	47.63	34.35
Perforated steel pipe, 300 mm dia.	m	35.72	25.76
Perforated steel pipe, 200 mm dia.	m	18.70	13.70
Steel pipe, 300 mm dia.	m	35.72	25.76
Steel pipe, 200 mm dia.	m	18.17	13.15
Steel pipe, 150 mm dia.	m	12.78	9.25
Steel pipe, 100 mm dia.	m	7.38	5.34
Steel pipe, 50 mm dia.	m	2.36	1.70
Steel pipe, 38 mm dia.	m	1.64	1.23
Steel pipe, 25 mm dia.	m	0.64	0.46
Bit	pc.	49.63	37.96
Insert bit	pc.	130.15	99.57
Rod	pc.	322.25	246.75
Sleeve	pc.	79.61	60.90
Shank rod	pc.	238.55	182.48
Boring road	pc.	36.50	27.92
Tube core barrel	pc.	174.38	133.41
Core lifter	pc.	42.39	32.43
Diamond bit	pc.	396.98	303.69
Packer rubber	pc.	31.82	24.34
Injection pipe	pc.	95.02	72.69
Pressure meter	pc.	35.73	27.33
Injection hose	m	62.68	47.98
Return valve	pc.	77.35	59.17
Bentnito	ton	229.85	165.70
Anchor bar, 32 mm dia.	m	3.17	2.19
Anchor bar, 29 mm dia.	m	2.57	1.78
Anchor bar, 25 mm dia.	m	2.00	1.23
Bearing shoe, 50 ton	ea.	482.32	347.71

Description	Unit	Foreign Portion (US\$)	Local Portion (Rs.)
Elastic bearing pad	ea.	29.17	20.96
Bituminous joint filler	m^2	15.96	11.51
Joint filler	m ²	12.64	9.04
Asphalt, emulsion	lit.	0.35	0.24
Grass	m ²		0.44
Bamboo	pc.		0.07
Expansion cupling	pc.	3.96	2.88
Conduit box	pc.	9.40	6.85
T-cheese	pc.	7.90	5.48
Hole in anchor	no.	1.65	1.13
Cast iron pipe	m	24.19	17.40
Water level gauge staff	m	30.00	20.00
Twin-tube hydraulic type pore pressure meter	no.	1,640.00	10,000.00
Air pneumtic type pore pressure meter	no.	1,860.00	10,900.00
Earth pressure meter	set	3,430.00	20,000.00
Multi-layer settlement meter	no.	310.00	1,790.00
Water level detector	set	98,000.00	132,500.00
Water level indicator	set	5,000.00	7,500.00
Seismometer	set	13,500.00	45,250.00
Inclinometer	set	140.00	500.00
Horizontal deflection meter	set	2,900.00	9,900.00
Thermometer, 40 mm dia.	no.	420.20	310.70
Submergible pump, 100 mm dia.	set	2,200.00	1,590.00
Submergible pump, 100 mm dia. (H=65m)	set	8,140.00	5,870.00
Electric charge	kWh	0.17	0.99

Exchange rate: US\$1.0 = Rs.13.7 = ¥130.0Note:

c. Equipment Cost

The Employer will furnish the construction plants, equipment and facilities listed hereunder, and will lease them, free of charge, to the contractor excluding operation and maintenance charge.

	Plants, Equipment and Facilities	Capacity	Unit
(1)	Aggregate plant, skid-mounted, motor- driven, washing type		1 lot
	Product Size (mm)	Production (ton/hr.)	
	80 - 40 40 - 20 20 - 5 5 - 0	4 - 5 15 - 20 20 - 25 45 - 50	
(2)	Cement silo, steel plate division type	100 ton	1 set
(3)	Batcher plant, unit type fully automatic batcher	2 40 m ³ /hr	1 set
(4)	Waste water treatment and sewerage system	200 m ³ /hr.	1 lot
(5)	Construction facilities yard including motor pool, stock and assembly yards, etc.		1 lot
(6)	Buildings and premises such as utility buildings, laboratory, office and dormi- tory, first aid building, warehouse, cement ware house, repair shop, etc.	·	1 lot
(7)	Concrete testing equipment		1 lot
(8)	Water supply system, electric power supply system, telecommunication system and sewerage system		1 lot
(9)	Access road around the damsite		k m
(10)	Haul roads to the quarry site		<u>k m</u>

In this cost estimate, all construction plants, equipment and facilities other than mentioned above are assumed to be provided by the contractor. The prices of construction equipment are prevailing prices in international market especially in Japan in January 1991. The equipment cost is estimated based on the CIF price at Port Louis including freight and insurance premium, handling charge, inland transportation expenses and other incidental charges. The import duties of the equipment is excluded in the cost estimate. Rates of the hourly equipment cost are estimated based on the CIF price at Port Louis and calculated in consideration of Japanese standards of lifetime, salvage value, depreciation rate, maintenance and repair rates, and management expenses rate.

The equipment cost is divided into foreign and local currency portion as follows:

- i) Foreign currency portion
 - Depreciation rate (calculated based on salvage value of 10 percent)
 - Maintenance and repair rates and management expenses rate (70 percent of the CIF price)
- ii) Local currency portion
 - Maintenance and repair rates and managment expenses rate mainly labour cost (30 percent of the CIF price)
 - Other local incidentals.

The equipment cost is listed in Table 4.3.

				Unit	Price	
Equipment	CIF Price (US\$)	Capacity	Unit	Foreign Currency (US\$)	Local Currency (Rs.)	Fuel (lit.)
Bulidozer w/ Ripper	135,400	15 ton	hr.	30.8	104.8	18.6
Bulldozer w/Ripper	217,500	21 ton	hr.	49.4	169.6	30.2
Bulldozer w/Ripper	308,800	32 ton	hr,	60.5	207.5	44.2
Bulldozer	101,500	11 ton	hr.	21.8	75.0	13.7
Bulldozer	126,100	15 ton	hr.	27,1	92.5	17.9
Bulldozer	203,100	21 ton	hr.	43.5	149.0	26.7
Bulldozer	288,500	32 ton	hr.	58.1	199.4	33.8
Bulldozer w/ Rake	126,900	15 ton	hr.	29.9	102.8	17.9
Bulldozer w/ Rake	204,800	21 ton	hr,	44.0	150.0	26.7
Bulldozer w/ Rake	301,200	32 ton	hr.	60.5	207.5	33.8

Table 4.3 Construction Equipment Cost for Lot II Work

			-	Contraction of the second s	Price	
Equipment	CIF Price (US\$)	Capacity	Unit	Foreign Currency (US\$)	Local Currency (Rs.)	Fuel (lit.)
Backhoe	119,300	0.6 m ³	hr.	20.9	70.9	16.0
Backhoe	188,700	1.0 m ³	hr.	32.9	113.0	22.6
Backhoe	240,300	1.2 m ³	hr.	41.9	143.9	25.8
Wheel loader	30,500	0.6 m ³	hr.	8.1	27.8	5.2
Wheel loader	51,400	1.2 m ³	hr.	13.7	46.3	7.8
Wheel loader	114,200	2.1 m ³	hr.	23.3	80.2	13.3
Wheel loader	206,500	3.5 m ³	hr.	42.0	143.9	24.1
Tractor shovel	54,200	0.8 m ³	hr.	14.3	49.4	7.7
Tractor shovel	67,700	1.2 m ³	hr.	18.5	63.7	11.
Tractor shovel	86,300	1.4 m ³	hr.	18.5	63.7	13.
Tractor shovel	151,500	2.2 m ³	hr.	30.8	105.8	23.8
Tractor shovel	225,900	3.2 m ³	hr.	46.0	157.2	29,1
Tractor shovel, side dump	131,200	1.5 m ³	hr.	32.0	110.0	13.
Rocker shovel	80,600	0.25 m ³	hr.	19.5	66.8	
Rocker shovel	108,300	0.35 m ³	hr.	26.2	89.4	
Rocker shovel	155,700	0.60 m ³	hr.	37.7	128.5	
Dump truck	47,600	6 ton	hr.	8.6	29.8	8.
Dump truck	50,800	8 ton	hr.	9.2	31.9	9.4
Dump truck	72,200	11 ton	hr.	11.3	39.1	12.4
Dump truck	111,700	15 ton	hr.	15.5	52.4	13.
Dump truck	187,000	20 ton	hr.	25.8	88.4	16.
Dump truck	301,200	32 ton	hr.	35.6	121.3	26.
Ordinary truck	28,300	6 ton	hr.	5.9	20.6	6.
Ordinary truck	39,600	8 ton	hr.	8.3	27.8	8.
Ordinary truck	63,000	11 ton	hr.	11.0	37.0	11.
Ordinary truck w/ crane	39,100	4 ton	hr.	7.0	23.6	6.
Tractor & trailer	110,800	20 ton	hr.	21.5	73.0	15.
Water tanker	47,900	5,500~6,500 1	hr.	9.7	32.9	5.
Battery locomotive	101,500	4 ton	hr.	18.3	61.7	
Muck car	5,400	2 m ³	day	7.2	24.7	
Lift for shaft	20,800	1 m ³	day	30.0	102.8	

			-		Price	
Equipment	CIF Price (US\$)	Capacity	Unit	Foreign Currency (US\$)	Local Currency (Rs.)	Fuel (lit.)
Crawler crane	173,500	22.5 ton	hr.	32.3	111.0	6.3
Crawler crane	338,500	40 ton	hr.	57.2	196.3	7.0
Crawler crane	396,000	50 ton	hr.	66.9	229.1	8.7
Truck crane	247,900	25 ton	hr.	35.5	121.3	9.5
Truck crane	399,400	40~45 ton	hr.	57.2	196.3	11.4
Truck crane	1,032,300	80 ton	hr.	147.8	573.1	(R) 10.4 (C) 6.8
2-boom crawler drill	143,800	100 kg class	hr.	41.0	139.7	_
Crawler drill	63,500	180 kg class	hr.	20.8	70.9	
Drifter	9,900	80 kg	day	28.1	96.6	
Leg hammer	2,000	30 kg	day	5.8	19.5	
Jack hammer	1,500	20 kg	day	4.4	14.4	
Pick hammer	277	7 kg	day	0.8	3.1	
Steel bender			hr.	3.1	10.4	
Concrete breaker	1,100	40 kg	day	3.1	10.3	
Concrete breaker	29,600	1,200 kg	day	68.3	234.3	
Motor grader	71,900	2.8 m	hr.	14.8	57.1	6.5
Motor grader	88,000	3,1 m	hr.	18.2	61.7	8.2
Macadam roller	59,400	10~12 ton	hr.	11.6	40.1	7.1
Tire roller	65,500	8~20 ton	hr.	12.8	44.2	7.2
Tamping roller	84,600	13.5~20.7 ton	hr.	13.5	46.3	
Vibrating roller	35,400	3 ~ 5 ton	hr.	12.3	42.2	4.(
Vibrating roller	101,500	8 ~ 10 ton	hr.	35.3	121.3	18.9
Vibrating compactor	1,500	90 kg	day	4,1	13.4	1.(
Rammer	2,900	120 kg	day	7.7	26.7	1.
Tamper	1,900	60~100 kg	day	5.0	16.4	G 0.8
Agitator truck	50,700	3.0~3.2 m ³	hr.	10.7	37.0	8.0
Agitator truck	73,600	4.5 m ³	hr.	15,5	53.4	11.
Concrete pump car	97,300	45 m ³ /hr	hr.	23.0	79.2	7.
Concrete pump car w/boom	162,500	40~45 m ³ /hr	hr.	38.3	131.6	10.
Concrete bucket	3,900	1.0 m ³	day	10.2	35.0	

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			-		Price	
Equipment	CIF Price (US\$)	Capacity	Unit	Foreign Currency (US\$)	Local Currency (Rs.)	Fuel (lit.)
Concrete bucket	8,800	1.5 m ³	day	23.3	80.2	
Concrete bucket	19,300	2.0 m ³	day	51.2	175.7	
Concrete vibrator	1,000	φ45 mm	day	2.3	7.2	
Concrete vibrator	1,500	φ 60 mm	day	3.9	10.3	
Concrete mixer	78,000	0.5 m ³	hr.	21.9	75.0	
Concrete pump	115,100	40~45 m ³ /hr	hr.	34.5	118.2	
Concrete placer	61,800	3 m ³	hr.	16.9	57.5	······
Agitator car	51,000	3 m ³	hr,	13.4	46.3	
Concrete spray gun	40,600	6 m³/hr	hr.	9.2	30.8	
Grout plant	210,700	100 I/min	day	26.3	89.9	
Grout pump	13,300	200 1	day	23.6	81.2	
Grout mixer	5,500	200 l x 2	day	9.8	33.9	
Boring machine	12,400	3.7 kW	day	18.2	62.7	
Boring machine	18,300	5.5 kW	day	26.9	92.5	
Boring machine	34,200	11 kw	day	50.3	172.7	
Down-the-hole hammer	40,100	400 mm	day	114.0	390.5	
P-F gauge recorder	17,600	60 l/min.	day	32.0	110.0	
P-F gauge recorder	20,300	120 l/min.	day	36.9	126.4	
Rail, l = 100 m	1,400	15 kg/m	day	0.5	2.0	
Chain saw	1,400	500 mm	day	4.1	13.4	G 0.'
Belt comvayer (G)	2,300	7 m	day	7.2	24.7	G 1.2
Belt comvayer (E)	1,500	7 m	day	4.7	15.5	
Welding machine	1,000	300 A	day	0.8	3.1	<u></u>
Asphalt kettle	6,200	3,000 1	day	13.1	45.2	
Asphalt sprayer	20,100	1,000~1,500 1	hr.	5.6	18.5	G 2.0
Air compressor (P)	38,200	10.6 m³/min.	day	54.5	187.0	15.
Air compressor (S)	97,300	27.0 m³/min.	hr.	5.3	18.5	
Blower	175,200	65 m ³ /min.	hr.	10.7	37.0	
Fan	860	50 m³/min.	day	0.8	2.0	<u></u>
Diesel generator	4,000	5 kVA	day	5.1	17.5	1.

				Unit	Price	
Equipment	CIF Price (US\$)	Capacity	Unit	Foreign Currency (US\$)	Local Currency (Rs.)	Fuel (lit.)
Diesel generator	7,300	10 kVA	day	9,3	31.9	1.9
Diesel generator	15,200	25 kVA	day	17.9	60.6	3.7
Submersible pump	320	φ 50 mm	day	0.7	2.0	
Submersible pump	980	ф 80 mm	day	2.0	6.2	_
Submersible pump	1,500	φ 100 mm	day	3.1	10.3	
Turbine pump, 45 m	3,100	ф 50 mm	day	5.3	18.5	
Turbine pump, 70 m	5,300	ф 80 mm	day	9.1	30.8	
Turbine pump, 70 m	7,200	ф 100 mm	day	12.4	42.2	
Deep well pump, 75 m	7,200	ф 80 mm	day	12.3	42.2	
Sand pump	1,500	ф 80 mm	day	3.5	12.3	
Batcher plant	375,400	40 m ³ /hr.	hr.	16.9	57.5	
Cement silo	113,900	100 ton	day	2.0	6.2	
Aggregate plant	1,598,000	50 ton/hr.	hr.	52.0	117.8	<u></u>
Waste water treatment	1,150,000	200 m ³ /hr.	hr.	36.5	124.4	

d. Contractor's Indirect Cost

Contractor's indirect cost is to be overhead expenses and profit for the contractor. The overhead expenses comprise general administrative expenses and field expenses. The general administrative expenses are salaries and allowances for the contractor's personnel, legal welfare expenses, international travelling and communication expenses, depreciation, insurance and so on. The field expenses and allowances are the cost of the contractor's personnel, camp operation, labour control expenses, inland travelling expenses, security, insurance and bond, stationary and communication expenses and so on.

The overhead expenses and profit are distributed to the price or lump sum of each work item. These expenses are esitmated at 20 percent of direct unit cost comprising labour wages, material costs and equipment cost. The breakdown is as follows:

-	Field administration and supervision	:	10%
-	Corporated overhead and profit	:	7%
-	Security and safety control	:	2%
-	Other incidentals	:	1%

e. Direct Construction Cost

The unit prices for various work items in theBill of Quantities are esitmated in accordance with the above conditions. The unit prices for Lot II Contract are as shown in APPENDIX A and these breakdowns are attached as APPENDIX B.

The direct construction cost for civil works, Lot II, is esitimated at about US\$43.9 million equivalent in total, comprising US\$31.1 million in foreign currency (70.8%) and Rs.175.6 million in local currency portion (29.2%).

5. INDIRECT COST

5.1 Administration Expenses and Engineering Services

The cost of CWA's administration expenses for running cost of office, stationary, consumables, etc. is estimated at 12 percent of the local currency portion of the direct construction cost. On the other hand, cost for the engineering services is also estimated at 12 percent of the foreign currency portion of the direct cost based on the necessary construction supervision required for all over the Proejct, including the pre-construction and construction stages, assuming that these services are made by the expartriate consultant.

The administration expenses and the engineering services are estimated at about US5.3 million, comprising US3.7 million in foreign currency (70.8%) and Rs.21.1 million in local currency (29.2%).

5.2 Contingency

The contigencies are provided to cope with the unforeseen physical conditions (physical contingency) and price escalation due to inflation. The physical contingency amounting to 10 percent of the direct cost is assumed. Financial contingency for the preojet cost is assumed that the escalation rate will be 3% per annum for the foreign currency portion and 7% per annum for the local currency portion.

6, ANNUAL DISBURSEMENT SCHEDULE

Fiscal year for the disbursement schedule is assumed to start in July and end in June next year considering Mauritian Fiscal Year. According to the construction time schedule, the construction cost for the Project are assumed to be disbursed as shown in Table 6.1 Table 6.1 Disbursement Schedule of Construction Cost. Lot II Work

Description		Total			1994			1995			1996	
	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total
A. General	13,851	10,104	23,954	4,986	3,637	8,623	3,740	2,728	6,468	5,125	3,738	8,863
	(110'1)		(1,749)	(364)		(629)	(273)		(472)	(374)		(647)
B. Cofferdams	20,906	8,635	29,542	12,543	5,181	17,724	2,091	864	2,955	6,272	2,591	8,863
	(1,526)		(2,156)	(916)		(1,294)	(153)		(216)	(458)		(647)
C. Main Dam	222,707	96,341	319,048	77,947	33,719	111,666	122,489	52,988	175,477	22,271	9,634	31,905
	(16,256)		(23,288)	(5,690)		(8,151)	(8,941)		(12,809)	(1,626)		(2,329)
D. Spillway	117,684	45,703	163,387	11,768	4,570	16,338	82,379	31,992	114,371	23,537	9,141	32,678
	(8,590)		(11,926)	(859)		(1,193)	(6,013)		(8,348)	(1,718)		(2,385)
E. Intake	6,002	2,407	8,409	0	0	0	6,002	2,407	8,409	0	0	Ċ
	(438)	••	(614)	(0)		(0)	(438)		(614)	(0)		(0)
F. River Outlet Works	4,275	3,044	7,319	0	0	0	1,069	761	1,830	3,206	2,283	5,489
	(312)		(534)	(0)		Ô	(78)		(134)	(234)		(401)
G. Hydro-Mechanical	24,101	2,431	26,532	0	0	0	4,820	486	5,306	19,281	1,945	21,226
Works	(1,759)		(1,937)	(0)		(0)	(352)		(387)	(1,407)		(1,549)
H. Electrical Works	7,895	804	8,699	0	0	0	1,974	201	2,175	5,921	603	6,524
	(576)		(635)	6		(0)	(144)		(159)	(432)		(476)
I. Building Works	4,288	2,237	6,525	0	0	0	1,715	895	2,610	2,573	1,342	3,915
•	(313)	<u></u>	(476)	(0)		(0)	(125)		(161)	(188)		(286)
J. Repair for Existing	4,391	3,938	8,329	0	0	0	0	0	Ċ	4,391	3,938	8,329
Municipal Dike	(320)		(608)	0		6)	(0)		ē	(321)		(608)
Total of Direct Cost	426,100	175,644	601.744	107.244	47,107	154.351	226.279	23.322	319,601	92,577	35,215	127 792
	(31.102)		(43.923)	(7.828)		(11.266)	(16.512)		(23.329)	6.757		(9.328)
K.IEngincering and	51.131	21.077	72,209	12,869	5,653	18,522	27,153	661'11	38,352	601'11	4,226	15,335
Administrative Cost	(3,732)		(5,271)	(639)		(1,352)	(1,982)		(2,799)	(811)		(1,119)
Sub-total	477,231	196,721	673,953	120,113	52,760	172,873	253,432	104,521	357,953	103,686	39,441	143,127
	(34,834)		(661,64)	(8,767)		(12,618)	(18,499)		(26,128)	(7,568)		(10,447)
L. Physical Contingency	47,722	19,672	67,393	12,011	5,276	17,287	25,343	10,451	35,794	10,368	3,944	14,312
	(3,483)		(4,919)	(877)		(1,262)	(1,850)		(2,613)	(157)		(1,045)
Sub-total	524,953 (38,318)	216,393	741,346 (54,113)	132,124 (9,644)	58,036	190,160	278,775 (20,349)	114,972	393,747 (28,741)	114,054 (8,325)	43,385	157,439 (11,492)
M. Price Conligency	65,406	66,258	131,664	12,251	13,061	25,312	34,989	35,733	70,722	18,166 (1 326)	17,464	35,630 (2,601)
	(4,1,4)		(010'2)	(1-69)		/01-0'11	(20042)		(2010)			
Total Project Cost	<u>590,359</u> (43,092)	282 651	<u>873.010</u> (63.723)	144,375	71.097	215.472 (15.728)	313.764 (22.902)	150 705	<u>464 469</u> (33.903)	<u>132,220</u> (9,651)	60.849	<u>193.(K9</u> (14.093)

Note: 1. Figures in () are costs in 1,000 USS. 2. Price contingency is assumed as 3% for foreign currency and 7% for local currency in annual.

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APPENDIX A PRICED BILL OF QUANTITIES

Division No.	Description	Foreign Currency Portion (US\$)	Local Currency Portion (Rs.)	Total Equivalent Price (US\$)
	GENERAL	1,011,000	10,104,000	1,748,518
А. В.	COFFERDAMS	1,525,969	8,635,197	2,156,276
Б. С.	MAIN DAM	16,255,981	96,341,175	23,288,180
D.	SPILLWAY	8,590,031	45,703,113	11,926,021
E.	INTAKE	438,092	2,406,670	613,761
F.	RIVER OUTLET WORKS	312,007	3,043,390	534,153
G.	HYDRO-MECHANICAL WORKS	1,759,250	2,430,920	1,936,690
H,	ELECTRICAL WORKS	576,286	804,147	634,979
I.	BUILDING WORKS	312,988	2,236,906	476,263
J.	REPAIR FOR EXISTING MUNICIPAL DIKE	320,457	3,938,197	607,917
	TOTAL	31,102,061	175,643,715	43,922,759

SUMMARY OF BILL OF QUANTITIES

	,									i
-	Item No.	Work	Unit Quar	Quantity _	Foregin Currency (USS) Unit Price Amoun	<u>y (US\$)</u> Amount	Local Currency (RS) Unit Price Amo	cy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
	¥	GENERAL					-			
	/01	Cost for Insurance of Works	L.S.			437,000		0	437,000	G6.2
	/02	Cost for Third Party Insurance	L.S.			0		5,987,000	437,007	G6.2
	/03	Supply, installation, operation and subsequent removal of temorary water supply facility	L.S.			18,000		110,000	26,029	G5.3
	Q	Supply, installation, operation and subsequent removal of temporary electric power supply	L.S.			15,000		57,000	19,161	G5.3
A - 2	/02	Supply, installation, operation and subsequent removal of temporary telecommunication system	L.S.			12,000		10,000	12,730	G5.3
	90/	Waste water treatment and sewerage system	L.S.			300,000		2,000,000	445,985	G5.3
·	107	Boreholes and explaratory excavations	Provisional sum			38,000		150,000	48,949	G6.4
	/08	Supply, installation, operation and subsequent removal of soil testing equipment	L.S.			123,000		430,000	154,387	G5.4
	60/		month	34	2,000	68,000	40,000	1,360,000	167,270	G5.2
		TOTAL OF ITEM A				1,011,000		10,104,000	1,748,518	

Item No.	n Work	Unit	Quantity	Foregin Currency (USS) Unit Price Amoun	ncy (US\$) Amount	Local Currency (Rs) Unit Price Amo	cy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
B	B COFFERDAMS								
BI	Maintenance and River Diversion								
10/	Maintenance and closure of the diversion tunnel gate	L.S.			135,000		400,000	164,197	T1.4.2
	Surbtatal of item B1				135 000		400 000	164 107	
		·							

Ξ.	Item Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	y (Rs)	Total	Ref. Clause
₩	N0.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
	B2 Earthwork								
	/01 Open-cut excavation, common	m3	38,300	2.5	95,750	12.0	459,600	129,297	T2.4.6
	/02 Open-cut excavation, weathered rock	m3	7,700	3.5	26,950	15.7	120,890	35,774	T2.4.6
	/03 Open-cut excavation, rock	m3	2,000	7.2	14,400	37.2	74,400	19,831	T2.4.6
	104 Excavation of sand and gravel	m3	750	2.1	1,575	9.9	7,425	2,117	T2.4.6
	Main cofferdam embankment,Zone 1 (core)	m3	21,500	3.0	64,500	18.1	389,150	92,905	T2.6.2
	/06 Main cofferdam embankment, Zone 3 (coarse filter)	m3	9,700	13.6	131,920	118.0	1,144,600	215,467	T2.6.3
` .	/07 Main cofferdam embankment, Zone 4 (rock)	m3	128,300	6.2	795,460	35.2	4,516,160	1,125,107	T2.6.4
	/08 Main cofferdam embankment, Zone 5 (rock riprap)	m3	6,800	5.7	38,760	38.2	259,760	57,721	T2.6.5
	/09 Surface course for main cofferdam crest (zone 6)	ш2	1,520	1.1	1,672	14.3	21,736	3,259	T5.2.5
	/10 Reinforcing bar	ton	116.4	816.0	94,982	4419.9	514,476	132,535	T4.1.18
	/11 Primary colferdam, upsucam	L.S.			50,000		311,000	72,701	T1.3.3
7	/12 Downstream cofferdam	L.S.			75,000		416,000	105,365	T1.3.3
	Subtotal of item B2				1,390,969		8,235,197	1,992,079	
	TOTAL OF ITEM B				1,525,969		8,635,197	2,156,276	

Item	Work	Unit	Quantity .	Foregin Currency (US\$)	icy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
ပ	MAIN DAM								
IJ	Earthwork								
10/	Clearing and stripping at main dam site,								
	borrow area and quarry site								
	a) Main dam	m2	66,700	0.4	26,680	3.0	200,100	41,286	T2.2.3
	b) Quarry site	т2	53,000	0.4	21,200	3.0	159,000	32,806	T2.2.3
	с) Волтоw агеа	m2	200,000	0.4	80,000	3.0	600,000	123,796	T2.2.3
	d) Reservoir area	т2	332,000	0.4	132,800	3.0	000,996	205,501	T2.2.3
/02	Excavation common, for foundation	m3	191,000	2.5	477,500	12.0	2,292,000	644,799	T2.4.6
	of main dam and in open-cut for core								
	wall and drain channel								
/03	Excavation sand and gravel, for	тЗ	000'6	2.1	18,900	9.9	89,100	25,404	T2.4.6
	foundation of main dam								
/04	Excavation weathered rock, for								
	a) Main dam	m3	46,000	3.5	161,000	15.7	722,200	213,715	T2.4.6
	b) Right abutment	m3	48,200	3.5	168,700	15.7	756,740	223,936	T2.4.6
	c) Inspection tunnel	m3	2,200	3.5	7,700	15.7	34,540	10,221	T2.4.6
/05	Excavation rock, for								
	a) Main dam	ш 3	10,700	7.2	77,040	37.2	398,040	106,094	T2.4.6
	b) Right abutment	m3	95,800	7.2	689,760	37.2	3,563,760	949,888	T2.4.6
	c) Inspection tunnel	m3	1,500	7.2	10,800	37.2	55,800	14,873	T2.4.6
/06	Underground excavation, for								
	a) Inspection tunnel	m3	2,410	50.6	121,946	263.5	635,035	168,299	T2.5.6
	b) Grout turnel No.1	ш	600	50.6	30,360	263.5	158,100	41,900	T2.5.6
	c) Grout turnel No.2	m3	5,100	50.6	258,060	263-5	1,343,850	356,151	T2.5.6
/0/	Trench excavation, all classes, for								
	a) Main dam	m3	11,300	11.0	124,300	53.2	601,160	168,180	T2.4.6
	b) Inspection turnel	m3	09	11.0	660	53.2	3,192	893	T2.4.6

Item	Work	Unit	Quantity]	Foregin Currency (US\$)	cy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
80/	Main dam embankment, Zone 1	m3	242,900	3.0	728,700	18.1	4.396.490	1.049.612	T2.6.2
	(corc), including hauling,								
	placing and compaction								
60/	Main dam embankment, Zone 2	m3	68,800	12.6	866,880	108.5	7,464,800	1.411.756	T2.6.3
	(fine filter), including crushing,								
	processing, hauling, placing and								
	compaction								
/10	Main dam embankment, Zone 3	m3	63,200	13.6	859,520	118.0	7,457,600	1,403,870	T2.6.3
	(coarse filter), including hauling,								!
	placing and compaction								
11/	Main dam embankment, Zone 4	m3	985,200	6.2	6,108,240	35.2	34,679,040	8,639,557	T2.6.4
	(rock), including hauling, placing								
	and compaction								
/12	Main dam embankment, Zone 5	m3	21,300	5.7	121,410	38.2	813,660	180,801	T2.6.5
	(riprap), including hauling,								
	placing and compaction								
/13	Surface course for main dam crest	т2	1,800	1.1	1,980	14.3	25,740	3,859	T5.2.5
/14	Compacted sand and gravel fill as	m3	300	18.7	5,610	145.6	43,680	8,798	T5.2.5
	base course for main dam crest								
/15	Compacted gravel and cobble fill as	m3	530	17.8	9,434	150.3	79,659	15,249	T5.2.5
	subbace course for main dam crest								
/16	Placing selected material for	m3	2,230	5.3	11,819	35.2	78,496	17,549	T2.7.6
	shoulder protection at dam crest								
/17	Sod facing on cutting slope on right	т2	2,300	0.3	690	20.5	47,150	4,132	T2.10.5
	abutments								

A - 6

Subtotal of item C1

11,174,032 67,715

16,135,180

Item		Work	Unit	Quantity	Quantity Foregin Currency (USS)	icy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
°Z					Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
8	Drilling and Grouting for F	Drilling and Grouting for Foundation Treatment of Main Dam and Spillway, and Dam Rims	am and Spill	lway, and Dan	ı Rims					
10/	Drilling curtain grout-holes without	s without	ı	•						
	core sampling									
	(a) Vertical hole									
	(i) Section from 0 to 30m in length	n in length	E	13,770	51.7	711,909	280.5	3,862,485	993,842	T3.12.1
	(ii) Section from 30m to 70m in length	70m in length	E	7,280	79.1	575,848	353.1	2,570,568	763,481	T3.12.1
	(b) Inclined hole									
	(i) Section from 0 to 30m in length	n in length	E	1,570	75.4	118,378	381.3	598,641	162,074	T3.12.1
	(ii) Section from 30m to 70m in length	70m in length	E	930	94.3	669,78	454.4	422,592	118,545	T3.12.1
/02	Drilling consolidation and blanket	blanket	E	5,050	14.1	71,205	130.2	657,510	119,198	T3.12.1
	grout holes without sampling	ß								
/03	Core drilling									
	(a) Vertical hole									
	(i) Section from 0 to 30m in length	ı in length	E	450	101.6	45,720	381.7	171,765	58,258	T3.12.2
	(ii) Section more than 30m in length	n in length	m	420	116.9	49,098	438.9	184,338	62,553	T3.12.2
	(b) Inclined hole									
	(i) Section from 0 to 30m in length	ı in length	E	1,290	112.3	144,867	420.2	542,058	184,433	T3.12.2
	(ii) Section more than 30m in length	n in length	E	1,840	123.6	227,424	462.5	851,000	289,541	T3.12.2
/04	Water pressure test in borehole	hole								
	(a) Under a single pressure		time	5,520	21.8	120,336	125.0	000'069	170,701	T3.12.3
	(b) Under varied pressure		time	000	C L C	01010	1521			

ltem Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/05 Packer setting								
(a) Depth not more than 9 m	time	1,830	15.6	28,548	154.3	282.369	49.159	T3, 12, 4
(b) Dcpth 10 m to 30 m	time	2,380	23.4	55,692	231.5	550.970	92,909	T3 12 4
(c) Dcpth more than 30 m	time	2,120	31.2	66,144	308.5	654,020	113,883	T3.12.4
/06 Grouting	lon	1,300	121.6	158,080	1,605.5	2,087,150	310,427	T3.12.5
/07 Material								
(a) Cement	ton	1,300	191.6	249,080	131.0	170,300	261,511	T3.12.6
(b) Sand	lon	10	8.9	89	81.5	815	148	T3.12.6
(c) Bentonito	loi	10	298.3	2,983	215.0	2,150	3,140	T3.12.6
/08 Backfill grouting								
(a) Inspection tunnel	m3	20	57.7	1,154	400.1	8,002	1.738	T3.12.8
(b) Grout tunnel No.1 (right abutment)	m3	10	57.7	577	400.1	4,001	869	T3.12.8
(c) Grout tunnel No.2 (left abutment)	m3	120	57.7	6,924	400.1	48,012	10,429	T3.12.8
Subtotal of item C2				2,743,595		14,483,786	3,800,806	

Item	Work	Unit	Quantity	Foregin Currency (US\$)	cy (USS)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
°,				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
ប	Concrete Work								
10/	Concrete, Class A, in blockout	m3	10	63.1	631	294.5	2,945	846	T4.1.18
/02	Concrete, Class B for drain ditch	ш3	110	57.4	6,314	279.4	30,734	8.557	T4.1.18
/03	Concrete, Class C, in inspection	m3	8,910	60.1	535,491	269.4	2,400,354	710,699	T4.1.18
	galicry								
<u>8</u>	Concrete, Class C, in tunnel lining	m3	3,610	60.3	217,683	350.5	1,265,305	310,041	T4.1.18
/05	Concrete, Class C for gravity wall	m3	I						T4.1.18
90/	Backfill concrete, Class E, in dam	m3	I						T4.1.18
	foundation								
/0/	Concrete, Class E, plug concrete for	ш3	7,220	45.9	331,398	224.5	1.620.890	117,944	T4.1.18
	core foundation								
/08	Concrete, Class F for levelling	m3	20	45.0	006	215.1	4,302	1,214	T4.1.18
	concrete								
60/	Form, F1 for items/01, /03, /04 and /05	m2	1,420	11.2	15,904	230.7	327,594	39,816	T4.1.18
/10	Form, F2 for items/01, /03, /05	m2	7,860	15.1	118,686	157.5	1,237,950	209,047	T4.1.18
	and /06								
11/	Reinforcing bar	ton	315	816.0	257,040	4,419.9	1,392,269	358,665	T4.1.18
/12	Shotcrete on cutting slope on right abutment	m2	4,910	25.4	124,714	78.2	383,962	152,740	T4.2.7
/13	Waterstop								
	a) Type "A"	æ	700	13.8	9,660	703	49,210	13,252	T4.1.18
	b) Type "B"	Е	470	6.9	3,243	35.2	16,544	4,451	T4.1.18
	Cultured of Summers				1 671 664		8 732 059	2 259 039	
	Subloial of ficm C2				1.00,140,1		~~~~~~	الرائيا المراجعة	

Item	1 Work	Unit	Quantity	Foregin Currency (US\$)	icy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.			. 1	Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
6	C4 Measuring Apparatus								
/01	Provision, installation, test operation of strain gage type pore pressure meter, including preservation during construction	10.	79	0.738	52,693	2,672.0	211,088	68,101	T10.8.1
/02	Provision, installation, test operation of strain gage type earth pressure meter, including preservation during construction	set	4	513.0	2,052	2,055.0	8,220	2,652	T10.8.1
/03	Provision, installation, test operation of multi-layer settlement meter, including meservation during construction								
	1) No.1 (Sta. No. 16) 2) No.2 (Sta. No. 10) Sub-total (03)	set set	ina ina	7,593.0 6,833.0	7,593 6,833 14,426	30,414.0 27,373.0	30,414 27,373 57,787	9,813 8,831 18,644	T10.8.1 T10.8.1
<u>7</u>	Provision of surface displacement survey points including installation, testing and maintenance								
	1) Crest 2) Slope Sub-total (04)	<u>ನ</u> ಸ್ಥ	8 24	383.0 142.0	3,064 3,408 6,472	17,424.0 19,728.0	139,392 473,472 612,864	13,239 37,968 51,207	T10.8.2 T10.8.2
/05	쇼 ㅌ ㅋ	L.S.	·		107,412		576,220	149,472	T10.8.3

Interface <th>TRAIN</th> <th>Work</th> <th>Unit</th> <th>Quantity F</th> <th>Foregin Currency (US\$)</th> <th>:<u>y (US\$)</u></th> <th>Local Currency (Rs)</th> <th>icy (Rs)</th> <th>Total</th> <th>Ref. Clause</th>	TRAIN	Work	Unit	Quantity F	Foregin Currency (US\$)	: <u>y (US\$)</u>	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
Provision of water level detector and indicator with gauging staff made of metal plate for reservoir including installation. L.S. 270,849 1,364,100 370,418 plate for reservoir including installation. plate for reservoir including installation. 1,364,100 370,418 370,418 plate for reservoir including installation. 1,364,100 370,418 1,364,100 370,418 Provision, installation and test operation and maintenance 1,900 3,950 3,950 3,053 Provision, installation and test operation and maintenance of relay terminal box and cable no. 5,100 3,950 3,053 Provision, installation and test operation and maintenance of relay terminal box no. 5,100 3,950 3,053 S Cable (Chloroperne cabyre) no 6,150 4,00 3,450 3,053 S Cable (Chloroperne cabyre) n 7,390 3,505 2,069 2,054 S Cable (Chloroperne cabyre) n 7,300 3,653 6,520 2,054 S Cable (Chloroperne cabyre) n 7,300 5,300 6,330 2,053 S Cable (Chloroperne cabyre)	No.					Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
indicator with gauging staff made of metal plate for reservoir including installation, testing and maintenance Frovision, installation and test operation and maintenance of relay terminal box and cable 1) Relay terminal box and termine point (pr) 1) Relay termine point for cofine ant monitoring to interval point (pr) 1) Relay termine point for cofine ant monitoring to interval point (pr) 1) Relay termine point for cofine ant monitoring to interval point (pr) 1) Relay termine point for cofine ant monitoring to interval point (pr) Relay to po	/06		L.S.	,		270,849		1,364,100	370,418	T10.8.4
plate for reservori riculuding installation, testing and maintenanceplate for reservori including installation, installation and test operation and maintenance of relay terminal box and cableplate for reservori installation and test operation and maintenance of relay terminal boxplate for reservori installation and test operation and maintenance of relay terminal boxplate for reservori installation and test operation and maintenance of relay terminal boxplate for relay terminal box1) Relay terminal box100010001000100010001000200220022002200220041) Data acquisit		indicator with gauging staff made of metal								
testing and maintenanceProvision, installation and test operation and maintenance of relay terminal boxno.5790,03,9503,165,015,8255,1051) Relay terminal boxno.5790,03,9503,165,015,8255,1052) Cable (Chloroprene cabyre - heavy duy)n $6,150$ $4,0$ $24,600$ $14,0$ $86,100$ $30,885$ 3) Cable (Chloroprene cabyre - heavy duy)n $7,390$ $5,0$ $24,00$ $14,0$ $86,100$ $30,885$ 3) Cable (Chloroprene cabyre - heavy duy)n $7,390$ $5,0$ $24,700$ $11,00$ $10,4,500$ $32,328$ 3) Cable (Chloroprene cabyre - heavy duy)n 950 $26,0$ $24,700$ $11,00$ $10,4,500$ $32,328$ 5) Converterno.1 $1,580,0$ $1,580$ $6,330,0$ $6,330$ $2,042$ 5) Converterno.1 $1,580,0$ $1,580$ $6,330,0$ $2,042$ 5) Converterno.1 $1,580,0$ $1,580$ $6,330,0$ $2,042$ 1) Pata acquisition and test operation andlamintenance of recording and data processing system $1,0,612$ $1,0,612$ $21,020$ 2) Data processing system with peripheryL.S. $2,0,910$ $3,0,400$ $11,020$ $21,020$ 2) Data processing system with peripheryL.S. $2,0,910$ $3,0,400$ $11,21,930$ $3,030$ 2) Data processing system with peripheryL.S. $2,0,910$ $3,0,400$ $11,21,930$ $3,030$ 2) D		plate for reservoir including installation.								
Provision, installation and test operation and maintenance of relay terminal box and cable no. 5 790.0 3,950 3,165.0 15,825 5,105 1) Relay terminal box no. 5 790.0 3,950 3,165.0 15,825 5,105 2) Cable (Chloroprene cabyre) m 6,130 4.0 24,600 14.0 86,100 30,885 3) Cable (Chloroprene cabyre) m 7,390 5.0 36,950 28.0 206,920 32,054 4) Cable (Multi core) m 7,390 5.0 24,700 110.0 104,500 32,328 5) Converter no. 1 1,580.0 1,580 6,330.0 6,330 2,042 5) Converter no. 1 1,580.0 1,580 6,330.0 6,330 2,042 7) Para acquisition and test operation and no. 1 1,580.0 6,330.0 6,330.0 2,042 7) Data acquisition controller L.S. 9,780 1,156 3,710 2,702 1) Data acquisition controller L.S. 20,910 83,710 2,702 3,9240 2		testing and maintenance								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	707									
$ \begin{array}{lcccccccccccccccccccccccccccccccccccc$		maintenance of relay terminal box and cable								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		1) Relay terminal box	ло.	5	790.0	3,950	3,165.0	15,825	5,105	T10.8.5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		2) Cable (Chloroprene cabtyre)	Ξ	6,150	4.0	24,600	14.0	86,100	30,885	T10.8.5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		3) Cable (Chloroprene cabtyre - heavy duty)	E	7,390	5.0	36,950	28.0	206,920		T10.8.5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		4) Cable (Multi core)	E	950	26.0	24,700	110.0	104,500	32,328	T10.8.5
91,780 419,675 122,414 L.S 20,910 83,710 27,020 L.S 9,530 33,720 12,320 no. 8 333.0 3,064 17,424.0 139,392 13,239		5) Converter	no.	1	1,580.0	1,580	6,330.0	6,330	2,042	T10.8.5
L.S 20,910 83,710 27,020 L.S 9,530 33,220 12,320 30,440 17,424,0 139,392 13,239 no. 8 383.0 3,064 17,424.0 139,392 13,239		Sub-total (/07)				91,780		419.675	122,414	
L.S 20,910 83,710 27,020 L.S 9,530 33,220 12,320 no. 8 383.0 3,064 17,424.0 139,392 13,239	/08	Provision, installation and test operation and								
L.S 20,910 83.710 27.020 L.S 9,530 38.220 12.320 30,440 121,930 39,340 no. 8 383.0 3,064 17,424.0 139.392 13,239		maintenance od recording and data processing system								
L.S 9,530 38,220 12,320 30,440 121,930 39,340 no. 8 383.0 3,064 17,424.0 139,392 13,239		1) Data acquisition controller	L.S.	ť		20,910		83,710		T10.9.3
30,440 121,930 39,340 no. 8 383.0 3,064 17,424.0 139,392 13,239		2) Data processing system with periphery	L.S.	,		9,530		38,220	12,320	T10.9.3
no. 8 383.0 3,064 17,424.0 139,392 13,239		Sub-total (/08)				30,440		121,930		
	60/	Installation of reference point for sediment monitoring	.ou	8	383.0	3,064	17,424.0	139,392	13,239	T10.8.2

ltem Work	Unit	Quantity	Foregin Currency (US\$)	cy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
C5 Drainage								
/01 Concrete pipe, 600mm dia.	Ħ	20	67.8	1,356	729.7	14,594	2,421	T2.9.3
/02 P.V.C. pipe, 75mm dia.	Ш	110	9.2	1,012	18.8	2,068	1,163	T2.9.3
Subtotal of item C2				2,368		16,662	3,584	

44 17 13 13 13 14 14 17 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14	ltem	Work	Unit	Quantity	Quantity Foregin Currency (USS)	ney (US\$)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
Miscellarous Mathwork Miscellarous Mathwork Miscellarous Mathwork 22 22 22 20 26 Vanchel matron orested wei m 20 21 58 5.2 1.46 604 Seel handrall. 35 mm da. seel pipe m 200 21 58 5.32 1.46 604 Seel handrall. 35 mm da. seel pipe m 200 214 514 101813 10.3431 1.705 633 6336 604 Carlage raupped Mis mispection Mis 125 8145 101813 102433 1.705 533 6336 634 Carlage raup pli in inspection Mis 220 08 176 288 $5,184$ 523 Gauge for and grout unnels Mis 100 128 320 103 $4,120$ 613 Gauge for and grout unnels Mis 10 9395 9.395 2.8482 11.474 Dowel bars in inspection sulfery Io 9395 9.395 2.8486 11.474 Dowel bars in insp	No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
V-motoled narrow created weit n^2 0.9 28.2 2.2 20 26 Steel handrah, 35 run dia, steel pipe n 20 21 53 $1,456$ 694 Steel handrah, 35 run dia, steel pipe n 20 21 588 52 $1,456$ 694 Steel handrah, 35 run dia, steel pipe n 125 8143 $10,3431$ $1,292,888$ $196,184$ Permanent steel appetion kg 220 0.8 176 288 $6,336$ 694 Graing for samp pti in ispection kg 103 176 288 $5,184$ 523 Graing for samp pti in ispection kg 100 0.8 144 28.8 $5,184$ 523 Graing for samp pti in ispection kg 100 0.8 120 0.38 $5,184$ 523 Graing for samp pti in ispection kg 100 0.8 320 10.3 4120 621 Graing for samp diot time/s 100 103 $9,395$ 2.8452 $1,474$	8	Miscellancous Mctalwork								
Steel handrail. 35 nm dia. seel pipe n 280 21 588 5.2 1.456 664 of inspection gallery nn	01		m2	0.9	28.2	25	22.2	20	26	T9.6.8
of inspection gallery Fernament steel serport. H -150x130, for inspection tunnel & grout tunnel Graing for sump pi in inspection inspection tunnel & grout tunnel Graing for drain ditch cover at entrance of gallery Graing for drain ditch cover at entrance of timpection and grout tunnels Non-embedded metalwork for entrance of inspection gallery Dovel bars in inspection gallery Dovel bars in inspection gallery Dovel bars in inspection gallery II A714 Dovel bars in inspection gallery II A714 II	8		E	280	2.1	588	5.2	1,456	694	T9.6.4
Permanent steel support Ion 125 814.5 101.813 $10.343.1$ 1292.888 196.184 H : Jök Jöl, för inspection tunnel & grout tunnel R 220 0.8 176 28.8 6.336 638 R inspection tunnel & grout tunnel kg 200 0.8 144 28.8 5.184 322 R inspection and grout tunnels 0.0 0.8 144 22.8 5.184 322 Non-embedded meal work for entrance of kg 400 0.8 320 10.3 4.120 6.2 Non-embedded meal work for entrance of kg 400 0.3 320 10.3 4.120 6.2 Dowed bars in inspection gallery to 10 939.5 9.395 $2.843.2$ 11.474 Dowed bars in inspection gallery to 10 939.5 9.395 $2.843.2$ 11.474		of inspection gallery								
H-15h 15h 16h inspection tunnel & grout tunnelk2200.817628.86.3366.38Craing for sump pit in inspectionkg1800.814428.85.184322gallerycrain ditch cover at entrance ofkg1800.814428.85.184322Graing for drain ditch cover at entrance ofkg4000.832010.3 4.120 621Inspection and grout tunnelsnon-embedded metalvork for entrance ofkg4000.99.59.3952.843.228.48211.474Dowel bars in inspection galteryton10939.59.3952.843.228.48211.474Dowel bars in inspection galteryton10939.59.3952.843.228.48211.474	03	Permanent steel support,	lon	125	814-5	101,813	10,343.1	1,292,888	196,184	T2.5.6
Grating for sump pit in inspection kg 220 0.8 176 288 6.336 638 gallery salery kg 180 0.8 144 28.8 5.134 522 Grating for drain dicth cover at entrance of kg 180 0.8 144 28.8 5.134 522 Inspection and grout tunnels non-embedded metalvork for entrance of kg 400 0.8 320 10.3 4.120 631 Non-embedded metalvork for entrance of kg 400 0.8 320 10.3 4.120 631 Non-embedded metalvork for entrance of kg 10 939.5 9.395 2.848.2 11.474 Dowel bars in inspection galtry tom 10 939.5 9.395 2.848.2 11.474		H-150x150, for inspection tunnel & grout tunnel								
gallery 0.8 144 28.8 5,134 522 inspection and grout turnels 100 0.8 320 10.3 4,120 621 inspection and grout turnels 10 0.8 320 10.3 4,120 621 inspection and grout turnels 10 0.9 0.8 320 10.3 4,120 621 inspection and grout turnels 10 10 939.5 9,395 2,848.2 28,482 11,474 Dowel bars in inspection gallery 10 10 939.5 9,395 2,848.2 28,482 11,474	2	Grating for sump pit in inspection	kg	220	0.8	176	28.8	6,336	638	T9.6.2
Grating for drain dick cover at entrance of kg 180 0.8 144 28.8 5.184 522 inspection and grout tunnels 100 0.8 320 10.3 4.120 621 Non-embedded metalwork for entrance of kg 400 0.8 320 10.3 4.120 621 inspection and grout tunnels 10 10 939.5 9.395 2.848.2 28.482 11.474 Dowel bars in inspection gallery 10 10 939.5 9.395 2.848.2 28.482 11.474		gallery								
inspection and grout turnels Non-embedded metalvork for entrance of kg 400 0.8 320 10.3 4.120 6.21 inspection and grout turnels Dowel bars in inspection gallery ton 10 939.5 9.395 2.848.2 28.482 11.474 Dowel bars in inspection gallery 10 11 2.35, 4.82 28.486 20.159	05	Grating for drain ditch cover at entrance of	к 8	180	0.8	144	28.8	5,184	522	T9.6.2
Non-embedded metalvork for entrance of kg 400 0.8 320 10.3 4.120 621 inspection and grout tunnels 10 939.5 9.395 9.395 2.848.2 21,474 Dowel bars in inspection gallery ton 10 939.5 9.395 2.848.2 11,474 Subval bars in inspection gallery ton 10 939.5 9.395 2.848.2 21,474		inspection and grout tunnels								
inspection and grout turnels Dowel bars in inspection gallery ton 10 939.5 9.395 2.848.2 28,482 11.474 1.17.461 1.338.486 210.159	90		kg	400	0.8	320	10.3	4,120	621	T9.6.2
Dowel bars in inspection gallery ten 10 939.5 9,395 2,848.2 11,474 Shihofal of item C6 112,461 11,338,486 210,159		inspection and grout tunnels								
112 486	10	Dowel bars in inspection gallery	ton	10	939.5	9,395	2,848.2	28,482	11,474	T4.1.18
112.486										
112.461										
112.48										
117.461										
117.461										
117 461										
112 461										
112 461 1.338.486										
112 461 1.338.486										
112 461 1.338.486										
112 461 1.338.486										
		Subtral of item CK				112 461		1 338 486	210.159	

Item	Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
C	Other Miscellaneous								
10/	Construction of concrete guard blocks on crest of dam including gravel bedding	no.	170	42.8	7,276	483.0	82,110	13,269	T5.2.7
/02	Bituminus coating for contraction joint for inspection tunnel, grout tunnels No.1 & No.2	т2	2,500	5.0	12,500	<i>2.</i> 17	178,750	25,547	T4.1.18
/03	Gravel bedding (around portal of inspection tunnel)	m3	10	12.1	121	168.4	1,684	244	T2.7.6
/04	Gravel metaling (around portal of inspection tunnel)	m3	ŝ	46.5	233	437.0	2,185	392	T2.7.6
/02	Base course (around portal of inspection tunnel)	т3	10	18.7	187	145.6	1,456	293	T5.2.5
/06	Sub-base course (around portal of inspection tunnel)	m3	20	17.8	356	150.3	3,006	575	T5.2.5
70/	Construction of lighting pole base	по.	20	100.0	2,000	1,100.0	22,000	3,606	T5.2.7
	Subiotal of item C7				22,673		191,192	43,926	
	TOTAL OF ITEM C				16,255,981		96,341,175	23,288,180	

No. D SPILLWAY D1 Earthwork O1 Elarthwork /01 Clearing and stripping /02 Excavation, common, in open-cut /03 Excavation, weathered rock, in open-cut /04 Excavation, undercut /05 Trench excavation, all classes, for underdrain bencath slab /06 Free draining backfill with selected gravel, for underdrain bencath slab /07 Free draining backfilling behind wall /08 Offendia anchor har		Unit Quantity	•	Foregin Currency (USS)	cy (US\$)	Local Currency (Rs)	<u>cy (Rs)</u>	_Total	Ref. Clause
 D1 SPILLWAY D1 Earthwork (01 Clearing and stripping (02 Excavation, common, in (03 Excavation, weathered (03 Excavation, weathered (04 Excavation, rock in opc (05 Trench excavation, all (05 Pree draining backfill v (07 Free draining backfillir (08 Pree draining backfillir 			Uni	Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
 D1 Earthwork (01 Clearing and stripping (02 Excavation, common, in (03 Excavation, weathered (04 Excavation, rock in opc (05 Trench excavation, all (underdrain beneath slat) (05 Free draining backfillir (07 Free draining backfillir (07 Pree draining backfillir 									
 /01 Clearing and stripping /02 Excavation, common, ii /03 Excavation, weathcred /04 Excavation, rock in opc /05 Trench excavation, all (underdrain bencath slat /06 Free draining backfill v /07 Free draining backfillir /07 Ann dia anchor bar 									
 /02 Excavation, common, ii /03 Excavation, weathcred /04 Excavation, rock in opc /05 Trench excavation, all (underdrain beneath slat /06 Free draining backfill v /07 Free draining backfillir /08 25mm dia anchor bar 	m2	2 44,	4,41()	0.4	17,764	3.0	133,230	0 27,489	T2.2.3
 /03 Excavation, weathered in open-cut /04 Excavation, rock in ope /05 Trench excavation, all (underdrain bencath slat /06 Free draining backfill v gravel, for underdrain t /07 Free draining backfillir /08 25mm dia anchor har 	in open-cut m3	3 153,	3,800	2.5	384,500	12.0	1,845,600	0 519,215	T2.4.6
 /04 Excavation, rock in opc /05 Trench excavation, all (underdrain beneath slat /06 Free draining backfill w /07 Free draining backfillin /08 25mm dia anchor har 	rock, m3	3 592,	2,500	3.5	2,073,750	15.7	9,302,250	0 2,752,746	T2.4.6
 705 Trench excavation, all cunderdrain beneath slat 706 Free draining backfill w 707 Free draining backfillin 708 25mm dia anchor har 	cn-cut m3	3 77,	006*2	7.2	560,880	37.2	2,897,880	0 772,404	T2.4.6
 706 Free draining backfill w gravel, for underdrain t 707 Free draining backfillin 708 75mm dia anchor har 	classes, for m3 b	Ð	290	13.4	3,886	64.0	18,560	0 5,241	T2.4.6
7 Free draining backfillin75mm dia anchor bar	with selected m3 beneath slab	Ĵ	230	12.4	2,852	121.6	27,968	8 4,893	T2.7.6
<i>I</i> N& 75mm dia anchor har	ng behind wall m3		14,120	3.9	55,068	22.2	313,464	4 77,949	T2.7.6
AUD ZUMMI MIN. MINING UM	ш		4,810	12.0	57,720	49.2	236,652	2 74,994	T2.10.4
/09 29mm dia. anchor bar	æ	n 21	1,600	12.7	274,320	49.9	1,077,840	0 352,994	T2.10.4
/10 32mm dia. anchor bar	E		11,900	13.6	161,840	50.8	604,520	0 205,966	T2.10.4

Item	1 Work	Unit	Quantity	Foregin Currency (US\$)	sncy (US\$)	Local Currency (Rs)	ey (Rs)	Total	Ref. Clause
°N N				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
11/	Stone pitching	ш2	670) 15.3	10,251	326.0	218,420	26,194	T2.10.5
/12	Sod facing	m2	4,600) 0.3	1,380	20.5	94,300	8,263	T2.10.5
/13	Riprap at slope of spoil bank	m3	710) 5.7	4,047	38.2	27,122	6,027	T2.6.5
/14	/14 Gravel metalling	m3	250) 46.5	11,625	437.0	109,250	19,599	T2.7.6
	Subtoral of Item LJ			-	3,619,883		16,907,056	4,853,974	

No. D2	ltem Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
D2				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
	D2 Concrete Work								
10	/01 Concrete, class B, in drain ditch type B	m3	150) 57.4	8,610	279.4	41,910	11,669	T4.1.18
02	/02 Concrete, class B, in concrete facing	m3	590) 57.4	33,866	279.4	164,846	45,899	T4.1.18
/03	Concrete, class C, in weir	m3	4,140	0 68.9	285,246	276.7	1,145,538	368,862	T4.1.18
2	/04 Concrete, class C, in chuteway	m3	5,030	0 64.2	322,926	262.6	1,320,878	419,340	T4.1.18
.02	/05 Concrete, class C, in dam abutment and guide wall	m3	7,220	60.4	436,088	250.0	1,805,000	567,840	T4.1.18
8	/06 Concrete, class C, in stilling basin	m3	15,840	0 60.4	956,736	250.0	3,960,000	1,245,787	T4.1.18
101	/07 Concrete, class C, in side-channel	m3	13,190	0 68.9	908,791	276.7	3,649,673	1,175,190	T4.1.18

No.No./08Waterstop, type "A"m/09Form F1 for item/01 to /07m2/10Form F2 for item/01 to /07m2/11Form F4 for item/02 to /06m2/12Reinforcing barton/13Bituminous joint filler in contractionm2jointsjoints	3,320 2 9,340 2 6,030 2 17,050	Unit Price Amoun		FOCAL CULTERICY (NS)	cy (Rs)	Total	Ref. Clause
Waterstop, type "A" Form F1 for item/01 to /07 Form F2 for item/01 to /07 Form F4 for item/02 to /06 Reinforcing bar Bituminous joint filter in contraction joints	-		Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
Form F1 for item/01 to /07 Form F2 for item/01 to /07 Form F4 for item/02 to /06 Reinforcing bar Bituminous joint filler in contraction joints		13.8	45,816	70.3	233,396	62,852	T4.1.18
Form F2 for item/01 to /07 Form F4 for item/02 to /06 Reinforcing bar Bituminous joint filter in contraction joints	_	11.2	104,608	230.7	2,154,738	261,888	T4.1.18
Form F4 for item/02 to /06 Reinforcing bar Bituminous joint filler in contraction joints		15.1	91,053	157.5	949,725	160,376	T4.1.18
Reinforcing bar Bituminous joint filler in contraction joints		12.6	214,830	367.0	6,257,350	671,571	T4.1.18
Bituminous joint filler in contraction joints	n 930	816.0	758,880	4,419.9	4,110,507	1,058,917	T4.1.18
	2 5,800	25.7	149,060	132.6	769,080	205,197	T4.1.18
/14 Shotcrete on cutting slope on abutment mountain	2 15,700) 25.4	398,780	78.2	1,227,740	488,396	T4.2.7
			878	18.8	1,692	952	T2.9.3

27,792,073

6,744,736

4,716,118

Subtotal of item D2

· · ·	Item No.	Work	Unit Q	Quantity <u>H</u>	Foregin Currency (USS) Unit Price Amoun	ry (US\$) Amount	Local Currency (Rs) Unit Price Amo	cy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
	D3	Drainage and Aeration								
	10/	P.V.C. perforated drain pipe, 250 mm dia.	E	1,100	30.9	33,990	148.9	163,790	45,945	T2.9.3
	/02	Steel drain pipe, 150 mm dia.	E	50	16.7	835	116.8	5,840	1,261	T2.9.3
• .	/03	Steel drain pipe, 250 mm dia.	E	60	35.2	2,112	345.2	20,712	3,624	T2.9.3
	7 04	/04 Geo-textile-made drain	E	2,710	32.2	87,262	134.6	364,766	113,887	T2.9.3
Â										
-20										
		•								
		Subtotal of item D3				124,199		555,108	164,717	

No.	Unit	Quantity	Foregin Currency (USS) Ilnit Price Amount	ncy (US\$) Amount	Local Currency (Rs)	cy (Rs) Amount	Total Fonivelant (FISC)	Ref. Clause
D4 Road Work				TIMATIN		IIIIAIIIA	Equivalent (USA)	Sub-Claus
/01 Asphalt pavement	m2	2,210	1.1	2,431	14.3	31,603	4,738	T5.2.5
/02 Base course	m3	330	18.7	6,171	145.6	48,048	9,678	T5.2.5
/03 Subbase course	m3	660	17.8	11,748	150.3	99,198	18,989	T5.2.5
Subtool of item DA								
Subtotal of item D4				20,350		178,849	33,405	

								t
170.			Unit Price An	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
D5 Miscellancous Metalwork								
/01 Embedded metalwork	kg	5	0.8	4	17.2	86	10	T9.6.2
/02 Steel trap	kg	Ŷ	0.8	4	36.2	181	17	T9.6.2
·								
Subtotal of item D5				80		267	27	

Item	Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.	אראין אין אין אין אין אין אין אין אין אין			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
D6	Steel Bridge								
/01	Fabrication, transportation and painting								
	- Steel grider	kg	24,100	0 2.7	65,070	1.0	24,100	66,829	T11.11.4
	- Painting (shop)	ш2	510	0 34.8	17,748	0.0	0	17,748	T11.11.4
	- Painting (splice)	ш2	20	0 2.0	40	61.8	1,236	130	T11.11.4
	- Painting (field)	m2	520	0 2.2	1,144	68.6	35,672	3,748	T11.11.4
	Subtotal of item D6 /01				84,002		61,008	88,455	
3	/02 Incidental facilities for bridge								
	- Bearing shoe, 50 ton (Fix)	2		3 598.6	1,796	968.3	2,905	2,008	T11.11.4
	- Bearing shoe, 50 ton (Mov.)	រ		3 622.9	1,869	985.9	2,958	2,085	T11.11.4
	- Expansion joint	kg	3,100	0 1.1	3,410	19.5	60,450	7,822	T11.11.4
	- Drainage hole including pipe and catch basin	ដ		6 4.9	29	55.9	335	53	T11.11.4
	- Joint filler	m2	3	31 19.1	592	75.3	2,334	762	T4.1.18
	Subtotal of item D6 /02				7,696		68,982	12,730	

Total Ref. Clause	0 (\$SN)		1,651 T4.1.18		12,525 T4.1.18			27,591	386 T5.2.5		386	129,162		11,926,021
	nut		5,250	10,310	48,619	48,447	24,570	137,196	2,574		2,574	269,760		45,703,113 11
Local Currency (Rs)	Unit Price		250.0	229.1	4,419.9	230.7	189.0		14.3					
ency (US\$)	Amount		1,268					17,577	861		198	109,473		8,590,031
Foregin Currency (US\$)	Unit Price		21 60.4	45 58.1	ω	0 11.2	0 18.2		0 1.1					
Ouantity			7	ঘ]	210	130		180					
Unit			m3	m3	ton	m2	ш2		m2					
Work		Concrete work for superstructure	- Concrete class-C for parapet wall and its base for guardrail	- Concrete class-G for slab	- Reinforcemen bar	- Form F1	- Form F3	Subtotal of item D6 /03	Surface treatment - Surface treatment		Subtotal of item D6 /04	Subtotal of item D6	·	TOTAL OF ITEM D
Item	No.	/03		:					/04	A-2	4			

INTAKE 1.17AKE 1.17AKE 1.101 1.11 1.11 Earthwork Earthwork 1.101 1.57 4.553 1.341 Eartwork Eartwork 1.101 1.2 2.90 3.5 1.015 1.341 Eartwork m13 610 7.2 4.392 31.2 2.692 6.048 Archor bar, 25 mm dia, m m3 630 12.0 7.560 49.2 30.996 9.822 Archor bar, 25 mm dia, m m3 7.0 0.7 49 10.3 7.1 102 Chipping of existing concrete m2 7.0 0.7 49 10.3 7.21 102 Chipping of existing concrete m2 7.0 0.7 49 10.3 7.21 102 Archor shifting concrete m2 7.0 0.7 4.9 10.3 7.21 102	Item No.	n Work	Unit	Quantity	Foregin Currency (US\$) Unit Price Amoun	ency (US\$) Amount	Local Currency (Rs) Unit Price Amo	icy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
Eathwork 151 453 134 Exervation, weathered rock, in m3 20 35 103 157 4,39 1,347 Exervation, weathered rock, in open-cut m3 610 7.2 4,392 312 22,692 6,048 Arehor bar, 25 mm dia, m 630 120 7,560 4,92 30,996 9,822 Arehor bar, 25 mm dia, m 630 120 7,93 30,996 9,822 Chipping of existing concrete m2 70 0,7 49 103 721 102 Chipping of existing concrete m2 70 0,7 49 103 721 102 Abotal of existing concrete m2 70 13 721 102 102	되									
Exervation, wathered rock, in m3 290 3.5 1.01 1.5.7 4.553 1.347 open-cut m3 610 7.2 4.392 37.2 2.492 6048 Exervation, rock, in open-cut m3 630 12.0 7.560 49.2 30.996 9.822 Archor bar, 25 mm dia, m 630 12.0 7.56 49.2 30.996 9.822 Chipping of existing concrete m2 7.0 0.7 4.9 10.3 7.21 102 Chipping of existing concrete m2 7.0 0.7 4.9 10.3 7.21 102	Е									
Ecavation, rock, in open-cut m3 610 7.2 4.32 37.2 2.692 6.04 Archor br, 25 mm da. m 630 12.0 7.560 4.92 3.096 9.22 Archor br, 25 mm da. m 630 12.0 7.560 4.92 3.096 9.22 Archor br, 25 mm da. m2 70 0.7 49 103 721 102 Chipping of existing concrete m2 70 0.7 49 103 721 102 Mutosal of existing concrete m2 70 0.7 49 103 721 102 Antosal of existing concrete m2 70 0.7 49 103 721 102 Antosal of existing concrete m2 70 9.7 9.7 9.7 103	10/		т3	29			15.7	4,553	1,347	T2.4.6
Archor bar, 25 mm dia, m 630 12.0 7,560 49.2 30,996 9,822 for stiding m	/02		m3	61			37.2	22,692	6,048	T2.4.6
m2 70 0.7 49 103 721 102 13,016 58,962 17,319	/03		E	63			49.2	30,996		T2.10.5
13,015 58,922	<u>\</u>	Chipping of existing concrete	m2	L			10.3	721	102	T2.11
13,016 58,962										
		Subtotal of item E1				13,016		58,962		

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Init Price Init Pr	Item Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
Concrete Work m3 20 63.1 1.262 294.5 5.890 1.692 Concrete class R, facing concrete m3 210 63.1 1.262 294.5 5.890 1.692 Concrete class R, facing concrete m3 3,100 64.2 204.708 205.6 837.694 255.944 Concrete class C, induct strop m3 3,100 64.2 204.708 205.7 44.66 74.66 Concrete class D, inclined stop m3 3,100 61.2 204.708 255.944 255.944 Concrete class D, inclined stop m3 9.10 11.2 1.792 205.7 44.69 74.66 Form, F1 for item /02 and /02 m2 7.10 11.2 1.792 205.6 44.69 17.156 Reactory, type "A" m 160 11.2 1.792 205.6 44.66 17.355 Vatacsop, type "A" m 16 11.3 160.56 4.419 17.355 Joint filter m2 74 12.5 8.73 8.67.3 1.32.55 1.32.55 Joint filter	No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
Concrete class A, in blockout m3 20 63.1 1,362 5,890 1,692 Concrete class B, facing concrete m3 200 57.4 12.628 27.94 61.468 17.115 Concrete class C, inatke structure m3 3.100 64.2 249.798 220.6 837.694 2.65.944 Concrete class C, inatke structure m3 80 51.0 4.080 226.7 18.136 5.444 Concrete class D, inclined step m3 80 51.0 4.080 226.7 8.84.325 9.86.72 Form, P3 for item 01 and AC2 m0 160 11.2 1.792 230.7 6.428 9.86.72 Form, P3 for item 01 and AC3 m1 160 15.1 5.601 1.715 9.86.72 Form, P3 for item 01 and AC3 m2 3.710 15.1 5.6021 1.715 9.86.73 Form, P3 for item 01 and AC3 m3 1.602 1.715 70.34 1.82.75 9.86.73 Varencing bar m1 m2 3.73 9.132.6 7.93 9.86.73 9.86.73 Join filler	E2 Concrete Work								
Concrete, class B, facing concrete m3 220 57.4 12.628 27.94 68.4 17.115 Concrete, class C, inatke structure m3 3.100 64.2 244.708 26.26 837.694 265.944 Concrete, class D, inclined step m3 3.10 64.2 244.70 26.5 87.694 265.94 Form, F1 for titem /01 and /02 m2 11.2 1.12 56.01 15.1 56.021 36.912 4.486 Form, F2 for titem /01 and /02 m2 70 15.1 56.021 157.5 54.435 98.672 Form, F2 for titem /01 and /02 m3 70 15.1 56.021 157.5 54.355 98.672 Reinforeding bar m 70 13.8 966 703 4.921 1.325 Join filler m2 70 8.738 95.644 12.029 Join filler m2 70 87.35 98.4325 98.672 Join filler m2 70 87.38 97.64 12.		m3	Ñ		1,262	294.5	5,890	1,692	T4.1.18
Concrete, class C, intake structure m3 3,190 64.2 204,798 265,694 265,944 Concrete, class D, inclined step m3 3,190 64.0 21.0 4080 255,794 34,04 Concrete, class D, inclined step m3 10 11.0 1,792 255,71 18,136 54,04 Form, F1 for item /01 and /02 m2 3,710 11.2 1,792 265,012 3,495 54,645 Form, F2 for item /01 and /02 m2 3,710 15.1 56,021 1,792 56,021 1,375 58,452 98,672 94,657 Reinforcing bar n0 n0 160 816.0 130,560 4,419.9 707,184 132,179 Vactestor, type "A* m2 340 132,161 1,325 94,921 1,325 Join f1lter m2 340 132,161 4,5084 1,326 1,326 Join f1lter m2 34,09 132,161 4,5084 1,326 Join f1lter m2 34,09 132,16 4,5084 1,326 Join f1lter m2 3		m3	22		12,628	279.4	61,468	17,115	T4.1.18
Concrete, class D, inclined step m3 80 51.0 4.080 226.7 18.136 5.404 Furn, F1 for item /01 and /02 m2 160 11.2 1.792 36.912 4.486 Form, F2 for item /01 and /02 m2 3,710 15.1 56.021 15.7 36.912 96.672 Form, F2 for item /02 and /03 m2 3,710 15.1 56.021 157.5 584.325 96.672 Form, F2 for item /02 and /03 m0 160 816.0 130.560 4,419.9 707.184 182.179 Reinforcing bar n 70 13.8 966 703 4,921 1,325 Joint filter m2 340 25.7 8.738 132.6 45.084 12.029 Joint filter m2 25.7 8.738 132.6 45.084 12.029		m3	3,19		204,798	262.6	837,694	265,944	T4.1.18
Form, F1 for item /01 and /02 m2 160 11.2 1.792 230.7 36,912 4,486 Form, F2 for item /02 and /03 m2 3,710 15.1 56,021 157.5 84,325 98,672 Reinforcing bar non 70 13.8 966 70.3 4,921 13.25 Vacestop, type "A" m 70 13.8 966 70.3 4,921 1.325 Join filter m2 70 13.8 976 70.3 4,921 1.325 Join filter m2 70 13.8 132.6 45,084 12,029 Join filter m2 340 25.7 8,738 132.6 4,508 12,029 Join filter m2 340 25.7 8,738 132.6 4,508 12,029		m3	8		4,080	226.7	18,136	5,404	T4.1.18
Form, 72 for item 02 and 03 m2 3.710 15.1 56.021 15.5 $58.4.325$ 98.672 Reinforcing baron160 816.0 13.660 $4.419.9$ 70.7184 $18.2.179$ Waterstop, type "Ar"m70 13.8 966 70.3 4.921 1.325 Usin filterm2340 25.7 $8,738$ 132.6 4.5084 12.029 Join filterm2 320 25.7 $8,738$ 132.6 4.5084 12.029 Join filterm2 25.7 $8,738$ 132.6 4.5084 12.029		m2	16		1,792	230.7	36,912	4,486	T4.1.18
Reinforcing bar Ion 160 8160 130,560 4,419.9 707,184 182,179 Waterstop, type "A" m 70 13.8 966 70.3 4,921 1,325 Oint filter m2 340 25.7 8,738 132.6 4,921 1,325 Joint filter m2 340 25.7 8,738 132.6 45,084 12,029 Status of tilter m2 23.0 25.7 8,738 132.6 45,084 12,029	06 Form, F2 for item /02 and /03	m2	3,71		56,021	157.5	584,325	98,672	T4.1.18
Waterstop, type "A" m 70 1.3 965 70.3 4.921 1.325 Joint filter m2 340 25.7 8.738 132.6 45.084 12.029 Sint filter m2 240 25.7 8.738 132.6 45.084 12.029		ton	16		130,560	4,419.9	707,184	182,179	T4.1.18
m2 340 25.7 8,738 1326 45,084 12,029	08 Waterstop, type "A"	æ	L		996	70.3	4,921	1,325	T4.1.18
420,454 2,301,614	09 Joint filler	m2	34		8,738	132.6	45,084	12,029	T4.1.18
420,845 2,301,614									
420,845 2,301,614									
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420,845 2,301,614									
					510 001		7 301 KI	588 846	
	Subjoial of them EZ				420,047		±10,100,4	00000	

	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
E3 Miscellancous Metalwork								
/01 Embedded metalwork	kg	920	0.8	736	17.2	15,824	1,891	T9.6.2
/02 200ø steel air vent pipe	E	150	23.3	3,495	201.8	30,270	5,704	T9.6.4
·								
:								
Subtotal of item E3				4,231		46,094	7,595	
TOTAL OF ITEM E	·			438,092		2,406,670	613,761	

k Unit Quantity Foregin Currency (USS) Local Currency (RS) Total VORKS 1 <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	1									
VORKS 107,562 28,935 in value m3 420 50.2 21,084 256.1 107,562 28,935 ing of m3 10 37.5 375 712.6 712.6 895 ing of m3 10 37.5 375 712.6 712.6 895 ing of m3 10 31.4 10,343.1 10,343 1,570 ing of 1 814.5 815 815 10,343.1 1,570 ining and L.S. 8,145 8,000 155,031 31,400 nining and L.S. 8,000 115,000 16,394 m3 3 57.7 173 400.1 1,200 261 m1 ining and L.S. 173 400.1 1,200 261 s, 173 8,173 173 16,000 16,655	ltem No.	Work	Unit	Quantity	Foregin Curre Unit Price	ncy (US\$) Amount	Local Curren Unit Price	icy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
In value m3 420 50.2 21,084 256.1 107,562 28,935 ing of m3 10 37.5 375 712.6 712.6 895 ing of m3 10 37.5 375 712.6 7,126 895 ing of m3 1 814.5 815 10.343.1 10,343 1.570 ing of 1 814.5 815 810.343.1 10,343.1 1.570 8140 ining and L.S. 8.000 10.343.1 10,343 1.570 16.394 alining and L.S. 8.000 1.31,000 16.394 m3 57.7 173 400.1 1.200 261 m3 3 57.7 8.173 1.6.00 261	×	UVER OUTLET WORKS	-							
Invalue m3 420 50.2 $21,034$ 256.1 $107,562$ $28,935$ ing of m3 10 37.5 375 375 712.6 895 lob lob 37.5 375 375 712.6 895 lob lob 31.4 $22,274$ $10,343$ $1,570$ $31,400$ n lob $22,274$ $10,343$ $1,570$ $31,400$ n $31,200$ $15,001$ $15,001$ $15,001$ $16,394$ n 30 57.7 $8,000$ $115,000$ $16,394$ n 30 57.7 $8,001$ $1,200$ $16,394$	щ	F1 Earthwork								
mg of m3 10 375 712.6 712.6 895 ton 1 814.5 815 10,343.1 1,570 855 ton 1 814.5 815 10,343.1 1,570 1,570 a lining and L.S. - 8,000 115,000 16,394 m3 3 57.7 173 4,00.1 1,200 261	/01 E	Excavation, underground in valve chamber access shaft	m3	420		21,084	256.1	107,562		T2.4.6
t steel support ton 1 814.5 815 10,343.1 10,343 1,570 ditem F1 22,274 22,274 125,031 31,400 routing between lining and L.S. - 8,000 115,000 16,394 routing m3 3 57.7 173 400.1 1,200 261 routing m3 3 57.7 173 400.1 1,200 261 ritem F2 8,173 8,173 16,200 16,655	/02 I d	Demolishing concrete lining of diversion tunnel	ш3	10		375	712.6	7,126		T2.11
fitem F1 22,274 125,031 31,400 routing between lining and L.S. - 8,000 16,394 rec m3 3 57.7 173 400.1 1,200 261 routing m3 3 57.7 173 400.1 1,200 261 ritem F2 s,173 s,173 s,173 116,200 16,655	624	termanent steel support	ton	1	814.5	815	10,343.1	10,343	1,570	T2.5.6
routing between lining and L.S 8,000 16,394 tete routing m3 3 57.7 173 400.1 1,200 16,394 fitem F2 8,173 116,200 16,655	60	ubiotal of item F1				22,274		125,031	31,400	
L.S 8,000 115,000 16,394 m3 3 57.7 173 400.1 1,200 261 8,173 116,200 16,655	E E	Grouting								
3 57.7 173 400.1 1,200 261 8,173 116,200 16,655	01 0	Contact grouting between lining and plug concrete	L.S.		1	8,000		115,000		T3.12.7
8,173 116,200	/02 I	3ackfill grouting	m3			173	400.1	1,200		T3.12.8
	S	ubtotal of item F2				8,173		116,200		

Item	Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
N0.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
£	Concrete Work								
/01	Concrete, class C, for lining of access shaft and valve chamber	m3	260	60.3	15,678	350.5	91,130	22,330	Т4.1.18
/02	Concrete, class D, for plug concrete around steel pipe	m3	3,400	54.5	185,300	480.6	1,634,040	304,573	T4.1.18
/03	Form, F1 for item /01 and /02	m2	006	11.2	10,080	266.5	239,850	27,587	T4.1.18
/04	Form, F2 for item /01 and /02	m2	190	15.1	2,869	229.2	43,548	6,048	T4.1.18
/05	Reinforcing bar	lon	27	816.0	22,032	6,346.4	171,353	34,540	T4.1.18
/06	Cooling system and cooling operation for plug concrete including 40 mm ø thermometer, 200 ø drain pipe and drilling ø46mm x 250mm depth hole (6 pieces)	L.S.			25,000		171,000	37,482	T4.3.3
	Subtotal of item F3				260,959		2,350,921	432,560	
F4	Miscellaneous Metalwork								
10/	Embedded metal work	kg	190	0.8	632	25.4	20,066	2,097	T9.6.2
/02	Stairway and handrail	kg	9,740	0.8	7,792	36.2	352,588	33,528	T9.6.2
	Subtotal of item F4				8,424		372,654	35,625	

Item	n Work	Unit	Quantity	Foregin Currency (US\$)	ency (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
°,				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
•									
•									
F5	Miscellaneous Work								
/01	Steel door for valve chamber (1,000 x 1,800)	m2	1.8	119.9	216	786.0	1,415	319	T6.13.5
/02	Steel door for valve chamber (1,800 x 800)	m2	1.5	119.9	180	786.0	1,179	266	T6.13.5
/03	Drain holes with perforated P.V.C. pipes downstream of plug portion in the diversion tunnel								
	- Drilling (hole diameter, 60 mm)	E	510	13.9	7,089	130.2	66,402	11,936	T3.13.2
	 Perforated P.V.C. pipe (d=48mm length = 4m) 	E	510	9.2	4,692	18.8	9,588	5,392	T2.9.3
	Subtotal of item F5				12,177		78,584	17,913	
	TOTAL OF ITEM F				312,007		3,043,390	534,153	

No.	WULK UNI	Quantity	Foregin Currency (USS) Unit Price Amount	Local Currency (Rs) Unit Price Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
G HYDRO-MEC	HYDRO-MECHANICAL WORKS					
G1 Intake Gates and Hoists	oists					
/01 Gate leaves	L.S.		89,490	166,420	20 101,637	T7.14.4
/02 Guide frames	L.S.		97,200	165,240	109,261	T7.14.5
/03 Hoists and controls	L.S.		74,800	65,960	60 79,615	T7.14.6
/04 Spare parts	L.S.		7,850	11,930	30 8,721	T7.8
Subtotal of item G1			269,340	409,550	50 299,234	
G2 Intake Trash Racks						
/01 Front trash racks	L.S.		19,440	29,700	00 21,608	T7.15.4
/02 Top trash racks	L.S.		8,640	13,200	9,604	T7.15.4
Subtotal of item G2	2		28,080	42,900	00 31,212	
G3 Water Supply Facilities	lities					
/01 Steel conduit	L.S.		333,000	508,750	50 370,135	T7.16.4
/02 Discharge valve	L.S.		108,000	164,340	119,996	T7.16.6
/03 Guard valve	L.S.		36,000	54,900	00 40,007	T7.16.7
/04 Spare parts	L.S.		14,310	21,840	15,904	T7.8
Subtotal of item G3	to a		491,310	749.830	30 546.042	

No. Unit Price Amount Equivalent (USS) G4 Operation and Controls L.S. 50,000 53,630 53,630 53,630 53,630 53,630 53,630 53,638 (02 Oil pressure unit L.S. 100,000 72,000 54,756 4,736 (03 Spare parts L.S. 4,500 3,240 165,619 4,736 (04 Spare parts L.S. 154,500 111,240 165,619 4,736 (05 Intel Bukhead Gate L.S. 154,500 111,240 162,619 (05 Gate leaf L.S. 21,700 3,240 9,711 (16 Gate leaf L.S. 21,700 3,260 2,409 (17 Gate leaf L.S. 21,700 3,286 2,409 (18 Spare parts L.S. 21,700 3,286 2,409 (19 Gate leaf L.S. 3,1,160 3,286 2,409 (17 Spare parts L.S.		Item Work	Unit Quantity	Foregin Currency (US\$)	Local Currency (Rs)	Total	Ref. Clause
G4 Operation and Controls 1.5. 50,000 36,000 1 /02 Oit pressure unit L.S. 100,000 72,000 1 /03 Spare parts L.S. 4,500 3,240 1 /04 Spare parts L.S. 4,500 3,240 1 /04 Spare parts L.S. 4,500 3,240 1 /05 Intel Butkhead Gate L.S. 8,550 11,240 1 /01 Gate larf L.S. 8,550 15,900 1,460 /03 Spare parts L.S. 31,160 3,280 3,280 /03 Spare parts L.S. 31,160 1,460 1,460 /03 Spare parts L.S. 31,160 50,200 50,200 /04 Trath nodes L.S. 31,160 50,200 50,200 /04 Trath nodes L.S. 20,160 50,200 50,200 /04 Trath nodes L.S. 20,160 50,800 50,800 /04 Trath nodes L.S. 20,160	 	Vo.				Equivalent (US\$)	or Sub-clause
(01 Control cabinets L.S. 50,000 36,000 36,000 1 (02 Cit pressure unit L.S. 100,000 72,000 1 (03 Spare parts L.S. 4,500 3,340 1 (111,240 1 154,500 111,240 1 (111,240 1 154,500 111,240 1 (111,240 1 154,500 111,240 1 (111,240 1 154,500 111,240 1 (111,240 1 1 154,500 111,240 1 (111,240 1 1 154,500 111,240 1 (111,240 1 1 154,500 1 1 (111,240 1 1 1 1 1 1 (111,240 1 1 1 1 1 1 1 (112,200 1 1 1 1 1 1 1 (112,200		64 Operation and Controls					
(02 01 pressure unit L.S. 100,000 72,000 1 (04 Spare parts L.S. 4,500 3,240 1 Subtosal of item G4 1.S. 154,500 111,240 1 65 Intel Butkhead Gate 1.S. 8,550 111,240 1 (03 Finel Butkhead Gate L.S. 8,550 32,860 32,860 (03 Spare parts L.S. 21,700 32,860 1460 (03 Spare parts L.S. 910 1,460 32,860 1,460 (04 Test interso L.S. 31,160 50,220 50,220 50,220 (15 Motal of item G5 L.S. 31,160 30,800 50,220 50,220 (17 Trash racks L.S. 20,160 30,800 30,800 30,800 30,800 30,800 Subtoral of item G6 River Outlet Trash Racks L.S. 20,160 30,800 30,800		01 Control cabinets	L.S.	50,000	36,000	52,628	T7.17.2
(04 Spare parts L.S. 4,500 3,240 Subtoal of item C4 111,240 11 G5 Intel Bulkhead Gate 15,500 111,240 1 (1) Gate laf L.S. 8,550 15,900 1 (2) Gate laf L.S. 8,550 15,900 32,860 (2) Guide frames L.S. 21,700 32,860 1,460 (3) Spare parts L.S. 910 1,460 1,460 (3) Spare parts L.S. 31,160 50,220 50,220 (4) Track L.S. 31,160 30,800 50,220 (5) River Outlet Trash Racks L.S. 20,160 30,800 (1) Trash racks L.S. 20,160 30,800		02 Oil pressure unit	L.S.	100,000	72,000	105,255	T7.17.3
Subtoral of item C4 154.500 111,240 1 G5 Inter Bulthead Gate 8.550 15,900 01 Gate leaf L.S. 8.550 15,900 02 Guide frames L.S. 21,700 32,860 03 Spare parts 1.S. 910 1,460 04 Ever Outlet Trash Racks 1.S. 910 1,460 05 Subtoral of item G5 31,160 50,220 50,220 06 River Outlet Trash Racks 1.S. 20,160 30,800 Subtoral of item G5 L.S. 20,160 30,800 30,800	•	()4 Spare parts	L.S.	4,500	3,240	4,736	T7.8
G5 Inter Butkhead Gate (b1 Gate leaf L.S. 8,550 15,900 (b2 Guide frames L.S. 21,700 32,860 (b3 Spare parts L.S. 910 1,460 (b4 Trash parts L.S. 910 1,460 (b4 Trash racks L.S. 31,160 50,220 (b1 Trash racks L.S. 20,160 30,800 (b1 Trash racks L.S. 20,160 30,800		Subtotal of item G4		154,500	111,240	162,619	
(01) Gate leaf L.S. 8,550 15,900 (02) Guide frames L.S. 21,700 3,2860 (03) Spare parts L.S. 910 1,460 (03) Spare parts L.S. 910 1,460 (03) Subtoal of item G5 31,160 50,220 (14) Tash racks 1.S. 31,160 50,220 (14) Tash racks 1.S. 31,160 50,220 (15) Tash racks 1.S. 20,160 30,800	-	G5 Inlet Bulkhead Gate					
/02 Guide frames L.S. 21,700 32,860 /03 Spare parts 1.S. 910 1,460 /03 Spare parts 1.S. 910 1,460 /04 Subtonal of item G5 31,160 50,220 /05 River Outlet Trash Racks 1.S. 20,160 30,800 /01 Trash racks L.S. 20,160 30,800		01 Gate leaf	L.S.	8,550	15,900	9,711	T7.18.4
/03 Spare parts L.S. 910 1,460 Subtonal of item G5 31,160 50,220 50,220 G6 River Outlet Trash Racks 1.5. 20,160 30,800 /01 Trash racks L.S. 20,160 30,800	·	02 Guide frames	L.S.	21,700	32,860	24,099	T7.18.5
Subtoral of item G531,16050,220River Outlet Trash Racks1.5.20,16030,800Trash racks1.5.20,16030,800Subtoral of item G620,16030,800			L.S.	910	1,460	1,017	T7.8
River Outlet Trash Racks20,16030,800Trash racksL.S.20,16030,800Subtotal of item G620,16030,800		Subtotal of item G5		31,160	50,220	34,827	
Trash racks L.S. 20,160 30,800 Subtotal of item G6 20,160 30,800		G6 River Outlet Trash Racks					
20,160 30,800			L.S.	20,160	30,800	22,408	T7.19.4
	•	Subtotal of item G6		20,160	30,800		

Item	n Work	Unit	Quantity	Foregin Currency (US\$)		Local Currency (Rs)	Total	Ref. Clause
No.				Unit Price Amount	nt Unit Price	rice Amount	Equivalent (US\$)	or Sub-clause
G7	G7 River Outlet Facilities							
10/	/01 Steel conduit	L.S.		8	88,200	134,750	98,036	T7.20.4
/02	Discharge valve	L.S.		490	499,800	747,600	554,369	T7.20.6
/03	/03 Guard valve	L.S.		8(80,640	123,840	89,679	T7.20.7
<u>/</u> 04	Spare parts	L.S.		2(20,060	30,190	22,264	T7.8
	Subtotal of item G7			68	688,700	1,036,380	764,348	
<u>C</u> 8	Maintenance Equipment and Tools							
10/	Maintenance equipment and tools	L.S.		3	38,000)	0 38,000	9.7T
	Subtotal of item G8			ñ	38,000	0	38,000	
69	Instructions to Project Staff							
/01	Instructions to project staff	L.S.		ä	38,000)	0 38,000	T7.1.3
	Subtotal of item G9			ň	38,000	0	38,000	
	TOTAL OF ITEM G			1,75	1,759,250	2,430,920	1,936,690	

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Item	n Work		Unit	Quantity 1	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
ŝ		a a ser a	Ĩ		Unit Price	Amount	Unit Price	Amount	Equivalent (USS)	or Sub-clause
H	H ELECTRICAL WORKS	WORKS								
Ш	Dam Control House	ئە								
Ξ	Lighting and receptacles	tacles								
10/	Lighting fixture	type A FL-40Wx2	set	ŝ	100.0	500	140.0	700	551	T8.11
02	- do -	type A FL-40Wx1	set	3	60.0	180	80.0	240	198	T8.11
0 3	- do -	type A FL-40Wx1 WP	set	1	80.0	80	110.0	110	88	T8.11
\$	- qo -	type B FL-40Wx1	Şet	1	70.0	70	100.0	100	11	T8.11
705	- do -	type C FL-40Wx2	Set	Ś	120.0	600	160.0	800	658	T8.11
90/	- qo -	type C FL-40Wx1	Set	7	90.0	180	120.0	240	198	T8.11
70/	- op -	type D FL-40Wx2	Set	12	160.0	1,920	220.0	2,640	2,113	T8.11
/08	- do -	type E IL-20Wx1	SCI	, 	380.0	380	520.0	520	418	T8.11
60/	- do -	type E IL-40Wx1	set	9	420.0	2,520	580.0	3,480	2,774	T8.11
/10	Electric wire, PVC 600V, 2 sq.mm	600V, 2 sq.mm	E	3,000	1.0	3,000	1.0	3,000	3,219	T8.11
11/	- do -	3.5 sq.mm	ш	1,000	1.0	1,000	1.0	1,000	1,073	T8.11
/12	Cable, 600V XLPE, 4c - 22 sq.mm	1, 4c - 22 sq.mm	Ħ	100	7.0	700	10.0	1,000	773	T8.11
/13	Cable, 600V XLPE, 4c - 38 sq.mm	3, 4c - 38 sq.mm	E	100	9.0	900	10.0	1,000	973	T8.11
/14	Conduit, rigid galvanized steel ø16	anized steel ø16	E	500	7.0	3,500	10.0	5,000	3,865	T8,11
/15	Conduit, rigid galvanized steel ø22	anized steel \$22	Ħ	200	10.0	2,000	20.0	4,000	2,292	T8.11
/16	Conduit, rigid galvanized steel ø36	anized steel \$36	H	100	15.0	1,500	20.0	2,000	1,646	T8.11
117	Conduit, rigid galvanized steel \$54	anized steel ø54	H	100	25.0	2,500	30.0	3,000	2,719	T8.11

Item	n Work	Unit	Quantity F	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/18	/18 Tumbler switch,	set	15	6.0	60	10.0	150	101	T8.11
	1P, 15A 300V, simplex								
/19	- do - , duplex	set	2	10.0	20	20.0	40	23	T8.11
/20	Receptacle, ø1,2P,15A 250V, simplex	set	33	10.0	30	10.0	30	32	T8.11
/21	Receptacle, ø1,2P,15A 250V, duplex	set	13	10.0	130	20.0	260	149	T8.11
722	Receptacle, ø3,4P,20A 600V, simplex	set	ς	20.0	60	30.0	06	67	T8.11
/23	Outlet box, 100x100x50mm	set	36	5.0	180	10.0	360	206	T8.11
124	Pull box, 100mm x100mm x100 mm	set	10	10.0	100	10.0	100	107	T8.11
22	Pull box, 150mm x150mm x100 mm	set	5	14.0	70	20.0	100	LT .	T8.11
/26	Pull box, 200mm x200mm x100 mm	set	2	20.0	40	30.0	60	44	T8.11
721	Panelboard for lighting and receptacles, type L-A	set	-	6,000.0	6,000	8,200.0	8,200	6,599	T8.11
/28	Panelboard for lighting and receptacics, type L-B	set	1	5,000.0	5,000	6,900.0	6,900	5,504	T8.11
/29	Telephone cable, indoor use	E	100	1.0	100	2.0	200	115	T8.11
/30	Miscellaneous materials	L.S.			3,430		4,200	3,737	T8.11
	Subtotal of item H1				36,780		49,520	40,396	

No.	Unit	Quantity I	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
H2 Inspection Gallery								
(1) Electrical installation								
/01 Cable, XLPE 600V, 2c-8 sq.mm	E	500	2.0	1,000	3.0	1,500	1,109	T8.11
/02 Cable, XLPE 600V, 2c-14 sq.mm	E	1,200	3.0	3,600	4.0	4,800	3,950	T8.11
/03 Conduit, exposed, ø28mm	В	1,700	12.0	20,400	16.0	27,200	22,385	T8.11
/04 Lighting fixture FL-40Wx1 water proof type	set	80	80.0	6,400	110.0	8,800	7,042	T8.11
/05 Distribution panel including MCCBs	set	1	2,880.0	2,880	3,950.0	3,950	3,168	T8.11
/06 Receptacie, ø1,2P,15A 250V, duplex	Set	5	6.0	30	8.0	40	33	T8.11
/07 Outlet box, exposed	Set	10	5.0	50	8.0	80	56	T8.11
/08 Miscellaneous materials	L.S.			3,640		4,630	3,978	T8.11
Subtotal of item H2				38,000		51,000	41,721	
						200112	12111	

Item	n Work	Unit	Quantity Fo	Foregin Currency (US\$)	(US\$)	Local Currency (Rs)	y (Rs)	Total	Ref. Clause
No.				Unit Price 🤌	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
H3	Gate Control House								
Ξ	Lighting and receptacles								
10/	Lighting fixture type A FL-40Wx2	set	2	100.0	200	140.0	280	220	T8.11
/02	- do - type A FL-40Wx1	set	0	0.0	0	0.0	0	0	T8.11
/03	- do - type A FL-40Wx1 WP	set	0	0.0	0	0.0	0	0	T8.11
<u>/0</u> 4	- do - type B FL-40Wx1	set	0	0.0	0	0.0	0	0	T8.11
/05	- do - type C FL-40Wx2	set	0	0.0	0	0.0	0	0	T8.11
90/	- do - type C FL 40Wx l	set	0	0.0	0	0.0	0	0	T8.11
107	- do - type D FL-40Wx2	set	0	0.0	0	0.0	0	0	T8.11
/08	- do - type E IL-20Wx1	set	0	0.0	0	0.0	0	0	T8.11
60/	- do - type E IL-40Wx1	set	0	0.0	0	0.0	0	0	T8.11
/10	Electric wire, PVC 600V, 2 sq.mm	E	200	1.0	200	1.0	200	215	T8.11
/11	- do - 3.5 sq.mm	н	50	1.0	50	1.0	50	54	T8.11
/12	Cable, 600V XLPE, 4c - 22 sq.mm	Е	200	7.0	1,400	10.0	2,000	1,546	T8.11
/13	Cable, 600V XLPE, 4c - 38 sq.mm	E	0	0.0	0	0.0	0	0	T8,11
/14	Conduit, rigid galvanized steel \$16	E	50	7.0	350	10.0	500	386	T8.11
/15	Conduit, rigid galvanized steel ø22	E	20	10.0	200	15.0	300	222	T8.11
/16	Conduit, rigid galvanized steel ø36	ш	200	15.0	3,000	20.0	4,000	3,292	T8.11
717	Conduit, rigid galvanized steel \$54	B	0	0.0	0	0.0	0	0	T8.11

Item	n Work	Unit	Quantity For	Foregin Currency (US\$)	v (US\$)	Local Currency (Rs)	iy (Rs)	Total	Ref. Clause
°N No				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/18	Tumbler switch,	SCI		10.0	10	10.0	10	11	T8.11
	1P, 15A 300V, simplex								
61/	- do - , duplex	set	0	0.0	0	0.0	0	0	T8.11
/20	Re	set	0	0.0	0	0.0	0	0	T8.11
121	Receptacle, ø1,2P,15A 250V, duplex	set	3	10.0	20	15.0	30	22	T8.11
722	Receptacle, ø3,4P,20A 600V, simplex	set	0	0.0	0	0.0	0	0	T8.11
123	0 Outlet box, 100x100x50mm	set	3	10.0	30	10.0	30	32	T8.11
124	Pull box, 100mm x100mm x100 mm	set	7	10.0	20	10.0	20	21	T8.11
52	Full box, 150mm x150mm x100 mm	set	0	0.0	0	0.0	0	0	T8.11
/26	Pull box, 200mm x200mm x100 mm	set	0	0.0	0	0.0	0	0	T8.11
121	 Panelboard for lighting and receptacles, type L-A 	set	I	1,150.0	1,150	1,600.0	1,600	1,267	T8.11
/28	Panetboard for lighting and receptacles, type L-B	set	0	0-0	0	0.0	0	0	T8.11
/29	• Telephone cable, indoor use	E	50	1.0	50	2.0	100	57	T8.11
/30) Miscellaneous materials	L.S.			620		880	684	T8.11
·									
	Subtotal of item H3				7,300		10,000	8,029	

	Item Work	Unit	Quantity Fo	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	ry (Rs)	Total	Ref. Clause
-1	No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
	H4 Valve Chamber including Access Shaft								
_	(1) Power supply lighting and receptacle outlet facilities	SS							
	/01 Panel type, A	sct	1	1,150.0	1,150	1,600.0	1,600	1,267	T8.11
-	/02 Lighting fixture, water proofed type, FL-40W x 1	set	10	80.0	800	110.0	1,100	880	T8.11
~	/03 Lighting fixture, water proofed type, FL-20W x 1	set	10	60.0	600	80.0	800	658	T8.11
	/04 Wire, PVC 600V, 2 sq.mm	E	150	1.0	150	1.0	150	161	T8.11
	/05 Wire, PVC 600V, 3.5 sq.mm	Ħ	150	1.0	150	1.0	150	161	T8.11
-	/06 Cable, 600V XLPE, 2c-14 sq.mm	E	50	4.0	200	4.0	200	215	T8.11
	/07 Conduit rigid galvanized steel, ø 16 mm	H	50	7.0	350	10.0	500	386	T8.11
-	/08 Conduit rigid galvanized steel,ø 28 mm	Ш	50	12.0	600	16.0	800	658	T8,11
	709 Pull box,galvanized metal sheet,150 mm x 150 mm x 100 mm	Set	10	13.0	130	20.0	200	145	T8.11
	<pre>/10 Tumbler switch w/ plate, 1P-15A-300V x 1</pre>	set	7	5.0	10	10.0	20	11	T8.11

ltem Work No.	Unit	Quantity Fore Un	Foregin Currency (US\$) Unit Price Amoun	sy (US\$) Amount	Local Currency (Rs) Unit Price Amo	/ (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
/11 Grounding clamp, ø 16	set	20	1.0	20	1.0	20	21	T8.11
/12 Grounding clamp, ø 28	set	20	1.0	20	1.0	20	21	T8.11
/13 Miscellaneous materials	L.S.			420		440	452	T8.11
Α-								
40								
Subtotal of item H4				4,600		6,000	5,036	

Ite	Item Work	Unit	Quantity	Foregin Currency (USS)	v (US\$)	Local Currency (Rs)	<u>cy (Rs)</u>	Total	Ref. Clause
No.	10.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
Н	H5 Grouting Tunnel								
IJ	(1) Lighting and receptacle outlet facilities								
9	/01 Distribution panel type B including MCCB	set		1,150.0	1,150	1,600.0	1,600	1,267	T8.11
ę	/02 Lighting fixture, FL-40W x 1, water-proofed type	set	20	80.0	1,600	110.0	2,200	1,761	T8.11
2	/03 Cable, 600V XLPE, 2c-22 sq.mm	E	500	6.0	3,000	8.0	4,000	3,292	T8.11
Q	/04 Conduit, rigid galvanized steel, exposed, ø 36 mm	E	500	15.0	7,500	20.0	10,000	8,230	T8.11
)/	/05 Pull box, galvanized metal sheet,150 mm x 150 mm x 100 mm	no.	10	13.0	130	20.0	200	145	T8.11
K	/06 Miscellaneous materials	L.S.			1,320		2,000	1,466	T8.11
	Subtotal of item H5				14,700		20,000	16,161	

	nut	Quantity Foregi	Foregin Currency (US\$)	y (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/13 Pull box, galvanized metal sheet150 mm x 150 mm x 100 mm	ло.	50	13.0	650	20.0	1,000	723	T8.11
/14 Miscellaneous materials	L.S.			8,870		11,960	9,743	11.81
Subtotal of item H6				100,000		138,000	110,074	

Item Work No	Unit	Quantity F	Leno	v (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
H7 Grounding System (intake, dam and spillway)	un and spillway)		Onit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/01 Grounding conductor, 100 mm2	n2 m	500	6.0	3,000	8.0	4,000	3,292	T8.11
/02 Grounding conductor, 38 mm2	2 m	100	2.0	200	3.0	300	222	T8.11
/03 Grounding rod, ø 25 mm x 2 m	ш по.	200	30.0	6,000	40.0	8,000	6,584	T8.11
/04 Compression type connector	по.	1,000	4.0	4,000	5.0	5,000	4,365	T8.11
/05 Grounding plate, 1m x 1m	по.	7	250.0	500	350.0	700	551	T8.11
/06 Miscellaneous materials	L.S.			700		1,000	773	T8.11

Item	m Work	Unit	Quantity Fc	Foregin Currency (US\$)	r (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
°N N			- 1	Unit Price A	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
H8	H8 Power Receiving and Distribution System								
Ξ) 20 kV distribution line materials								
10/	I Conductor, ACSR, 58 mm2, including midspan joint for each drum	km	-	0.066	066	1,400.0	1,400	1,092	T8.11
/02	 Connector, ACSR, 95 mm2 - 58 mm2 	no.	Q	15.0	60	20.0	120	66	T8.11
/03	Ditto, 58 mm2 - 58 mm2	no.	12	10.0	120	10.0	120	129	T8.11
704	/04 22 kV line post insulator, complete with fittings	по.	30	92.0	2,760	130.0	3,900	3,045	T8.11
/02	 22 kV tension insulator string, complete with fittings 	set	12	40.0	480	60.0	720	533	T8.11
/06	/06 Low-voltage spool type insulator, complete with fittings	ло.	12	5.0	60	5.0	60	64	T8.11
10/	Cross arms, with complete set of fittings for 20 kV, Type-A pole use	set	£	0.066	2,970	1,350.0	4,050	3,266	T8.13
80/	/08 Ditto, Type-B pole	set	1	1,040.0	1,040	1,400.0	1,400	1,142	T8.11
60	09 Ditto, Type-C pole	set	1	1,040.0	1,040	1,430.0	1,430	1,144	T8.11
/10	/10 Ditto, Type-D pole	set	•1	1,040.0	1,040	1,430.0	1,430	1,144	T8.11

Item No	Work	Unit	Quantity	<u>Foregin Currency (US\$)</u> Unit Price Amoun	ncy (US\$) Amount	Local Currency (Rs) Unit Price Amo	ncy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
/11	/11 Cross arms, with complete set of fittings for 22 kV, Type-H poles	set	m	1,090.0	1,090	1,500.0	1,500	1,199	T8.11
/12	/12 Ditto, for low-voltage, Type-A pole	set	-	680.0	680	1,000.0	1,000	753	T8.11
/13	/13 Ditto, Type-C pole	set	1 4	680.0	680	1,000.0	1,000	753	T8.11
/14	/14 Ditto, Type-D pole	set	1	680.0	680	1,000.0	1,000	753	T8.11
/15	Stay guy assembly, complete with anchor	set	12	150.0	1,800	200.0	2,400	1,975	T8.11
/16	/16 Grounding rod with lead wire	set	10	38.0	380	60.0	600	424	T8.11
/11/	22 kV power cable, XLPE, 3c (triplex), 60 sq.mm(Al)	E	300	140.0	42,000	200.0	60,000	46,380	T8.11
/18	22 kV cable head and accessories	L.S.			1,500		2,100	1,653	T8.11
61/	/19 Miscellaneous materials	L.S.			2,900		3,770	3,175	T8.11
	Subtotal of item H8/(1)				62.300		88 000	567 773	

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Item	m Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
6	(2) Power receiving station facilities								
/01	1 22 kV incoming cubicles and accessories for dam control house	set		24,000.0	24,000	32,880.0	32,880	26,400	T8.11
/02	2 22 kV transformer (75 kVA) cubicle including switchgear and accessories for dam control house	set	1	40,000.0	40,000	54,800.0	54,800	44,000	T8.11
/03	3 22 kV lightning arresters with accessories	Set	Ϋ́	390.0	1,170	530.0	1,590	1,286	T8.11
/04	4 Cables, wires, grounding materials and other materials to complete cubicle type receiving station	L.S.			3,260		4,470	3,586	T8.11
47	5 Transformer, three-phase, 50 kVA, 22 kV/400-230V with accessories for gate control house	ПО.	1	5,000.0	5,000	6,850.0	6,850	5,500	T8.11
/06	6 22 kV outdoor switchgear including complete with fittings	L.S.			7,500		10,300	8,252	T8.11
101	7 Low-voltage switchgear including complete with fittings	L.S.			500		700	551	T8.11

Quantity Foregin Currency (US\$) Local Currency (Rs) Unit Price Amount Unit Price Amo	770	82,200	144,500					
Unit	Cables, wires, grounding materials and other materials to complete pole assembly type receiving station							

Image: Unit Price Amount Unit Price Amount Energency Power Supply System 5 100,000.0 137,000.0 145,000.0 16,500.0 16,500.0 16,500.0 16,500.0 16,500.0 16,500.0 16,500.0 16,500.0	Item	t Work	Unit	Quantity .	Foregin Currency (USS)	ncy (USS)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
Energanoy Power Supply System set 1 100,000,0 137,000,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 100,0 <t< th=""><th>No.</th><th></th><th></th><th></th><th>Unit Price</th><th>Amount</th><th>Unit Price</th><th>Amount</th><th>Equivalent (US\$)</th><th>or Sub-clause</th></t<>	No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
Diesel engine generator set, 75 KVA (60 kW) 3, 400/230V, 1,500 µm with accessories set 1 100,000 137,000 132,000 132,000 132,000<	бH									
DC power panel including battery and charger and accessories Et 1 20,000.0 27,400.0	/01		set	-	100,000.0	100,000	137,000.0	137,000	110,000	T8.11
Automatic starting panel including transfer switch and accessories set 1 12,000.0 16,500.0 16,500.0 16,500.0 16,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 10,500 200	/02		set	1	20,000.0	20,000	27,400.0	27,400	22,000	T8.11
Cable, 600V XLPE, 1c-100 sq.mm m 60 10.0 600 600 600 600 600 600 600 600 200	/03		set	П	12,000.0	12,000	16,500.0	16,500	13,204	T8.11
Cable, 600V XLPE, 1c-50 sq.mm m 20 5.0 100 10.0 200 Cable, 600V XLPE, 3c-38 sq.mm m 200 10.0 2,000 15.0 3,000 2 Cable, 600V XLPE, 1c-14 sq.mm m 200 2.0 400 2.0 400 2.0 400 Cable, 600V XLPE, 1c-14 sq.mm m 200 2.0 400 2.0 400 5.0 400 Cable, 600V XLPE, 1c-14 sq.mm m 50 8.0 400 2.0 400 500 500 500 500 500 500 500 7000 7 Conduit rigid galvanized steel, ø70mm m 200 36.0 7,200 50.0 10,000 7 7	/ 04	Cable, 600V XLPE, 1c-100 sq.mm	E	60	10.0	600	10.0	600	644	T8.11
Cable, 600V XLPE, 3c-38 sq.mm m 200 10.0 2,000 15.0 3,000 2 Cable, 600V XLPE, 1c-14 sq.mm m 200 2.0 400 2.0 400 5.0 400 Cable, 600V XLPE, 1c-14 sq.mm m 200 2.0 400 2.0 400 5.0 400 Cable, 600V XLPE, 3c-22 sq.mm m 50 8.0 400 10.0 500 Conduit rigid galvanized steel, ø36mm m 50 16.0 800 20.0 1,000 7 Conduit rigid galvanized steel, ø70mm m 200 36.0 7,200 50.0 10,000 7	(05		B	20	5.0	100	10.0	200	115	T8.11
Cable, 600V XLPE, 1c-14 sq.mm m 200 2.0 400 2.0 400 Cable, 600V XLPE, 3c-22 sq.mm m 50 8.0 400 10.0 500 Conduit rigid galvanized steel, ø36mm m 50 16.0 800 20.0 1,000 Conduit rigid galvanized steel, ø70mm m 200 36.0 7,200 50.0 10,000 7	90/	Cable, 600V XLPE, 3c-38 sq.mm	В	200	10.0	2,000	15.0	3,000	2,219	T8.11
Cable, 600V XLPE, 3c-22 sq.mm m 50 8.0 400 10.0 500 Conduit rigid galvanized steel, ø36mm m 50 16.0 800 20.0 1,000 Conduit rigid galvanized steel, ø70mm m 200 36.0 7,200 50.0 10,000 7	10/		ш	200	2.0	400	2.0	400	429	T8.11
Conduit rigid galvanized steel, ø36mm m 50 16.0 800 20.0 1,000 Conduit rigid galvanized steel, ø70mm m 200 36.0 36.0 7,200 50.0 10,000	/08	Cable, 600V XLPE, 3c-22 sq.mm	ш	50	8.0	400	10.0	500	436	T8.11
т 200 36.0 7,200 50.0 10,000	60/	Conduit rigid galvanized steel, ø36mm	B	50	16.0	800	20.0	1,000	873	T8.11
	/10	Conduit rigid galvanized steel, ø70mm	E	200	36.0	7,200	50.0	10,000	7,930	T8.11

Work Unit	711 Pull box, galvanized metal sheet,300 mm x 300 mm x 250 mm	12 Grounding clamp, 706 set	/13 Grounding clamp, 36ø sct	/14 Spare parts L.S.	/15 Miscellaneous materials L.S.	Subtotal of item H9
	0	80	50			
Quantity Foregin Currency (US\$) Unit Price Amoun	0 37.0	0 3.0	0 2.0			
icy (US\$) Amount	370	240	100	2,800	6,990	154,000
Local Currency (Rs) Unit Price Amot	50.0	5.0	3.0			
r (Rs) Amount	500	400	150	3,550	9,800	211,000
Total Equivalent (US\$)	406	269	111	3,059	7,705	169,400
Ref. Clause or Sub-clause	T8.11	T8.11	T8.11	T8.11	T8.11	

No.Unit PriceAmountUnit PriceAmountEquivalent (US3)H10Dan Leakage Water Drainage Systemset4 $3,850.0$ $15,400$ $5,300.0$ $21,200$ $16,947$ 01 Submersible type drainage pumpesset4 $3,850.0$ $15,400$ $5,300.0$ $15,900$ $15,758$ 02 Pump discharge pipeworkm 310 40.0 $12,400$ 60.0 $18,600$ $13,758$ 03 Pump discharge pipeworkm 310 40.0 $12,400$ $5,300.0$ $11,010.0$ $13,758$ 03 Pump handling eqipmentset 1 $2,700.0$ $2,700$ $3,800.0$ $3,800.0$ 2970 04 Submersible mixerset 1 $2,700.0$ $2,700.0$ $27,500.0$ $27,500.0$ $2,970$ 05 Control panelm 500 18.0 $9,000$ $20,000$ $27,500.0$ $27,500.0$ $22,007$ 05 Power and control cablesm 500 18.0 $9,000$ $27,500.0$ $27,500.0$ $9,909$ $06,30.0$ Aboral of tiern H10m 500 18.0 $9,000$ $27,500.0$ $9,909$ $9,909$ $05,000$ Aboral of tiern H10m 18.0 $9,000$ 18.0 $9,000$ $9,000$ $9,000$ $9,000$ $9,000$ 1000 Aboral of tiern H10 $1000000000000000000000000000000000000$	Item	Work	Unit	Quantity]	Quantity Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
set 4 3,850.0 15,400 5,300.0 21,200 1 m 310 40.0 12,400 60.0 18,600 1 set 1 800.0 800 1,100.0 1,100 1,100 set 1 2,700.0 2,700 3,800.0 3,800 3,800 set 1 2,700.0 2,700 2,7500.0 3,800 2,7500	No.	na mana ang ang ang ang ang ang ang ang ang			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
Submersible type drainage pumps set 4 3,850.0 15,400 5,300.0 21,200 1 Pump discharge pipework m 310 40.0 $12,400$ 60.0 $18,600$ 1 and valves with support set 1 800.0 800 $1,100.0$ $1,100$ $1,100$ Pump handling euqipment set 1 $2,700.0$ $3,800.0$ $3,800.0$ $3,800.0$ $27,500.0$ $25,500.0$ $55,500.0$ $55,500.0$ $55,500.0$ $55,500.0$ $55,500.0$ $55,500.0$ $55,500.0$ $55,500.0$	H10	Dam Leakage Water Drainage System								
Pump discharge pipework m 310 40.0 12,400 60.0 18,600 1 and valves with support set 1 800.0 800 1,100.0 1,100 1,100 Pump handling euqipment set 1 2,700.0 2,700 3,800.0 3,800 3,800 Submersible mixer set 1 2,700.0 2,700 3,800.0 3,800 27,500<	/01	Submersible type drainage pumps	set	4	3,850.0	15,400	5,300.0	21,200	16,947	T8.11
Pump handling eugipment set 1 800.0 800 1,100.0 1,100 1,100 1,100 1,100 3,800.0 3,800.0 3,800.0 3,800 3,800 3,800 2,700 3,800.0 3,800 2,7500 27,500 27,500 27,500 27,500 27,500 27,500 27,500 27,500 27,500 27,500 27,500 26,0 13,000 20,000 26,0 13,000 26,0 13,000 85,200 60,300	/02	Pump discharge pipework and valves with support	E	310	40.0	12,400	60.0	18,600	13,758	T8.11
Submersible mixer set 1 2,700.0 3,800.0 3,800 3,800 3,800 2,7500.0 2,7,500.0 2,7,500.0 2,7,500.0 2 <th2< th=""> 2 2</th2<>	/03	Pump handling euqipment	set	-	800.0	800	1,100.0	1,100	880	T8.11
Control panel set 1 20,000.0 27,500.0 27,500.0 2 Power and control cables m 500 18.0 9,000 26.0 13,000 60,300<	/04		set	1	2,700.0	2,700	3,800.0	3,800	2,977	T8.11
Power and control cables m 500 18.0 9,000 26.0 13,000 6 Subtotal of item H10 60,300 60,300 6	/02	Control panel	set	1	20,000.0	20,000	27,500.0	27,500		T8.11
60,300 85,200	/06	Power and control cables	Е	500	18.0	6,000	26.0	13,000		T8.11
		Subtotal of item H10				60,300		85,200	66,518	

1 	Item No.	Work	Unit	Quantity For U	Foregin Currency (US\$) Unit Price Amoun	y (US\$) Amount	Local Currency (Rs) Unit Price Amo	(Rs) Amount	Total Equivalent (USS)	Ref. Clause or Sub-clause
	ΗII	H11 Inspection Shaft Entrance House								
	1	Indoor lighting								
• • •	10/	Lighting panel (A)	Sct	1	1,040.0	1,040	6,820.0	6,820	1,538	T8.11
	/02	Lighting fixture including lamp ballast and fitting FL-40W x 1 (B401WP) waterproof type	Set	4	93.0	372	610.0	2,440	550	T8.11
A	/03	Tumbler switch with outlet box IP-15A-300V x 1 (3 way) water proof type	Set	2	0.91	38	1,240.0	2,480	219	T.8.11
-52	1 04	Electric conduit including couplings, bushings, junction boxes and accessories 16 mm dia.	E	∞	6.0	48	40.0	320	71	T.8.11
	/05	- do - 22 mm dia.	E	17	8.0	136	55.0	935	204	T8.11
	90/	Electric wire, P.V.C. insulated, 600 V with terminals, 2.0 mm	E	72	1.0	72	6.0	432	104	T8.11
		Subtotal of item H11				1,706		13,427	2,686	
		TOTAL OF ITEM H				576,286		804,147	634,979	

Item Work No	Unit	Quantity	Foregin Currency (US\$) Ilnit Price Amoun	ency (US\$) Amount	Local Currency (Rs)	icy (Rs) Amount	Total Equivalent (USS)	Ref. Clause or Sub-clause
		:			OTHER A LINE	INDOMO	1000) 1000)	
I BUILDING WORKS								
I1 Dam Control House								
/01 Building works								
1) Earthwork								
- Excavation	m3	63	8.6	542	44.6	2,810	747	T6.2
- Backfill	m3	40) 3.1	124	22.2	888	189	T6.2
- Disposal	m3	23	3.1	71	22.2	511	108	T6.2
- Gravel bedding	m3	23	3 14.5	334	202.0	4,646	673	T6.2
2) Concrete work								
- Concrete, Class A for structure	ш3	113	3 75.7	8,554	353.4	39,934	11,469	T6.3
- Concrete, Class F	m3	ξ	3 54.0	162	258.2	775	219	T6.3
- Form F1	m2	601	1 13.4	8,053	276.8	166,357	20,196	T6.3
- Form F3	m2	158	8 18.1	2,860	189.0	29,862	5,040	T6.3
- Reinforcing bar	k В	14,800	0.8	11,840	5.3	78,440	17,566	T6.3
3) Masoury work								
 Concrete block wall, 100 mm thick including filling cement mortar and with wire lath 	m2	167	7 31.2	5,210	204.3	34,118	7,700	T6.4.2
 Concrete block wall, 200 mm thick including filling cement mortar and with wire lath 	m2	172	2 54.2	9,322	355.3	61,112	13,783	T6.4.2

m2 194 17.3 3.356 1132 m2 194 17.3 3.356 1132 m2 24 15.8 379 104.0 m m 1 86.3 849.2 m m 1 86.3 86 m m 1 86.3 849.2 m m 1 86.3 86 m 1 86.3 86 566.1 m 2 71.1 142 471.2 m2 11 51.1 562 355.0 m2 13 51.1 562 355.0 m2 13 51.1 562 355.0 m2 13 57.1 10,669 440.1 m2 159 67.1 10,669 440.1 m2 194 6.7 1,300 444.4	Ilnit Price Amount Fourivalent (IISS)	Total Ref. Clause
- 3 ply built-up asphalt roofing m2 194 17.3 3,356 11 - 2 ply built-up asphalt roofing m2 24 15.8 379 10 - 7 ply built-up asphalt roofing m2 123 129.4 15,916 8* 5) Terrazzo block on floor including m2 123 129.4 15,916 8* 5) Terrazzo block of sili, W=100mm m 1 86.3 86 56 56 base cement mortar m 1 86.3 86 56 56 57 including base cement mortar m 2 71.1 142 4* including base cement mortar m2 11 51.1 562 3 including base cement mortar m2 13 48 54.7 2626 3 fincluding base cement mortar m2 13 48 54.7 2626 3 including base cement mortar m2 13 13 562 3 including base cement mortar m2 13 13 2626 3 including base cement mortar		
asphalt roofing m2 24 15.8 379 10 k on floor including m2 123 129.4 15,916 8* mortar m n 1 86.3 86 56 k door sill, W=100mm m 1 86.3 86 56 k door sill, W=100mm m 1 86.3 86 56 k shelf, W=150mm m 2 71.1 142 4 k cement mortar m2 11 51.1 562 3 se cement mortar m2 130 67.1 10,669 4 k se cement mortar m2 159 67.1 10,669 4 k se cement mortar m2 1300 4 6.7 1,300	21,961	4,959 T6.5.5
sk on floor including m2 123 129.4 15,916 8* mortar m mortar mortar mortar 86 56 56 sk door silt, W=100mm m 1 86.3 86 56 56 sk door silt, W=150mm m 2 71.1 142 4* e cement mortar m 2 71.1 142 4* e cement mortar m 2 71.1 142 4* e cement mortar m2 11 51.1 562 3 e cement mortar m2 13 48 54.7 2,626 3 se cement mortar m2 159 67.1 10,669 4 to exterior wall m2 159 67.1 10,669 4 k se cement mortar m2 159 67.1 10,669 4 it o exterior wall m2 130 67.1 1300 67.1 1300 infertor waterproofing m 194 6.7 1,300 67.1 1,300 <	2,496	5.2.0T T6.5.5
block on floor including m2 123 129.4 15,916 8 ⁻⁴ ent mortar mortar m 1 86.3 86 56 block shelf, W=100mm m 2 71.1 142 4 ⁻⁴ block shelf, W=150mm m 2 71.1 10,669 4 ⁻⁴ it to interior wall m2 159 67.1 10,669 4 ⁻⁴ g base cement mortar m2 159 67.1 10,669 4 ⁻⁴ g base cement mortar m2 194 6.7 1,300 mortar plaster on floor m2 194 6.7 1,300 nett mortar plaster 20mm m2 194 6.7 1,300 nett mortar plaster 20mm m2 194 6.7 1,300		
ent mortar block door sill, W=100mm m 1 86.3 86 56 ¢ base cement mortar block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 ¢ base cement mortar n tile to interior floor m2 11 51.1 562 3 g base cement mortar tile to interior wall m2 48 54.7 2,626 3 g base cement mortar in the to exterior wall m2 159 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 159 67.1 10,669 4 g base cement mortar in the to exterior wall m2 19 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 139 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 139 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 130 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 130 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 130 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 130 67.1 10,669 4 g base cement mortar n tile to exterior wall m2 130 67.1 10,669 4 g base cement mortar m2 130 67.1 10,669 4 g base cement mortar m3 10,669 4 g base cement mortar m3 10,669 4 g base cement mortar m0 10,669 4 g base cement m0 10,669 10,669 4 g base cement mortar m0 10,669 10,669 10,669 10,669 10,669 10,669 10,660 10,66	104,452	23,540 T6.6.3
y base cement mortar block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 i base cement mortar it to interior wall m 2 11 51.1 562 3 g base cement mortar it to interior wall m 2 159 67.1 10,669 4 g base cement mortar n tile to exterior wall m 2 159 67.1 10,669 4 g base cement mortar n tile to exterior wall m 2 159 67.1 10,669 4 g base cement mortar n tile to exterior wall m 2 159 67.1 10,669 4 g base cement mortar n tile to exterior wall m 2 159 67.1 11,0,669 4 work mortar plaster on floor m 2 194 6.7 1,300 nent mortar plaster 20mm m 2 194 6.7 1,300 r bituminous waterproofing 2 2 2 200	566	127 T6.6.3
block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 block shelf, W=150mm m 2 71.1 142 4 i base cement mortar g base cement mortar m 2 11 51.1 562 3 g base cement mortar m 2 11 51.1 562 3 g base cement mortar m 2 71.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 159 67.1 10,669 4 h tile to exterior wall m 2 150 67.1 10,669 4 h tile to exterior wall m 2 150 67.1 10,669 4 h tile to exterior wall m 2 150 67.1 10,669 4 h tile to exterior wall m 2 150 67.1 10,669 4 h tile to exterior wall m 2 10,669 4 h		
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1 tile to interior floor m2 11 51.1 562 3 g base cement mortar m2 48 54.7 2,626 3 tile to interior wall m2 48 54.7 2,626 3 g base cement mortar m2 159 67.1 10,669 4 a tile to exterior wall m2 159 67.1 10,669 4 b base cement mortar m2 94 8.6 808 work mortar plaster on floor m2 194 6.7 1,300 r bituminous waterproofing m2 194 6.7 1,300		
D interior floorm21151.15623cement mortarm24854.72,6263cement mortarm215967.110,6694cement mortarm215967.110,6694cement mortarm21948.6808inhous waterproofingm21946.71,300		
cement mortar interior wall m2 48 54.7 2,626 3 cement mortar o exterior wall m2 159 67.1 10,669 4 cement mortar cement mortar relaster on floor m2 94 8.6 808 inter plaster 20mm m2 194 6.7 1,300 inter plaster 20mm m2 194 6.7 1,300	0 3,905	847 T6.7.3
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o exterior wall m2 159 67.1 10,669 4 cement mortar cement mortar r plaster on floor m2 94 8.6 808 nortar plaster 20mm m2 194 6.7 1,300 inous waterproofing 200 20 20 200		
cement mortar plaster on floor m2 94 8.6 808 nortar plaster 20mm m2 194 6.7 1,300 inous waterproofing	69,976	15,777 T6.7.3
r plaster on floor m2 94 8.6 808 nortar plaster 20mm m2 194 6.7 1,300 ninous waterproofing		
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nn m2 194 6.7 1,300 bfing	5,320	
200 · · · · · · · · · · 200 · · 200	8,614	1,929 T6.8.5
	000	
- Cement mortar plaster to interior in 138 7.1 1,063 50.5 skirting H=100mm	0,409	C.0.01 2/C,1
- Cement mortar plaster to m^2 516 17.7 9,133 116.3	60,011	13,513 T6.8.5

Indicational conditional condit		Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	ket. Clause
plaser to n2 372 18.7 6.956 12.4 4.5.33 10.280 men mortar n2 16 28.8 461 188.2 3,011 681 men mortar n2 33 2.9 96 189 6.3 142 etter n2 36 7.2 360 47.4 2.370 533 atl surface n2 93 8.1 316 54.4 142 atl surface n2 93 6.2 5909 41.3 39.359 8.782 other surface n2 75 6.7 509 41.4 3.330 746 other surface n2 10 36.9 36.7 36.7 545 other surface n3 10 36.9 36.7 3730 746 other surface n4 10 36.9 24.17 2417 545 function n4 10 36.9 24.17 2417 545 <th>No.</th> <th></th> <th></th> <th>Unit Price</th> <th>Amount</th> <th>Unit Price</th> <th>Amount</th> <th>Equivalent (US\$)</th> <th>or Sub-clause</th>	No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
ment motat m2 16 28.8 461 188.2 3.011 681 guttat m2 33 2.9 96 18.9 5.4 142 atl surface m2 30 72 360 47.4 2.370 533 oden surface m2 953 6.2 5.900 41.3 3.330 460 oden surface m2 953 6.2 5.900 41.3 3.330 746 ot paint on m2 953 6.2 5.00 41.4 3.330 746 upsint on m2 75 6.7 503 44.4 3.330 746 us best surface m2 10 36.9 36.9 241.7 545 box, m 10 36.9 36.9 241.7 545 box, m 10 36.9 287.7 545 545 box, m 10 36.9 287.7 545 545	- Cement mortar plaster to	m2	372	18.7	6,956	122.4	45,533	10,280	T6.8.5
gutter m2 33 29 96 189 624 142 at larriace m2 50 72 360 474 2,370 533 oden surface m2 953 6.1 500 413 39,339 8,782 npaint on m2 953 6.2 500 414 3,330 746 npaint on m2 75 6.7 503 414 3,330 746 npaint on m2 75 6.7 503 414 3,330 746 nitery work m 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 inery work m 1 2 36.9 241.7 2,417 545 box, mathewas surface m2 11 2 2 2 2 2 binery work m2 11 2 <td>extenor wall - Waterproof cement mortar</td> <td>m2</td> <td>16</td> <td>28.8</td> <td>461</td> <td>188.2</td> <td>3,011</td> <td>681</td> <td>T6.8.5</td>	extenor wall - Waterproof cement mortar	m2	16	28.8	461	188.2	3,011	681	T6.8.5
ial surface m2 50 7.2 560 47.4 2.370 533 oden surface m2 933 8.1 316 53.6 2.090 469 oden surface m2 933 6.2 5909 41.3 3.335 8.782 opint on m2 933 6.2 509 41.4 3.330 746 n paint on m2 75 6.7 503 44.4 3.330 746 n paint on m2 75 6.7 503 44.4 3.330 746 n paint on m2 75 6.7 503 241.7 2417 545 one york m 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 isoft accessories m2 11 259 2,817 1700 18870 4,222 including base m2 75 24.9 1,868 163.7 1,221 enroluding base m2 75 2,49 1,64 1,550 enroluding base m2 24 1,048 1,21 5,764 enroluding </td <td>plaster to roof gutter - Concrete trowell finish</td> <td>m2</td> <td>33</td> <td>2.9</td> <td>96</td> <td>18.9</td> <td>624</td> <td>142</td> <td>T6.8.5</td>	plaster to roof gutter - Concrete trowell finish	m2	33	2.9	96	18.9	624	142	T6.8.5
tal surface m^2 50 7/2 500 4/4 2,500 553 oden surface m^2 953 6.2 5,900 4.13 39,559 8,782 n paint on m^2 75 6.7 503 4.14 3,330 746 n paint on m^2 75 6.7 503 4.14 3,330 746 n sheet surface m^2 10 36.9 369 2.41.7 2.417 545 box, m m 10 36.9 369 2.41.7 2.417 545 isoma x 725mm ied accessories m^2 11 2.59 2.875 170.0 18.870 4.25 atom and accessories m^2 75 2.49 1,868 163.7 12.278 2.764 stem and accessories m^2 75 0.41 1.259 2.875 170.0 18.870 4.25 encluding base m^2 75 2.49 1,868 163.7 12.278 2.764 including base m^2 23 0.4 1,048 1273 6.874 1.550 ether including base mode mode mode mode mode mode mode mod	8) Painting work					ļ			Ĕ
oden surface m2 39 8.1 316 53.6 2,090 469 n paint on m2 953 6.2 5,909 41.3 3,330 8,782 n paint on m2 75 6.7 503 44.4 3,330 746 n paint on m2 75 6.7 503 44.4 3,330 746 n paint on m2 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 box, mained accessories m2 11 25.9 2,875 170.0 18,870 4,252 including m2 11 25.9 2,875 170.0 18,870 4,252 erre and acccesories <	 Oil paint to metal surface 	ш2	50	7.2	360	47.4	2,370	533	T6.9.3
n paint on m2 953 6.2 5.909 41.3 39,359 8,782 n paint on m2 75 6.7 503 44.4 3,330 746 n sheet surface n sheet surface box, n 10 36.9 369 241.7 2,417 545 150mm x T25mn ired accessories including m2 n2 111 25.9 2,875 170.0 18,870 4,252 atm and accessories m2 75 24.9 1,868 163.7 12,278 2,764 sent sheet including base m2 75 19.4 1,048 127.3 6,874 1,550 	- Oil paint to wooden surface	m2	39	8.1	316	53.6	2,090	469	T6.9.3
n paint on a sheet surface m2 75 6.7 503 44.4 3,330 746 n is heet surface n 10 36.9 369 241.7 2,417 545 box, box, incry work n 10 36.9 369 241.7 2,417 545 box, box, including n 10 36.9 369 241.7 2,417 545 including m2 111 25.9 2,875 170.0 18,870 4,225 sten and accessories m2 111 25.9 2,875 170.0 18,870 4,225 sten and accessories m2 713 2,875 170.0 18,870 4,225 sten and accessories m2 759 1,868 163.7 12,738 2,764 sten and accessories m2 2,84 1,048 1,73 6,874 1,550 creation diageneric m3 2,33 6,4 1,4,8 4,4 9,4	- Vinyl emulsion paint on	ш2	953	6.2	5,909	41.3	39,359	8,782	T6.9.3
n paint on m2 75 6.7 503 44.4 3.330 746 it sheet surface box, m 10 36.9 369 241.7 2,417 545 box, m 10 36.9 369 241.7 2,417 545 i50mux 725mu ired accessories m2 111 25.9 2,875 170.0 18,870 4,252 stem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stem and accessories m2 54 19.4 1,048 1273 6,874 1,550 e including base m2 23 64 14.8 414 94 cement motar	cement mortar								
It sheet surface box, m 10 36.9 369 241.7 2,417 545 box, m 150mm x T25mm ired accessories m2 111 25.9 2,875 170.0 18,870 4,252 including m2 75 24.9 1,868 163.7 12,278 2,764 sten and accessories m2 54 19.4 1,048 1273 6,874 1,550 sten and accessories m2 28 2.3 64 14.8 414 94	- Vinyl emulsion paint on	ш2	75	6.7	503	44.4	3,330	746	T6.9.3
Dox, box, 150mm x T25mm m 10 36.9 369 241.7 2,417 545 150mm x T25mm 150mm x (250) 36.9 36.9 36.9 241.7 545 545 150mm x T25mm 1 2 36.9 36.9 241.7 2,417 545 16d accessories m2 111 25.9 2,875 170.0 18,870 4,252 including m2 111 25.9 2,875 170.0 18,870 4,252 sent and accessories m2 75 24.9 1,868 163.7 12,278 2,764 set mand accessories m2 75 24.9 1,048 12,773 6,874 1,550 cincluding base m2 28 10.48 14.8 414 94	asbestos cement sheet surface								
box, m 10 36.9 369 241.7 2,417 545 150mm x T25mm 150mm x T25mm 150mm x T25mm 2,417 2,417 545 150mm x T25mm 1 2,59 369 241.7 2,417 545 including m2 111 25.9 2,875 170.0 18,870 4,252 istem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 et sheet including base m2 75 24.9 1,868 163.7 12,278 2,764 et including base m2 54 19.4 1,048 12,73 6,874 1,550 . se, H=100mm m2 28 6,87 1,550 2,764	9) Carpentry and joinery work								
150mm x T25mn 150mm x 725mn ried accessories 1 including m2 111 25.9 2,875 170.0 18,870 4,252 tern and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stern and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stern and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stern and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stern and accessories m2 75 24.9 1,868 163.7 12,73 6,874 1,550 . eicluding base m2 28 23 64 14,8 414 94 . cement motar 23 64 14,8 414 94	- Wooden blind box,	ш	10		369	241.7	2,417	545	T6.10.2
ired accessories m2 111 25.9 2,875 170.0 18,870 4,252 stem and accessories m2 111 25.9 2,875 170.0 18,870 4,252 stem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 stem and accessories m2 54 19.4 1,048 127.3 6,874 1,550 . e including base m2 28 2.3 64 14.8 414 94	W200mm x H150mm x T25mm								
including m2 111 25.9 2,875 170.0 18,870 4,252 stem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 ent sheet including m2 75 24.9 1,868 163.7 12,278 2,764 stem and accessories m2 75 24.9 1,868 163.7 12,278 2,764 eincluding base m2 54 19.4 1,048 127.3 6,874 1,550 . m2 m2 28 2.3 64 14.8 414 94	including required accessories								
m2 111 25.9 2,875 170.0 18,870 4,252 ss m2 75 24.9 1,868 163.7 12,278 2,764 ss m2 75 24.9 1,868 163.7 12,278 2,764 ss m2 54 19.4 1,048 127.3 6,874 1,550 m2 28 2.3 64 1,4.8 414 94	10) Finishing work								
s m2 75 24.9 1,868 163.7 12,278 2,764 s m2 54 19.4 1,048 127.3 6,874 1,550 m2 28 2.3 64 14.8 414 94	- Rockwool tile including	m2	111		2,875	170.0	18,870	4,252	T6.11.3
m2 75 24.9 1,868 163.1 12,218 2,104 m2 54 19.4 1,048 127.3 6,874 1,550 m2 28 2.3 64 14.8 414 94	suspension system and accessories		1						
mes m2 54 19.4 1,048 127.3 6,874 1,550 m2 28 2.3 64 14.8 414 94	- Asbestos cement sheet including	m2	51		1,868	165.7	17,218	7'107	6.11.01
m2 28 2.3 64 14.8 414 94	suspension system and accessories - Viruel floor rile including base	сш 2	<u>5</u> 2		1 (148	127.3	6.874	1.550	T6.11.3
m2 28 2.3 64 14.8 414 94	cement mortar		•						
including base sement mostar	- Vinyl strip base, H=100mm	m2	28		22	14.8	414	94	T6.11.3
	including base cement mortar								

M.	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
IVD.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
11) Doors and windorws								
- Wooden door leaves and frames	m2	15	134.3	2,015	879.8	13,197	2,978	T6.12.2
including louvers, hardware and								
accessories								
- Steel door leaves and frames	m2	16	119.9	1,918	786.0	12,576	2,836	T6.13.5
including hardware, accessories								
and calking to outside perimeter								
- Aluminium doors and frames	m2	4	383.5	1,534	2,515.3	10,061	2,268	T6.14.3
including hardware, accessories								
and calking to outside perimeter								
- Aluminium windows and frames	m2	35	287.7	10,070	1,886.5	66,028	14,890	T6.14.3
including hardware, accessories								
and calking to outside perimeter								
- Jalousie windows and frames	m2	12	287.7	3,452	1,886.5	22,638	5,104	T6.14.3
including hardware, accessories								
and calking to outside perimeter								
- Steel window and frames including	m2	ŝ	230.2	1,151	1,509.2	7,546	1,702	T6.13.5
hardware, accessories								
12) Glazing work								
- Plate glass 3mm thick including	m2	41	16.9	693	109.4	4,485	1,020	T6.15.3
glazing bead								Ē
- Plate glass 5mm thick including	ш2	Ś	28.8	144	188.2	941	213	6.61.01
glazing bead					1			
- Plate wire glass 6.8mm thick	ш2	9	39.0	351	255.9	2,303	915	5.61.01
including glazing bead	¢				1766	<i>103</i>		TK 15 2
- Figured glass 4mm thick including	71	4	7.61 1		C(71	700	1,4	C.CI.UI

Item Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
13) Miscellaneous metal work						100		T 1 6 3
- Roof drain, cast iron made,	оп		8 36.0	288	235.6	C88,I	4.20	C-01-01
100mm dia.				001	0 112	2 (1) 2	189	T6163
- Steel pipe handrail, 50mm dia.	E		c./c 8	400	K110	C70°C	100	
including balusters		Ŧ		001	L 00	CVC 1	719	T6163
 Stainless steel nosing w/non-slip 	E	÷.	14 1.5.4	100	1.00	1,272		
Tubber Mod social	E	Ŷ	36.0	2.124	235.8	13,912	3,139	T6.16.3
- INICIAL CUPITIS	ł	ł						
14) Miscellaneous work								
- PVC downspout, 100mm dia.	E	ŝ	30 18.2	546	119.3	3,579	807	6.11.01
including accessories								C L1 71
- Kitchen sink unit in kitchen	ou		1 287.7		1,886.5	1,887	470	C./ 1.01
- Cupboard unit in kitchen	ou		1 95.9		628.8	629	142	10.17.3
- Vinyl curtain for lavatory	ло		1 33.5	34	220.3	220	50	16.17.3
including accessories						ļ		
- Wood bench	ou		1 23.9	24	157.6	861	θ£	C./ I.0I
Subtotal of item /01				139,390	·	1,025,831	214,270	

Item Work	Unit	Quantity	Foregin Currency (US\$)	ency (US\$)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
/02 Building service works								
 Plumbing works 								
i) Water supply								
- Galvanized steel pipe Ø50	E	700		19,740	185.2	129,640	29,203	T6.21.2
- Galvanized steel pipe Ø25	н	13			102.8	1,336	302	T6.21.2
- Galvanized steel pipe Ø20	н	52		640	80.8	4,202	947	T6.21.2
- Gate valve ø50	C3	-			382.9	383	86	T6.21.2
- Gate valve Ø25	ea	1		23	148.7	149	34	T6.21.2
- Gate valve Ø20	ea	1			116.0	116	26	T6.21.2
- Valve casing	ca	61			565.9	1,132	256	T6.21.2
- Insulation for pipe Ø25	В	8			75.5	604	136	T6.21.2
- Insulation for pipe Ø20	н	26			72.3	1,880	423	T6.21.2
- Anticorrosive tape for pipe \$50	н	700		8,750	81.7	57,190	12,924	T6.21.2
- Anticorrosive tape for pipe Ø25	Ħ	Ŷ	5 8.2	41	53.4	267	60	T6.21.2
- Anticorrosive tape for pipe Ø20	H	28	3 7.4	207	48.7	1,364	307	T6.21.2
- Painting to exposed pipe \$25	Е	8	3 5.0	40	33.0	264	59	T6.21.2
- Painting to exposed pipe ø20	ш	26	5 4.7	122	30.5	793	180	T6.21.2
ii) Drainage and sewerage								
- P.V.C. pipe ø100	E	31			220.7	6,842	1,544	T6.21.2
- P.V.C. pipe Ø75	E	25		628	164.7	4,118	929	T6.21.2
- P.V.C. pipe \$65	н	33			132.4	3,045	687	T6.21.2
- P.V.C. pipe \$50	H	18			102.8	1,850	418	T6.21.2
- P.V.C. pipe ø40	Ħ	4	12.1		79.2	317	11	T6.21.2
- P.V.C. pipe Ø20	ш	ς			46.2	139	31	T6.21.2
- Floor drain \$50	8	(1			398.3	L6L	179	T6.21.2
- Pipe cleanout ø100	3	7		99	430.7	431	16	T6.21.2
- Pine cleanout all	ą	-					Q	0 10 Ju

Item	Work	Unit	Quantity	Foregin Cui	Foregin Currency (US\$)	Local Currency (Rs)	ncy (Rs)	Total	Ref. Clause
No.				Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
	- Pipe cleanout \$65	ca	1	47.2	2 47	309.4		70	T6.21.2
	- Vent cap. ø50	ea	1	35	5 36	232.6	233	53	T6.21.2
	4	set	4	1 239.7	5	1,571.9	9	1,418	T6.21.2
	w/concrete cover								
	- Cesspool 450 x 450	sct	2	335.6	671	2,200.7	4,401	992	T6.21.2
	w/iron cover								
Î	iii) Plumbing fixture								
	- Water closet w/cistern tank	set	Π	551.8	.8 552	3,618.6		816	T6.21.2
	- Urinal, wall hung w/flush valve	set	[421.4	4 421	2,763.4	2,763	623	T6.21.2
	- Lavatory sink, wall hung w/faucet,	set	[238.8	.8 239	1,565.6		353	T6.21.2
	stop valve and mirror								
	- Service sink, floor mounted	set	-	451.6	.6 452	2,961.5	2,962	668	T6.21.2
	w/faucet								
	- shower set w/wall mounted head	Set		92.8	.8 93	608.3	608	137	T6.21.2
	and stop valve								
	- Swing faucet	ca	-	23.5	5 24	154.0	154	35	T6.21.2
į,	iv) Septic tank								
	 Factory fabricated septic tank, 	set		l 1,917.8	.8 1,918	12,575.3	12,575	2,836	T6.21.2
	complete, capacity 16 persons								
	w/blower								
	- Submerged drain pump 50 l/min.,	set		2 316.4	.4 633	2,074.9	4,150	936	T6.21.2
	w/controls								
	- Thrain nume nit	64	·	10.7	012 0	0 4 4 7	212 8	1 020	C FC VE

Unit Price Amount Unit Price Amount Equivalent (USS) Acconditioning and ventilation Systems et 2 2.728.11 5,456 11/888.4 35.717 8.067 mix. 5,600 kcal/hour x.1.080 m3/hour wix. 600 kcal/hour x.1.080 m3/hour et 1 2,483.6 16.285.0 16.285 3.673 wix. 600 kcal/hour x.1.080 m3/hour et 1 2,483.6 2.081 13.644.2 13.644 3.071 mix. 4.500 kcal/hour x.1080 m3/hour et 1 2,483.6 2.081 13.644.2 13.644 3.071 wix. 4.600 kcal/hour x.000 m3/hour et 1 2,080.8 2.081 13.644.2 13.644 3.071 wix. 4.600 kcal/hour x.000 m3/hour et 1 2.080.8 2.081 1.065 7.92 1.967 wix. 4.600 kcal/hour x.000 m3/hour et 1 2.080.8 1.405 2.811 6.44 wix. 4.600 kcal/hour x.000 m3/hour et 1 2.922 2.912 9.90 wix. 4.600 kcal/hour x.000 m3/hour <t< th=""><th>Item</th><th>Work</th><th>Unit</th><th>Quantity</th><th>Foregin Currency (US\$)</th><th>ency (US\$)</th><th>Local Currency (Rs)</th><th>cy (Rs)</th><th>Total</th><th>Ket. Clause</th></t<>	Item	Work	Unit	Quantity	Foregin Currency (US\$)	ency (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ket. Clause
set 2 2.728.1 5,456 17,888.4 35,777 set 1 2,483.6 2,484 16,285.0 16,285 set 1 2,483.6 2,484 16,285.0 16,285 set 1 2,080.8 2,081 13,644.2 13,644 set 2 214.3 429 1,405.3 2,811 set 2 214.3 429 1,405.3 2,811 m 35 38.4 1,344 251.5 8,803 m 35 38.4 1,344 251.5 8,803 m 21 12.1 169 792 1,109 m 20 9.6 192 62.9 1,258 m 20 9.6 192 62.9 1,258 m 20 9.6 192 62.9 1,258 f 12.1 169 792 1,109 m 20 9.6 192.670 1,258 f 12.2 192.670 1,276 1,258 f 192.670 1,375.187 349,356	N0.				Unit Price	Amount	Unit Price	Amount	Equivalent (USS)	or Sub-clause
ut set 2 $2,723.1$ $0.62.5$ $16,285.0$ $16,285.0$ $16,285.5$ set 1 2,483.16 2,484 $16,285.0$ $16,285.5$ $16,285.5$ set 1 2,483.16 2,484 $16,285.5$ $16,285.5$ $16,285.5$ set 1 2,081 $13,644.2$ $13,644.2$ $13,644.2$ $13,644.2$ set 2 2,14.3 4.29 $1,405.3$ $2,811$ set 2 2,14.3 4.29 $1,405.3$ $2,811$ m 35 3,84 $1,344$ 251.5 $8,803$ m 35 3,84 $1,344$ 251.5 $8,803$ m 12 12.1 169 79.2 1109 m 20 $9,56$ 192 62.9 1129 5762 m 20 $9,56$ 192 62.9 1129 5762 m 20 $9,56$ $192,670$ $1375,187$ $349,3556$	2) Air	conditioning and ventilation systems						ברר שנ	LYU B	T6 71 7
set 1 $2,433.6$ $2,434$ $16,285.0$ $16,285$ set 1 2,080.8 2,081 $13,644.2$ $13,644.2$ $13,644.2$ set 1 2,080.8 2,081 $13,644.2$ $13,644.2$ $13,644.2$ set 2 2 $1,21.3$ 429 $1,405.3$ $2,811$ set 2 $2,14.3$ 429 $1,405.3$ $2,811$ m 35 38.4 $1,344$ 251.5 $8,803$ m 35 38.4 $1,344$ 251.5 $8,803$ m 12 29.2 350 191.8 $2,302$ m 14 12.1 169 792 $1,109$ m 20 9.6 192 62.9 $1,258$ 53.280 53.280 5349.356 5349.356 53.280 53260 $1,92,670$ $1,375,187$	Ч - ТП	<pre>irconditioner, cassette type room iit, 5,690 kcal/hour x1,080 m3/hour</pre>	set				11,888.4	111,00	0°,00	
set 1 $2,483.6$ $2,483.6$ $2,484$ $10,255.0$ $13,644.2$ $13,646.2$ $2,801.2$ $2,801.2$ $2,801.2$ $2,801.2$ $2,902.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,302.2$ $2,30.2.2$ $2,30.2.2$ $2,3$	Ň	/condensing unit						200.71	1 672	TK 21.2
set 1 2,080.8 2,081 13,644.2 13,644.2 set 2 2,14.3 429 1,405.3 2,811 set 2 2,14.3 429 1,405.3 2,811 m 35 38.4 1,344 251.5 8,803 m 12 29.2 350 191.8 2,302 m 12 29.2 350 191.8 2,302 m 12 29.2 350 191.8 2,302 m 12 18.7 879 122.6 5,762 m 14 12.1 169 792 1,109 m 20 9.6 192 62.9 1,258 53,280 53,280 349,356 53,262 1,258 53,280 53,280 1,32,60 1,375,187 1,375,187	Υ-	urconditioner, cassette type room	Set		1 2,483.6		16,285.0	C87,01	c/0°c	7-17-01
set 1 2,080.8 2,081 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 13,644.2 2,811 2,911 2,811 2,912 2,811 2,912 2,811 2,912 2,813 2,912 2	IN	nit, 4,460 kcal/hour x 960 m3/hour								
set 1 2,080.8 2,081 1,5,044.4 1,5,044.4 set 2 214.3 429 1,405.3 2,811 m 35 38.4 1,344 251.5 8,803 m 35 38.4 1,344 251.5 8,803 m 12 29.2 350 191.8 2,302 m 12 29.2 350 191.8 2,302 m 14 12.1 169 79.2 1,109 m 20 9.6 192 62.9 1,258 m 20 9.6 192 62.9 1,258 f 12.1 169 79.2 1,258 f 12.1 192 62.9 1,258 f 12.2.6 5,762 1,109 1,258 f 12.2.6 79.2.51 1,258 1,258 f 20 9.56 192 62.9 1,258 f 192,670 1,375,187 1,375,187 1,375,187	M	/condensing unit						777 CI	2 077	TK 21 2
3fhour set 2 214.3 429 1,405.3 2,811 5.9 m 35 38.4 1,344 251.5 8,803 2.31 2.7 m 12 2.92 350 191.8 2.302 4.4 m 47 18.7 879 122.6 5,762 5.762 1.109 1.4 12.1 169 779.2 1,109 1.258 5.762 m 20 9.6 192 62.9 1,258 5.762 1.309 1.358 5.762 1.309 1.358 5.762 1.309 1.358 5.762 1.309 1.358 5.762 1.309 1.375,187 5.5 192,670 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.375,187 5.5 192,570 1.355,187 5.5 192,570 5.5 192,5	- A	virconditioner, cassette type room	set		1 2,080.8		13,044.2	110,01	110.0	111101
set 2 214.3 429 1,405.3 2,811 5.9 m 35 38.4 1,344 251.5 8,803 2.7 m 12 29.2 350 191.8 2,302 3.7 m 47 18.7 879 122.6 5,762 3.6 m 14 12.1 169 79.2 1,109 3.6 m 20 9.6 192 62.9 1,258 3.903 349356 1,326 349356 1,375,187 349,356	a	nit, 3,040 kcal/hour x 900 m3/hour								
Set 2 214.3 429 1,405.3 2,811 5.9 m 35 38.4 1,344 251.5 8,803 2.7 m 12 29.2 350 191.8 2,302 4 m 4.7 18.7 879 122.6 5,762 4 m 14 12.1 169 79.2 1,109 4 m 20 9.6 192 62.9 1,258 5.925 m 20 9.6 192 62.9 1,258 600 m 20 9.6 192 62.9 1,258 610 m 20 9.6 192 63.9 1,258 623 m 20 9.6 192 63.9 1,258 633,3456 53,280 349,356 349,356 1,375,187	W	//condensing unit								с 10 УТ
59 m 35 38.4 1,344 251.5 8.803 2.7 m 12 29.2 350 191.8 2.302 4 m 47 18.7 879 122.6 5,762 4 m 14 12.1 169 79.2 1,109 1. ø40 m 20 9.6 192 62.9 1,258 2. ø25 m 20 9.6 192 62.9 1,258 349,356 53,280 349,356 1,375,187 1,375,187	щ	ixhaust propeller fan, ø250	set				1,405.3	2,811	634	7.17.01
m 35 38.4 1,344 251.5 8,803 m 12 29.2 350 191.8 2,302 m 47 18.7 879 122.6 5,762 m 20 9.6 192 62.9 1,109 m 20 9.6 192 62.9 1,258 1,109 m 349,356 53,280 349,356	M	vall mounted, 900 m3/h								
m 12 29.2 350 191.8 2.302 m 47 18.7 879 122.6 5.762 m 20 9.6 192 62.9 1.258 m 20 9.6 192 62.9 1.258 1.109 1.258 53,280 349,356 192,670 1.375,187	24	tefringerant corper tube. Ø15.9	E	ς.		-	251.5	8,803		71701
m 47 18.7 879 122.6 5.762 m 14 12.1 169 79.2 1.109 m 20 9.6 192 62.9 1.258 53,280 349,356 349,356 192,670 1,375,187	. α	Petrinoerant conver tube 612.7	E	-			191.8	2,302		T6.21.2
m 14 12.1 169 79.2 1,109 m 20 9.6 192 62.9 1,258 53,280 349,356 192,670 1,375,187	4 F		E	4			122.6	5,762		T6.21.2
m 20 9.6 192 629 1.258 m 20 9.6 192 629 1.258 53,280 349,356 192,670 1.375,187	5			-			70 7	1,109		T6.21.2
m 20 0.5 10 5.0 10. 10. 10. 10. 10. 10. 10. 10. 10. 1	-	Condensed water pipe, P.V.C. Ø40	H	Π			4.			с тс 7 <u>т</u>
53,280 349,356 192,670 1,375,187		Condensed water pipe, P.V.C. ø25	E	7			62.9	1,258	.284	7.17.01
53,280 349,356 192,670 1,375,187	,		1	I						
53,280 349,356 192,670 1,375,187										
192,670 1,375,187	ť	strong of item (1)				53,280		349,356		
	ĀĔ	otal of item 11				192,670		1,375,187		

I2 Gate (Work	Unit	Quantity	Foregin Currency (USA) Unit Price Amoun	ncy (US\$) Amount	Local Currency (KS) Unit Price Amo	Amount	Equivalent (US\$)	or Sub-clause
4 4 1	Gate Control House								
/01 Build	/01 Building works								
1) Earthwork	work	m3	31		267	44.6	1,383	368	T6.2
- EXC	- Excavation Doctfill	9 fi	21	3.1	65	22.2	466 86	66	T6.2
- Dáckum - Dísposal - Gravel b	- backlin - Disposal - Gravel bedding	E E	10 10		31 145	22.2 202.0	222 2,020	47 292	T6.2 T6.2
2) Conc	2) Concrete work		i		966 9	152	75 (101	7.206	T6.3
- Cor	- Concrete Class A for structure	ш3 г	1/	1.01 1	47 42	258.2		. 13	T6.3
- Col	- Concrete Class F	ម	- - -		2.841	276.8	58	7,124	T6.3
- For	- Form F1	711	175		6.715	189.0		11,833	T6.3
- For - Rei	- Form F3 - Reinforcing bar	kg	8,520		6,816	5.3		10,112	T6.3
3) Bitu - 3 pi	 Biturninous waterproofing work 3 ply built-up asphalt roofing 	m2	105	5 17.3	1,817	113.0	11,865	2,683	T6.5.5
4) Plasi	4) Plastering work								Τ Κ 8 5
Ba Ba	- Cement mortar plaster on floor - Base cement mortar plaster 20mm	ш 2ш	109	9 8.6 5 6.7	937	20.0 44.4	0,109 4 4,662	1,044	T6.8.5
, this	thick for bituminous waterproofing - Cement mortar plaster to	m2	196	6 17.7	3,469	116.3	3 22,795	5,133	T6.8.5

.

Item Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	cy (Rs)	Total	Kei. Ciause
			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
5) Painting work					ļ	ļ		6 0 9 E
- Oil paint to metal surface	щ 2	10		72	47.4	4/4	10/	0.4.01
- Vinyl emulsion paint on cement	m2	563	6.2	3,491	41.3	23,252	5,188	T6.9.3
mortar								
6) Doors and windows								
- Aluminium windows and frames	m2	6	287.7	2,589	1,886.5	16,979	3,828	10.14.3
including hardware, accessories								
and calking to outside perimeter								3 L I J I
- Steel windows and frames	m2		2 230.2	460	1,509.2	3,018	680	0.61.01
including hardware, accessories								
and calking to outside perimeter								
7) Glazing work								
- Plate glass 3mm thick	m2	10	0 16.9	169	109.4	1,094	249	T6.15.3
including glazing bead								
8) Miscellaneous metal work								e v E
- Roof drain, cast iron made,	оп		2 36.0	72	235.6	471	901	10.10.3
100mm dia.								T I I I
- Metal coping	E	4	43 36.0	1,548	235.6	0	7	C-01-01
- Succession book #16	OU		3 28.8	86	188.2	565	127	T6.16.3

ltem Work No.	Unit	Quantity <u>F</u>	Foregin Currency (USS) Unit Price Amoun	ncy (US\$) Amount	Local Currency (Rs) Unit Price Amo	icy (Rs) Amount	Total Equivalent (US\$)	Ref. Clause or Sub-clause
 9) Miscellaneous work - P. V.C. downspout, 100mm dia. including accessories 	E		18.2	200	119.3	1,312	296	T6.17.3
Subtotal of item /01				37,923		306,184	60,269	
Total of item I2				37,923		306,184		

Item Work	Unit	Quantity	Foregin Currency (US\$)	ncy (US\$)	Local Currency (Rs)	icy (Rs)	Total	Ref. Clause
No.			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
13 Inspection Shaft Entrance House								
/01 Building work								
1) Concrete work								
- Concrete, Class A for structure	m3	7		530	353.4	2,474	711	T6.3
- Form F1	m2	47		630	276.8	13,010	1,580	T6.3
- Form F3	m2	20	21.8	436	226.8	4,536	767	T6.3
- Reinforcing bar	kg	950		760	5.3	5,035	1,128	T6.3
 Masonry work Concrete block wall, 200 mm thick including filling cement mortar and with wire lath 	ш2	35	54.2	1,897	355.3	12,436	2,805	T6.4.2
3) Plastering work								
- Cement mortar plaster to interior wall	ш2	43	3 17.7	191	116.3	5,001	1,126	T6.8.5
- Waterproof cement plaster on roof	т2	24		169	188.2	4,517	1,021	T6.8.5
- Cement mortar plaster to exterior wall	m2	63	3 18.7	1,178	122.4	7,711	1,741	T6.8.5
- Waterproof cement plaster to roof parapet	Ш2	10	0 28.8	288	188.2	1,882	. 425	T6.8.5
4) Painting work								
 Oil paint to metal surface Vinyl emulsion paint on cement 	E E	274 63	4 7.2 3 6.2	1,973 391	47.4 41.3	12,988 2,602	2,921 581	T6.9.3 T6.9.3
mortar								

No. 5) Doors and windows - Steel door leaves and frames including hardware, accessories and calking to outside perimeter								
 5) Doors and windows - Steel door leaves and frames including hardware, accessories and calking to outside perimeter 			Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
 Steel door leaves and frames including hardware, accessories and calking to outside perimeter 								L C F
calking to outside perimeter	2 0	4	119.9	480	786.0	3,144	60/	C.E1.01
- Jalousie windows and frames	m2	3	287.7	863	1,886.5	5,660	1,276	T6.13.5
including hardware, accessories and								
calking to outside perimeter								
6) Glazing work								
- Plate wire glass 6.8 mm thick	m2	ŝ	39.0	117	255.9	768	173	T6.13.5
including glazing bead								
7) Miscellaneous metal work								
- Steel ladder including steel checkered	kg	4,900	1.5	7,350	9.2	45,080	10,641	T6.16.3
plate 6 mm thick, base plate, anchor								
bolt, base mortar and accessories								
8) Misceilaneous work								
- Steel pipe hardrail, 40 mm dia.	E	28	46.0	1,288	303.0	8,484	1,907	T6.17.3
including balusters								
- Suspension hook ø16	ou	1	28.8	29	188.2	188	7	10.1/.3
- P.V.C. downspout, 75 mm dia.,	ОЦ	7	2.4	5	14.3	29	L	T6.17.3
L=250 mm								
Subtotal of item A01				19,667		135,545	29,562	
Total of item 13				19.667		135.545	29,562	
CF 11:41 TO 120 F								

4	No.		funiten?	Unit Price	Unit Price Amount	Unit Price Amo	Amount	Equivalent (US\$)	or Sub-clause
	Inspection Gallery including Inspection Tunnel	nnel							
10/	Ventilation works								
	- O.A. intake fan, axial flow fan	set	1	2,330.0	0 2,330	15,260.0	15,260	3,444	T6.21.2
	ø700 x 9,720 m3/hour x 45mm Aq * 2 2 vW with concrete base								
	A Z.Z. K.W. WILL COLUCION ONCO - Exhaust fan, axial flow fan	Set	1	2,330.0	0 2,330	15,260.0	15,260	3,444	T6.21.2
	\$700 x 9,720 m3/hour x 45mm Aq								
	- Air chamber 1.200 x 1,000 x 600	3	2	260.0	0 520	1,700.0	3,400	768	T6.21.2
	(galvanized steel sheet)								
	- O.A. intake louver 1,200 x 1,000	C3	2	2 583.0	.0 1,166	ñ	L	,	16.21.2
	- Painting of air chamber	m2	~			95.0	760	5/1	10.9.3
					<i>A A66</i>		068 64	9.555	
	Subtotal of item /01				5-1-C		0.4.04.94		
	Tatal af items Id				6,466		42,320	9,555	

Item	Work	Unit	Quantity For	Foregin Currency (US\$)	ry (US\$)	Local Currency (Rs)	cy (Rs)	Total	Kel. Clause
No.			'	Unit Price	Amount	Unit Price	Amount	Equivalent (US\$)	or Sub-clause
10	15 Grout Tunnel								
/01	Ventilation works (No.1 grout turnel) - O.A. intake fan, axial flow fan ø400 x 2.900m3/hour x 20mm Aq	set	9 04	0.009	906	5,400.0	5,400	1,294	T6.21.2
	x 0.35 kW - Spiral duct ø400	Ш	85	43.2	3,672	300.0	25,500	5,533	T6.21.2
	(Galvanized steel sheet) - O.A. intake louver 500 x 600 - Painting to duct	ea m2	2 120	300.0 15.0	600 1,800	1,910.0 95.0	3,820 11,400	879 2,632	T6.21.2 T6.9.3
	Subtotal of item /01				6,972		46,120	10,338	
/02	Ventilation works (No.2 grout tunnel) - O.A. intake fan, axial flow fan ø700 x 8,200m3/hour x 50mm Aq	set	-	2,300.0	2,300	15,200.0	15,200	3,409	T6.21.2
	x 2.2 kW w/concrete base - Spiral duct ø700	ш	425	75.2	31,960	520.0	221,000	48,091	T6.21.2
	(Galvanized steel sheet) - O.A. intake louver 800 x 1,000 - Painting to duct	ca m2	2 950	390.0 15.0	780 14,250	2,550.0 95.0	5,100 90,250	1,152 20,838	T6.21.2 T6.9.3
	Subtotal of item 102				49,290		331,550	73,490	
	Total of item 15				56,262		377,670	83,828	
	TOTAL OF ITEM I				312,988		2,236,906	476,263	

Amount Unit Price Amount Equivalent (103) 9 6,213 161.7 92,169 12,941 1 259,140 2,519.3 3,527,020 516,587 4 55,104 332.3 319,008 78,389 5 319,008 78,389 78,389 320,43 332.3 319,008 78,389 320,457 332,33 319,008 78,389	Item	Work	Unit	Quantity	Foregin Currency (US\$)	ency (US\$)	Local Currency (Rs)	cy (Rs)	Total	Ref. Clause
REPAIR FOR EXISTING MUNICIPAL DIKE Boulder backfilling n3 570 0.09 6.213 16.17 92,169 12.941 Providing of concrete blocks n3 1,400 185.1 2.91,40 2.519.3 3.527,020 516.587 Roman gouting n 960 57.4 55.104 332.3 319.005 78.39 Cennen gouting n 960 57.4 55.104 332.3 319.005 78.39 Control and soluting n 960 57.4 55.104 332.3 319.005 78.39	<u>, 0</u> ,				Unit Price	Amount	Unit Price	Amount	Equivalent (USS)	01 Sub-ciause
m3 570 109 6,213 161.7 92,169 12,941 m3 1,400 185.1 259,140 2,519.3 3,527,020 516,587 m 960 57.4 55,104 332.3 319,008 78,389 m 960 57.4 55,104 332.3 319,008 78,389		REPAIR FOR EXISTING MUP	NICIPAL DI	E						
Ind Jou Out Out Out Out Out Ind 1,400 185.1 259,140 2,519.3 3,5270.00 516,587 In 960 57.4 55,104 332.3 319,008 78,389			ې ا	Ę		6 713	7 191		12.941	T2.7.6
m3 1,400 185.1 259,140 2.519.3 3.527,020 516.587 m 960 57.4 55,104 332.3 319,008 78,389 m 960 57.4 55,104 332.3 319,006 78,389 m 960 57.4 55,104 332.3 319,006 78,389	5	Boulder backfilling	Ê	ñ		C1740				
п. 960 574 55,104 3323 319,008 78.389 7889 78.389 78.389 789 78.389 78.389 78.389 78.389 78.389 78.389 789	2	Providing of concrete blocks	m3	1,40		259,140	2,519.3		516,587	T4.1.18
320,457 3,938,197	33	Cement grouting	E	96			332.3	319,008	78,389	T3.12.9
320,457 3,938,197										
320,457 3,938,197										
		TOTAL OF ITEM J				320,457		3,938,197	607,917	