社会開発調査部報告書

SULTANATE OF OMAN

MINISTRY OF COMMUNICATIONS
DIRECTORATE GENERAL OF ROADS

CONSTRUCTION OF
FLYOVER
AT
AQR
BATINAH HIGHWAY

TENDER DOCUMENTS

BILL OF QUANTITIES

PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

March, 1997

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O.	Unit Rate Bz	Amount R.O.	Amount Bz
	SECTION 100 PRELIMINARIES						
	101 Bonds and Insurance						
101.1	Performance Bond (Clause 10 of Standard Conditions of Contract)	lump sum					
101.2	Insurance of the Works (Clause 21 of Standard Conditions of Contract)	lump sum					
101.3	Damage to Persons and Property (Clause 22 of Standard Condition of Contract)	lump sum					
101.4	Third Party Insurance (Clause 23 of Standard Conditions of Contract)	lump sum					
101.5	Accident or injury to Workmen (Clause 24 of Standard Condition of Contract)	lump sum					
		1-1		Carried to summary		44250.000	

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	104 Facilities for the Engineer				
104.1	Provision of Engineer's office (Type A, 1 unit x 24)	month	24	250.000	6000.000
104.2	Maintenance of Engineer's office (Type A, 1 unit x 24)	month	24	150.000	3600.000
104.3	Provision of surveying instruments	month	22	300.000	6600.000
104.4	Maintenance of surveying instruments	month	22	150.000	3300.000
104.5	Provision of Engineer's accommodation				
	(i) Resident Engineer's accommodation (Type B, 2 unit)	month	46	250.000	11500.000
	(ii) Engineer's accommodation (Type C, 4 units)	month	90	150.000	13500.000
	(iv) Dining/Kitchen (Type D, 1 unit x 22)	month	22	250.000	5500.000
		1-2		Carried to summary	50000.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
104.6	Maintenance of Engineer's accommodation				
	(i) Resident Engineer's accommodation (Type B, 2 unit)	month	46	150.000	6900.000
	(ii) Engineer's accommodation (Type C, 4 unit)	month	90	250.000	22500.000
	(iv) Dining/Kitchen (Type D, 1 unit x 22)	month	22	250.000	5500.000
104.7	Provision of laboratory	month	22	400.000	8800.000
104.8	Maintenance of laboratory	month	22	150.000	3300.000
104.10	In situ soil bearing capacity tests	n.r.	20	20.000	400.000
104.11	Sub-soil investigation by specialist Contractor	prov. sum		8,000.000	8000.000
		1-3		Carried to summary	55400.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	105 Assistance for Engineer				
105.1	Laborers to assist the Engineer (no x months)	man month	N/A		
	106 Contractor's Compound				
106.1	Mobilization and demobilization of Contractor's facility	lump sum			100000.000
106.2	Maintenance of Contractor's facility	month	22	5,000.000	110000.000
	107 Maintenance and Protection of Traffic				
107.1	Maintenance and protection of traffic	lump sum			100000.000
107.2	Extra over item 107.1 for supply and compaction of subbase on diversions where ordered by the Engineer (10 cm. thick)	cu. m.			
107.3	Extra over item 107.1 for supply and compaction of bituminous basecourse on diversions where ordered by the Engineer (3 cm. thick)	cu. m.			
		1-4		Carried to summary	310000.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	108 Progress Photographs				
108.1	Provision of negatives and 5 sets of photographs (14 photos max.) (Mountable-Size 100 x 150 mm.)	month	22	30.000	660.000
	109 Sign Boards				
109.1	Provision, erection, moving and maintenance of signboard (Wooden Type)	n.r.	2	300.000	600.000
	110 Commemoration Plaque and Opening Ceremony				
110.1	Supply and erection of commemoration plaque (Optional)	n.r.	1	Option	
110.2	Opening ceremony (Optional)	lump sum			
		1-5		Carried to summary	1260.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	115 Compliance with the Tender Documents				
115.1	Allow for all costs and expense for complying with all the conditions and requirements stipulated in the Tender Documents, including all Clause of the Standard Conditions of Contract, which the Tenderer considers have financial implications on his tender and which are not covered separately in the various pay items of the Bill of Quantities				
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
	Clause No ----------	lump sum			
		1-6		Carried to summary	

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 1 - PRELIMINARIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 1-1				44250.000
	Page 1-2				50000.000
	Page 1-3				55400.000
	Page 1-4				310000.000
	Page 1-5				1260.000
	Page 1-6				0.000
		1-7		To Ground Summary	460910.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 2 - EARTHWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	200 EARTHWORKS				
	201 Clearing and Grubbing				
201.1	Removal and delivery of trees of 300mm trunk diameter or greater	n.r.	61	15.000	915.000
	202 Removal of Structures and Obstructions				
202.1	Removal of existing building (Shop, etc)	n.r.	1	200.000	200.000
202.2	Removal of misc. reinforced concrete structures	cu. m.	35	5.000	175.000
202.3	Removal of pipe culvert (D=0.6,0.75,0.9)	lin.m.	N/A		
202.4	Removal of asphaltic concrete pavement (100 mm thick)	cu. m.	4680	2.000	9360.000
202.5	Removal of damaged steel safety barrier (Gurdrails)	lin.m.	1058	1.800	1904.400
		2-1		Carried to summary	12554.400

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 2 - EARTHWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
202.6	Remove carefully and relocate sign boards and road signs (size)	n.r.	45	3.500	157.500
202.7	Removal of damaged Irish crossing marker posts	n.r.	N/A		
202.8	Removal of damaged drainage protection works (gabions, conc. tiles, mortared riprap, dry rip rap)	cu. m.	N/A		
202.9	Removal of existing fences (wire mesh, chicken wire)	lin.m.	N/A		
202.10	Removal of existing fences (block or masonry wall)	lin.m.	N/A		
202.11	Removal of existing box culvert (2 x 1 m)	lin.m.	96	5.000	480.000
202.12	Removal of existing interlocking tiles	sq. m	N/A		
202.13	Removal of existing crush stone	lin.m.	N/A		
202.14	Removal of existing plain concrete	cu. m.	6	2.000	12.000
202.15	Removal of Curb Stone	m	N/A		
		2-2		Carried to summary	649.500

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 2 - EARTHWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	203 Earthworks Excavation				
203.1	Suitable excavation to embankment	cu. m.	14344	0.600	8606.400
203.2	Suitable excavation to waste	cu. m.	3571	0.300	1071.300
203.3	Unsuitable excavation to waste	cu. m.	N/A		
203.4	Borrow excavation to embankment	cu. m.	175546	1.500	263319.000
203.5	Extra over item 203.1 ,2, 3 for excavation under water	cu. m.	N/A		
	206 Excavation and Backfilling for Structures				
206.1	Structure excavation in soils to a depth of 2m	cu. m.	2517	1.000	2517.000
206.2	Structure excavation in soils to a depth more than 2m	cu. m.	N/A	1.700	
		2-3		Carried to summary	275513.700

CONSTRUCTION OF FLYOVER AT
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BILL OF QUANTITIES
BILL 2 - EARTHWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 2-1				12554.400
	Page 2-2				649.500
	Page 2-3				275513.700
		2-4		To Grand Summary	288717.600

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 3 - GRANULAR AND STABILIZED SUBBASE, BASE COURSE, STABILIZED SUBGRADE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	300 GRANULAR AND STABILIZED SUBBASE, BASECOURSE AND STABILIZED SUBGRADE				
	302 Granular Subbase				
302.1	Granular subbase (class B) (150 mm thick)	cu. m.	N/A		
	303 Aggregate Basecourse				
303.1	Aggregate basecourse (class B) (300 mm thick)	cu. m.	N/A		
303.2	Aggregate basecourse (class B) (250 mm thick)	cu. m.	N/A		
303.3	Aggregate basecourse (class B) (200 mm thick)	cu. m.	8611	3.300	28416.300
303.4	Aggregate basecourse (class B) (150 mm thick)	cu. m.	1427	3.000	4281.000
		3-1		Carried to summary	32697.300

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 3 - GRANULAR AND STABILIZED SUBBASE, BASE COURSE, STABILIZED SUBGRADE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 3-1				32697.300
		3-2		Carried to summary	32697.300

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 4 - BITUMINOUS PAVEMENT

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	400 BITUMINOUS PAVEMENT				
	401 Bituminous Prime Coat and Tack Coat				
401.1	Bituminous prime coat (MC 70)	kg	54010	0.250	13502.500
401.2	Bituminous tack coat (RC 250)	kg	11599	0.300	3479.700
	402 Bituminous Basecourse				
402.1	Bituminous basecourse (class B) 50 mm.thick	cu. m.	479	22.000	10538.000
402.2	Bituminous basecourse (class B) 70 mm.thick	cu.m	2958	24.000	70992.000
402.3	Bituminous basecourse (class B) 100 mm.thick	cu.m.	614	28.000	17192.000
402.4	Increse or decrese in bituminous content from nominal rate	kg	rate only	0.050	
		4-1		Carried to summary	115704.200

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 4 - BITUMINOUS PAVEMENT

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	405 Bituminous Wearing Course				
405.1	Bituminous wearing course (class B) (50 mm thick)	cu. m.	4017	28.000	112476.000
405.2	Increase or decrease in bitumen content from nominal rate	kg	rate only	0.050	
		4-2		Carried to summary	112476.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 4 - BITUMINOUS PAVEMENT

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 4-1				112476.000
	Page 4-2				
		4-3		Carried to summary	112476.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 5 - CONCRETE AND CONCRETE STRUCTURE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O.	Unit Rate Bz	Amount R.O.	Amount Bz
	500 CONCRETE AND CONCRETE STRUCTURE						
	504 Concrete for Structure						
504.1	Concrete Class 16/20 (OPC cement) Blinding, Gravity Wall	cu. m.	2171	30.000		65130.000	
504.2	Concrete Class A 24/20 for retaining wall, abutment and piers (OPC cement)	cu.m	9089	35.000		318115.000	
504.3	Concrete Class 32/20 for bridge deck. cross beam and joint	cu.m	N/A				
504.4	Cast-in-Situ Concrete Class 24/20 for bridge deck for cantilever	cu.m	N/A				
		5-1		Carried to summary		383245.000	

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 5 - CONCRETE AND CONCRETE STRUCTURE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	506 Prestressed Concrete for Bridge				
506.1	Cast in place, pre-stressed, bridge beam, reinforced concrete class AA40 including all reinforcement, tendons, tension cable strands, approved anchorage points "Freyssinet" system or equal and approved, sheaths, de-watering, pipes grouting in accordance with manufacturers recommendations, all complete and as detailed on tender drawings				
	a) 3 span continuous P.S box girder 1 box 2 cells 90 m long	n.r..	8	90,000.000	720000.000
		5-2		Carried to summary	720000.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 5 - CONCRETE AND CONCRETE STRUCTURE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	509 Reinforcing Steel				
509.1	High yield steel bar reinforcement of any diameter	tone	741	285.000	211185.000
509.2	Mild steel bar reinforcement of any diameter	tone	N/A		
509.3	Mesh reinforcement of any size	tone	N/A		
		5-3		Carried to summary	211185.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 5 - CONCRETE AND CONCRETE STRUCTURE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 5-1				383245.000
	Page 5-2				720000.000
	Page 5-3				211185.000
		5-4		Carried to summary	1314430.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 6 - STRUCTURAL STEEL AND OTHER METALWORK

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	600 STRUCTURAL STEEL AND OTHER METALWORK				
	603 Bridge Parapets				
603.1	Bridge Handrails (Aluminum) (H=500 mm)	lin.m.	1443	45.000	64935.000
		6-1		Carried to summary	64935.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 6 - STRUCTURAL STEEL AND OTHER METALWORK

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 6-1				64935.000
		6-2		Carried to summary	64935.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 8 - DRAINAGE AND SERVICE DUCTE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	800 DRAINAGE AND SERVICE DUCTS				
	801 Pipe Culverts				
801.1	Reinforced concrete pipe culvert (600 mm. dia.)	lin.m	100	35.000	3500.000
801.2	Reinforced concrete pipe culvert (750 mm. dia.)	lin.m	9	45.000	405.000
	802 Reinforced Concrete Box Culverts, Box Culverts and Pipe Culverts Headwalls, Wingwalls and Aprons (SRP cement)				
802.1	Concrete (Class 28/20), Box Culverts, Box Culverts and Pipe Culverts Headwalls, Wingwalls, Wingwalls and Aprons (SRP Cement), all complete and as detailed on drawings				
802.1.1	Box culvert 2 x 1 m 1 cell	lin.m	15	60.000	900.000
802.1.2	Box culvert 2 x 1 m 2 cell	lin.m	94	110.000	10340.000
802.1.3	Box culvert 2 x 1 m 3 cell	lin.m	5	150.000	750.000
802.1.4	Box culvert 4.5 x 5 m 2 cell	lin.m	35	1,400.000	49000.000
		8-1		Carried to summary	64895.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 8 - DRAINAGE AND SERVICE DUCTE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	804 Catch Basins, Catch Pits, Manholes, Curb Inlets, Ditch Inlets and Outlets				
	Reinforced concrete catch pit comprising excavation, backfilling, disposal, 100 mm thick plain in-situ sulphate resisting concrete class (12/20) blinding, concrete class (24/20) for structure, all complete and as detailed on drawing				
804.1	Catch Pits 1 x 1 x 2 m	nr	4	180.000	720.000
	Reinforcewd concrete gullies comprising excavation, backfilling, disposal, 150 mm bed and walls of reinforces sulphate resisting concrete class (24/20) all complete and as detailed on drawings				
804.2	Gullies 300 x 300 mm	lin m	613	25.000	15325.000
		8-2		Carried to summary	16045.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 8 - DRAINAGE AND SERVICE DUCTE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	805 Water proofing for structure				
805.1	Waterproofing membrane	sq.m.	N/A		
805.2	Mastic asphalt waterproofing	sq.m.	N/A		
805.3	Bituminous paint	sq.m.	3000	0.350	1050.000
	807 Service Ducts				
807.1	Service duct (A.C. 150 mm dia. -1 way with concrete surround), including duct markers	lin.m.	N/A		
807.1.1	Service duct (A.C. 150 mm dia. -2 way with concrete surround), including duct markers	lin.m.	172	4.000	688.000
807.2	Extra over for excavation in rock for service ducte	cu.m.	N/A		
		8-3		Carried to summary	1738.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 8 - DRAINAGE AND SERVICE DUCTE

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 8-1				64895.000
	Page 8-2				16045.000
	Page 8-3				1738.000
		8-4		Carried to summary	82678.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 9 - SLOPE PROTECTION AND STABILISATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	900 SLOPE PLOTECTION AND STABILISATION				
	901 Riprap				
901.2	Mortared stone riprap (Class A), in Irish Crossing	cu.m.	N/A		
901.2.1	Mortared stone riprap (Class A), other than Irish Crossing	cu.m.	262	16.000	4192.000
		9-1		Carried to summary	4192.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 9 - SLOPE PROTECTION AND STABILISATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 9-1				4192.000
		9-2		Carried to summary	4192.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 11 - BRIDGE BEARIBGS, EXPANSION JOINT, JOINTS SEAL AND FILLERS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1100 BRIDGE BEARINGS, EXPANSION JOINT, JOINTS SEALS AND FILLERS				
	1101 Bridge Bearings				
1101.1	Synthetic Rubber Shoe 660 x 760 x 135 mm including anchor bar, cap, filler reinforcing bar, spiral bar and shrinkage mortar	n.r.	96	95.000	9120.000
	1102 Bridge Expansion Joints				
1102.1	Bridge expansion joint Movement Range W=100 mm	m	34	280.000	9520.000
1102.1.1	Bridge expansion joint Movement Range W=200 mm	m	50	380.000	19000.000
		11-1		To Grand Summary	37640.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 11 - BRIDGE BEARIBGS, EXPANSION JOINT, JOINTS SEAL AND FILLERS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 11-1				37640.000
		11-2		To Grand Summary	37640.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 12 - SIDEWALKS, PAVED AREAS AND CURBS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1200 SIDE WALKS, PAVED AREAS AND CURBS				
	1201 Sidewalks				
1201.1	Interlocking Block Pavement including granular Basecourse 150 mm thick	sq. m	972	4.000	3888.000
	1202 Curbs				
	All curbs are hydraulically pressed sulphate resisting concrete class A (45/20) geded jointed and pointed in 10 mm thick sand cement grout, including all necessary excavation, backfill, dispose, formwork and all necessary works for complete				
1202.1.1	Curb 100 x 200 (mountable)	lin.m	445	3.500	1557.500
1202.1.2	Curb 150 x 350 (mountable)	lin.m	80	5.000	400.000
1202.1.3	Curb 150 x 350 (none mountable)	lin.m	1722	4.000	6888.000
		12-1		Carried to summary	12733.500

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 12 - SIDEWALKS, PAVED AREAS AND CURBS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 12-1				12733.500
		12-2		Carried to summary	12733.500

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 13 - SAFETY BARRIERS, DELINEATORS AND FENCES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1300 SAFETY BARRIERS, DELINEATORS AND FENCE				
	1301 Corrugated Steel Beam Safety Barrier				
1301.1.1	Safety barrier beam (Type-A) including posts and end anchor	lin.m.	3562	12.000	42744.000
1301.1.2	Safety barrier beam (Type-C) including posts and end anchor	lin.m	4572	13.000	59436.000
	1302 Reflectorised Markers for Safety Barriers				
1303.1	Reflectorised markers attached to guardrail	n.r.	535	8.000	4280.000
1303.2	Reflectorised markers attached to concrete	n.r.	N/A		
		13-1		Carried to summary	106460.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 13 - SAFETY BARRIERS, DELINEATORS AND FENCES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 13-1				106460.000
		13-2		Carried to summary	106460.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 14 - HIGHWAY SIGNS AND ROAD MARKING

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1400 HIGHWAY SIGNS AND ROAD MARKING				
	1401 Highway Signs				
1401.1	Highway sign, triangular, size (900 mm)	n.r.	10	40.000	400.000
1401.2	Highway sign, circular, diameter (900 mm)	n.r.	10	50.000	500.000
1401.3.1	Highway sign, rectangular, (600 x 2400 mm)	n.r.	4	280.000	1120.000
1401.3.2	Highway sign, rectangular, (750 x 1400 mm)	n.r.	11	200.000	2200.000
1401.6.1	Overhead sign post and support assembring cantilever	n.r	4	2,000.000	8000.000
1401.6.2	Overhead sign post and support assembring gantry	n.r	2	10,000.000	20000.000
		14-1		Carried to summary	32220.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 14 - HIGHWAY SIGNS AND ROAD MARKING

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1402 Road Markings				
1402.1	Traffic lines (Mechanically sprayed)	sq. m	2432	1.500	3648.000
1402.2	Special markings (Hand sprayed)	sq. m	481	5.000	2405.000
1402.3	Curb painting (Black and yellow)	sq. m	552	1.600	883.200
1402.4	Reflecting road studs type red	n.r.	1060	4.500	4770.000
		14-2		Carried to summary	11706.200

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 14 - HIGHWAY SIGNS AND ROAD MARKING

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 14-1				32220.000
	Page 14-2				11706.200
		14-3		To Grand Summary	43926.200

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 15 - ELECTRICAL INSTALLATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1500 ELECTRICAL INSTALLATION				
	1502 Medium Voltage Switching Stations	prov sum			50000.000
1502.1	Medium Voltage Switching Stations	n.r.			
	1503 Package Sub-stations				
1503.1	Package sub-station	n.r.			
	1504 Package Medium Voltage Switching Stations				
1504.1	Packing medium voltage switching station	n.r.			
		15-1		Carried to summary	50000.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 15 - ELECTRICAL INSTALLATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1505 33kV and 11kV Pole Mounted Transformer Stations				
1505.1	33kV pole mounted transformer station	n.r.			
1505.2	11kV pole mounted transformer station	n.r.			
	1506 Feeder Pillars				
1506.1	Feeder pillar	n.r.			
	1507 Cables				
1507.1	Cable (type) (size)	lin.m.			
		15-2		Carried to summary	

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 15 - ELECTRICAL INSTALLATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1508 Road Lighting Masts and Column				
1508.1	High mast assembly (type) (height)	n.r.			
1508.2	Lighting columns (type) (number of arms) (Height)	n.r.			
	1509 Traffic Sign Illumination				
1509.1	Overhead sign lighting (gantry or cantilever ref no)	n.r.			
1509.2	Roadside sign lighting (sign ref no)	n.r.			
	1510 Recessed Lighting				
1510.1	Recessed lighting (type)	n.r.			
		15-3		Carried to summary	

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 15 - ELECTRICAL INSTALLATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1511 Traffic Signals				
1511.1	Traffic signal installation (location)	lump sum			
	1512 Earthing				
1512.1	Twin rod earthing installation (location)	n.r.			
1512.2	Single rod earthing installation (location)	n.r.			
		15-4		Carried to summary	

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 15 - ELECTRICAL INSTALLATION

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 15-1				
	Page 15-2				
	Page 15-3				
	Page 15-4				
	Provisional Sum	Prov Sum			50000.000
		15-5		To Grand Summary	50000.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 17 - UTULITIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	1700 UTILITIES				
	1701 Utilities	prov sum			50000.000
1701.1	Remove carefully and relocate low voltage electric poles, telephone poles, including removal of lines, excavation, backfilling amd other related works as directed by the Engineer	n.r.			
1701.1.1	Protect of existing utilities crossing the roadway as shown in Drawing, or as directed by the Engineer	lin.m.			
		17-1		Carried to summary	50000.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 17 - UTULITIES

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 17-1	Prov Sum			50000.000
		17-2		To Grand Summary	50000.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	A. WAGES				
	These include proper wages, all used allowance, medical expense and all other charges provided for by local laws				
A.1	Supervisor	hour	100	4.000	400.000
A.2	Site Surveyor	hour	1000	3.500	3500.000
A.3	Foreman	hour	480	3.200	1536.000
A.4	1st Class Operator	hour	480	1.100	528.000
A.5	2nd Class Operator	hour	100	0.950	95.000
A.6	Mechanic	hour	190	1.000	190.000
A.7	Driver	hour	480	1.000	480.000
A.8	Skilled Labour	hour	1000	0.650	650.000
A.9	Semi Skilled Labour	hour	1000	0.600	600.000
		19-1		Carried to Summary	7979.000

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
A.10	Ordinary Labour	hour	1000	0.550	550.000
A.11	Mason	hour	200	0.650	130.000
A.12	Painter	hour	100	0.750	75.000
A.13	Carpenter	hour	200	0.650	130.000
A.14	Steel Fitter	hour	100	0.650	65.000
A.15	Electrician	hour	20	0.850	17.000
		19-2		Carried to Summary	967.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	B. OPERATING EQUIPMENT ON SITE These rate include : fuel and lubricants cost, charges for depreciation interest, repairs, maintenance, spare parts, tyres, insurance, etc. Payment will not be made for mechanics or maintenance time which shall be include in and spread over the rates.				
B.1	Motorgrader from 100 hp up to 120 hp	hour	5	9.500	47.500
B.2	Motorgrader from 120 hp up to 150 hp	hour	11	11.500	126.500
B.3	Tractor from 60 to 100 hp	hour	5	4.000	20.000
B.4	Bulldozer with ripper from 100 hp to 150 hp	hour	5	7.000	35.000
B.5	Bulldozer with ripper from 150 hp to 200 hp	hour	7	8.000	56.000
B.6	Bulldozer with ripper from 200 hp to250 hp	hour	6	18.000	108.000
B.7	Bulldozer with ripper from 250 hp to 300 hp	hour	4	19.500	78.000
B.8	Wheel tractor up to 50 hp	hour	10	4.000	40.000
		19-3		Carried to Summary	511.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
B.9	Wheel tractor over 50 hp	hour	10	7.000	70.000
B.10	Motor scraper capacity up to 18 cu.m.	hour	10	19.000	190.000
B.11	Motor scraper capacity from 18 to 24 cu.m.	hour	10	19.000	190.000
B.12	Sheeps foot roller, from 5 tonnes to 10 tonnnes	hour	10	5.000	50.000
B.13	Grid roller	hour	4	7.000	28.000
B.14	Vibratory compactor with prime mover up to 5 tonnes	hour	4	5.000	20.000
B.15	Vibratory compactor with prime mover from 5 to 10 tonnes	hour	4	7.000	28.000
B.16	Pneumatic compactor with prime mover from 30 to 50 tonnes	hour	4	7.000	28.000
B.17	Pneumatic self-propelled rollers from 15 to 20 tonnes	hour	8	4.500	36.000
B.18	Tandem roller up to 8 tonnes	hour	24	4.500	108.000
B.19	Tandem roller from 8 to 12 tonnes	hour	8	5.000	40.000
		19-4		Carried to Summary	788.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
B.20	Triaxle roller from 10 to 15 tonnes	hour	24	5.000	120.000
B.21	Light frog- rammer 0.1 tonne	hour	20	0.500	10.000
B.22	Heavy frog-rammer 0.5 tonne	hour	20	0.700	14.000
B.23	Wheel loder 1.2 to 1.6 cu.m.	hour	20	9.500	190.000
B.24	Wheel loder 1.6 to 2.0 cu.m.	hour	20	10.000	200.000
B.25	Wheel loder 2.0 to 2.5 cu.m.	hour	20	11.000	220.000
B.26	Excavator up to 0.8 cu.m.	hour	15	5.500	82.500
B.27	Excavator from 0.8 to 1.2 cu.m.	hour	15	7.500	112.500
B.28	Bituminous mixing plant with batching apparatus up to 80 t/h.	hour	5	18.000	90.000
B.29	Bituminous mixing plant with batching apparatus from 80 to 150 t/h.	hour	5	23.000	115.000
B.30	Finisher up to 80 t/h.	hour	10	9.000	90.000
		19-5		Carried to Summary	1244.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
B.31	Finisher from 80 t/h to 120 t/h.	hour	10	10.000	100.000
B.32	Bitumen sprayer up to 6 tonnes	hour	10	5.000	50.000
B.33	Tanker truck up to 6 cu.m.	hour	15	5.000	75.000
B.34	Dump truck up to 10 tonnes	hour	17	5.500	93.500
B.35	Dump truck from 10 to 15 tonnes	hour	20	6.000	120.000
B.36	Screening plant from 80 to 100 t/h.	hour	5	16.000	80.000
B.37	Crushing plant from 40 to 60 t/h.	hour	5	20.000	100.000
B.38	Crushing plant with primary and secondary from 60 to 100 t/h.	hour	5	30.000	150.000
B.39	Air compressor up to 6000 l/m.	hour	15	1.500	22.500
B.40	Air compressor over 6000 l/m.	hour	15	2.000	30.000
B.41	Mechanical broom	hour	7	4.000	28.000
		19-6		Carried to Summary	849.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
B.42	Power water pump	hour	118	0.700	82.600
B.43	Steel cutting machine	hour	5	0.800	4.000
B.44	Steel bending machine	hour	5	1.200	6.000
B.45	Belt conveyor	hour	5	7.000	35.000
B.46	Concrete mixer up to 0.5 cu.m.	hour	10	2.000	20.000
B.47	Concrete mixer over 0.5 cu.m.	hour	12	4.000	48.000
B.48	Automatic concrete batch plant without mixing drum	hour	5	7.500	37.500
B.49	Transmixer up to 5 cu.m.	hour	10	6.500	65.000
B.50	Concrete vibrators	hour	59	0.150	8.850
B.51	Crane up to 5 tonnes.	hour	9	4.500	40.500
B.52	Crane with broom and jib 5 to 10 tonnes	hour	7	8.000	56.000
		19-7		Carried to Summary	403.450

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
B.53	Crane with boom and jib over 10 tonnes	hour	7	11.000	77.000
B.54	Generator 60 kw	hour	5	1.500	7.500
B.55	Generator 75 kw	hour	5	1.800	9.000
B.56	Drilling equipment	hour	5	0.200	1.000
B.57	Generator 100 kw	hour	5	3.000	15.000
B.58	Generator 150 kw	hour	5	4.000	20.000
B.59	Generator 200 kw	hour	5	5.000	25.000
B.60	Gravel strewer	hour	5	10.000	50.000
		19-8		Carried to Summary	204.500

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	C. MATERIALS These rates include all the charges for the supply of the materials, loading, transport to site, unloading and stores as well as all the charges provided for in the General and Special Specifications and in the Contract.				
C.1	Aggregate for granular sub-base course in accordance with the General and Special Specifications, in place as specified.	cu.m.	50	1.000	50.000
C.2	Aggregate for granular aggregate base course in accordance with the Gener Special Specifications, in place as specified.	cu.m.	25	2.000	50.000
C.3	Aggregate for bituminous base course in accordance with the General and Special Specifications, near the asphalt plant, in bulk	cu.m.	50	2.000	100.000
C.4	Fine aggregate for concrete, in accordance with the General and Special Specifications, in place, in bulk	cu.m.	25	2.000	50.000
C.5	Coarse aggregates for concrete, in accordance with the General and Special specifications, in place, in bulk	cu.m.	50	1.200	60.000
		19-9		Carried to Summary	310.000

CONSTRUCTION OF FLYOVER AT
AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
C.6	Stone for drainage, masonry and slope protection, in accordance with the General and Special Specifications in place	cu.m.	25	2.500	62.500
C.7	Asphalt cement, grade 60-70 on site	ton	1	44.000	44.000
C.8	Asphalt cement, grade 50-60 on site	ton	1	48.000	48.000
C.9	Emulsified asphalt, grade RS-1 on site	ton	1	70.000	70.000
C.10	Cutback asphalt, MC and RC type on site	ton	1	75.000	75.000
C.11	Portland cement on site	ton	1	25.000	25.000
C.12	Deformed billet steel bars, AASHTO M 31 grade 60 (High Yield) of any diameter	ton	1	135.000	135.000
C.13	Deformed billet steel bars AASHTO M 31 grade 40 (Mild) of any diameter	ton	1	135.000	135.000
C.14	Highway signs	sq.m.	3	32.000	96.000
C.15	Highway sign supports - 1 post	nr.	4	15.000	60.000
		19-10		Carried to Summary	750.500

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
C.16	Highway sign supports - 2 post	nr.	2	20.000	40.000
C.17	Timber plank, on site	cu.m.	2	105.000	210.000
C.18	Timber props, on site	cu.m.	2	105.000	210.000
C.19	Wire mesh gabgions, on site	ton	0.5	320.000	160.000
C.20	Explosive, on site	kg.	5	20.000	100.000
C.21	Gas oil, on site	litre	100	0.080	8.000
C.22	Gasoline, on site	litre	500	0.120	60.000
C.23	Lubricant	kg.	5	0.300	1.500
		19-11		Carried to Summary	789.500

CONSTRUCTION OF FLYOVER AT AQR
BILL OF QUANTITIES
BILL 19 - DAYWORKS

Item No	Description	Unit	Estimated Quantity	Unit Rate R.O. Bz	Amount R.O. Bz
	SUMMARY				
	Page 19-1				7979.000
	Page 19-2				967.000
	Page 19-3				511.000
	Page 19-4				788.000
	Page 19-5				1244.000
	Page 19-6				849.000
	Page 19-7				403.450
	Page 19-8				204.500
	Page 19-9				310.000
	Page 19-10				750.500
	Page 19-11				789.500
		19-12		To Grand Summary	14795.950

BILL OF QUANTITIES

GRAND SUMMARY

Bill No	Description	Amount R.O.
1	Preliminaries	460910.000
2	Earthworks	288717.600
3	Granular and stabilized subbase, basecourse and stabilized subgrade	32697.300
4	Bituminous Pavement	112476.000
5	Concrete and concrete structure	1314430.000
6	Structural steel and other metal work	64935.000
7	Paint	N/A
8	Drainage and service ducts	82678.000
9	Slope protection and stabilization	4192.000
10	Piling	N/A
11	Bridge bearing, expansion joints, joint seals and fillers	37640.000
12	Sidewalks, paved areas and kerbs	12733.500
13	Safety barriers, delineators and fences	106460.000
14	Highway signs and road marking	43926.200
15	Electrical installations	50000.000
16	Landscape and irrigation	N/A
17	Utilities	50000.000
18	Plant and Equipment	N/A
19	Dayworks	14795.950
	Sub-total	2676591.550
	Contingencies (10%)	267659.155
	TOTAL CONTRACT VALUE (R.O)	2944250.705

(IN WORDS, THE TOTAL TENDER VALUE IS RIAL OMANI)

NAME OF TENDERER DATE

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SIGNATURE OF TENDERER
