

BAGHDAD MAYORALTY REQUIREMENTS FOR WATER AND SEWAGE WORK
EXTENSION NO. 6

SECTION NO.	ITEM	QTY.	END USER	DEP.OR ACTIVITY
SECTION 1	DIFFERENT MATERIALS & EQUIPMENTS FOR SEWAGE WORK		6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-1	SEWAGE PUMPS , DIFFERENT TYPE AND SIZE	200	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-2	MOTORS	280	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-3	GEAR BOX	45	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-4	ELECTRICAL MATERIALS	LUMP	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-5	TRANSFORMERS	21	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-6	BOLBERINGS	1942	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-7	MATERIALS FOR MECHANICAL MENTENANCE	LUMP	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-8	GENERATORS	40	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-9	WEEL POINT SYSTEM	20	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-10	SUBMERCIBLE PUMPS	109	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-11	COMPRESSORS	9	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 1-13	VENTELATORS FOR PUMPING STATIONS	500	6.5 MILLION PERSON	SEWAGE. WORK
SECTION 2	DIFFERENT MATERIALS & EQUIPMENTS FOR WATER TREATMENT PLANTS&WATER NETWORK		4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-1	PUMPS , DIFFERE TYPE & SIZE	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-2	SPAIR PARTS FOR WATER TREATMENT PLANTS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-3	VALVES	242	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-4	ELECTRICAL MATERIALS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-5	LABORTORY MATERIALS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-6	ALUMENUM SOLPHATE	8000 TON	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-7	CLORINE GAS AND CYLENDERS	1500 TON	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-8	POLY ELECTROLIGHT	120 TON	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-9	PIPES , DIFFERENT SIZE AND DIAMETERS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-9-1	PVC PIPES AND FITTINGS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-9-2	DUCTILE PIPES AND FITTINGS	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-10	COMPUTERS, PRINTERS,UPS,CD	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 2-11	CONTROL OF WATER LOSSES IN THE WATER SYSTEM OF BAGHDAD	LUMP	4.5 MILLION PERSON	WATER SUPPLY ADMINISTRATION
SECTION 3	MACHINARY & EQUIPMENTS		6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-1	GARBAGE COLLECTING VEHICAL	300	6.5 MILLION PERSON	MUNICIPALITY SURVICES

SECTION 3-2	STREET SWEEPERS	10	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-3	JETTING VEHICALS	20	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-4	CESSPIT EMPTIER	15	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-5	EXCAVATORS	19	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-6	WATER TANKERS	20	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-7	SHOVELS FOR NETWORKS MAINTENANCE (WHEEL LOAFDER)	45	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-8	TIPPERS	50	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-9	GRADERS	30	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-10	CRAWLER DOZER	18	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-11	ROLLERS	32	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-12	TRACTORS	30	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-13	PORTABLE WATER PUMPS DIESEL OPERATED	30	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-14	FIELD VEHICLES	125	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-15	WHEEL STREET PAVERS	4	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-16	ASPHALT HOT RECYCLERS	1	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-17	CONCRETE MIXING TRUCK	25	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-18	POWER CURBER MACHINE	4	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-19	ASPALT PLANT	2	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-20	STREET MAINTENANCE TRUCK	20	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-21	CRANE EQUIPPED TRUCK	20	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-22	TIERS	90	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-23	LOW LOADERS	6	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-24	HTYDRAULIC TRUCK CRANE	8	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-25	DIESEL WELDING MACHINE	6	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-26	CRUSHERS	LUMP	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-27	ROAD MARKING MACHINE	8	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-28	LEAKAGE TREATMENT MATERIALS	1000 KG	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-29	COLD MILLING MACHINES	4	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-30	TRAFFIC ENGINEERING PROGRAMS	LUMP	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-31	EPOXY	1500 KG	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-32	LEAKAGE TREATMENT EQUIPMENTS	4	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-33	GUARD RAIL MAINTENANCE MOBIL WORKSHOP	2	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-34	GUARD RAILS	25 KM	6.5 MILLION PERSON	MUNICIPALITY SURVICES

SECTION 3-35	TRAFFIC LIGHTS REQUIRMENTS	LUMP	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 3-36	CONCRETE PATCHING PLANT	3	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-37	CONCRETE PUMP TRUCK	2	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-38	CONCRETE CASTING MACHINE FOR WALK WAYS PAVING MATERIALS	6	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-39	HYDRAULIC CLAMPS MACHINE FOR LIFTING CONCRETE PAVING UNITS	4	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION3-40	SMALL CONCRETE LOADERS	6	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 4	SPAIR PARTS FOR MACHINARY	LUMP	6.5 MILLION PERSON	MUNICIPALITY SURVICES
SECTION 5	ALL ITEMS NOT CLEARED IN MOU4, MOU5	LUMP	6.5 MILLION PERSON	MUNICIPALITY SURVICES , WATER & SEWAGE

**SECTION 1- SEWAGE PUMPS, DIFFERENT SIZE & TYPE
VERTICAL PUMPS**

CODE	POWER	HEAD M	FLOW L/S	SPEED R.P.M	VOLT. V	PUMP QTY
03-01-00001	45	12	250	725	380	15
03-01-00002	30	12	140	725	=	15
03-01-00003	90	12	500	585	=	10
03-01-00004	160	12	1000	735	=	10
03-01-00005	30	7	120	955	=	20
03-01-00006	240	12.7	1500	590	=	3
03-01-00007	37	140	140	725	=	3
03-01-00008	90	10	500	735	=	3
03-01-00009	50	7	300	720	=	3
03-01-00010	27	7	110	720	=	5
03-01-00011	45	7	300	725	=	5
03-01-00012		10	504	720	=	8
03-01-00013		12	540	690	=	6
03-01-00014		12	630	950	=	6
03-01-00015		10	1800	720	=	3
03-01-00016		12	80	960	=	3
03-01-00017	75		585			3
03-01-00018	30		500 GPM	1430		20
03-01-00019	11		60	960		3
03-01-00020	37		195	710		3
03-01-00021	55	10.3	3000GPM	980		3
03-01-00022	110	9.8	6000GPM	980		2
03-01-00023	3.5	7	25	920		24
03-01-00024	7.5	7.6	38	975		5
03-01-00025	22	8	170	720		5
03-01-00026	11.5	7.6	57	975		5
03-01-00027	30	7	125	715		3
03-01-00028		6.25	19	940		3
03-01-00029		11.9	100	725		1
03-01-00030		10.55	250	725		1
03-01-00031		11.55	500	580		1
03-01-00032		11.55	1000	725		1
03-01-00033		10	150	715		1

CENTRIFUGAL PUMPS

CODE	DESCRIPTION	POWER	HEAD M	FLOW L/S	SPEED R.P.M	VOLT. V	PUMP QTY
03-01-00034	SUCTION FLANG:DN150-PN16 DISCHARGE FLANG:DN125-PN16 DELIVERY HIGHT: 60M SUCTION HIGHT: 4M			95 CUM/H	1450		3
03-01-00035	SUCTION FLANG:DN 80 DISCHARGE FLANG:DN 65 DELIVERY HIGHT: 33.5M			65 CUM/H	1450		2

SECTION 1-2- SEWAGE MOTORS, DIFFERENT SIZE & TYPE

CODE	POWER	TYPE	SPEED R.P.M	VOLT. V	PUMP QTY
03-01-00036	5.5		1460	380	21
03-01-00037	110		970	380	4
03-01-00038	400		585	380	6
03-01-00039	450		585	380	10
03-01-00040	75		585	380	3
03-01-00041	37		710	380	3
03-01-00042	11		960	380	3
03-01-00043	30	SLIPERING, FLANGED MOUNTED	1430	380	20
03-01-00044	55	SLIPERINGVERTICAL,FLANGED MOUNTED	980	=	3
03-01-00045	110	SLIPERINGVERTICAL,FLANGED MOUNTED	980	=	2
03-01-00046	30	SLIPERINGVERTICAL,FLANGED MOUNTED	1430	=	20
03-01-00047	30		715	=	1
03-01-00048	45		715	=	1
03-01-00049	90		580	=	1
03-01-00050	160		725	=	1
03-01-00051	35		730	=	1
03-01-00052	30		720	=	19
03-01-00053	22		720	=	3
03-01-00054	110	SLIPRING , VERTICAL	725	=	1
03-01-00055	55	=	960	=	2
03-01-00056	30	=	1430	=	1
03-01-00057	30	INDUCTION , HOREZENTAL	=	2	
03-01-00058	18.5	= VERTICAL	1455	=	5
03-01-00059	18.5	= HORIZONTAL	1455	=	3
03-01-00060	1.5	INDUCTION, HOREZENTAL	1500	380	2
03-01-00061	1.5	INDUCTION , VERTICAL	1500	=	2
03-01-00062	3	INDUCTION, HOREZENTAL	1420	=	2
03-01-00063	0.37	INDUCTION, HOREZENTAL	680	=	15
03-01-00064	30	SLIPRING,VERTICAL	575	=	4
03-01-00065	30	SLIPRING,VERTICAL	720	=	4
03-01-00066	30	SLIPRING,VERTICAL	955	=	4
03-01-00067	22	SLIPRING,VERTICAL	705	=	4
03-01-00068	37	SLIPRING,VERTICAL	720	=	10
03-01-00069	2.2	INDUCTION, HORIZONTAL	720	=	30
03-01-00070	0.55	VERTICAL	1420	=	10
03-01-00071	7.5	=	960	=	10
03-01-00072	11	=	960	=	4
03-01-00073	30	SLIPRING , VERTICAL	1440	=	4
03-01-00074	45	VERTICAL	725	=	2

03-01-00075	30	=	955	=	5
03-01-00076	30	=	710	=	1
03-01-00077	50	=	720	=	3
03-01-00078	37	=	725	=	3
03-01-00079	11.5	=	975	=	3
03-01-00080	7.5	=	975	=	3
03-01-00081	3.7	=	950	=	3
03-01-00082	3	=	940	=	15
03-01-00083	22	=	720	=	21
03-01-00084	30	=	720	=	3
03-01-00085	30	=	950	=	4
03-01-00086	37	=	950	=	6
03-01-00087	90	=	720	=	2
03-01-00088	11	=	960	=	3

1-3 : GEARBOXES

CODE NO.	FOR SURFACE AERATION ,TYPE: RNG36 –AN-50 , POWER : 164-114 KW(PN) SPEED: OUT PUT SHAFT. 30RPM AT SPEED 1485 RPM, 20RPM AT SPEED 485 RPM , MANUF: HANSEN ,	3
03-01-00089	FOR SCROW PUMP , 7200 CUBM/H , MANUF: HANSEN , POWER PLUS RDK 31, RATIO - 50.811:1, OUT LINE DRAWING NO. 97RDK , 31 ANY 501	8
03-01-00090	TYPE HC20526 , RDER 1.5 KW , REDUCTION : 1440/20.5 RPM	2
03-01-00091	WITH COUPLING , TYPE: NC 36 AN, POWER : 18.5 KW, SPEED : 1455/74/19.5 RPM	5
03-01-00092	FOR FLYGT , ARCHAMEDIAS SCROW PUMP , REDU.TYP 2H26, SPEED: 1230/40 RPM	6
03-01-00093	WITH FLEX. COUPLING FLEXACIER , NO.OF SEQ:2 , LENGTH OF SEQ: 115.9 MM , THICKNESS : 4.06 MM , WIDTH: 91.3MM , PITCH NO. : 1.48	30
03-01-00094	DAVID BROWN , TYPE: QHTH, RATIO: 31.45/1	2
03-01-00095	DAVID BROWN , TYPE: QHD 335 , RATIO: 21.53/1	2
03-01-00096	COMPLETE , EQUIPED WITH MOTOR TYPE MK6/MK2 , REDUCTION : 1/3000	10
03-01-00097	FOR SCREW PUMP, MANUF: HANSEN HT1. TYPE: POWER PLUS RDH31, ASSEMBLY: ANY, RATIO: 49.899:1, OUTLINE DRAWING NR. 97RDH 31ANY - 504	7

1-4: ELECTRICAL MATERIALS

1-4-1: CONTECTORS:

CODE NO.	DESCRIPTION	QTY.
03-01-00098	27 AMP	12
03-01-00099	160 AMP.	9
03-01-00100	150 AMP.	30
03-01-00101	90 AMP.	55
03-01-00102	60 AMP.	70
03-01-00103	12 AMP.	12
03-01-00104	400 AMP.	20
03-01-00105	300 AMP.	12
03-01-00106	80 AMP.	40
03-01-00107	55 AMP.	30
03-01-00108	630 AMP.	6
03-01-00109	1000 AMP	20
03-01-00110	350 AMP	50
03-01-00111	250 AMP	75
03-01-00112	200 AMP	78
03-01-00113	100 AMP	126
03-01-00114	75 AMP	60
03-01-00115	50 AMP	104
03-01-00116	25 AMP	117
03-01-00117	180 AMP	40
03-01-00118	40 AMP	70
03-01-00119	CUBIC VACUUM CONNECTOR , GEC 3.3KV, 400A, TYPE VB 3AD 400B	4

1-4-2 : OVERLOADS

CODE NO.	DESCRIPTION	QTY.
03-01-00120	200-400 A	100
03-01-00121	160-250 A	8
03-01-00122	95-160 A	14
03-01-00123	45-70 A	50
03-01-00124	32-60 A	84
03-01-00125	25-40 A	35
03-01-00126	20-32 A	121
03-01-00127	17-29 A	11
03-01-00128	15-20 A	97
03-01-00129	6-9 A	43
03-01-00130	10-15 A	82
03-01-00131	2.5-4 A	10
03-01-00132	1.6-2.5 A	25
03-01-00133	1-1.6 A	25
03-01-00134	35-55 A	50
03-01-00135	25-45 A	50

1-4-3 : CIRCUIT BREAKER

CODE	DESCRIPTION	QTY.
03-01-00136	3PH, 0.16-0.25 A , SIEMENS-TYPE 3VE 1010 – 2C	50
03-01-00137	3PH, 1-1.6 A TELEMECHNIQU – TYPE GV1-MO6	50
03-01-00138	3PH, Ith2 3150A , U1 1000 V , T&M RELEASE Caloremag-vde 0660 iec 157-1	6
03-01-00139	3PH, 1250A, MERLIN GERIN- DRAWABLE	14
03-01-00140	3PH , 630A,MCCB-3-P	16
03-01-00141	3PH,400A, MCCB-3-P	6
03-01-00142	3PH,250A,MCCB-3-P	6
03-01-00143	800A	30
03-01-00144	400A	45
03-01-00145	1000A	2
03-01-00146	11KV/400A BBC HIGH TENTION	4
03-01-00147	160A	30
03-01-00148	100A	80
03-01-00149	60A	101
03-01-00150	40A	101
03-01-00151	30A	126
03-01-00152	10A	116
03-01-00153	250A	15
03-01-00154	150A	10
03-01-00155	63A	5
03-01-00156	50A	5
03-01-00157	25A	15
03-01-00158	20A	25
03-01-00159	2600A	2

1-4-5: DIFFERENT, ELECTRICAL MATERIALS

CODE	ITEM	QTY.
03-01-00160	HIGH TENSION FUSE , H.R.C 11KV-80A	20SET
03-01-00161	ELECTRICAL FLOAT WITH CONTROL PANEL	100
03-01-00162	CABLE 4X4 SQUARE MM	1000 M
03-01-00163	CABLE 4X10 SQUARE MM	1000M
03-01-00164	CABLE 4X50 SQUARE MM	1000M
03-01-00165	CABLE 4X25 SQUARE MM	1000M
03-01-00166	CABLE 4X16 SQUARE MM	1000M
03-01-00167	CABLE 4X6 SQUARE MM	1000M
03-01-00168	CABLE 4X2.5 SQUARE MM	1000M
03-01-00169	VOLTMETER	10
03-01-00170	CLAMP METER	10

1-5 : TRANSFORMERS

CODE	DESCRIPTION	QTY.
03-01-00171	1000KVA 11KV/400VOLT, TYPE NITR	2
03-01-00172	VOLTAGE TRANSFORMER 380-24 V	50

1-6: BOLBEARINGS

CODE	DESCRIPTION	QTY.
03-01-00173	6318	10
03-01-00174	6317	10
03-01-00175	QJM4	10
03-01-00176	6415	10
03-01-00177	8320	10
03-01-00178	NU 324	10
03-01-00179	6308	10
03-01-00180	1325K	10
03-01-00181	7321	10
03-01-00182	22330	10
03-01-00183	N228	10
03-01-00184	7330	70
03-01-00185	22122B	10
03-01-00186	6410	100
03-01-00187	1207	10
03-01-00188	RMS21	10
03-01-00189	MCDV 221	10
03-01-00190	6215	10
03-01-00191	6315	30
03-01-00192	NU 2222	10
03-01-00193	23122	10
03-01-00194	1209	10
03-01-00195	1216	10
03-01-00196	1217	10
03-01-00197	6208	10
03-01-00198	NU 321	10
03-01-00199	6321	10
03-01-00200	NU220	20
03-01-00201	6220	40
03-01-00202	22317	16
03-01-00203	6212 ZZ	30
03-01-00204	UC 210	20
03-01-00205	51110	30
03-01-00206	6319	160
03-01-00207	6313	60
03-01-00208	6310	40
03-01-00209	6416	16
03-01-00210	CRM24	30
03-01-00211	CRM 19	30
03-01-00212	22220	30
03-01-00213	228 NJ	10
03-01-00214	6411	30
03-01-00215	6311	30
03-01-00216	22330	10
03-01-00217	6207	20
03-01-00218	6308	20
03-01-00219	6309	20
03-01-00220	6318	10
03-01-00221	6218	10
03-01-00222	1215	10
03-01-00223	318	15
03-01-00224	7316	10
03-01-00225	222	10
03-01-00226	7320	20
03-01-00227	RMS 22	30
03-01-00228	RMS 24	30
03-01-00229	MJT2 314	20
03-01-00230	7318	30

03-01-00231	6320	30
03-01-00232	3612	30
03-01-00233	6312	30
03-01-00234	416 NU	50
03-01-00235	N 315	20
03-01-00236	32305	20
03-01-00237	32206	20
03-01-00238	22308	20
03-01-00239	32315	20
03-01-00240	6213	10
03-01-00241	6311	30
03-01-00242	N 312	30
03-01-00243	22217	20
03-01-00344	22311	20
03-01-00245	22309	20
03-01-00246	6217	20
03-01-00247	6216	20
03-01-00248	634	10
03-01-00249	7087	10
03-01-00250	11949	10
03-01-00251	48548	10
03-01-00252	7210	10
03-01-00253	7208	20
03-01-00254	6014	20
03-01-00255	3075	20
03-01-00256	NU 309	15
03-01-00257	NU 2211	15
03-01-00258	3209	15
03-01-00259	6205	10
03-01-00260	3205	10
03-01-00261	3315	10
03-01-00262	NU 2315	10
03-01-00263	NU 317	10
03-01-00264	319	10
03-01-00265	NU 320	10
03-01-00266	24	12
03-01-00267	24A	12

1-7 : MATERIALS FOR MECHANICAL USE

CODE NO.	DESCRIPTION	QTY.
	OIL SEAL	
03-01-00268	75X100X13	20
03-01-00269	130X160X13	20
03-01-00270	100X120X12	80
03-01-00271	32X52X8	40
03-01-00272	25X35X7	20
03-01-00273	20X62X45	50
03-01-00274	55X75X16	20
03-01-00275	100X125X12	20
03-01-00276	100X140X12	20
03-01-00277	160X170X12	10
03-01-00278	130X160X12	10
03-01-00279	V BELTS	
03-01-00280	2200X17	30
03-01-00281	3658X22	30
03-01-00282	2100X17	30
03-01-00283	750X13	30
03-01-00284	975X13	30
03-01-00285	2070X17	20
03-01-00286	1060X9.5	25
03-01-00287	1100X9.5	25
03-01-00288	1650X17	50
03-01-00289	1150X12	50
03-01-00290	SPC 2500X22	150
	PACKING	

03-01-00292	½ INCH	100KG
03-01-00293	1/4 INCH	100KG
03-01-00294	5/8 INCH	100KG
03-01-00295	¾ INCH	100KG
03-01-00296	1 INCH	100KG
03-01-00297	1 ½ INCH	50KG
03-01-00298	MULTIPLE STAGE PUMP GUINARD, TYPE: H400/400 HZ, OUT PUT: 6000 GPM	2
03-01-00299	MULTIPLE STAGE PUMP GUINARD, TYPE: H600/565 HZ, OUT PUT: 1200 GPM	2
	RUBBER LINED HOSE	
03-01-00300	2 INCH DIAMETER	500 M
03-01-00301	3 =	500 M
03-01-00302	4 =	1500 M
03-01-00303	6 =	1500 M
03-01-00304	8 =	1250 M
03-01-00305	10 =	500 M
	REINFORCED HOSE WITH FITTINGS	
03-01-00306	4 INCH DIAMETER	700M
03-01-00307	3 =	600M
03-01-00308	6 =	700M
03-01-00309	8 =	800M
03-01-00310	HIGH PRESSURE FLEXIBLE HOSE : 1- INCH DIAMETER, 80 M LONG OPERATING PRES: 200BAR	5000 M
03-01-00311	HIGH PRESSURE FLEXIBLE HOSE : ¾- INCH DIAMETER, 80 M LONG OPERATING PRES: 200BAR	2000 M
03-01-00312	CLEANING EQUIPMENT'S FOR CLEANING SCREENS : PROTECTION MASCK SAFETY BELT	50 SET
03-01-00313	CHAIN HOIST , HAND OPERATED	30
03-01-00314	SAFETY ROPES	2000M
03-01-00315	SAFETY BELTS	100
03-01-00316	WATER LEAKAGE DETECTOR	5
03-01-00317	METAL DETECTOR	15
03-01-00318	SEWAGE CLEANING ROADS , 1-1.5 LONG	150000
03-01-00319	CLEANING NOZZLES FOR JETTING VEHICALS BULLETHOSED NOZZEL WITH REARWARD FACING, ANGELD JETS TO GIVE SELF PROPULSION FOR GENERAL CLEANING PURPOSE ¾ INCH B.S.P THREAD 1 INCH B.S.P THREAD AS THE FIRST TYPE FOR BLOCKAGE CLEARENCE BUT HAVING AN ADDITIONAL FORWARD FACING JET: ¾ INCH B.S.P. THREAD 1 INCH B.S.P THREAD	30 30 20 20
03-01-00320	ROTTING TOOLS STANDARD CROCK SCREW 4 INCH DOUBLE CORKSCREW 3 INCH = 5 INCH FISHING TOOLS	60 30 30 40

1-8 GENERATORS

CODE NO.	DESCRIPTION	QTY
03-01-00321	1250 KVA, 3.3KV	1
03-01-00322	120 KVA	10
03-01-00323	60 KVA	15
03-01-00324	20 KVA	10

1-9 : WEEL POINT SYSTEM

CODE NO.	DESECRPTION	QTY.
03-01-00325	COMPLETE SET FOR UNDER GROUND WATER , SUTIBLE FOR 9M DEPTH , DIESEL AND ELECTRICALLY OPERATED , WITH ALL NESSARY FITTINGS	20 SET
03-01-00326	GETTING EQUIPMENT FOR WELL POINT SYSTEM	6

1-10: SUBMERCIBLE PUMPS , FOR SEWAGE USE

CODE NO.	DESECRPTION	QTY.
03-01-00327	SUBMERGIBLE PUMPS WITH THE FOLLOWING INSTALATION ACCESSORIES: DISCHARGE ELBOW WITH FLANGE- - FLANGED SLEEVE DISCHARGE HOSE WITH HOSE CLIPS (L HEAD) SKIRT BASE CHAIN WITH SHACKLE CONTROL PANNELS AND CONTROL SYSTEM CABLE TYPE STARTING : Y WET TRANSPORTABLE	
03-01-00328	3 INCH DIAMETER, DN: 80 SOLID SIZE: 70-80 MM H: 15-18 M Q: 15-20 L/S POWER TAKEN FROM MAIN: 8-12 KW POWER AT MOTOR SHFT: 5.5-7.5 KW RATED VOLTAGE : 380	30
03-01-00329	4 INCH DIAMETER, DN: 100MM SOLID SIZE: 90-110 MM H: 20-22 M Q: 40-60 L/S POWER TAKEN FROM MAIN: 16-18 KW POWER AT MOTOR SHFT:13-15 KW RATED VOLTAGE : 380	26
03-01-00330	6 INCH DIAMETER, DN: 150 SOLID SIZE: 90-110 MM H: 10-12 M Q: 60-80 L/S POWER TAKEN FROM MAIN: 16-18 KW POWER AT MOTOR SHFT:13-15 KW RATED VOLTAGE : 380	5
03-01-00331	8 INCH DIAMETER, DN: 200MM SOLID SIZE:90-110 MM H:10-12 M Q: 120-140 L/S POWER TAKEN FROM MAIN:24-26 KW POWER AT MOTOR SHFT:22-24 KW RATED VOLTAGE : 380	16
03-01-00332	10 INCH DIAMETER, DN: 250MM SOLID SIZE: 110-140 MM H: 10-12 M Q:180-220 L/S POWER TAKEN FROM MAIN:34-36 KW POWER AT MOTOR SHFT: 28-30 KW RATED VOLTAGE : 380	26

1-11: COMPRESSORS

CODE NO.	DESECRPTION	QTY.
03-01-00333	7 BAR T.M:1250, MAX SPEED 1000 RPM Q: 81 m ³ /h	6
03-01-00334	TYPE LIBON 70 , SNH 70 LONGLET WITH MOTOR TYPE: MEUL J315 SU POWER: 110 KW SPEED: 1480 RPM , 380 VOLT.	3
03-01-00335	TYPE SC11, COMPELET WITH MOTOR TYPE MEU1 J 200 LU , POWER: 30 KW SPEED: 1460 RPM ,	3
03-01-00336	GEAR BECKER TYPE: KDT 2.6 CAPACITY : 60 CFM MAX. PRESS: 15 PSI SPEED: 1420 RPM ,	3

1-12 : VENTILATORS

CODE NO.	DESECRPTION	QTY.
03-01-00337	DIFFERENT SIZE S, ROOF TYPE	500

2-1: PUMPS

CODE	ITEM	QTY.
03-01-00338	BOOSTER PUMP Q: 6 m / h , H: 60 m , RPM : 2820 MULTYSTAGE IMPELLERS, 3 PH , 50 Hz , 380 V	24
03-01-00339	END - SUCTION CENTRIFUGAL PUMP COMPLETE WITH BASE PLATE AND MOTOR Q: 50 m / h , H: 60 m , RPM : 2900, WITH GLAND STUFFING BOX 3 PH , 50 Hz , 380 V	20
03-01-00340	END - SUCTION CENTRIFUGAL PUMP COMPLETE WITH BASE PLATE AND MOTOR Q: 60 m / h , H: 24 m , RPM : 2900, WITH GLAND STUFFING BOX FOR RAW WATER 3 PH , 50 Hz , 380 V	6
03-01-00341	END - SUCTION CENTRIFUGAL PUMP COMPLETE WITH BASE PLATE AND MOTOR Q: 70 m / h , H: 15 m , RPM : 1450, WITH GLAND STUFFING BOX FOR RAW WATER 3 PH , 50 Hz , 380 V	6
03-01-00342	END - SUCTION CENTRIFUGAL PUMP COMPLETE WITH BASE PLATE AND MOTOR Q: 14 m / h , H: 35 m , RPM : 2900, FOR RAW WATER 3 PH , 50 Hz , 380 V P : 3.0 KW	15
03-01-00343	END SUCTION CENTRIFUGAL PUMP Q: 120 m / hr , HEAD: 45 m , R.P.M: 1465 , P: 30 KW Din = 150 mm , Dout = 150 mm	2
03-01-00344	END SUCTION CENTRIFUGAL PUMP Q: 100 m / hr , HEAD: 35 m , R.P.M: 2930 , P: 37 KW Din = 100 mm , Dout = 100 mm	4

03-01-00345	END SUCTION CENTRIFUGAL PUMP Q: 81 m / hr , HEAD: 35 m , R.P.M: 2900 , P: 18.5 KW Din = 100 mm , Dout = 100 mm	4
03-01-00346	END SUCTION CENTRIFUGAL PUMP COMPLETE WITH BASE PLATE AND MOTOR Q: 80 m / hr , HEAD: 120 m , H : 50 Hz , V: 380 volt	4

CODE	ITEM	QTY.
03-01-00347	BOOSTER (MOTIVE WATER PUMP) r.p.m = 2900 16.6 L/S AT 65 m HEAD , Din = 4" , Dout = 4"	3
03-01-00348	PUMP (SPILT PUMP) WITH MOTOR Q = 850 m/hr H = 7 m r.p.m = 1450 Din = 300 mm , Dout = 400 mm	3

CODE	ITEM	qty
03-01-00349	BOOSTER PUMP Q: 70 m ³ /hr , H: 60 m	6

CODE	ITEM	QTY.
03-01-00350	ELECTRICAL SPLIT CASE PUMP COMPLETE WITH MOTOR, BASE PLATE , STARTER • DIRECTION OF ROTATION : (3 x CLOCKWISE AND 3 x ANTICLOCKWISE • MEDIUM HANDLED: RIVER WATER • GREASE LUBRICATED, ANTIFRICTION BEARINGS . • CABLE TERMINAL BOX TO BE TO THE LEFT SIDE OF THE MOTOR • SHAFT SEAL : SLUFFING BOX PACKING • IMPELLER AND CASING WEAR RING MATERIAL: BRONZE GCUSN-10 Zn • SUCTION , DISCH NOZZLE (DN 350 , 300 HORIZO.) • PUMP UNIT INCLUDES : - PUMP + DRIVER BASE PLATE - FOUNDATION BOLTS - COUPLING - STARTER PRESSURE AND VACUUM GAUGE WITH COCKS • DIMENTIONS OF THE REQUIRED PUMPS TO BE ACCORDING TO THE EXISSTING PUMPS • SPARE PARTS FOR TWO YEARS OPERATION • SPECIFICATIONS OF THE PUMP : Q: 960 m/ h H : 20 m N : 980 rpm SH : 2.6 m	6
03-01-00351	BARE PUMP WITH SAME ABOVE MENTIONED SPECIFICATIONS EXCLUDED MOTOR AND BASE PLATE	4

CODE	ITEM	qty
03-01-00352	RAW WATER PUMPS TYPE VOLUTE CASING PUMP 1- FLUID CONVEYED - RIVER WATER 2- TEMPREATURE 25 ° 3- DISCHARGES FLOW Q: 408.5 L/S : 1470 m ³ /hr 4- DISCHARGES HEAD H: 20 m 5- NPSH OF SYSTEM 6 m 6- NPSH OF PUMP 2.7 m 7- SPEED N : 990 r.p.m 8- PUMP POWER CONSUMPTION 95 K.W 9- DRIVE MACHINE POWER 110 K.W 10- TEST PRESSURE 4 bar 11- ERECTION MODE - HORIZONTAL 12- SUCTION BRANCH DN 500 PN 10 AS PER DIN 2532 13- DELIVERY BRANCH DN 400 PN 10 AS PER DIN 2532 14- COUPLING - FLEXIBLE 15- EXTERNAL FLUID REQUIRED 480 L/H 16- CONNECTION FOR EXTERNAL FLUID R 1/2 17- SHAFT - S.S 18- SLEEVE - S.S	5
03-01-00353	HIGH LIFT PUMPS TYPE VOLUTE CASING PUMP 1- FLUID CONVEYED - FRESH WATER 2- TEMPREATURE 25 ° 3- DISCHARGES FLOW Q: 325.5 L/S : 1171.5 m ³ /hr 4- DISCHARGES HEAD H: 65 m 5- NPSH OF SYSTEM 6.1 m 6- NPSH OF PUMP 4.7 m 7- SPEED N : 1490 r.p.m 8- PUMP POWER CONSUMPTION 247 K.W 9- DRIVE MACHINE POWER 315 K.W 10- TEST PRESSURE 10 bar 11- ERECTION MODE - HORIZONTAL 12- SUCTION BRANCH DN 350 PN 10 AS PER DIN 2532 13- DELIVERY BRANCH DN 300 PN 10 AS PER DIN 2532 14- COUPLING - FLEXIBLE 15- IMPLLER : BRONZ 17- SHAFT - S.S 18- SLEEVE - S.S	5

CODE	ITEM	qty
03-01-00354	WASH WATER PUMPS COMPLETE WITH MOTOR TYPE VOLUTE CASING PUMP 1- FLUID CONVEYED - FRESH WATER 2- TEMPREATURE 25 ° 3- DISCHARGES FLOW Q: 194.5 L/S 4- DISCHARGES HEAD H: 15 m 5- NPSH OF SYSTEM 6.7 m 6- NPSH OF PUMP 2.8 m 7- SPEED N : 985 r.p.m 8- PUMP POWER CONSUMPTION 34 K.W 9- DRIVE MACHINE POWER 45 K.W 10- TEST PRESSURE 3 bar 11- ERECTION MODE - HORIZONTAL 12- SUCTION BRANCH DN 300 PN 10 AS PER DIN 2532 13- DELIVERY BRANCH DN 250 PN 10 AS PER DIN 2532 14- COUPLING - FLEXIBLE 15- IMPLLER : BRONZ 16- SHAFT - S.S 17- SLEEVE - S.S	4

03-01-00355	RAW WATER PUMPS COMPLETE WITH MOTOR TYPE VOLUTE CASING PUMP 1- FLUID CONVEYED - RIVER WATER 2- TEMPREATURE 25 ° 3- DISCHARGES FLOW Q: 680 m ³ /hr 4- DISCHARGES HEAD H: 20 m 5- NPSH OF SYSTEM 6 m 6- NPSH OF PUMP 2.7 m 7- SPEED N : 990 r.p.m 8- PUMP POWER CONSUMPTION 45 K.W 9- DRIVE MACHINE POWER 50 K.W 10- TEST PRESSURE 4 bar 11- ERECTION MODE - HORIZONTAL 12- SUCTION BRANCH DN 300 PN 10 13- DELIVERY BRANCH DN 200 PN 10 14- COUPLING - FLEXIBLE 15- IMPLLER S.S 16- SHAFT - S.S 17- SLEEVE - S.S	4
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CODE	ITEM	qty
03-01-00356	HIGH LIFT PUMPS TYPE VOLUTE CASING PUMP 1- FLUID CONVEYED - FRESH WATER 2- TEMPREATURE 25 ° 3- DISCHARGES FLOW Q: 600 m ³ /hr 4- DISCHARGES HEAD H: 60 m 5- NPSH 2.98 m 6- RATED POWER 121 K.W 7- MAX. POWER 136 K.W 7- SPEED N : 990 r.p.m 8- DRIVE POWER 150 K.W 9- SPPED 1475 r.p.m 10- TEST PRESSURE 10 bar 11- ERECTION MODE - HORIZONTAL 12- SUCTION BRANCH DN 300 PN 10 13- DELIVERY BRANCH DN 200 PN 10 14- COUPLING - FLEXIBLE 15- IMPLLER BRONZE 16- SHAFT - S.S 17- SLEEVE - S.S	4

CODE	ITEM	qty
03-01-00357	COMPLETE RAW WATER PUMP Q: 600 m³/h , H: 40 m SPEED: 1500 r.p.m ERECTION MODE : HORIZONTAL SUCTION BRANCH DN 300 mm DELIVERY BRANCH DN 250 mm COUPLING - FLEXIBLE IMPLLER : STAINLESS STEEL SHAFT : STAINLESS STEEL SLEEVE : STAINLESS STEEL	4
03-01-00358	FOR PRE BOOSTER PUMP POOSTER PUMP WITH MOTOR DRIVE : DIRECT WITH COUPLING BEARING HOUSE : OIL BATH WITH INDICATOR SUCTION DIA. : 2.5 INCH FLANGE TYPE DISCHARGE DIA. : 2.5 INCH FLANGE TYPE CAPACITY (Q) : 5.28 L/S SPEED : 2900 r.p.m HEAD : 90 m PACKING : GLAND PACKING MOTOR : 19.2 KW , 400 V , 3 PH , 50 HZ PUMP BASE DIMENSIONS:- (4) HOLES FOR PUMP - + (4) HOLES FOR BEARING HOOSE SIDE LENGTH 10.5 cm + SIDE LENGTH 30 cm FRONT LENGTH 25 cm FRONT LENGTH 25 cm MOTOR BASE DIMENSIONS:- (4) HOLES SIDE LENGTH 25 cm FRONT LENGTH 25 cm PUMP + MOTOR THE OUT (4) HOLES DIMESION SIDE LENGTH 117.5 cm FRONT LENGTH 25 cm	10 COMP LETE

03-01-00359	FOR PRE BOOSTER PUMP POOSTER PUMP WITH MOTOR DRIVE : DIRECT WITH COUPLING BEARING HOUSE : OIL BATH WITH INDICATOR SUCTION DIA. : 2 INCH FLANGE TYPE DISCHARGE DIA. : 1.5 INCH FLANGE TYPE CAPACITY (Q) : 2.5 L/S SPEED : 2900 r.p.m HEAD : 50 m PACKING : GLAND PACKING MOTOR : 4.2 KW , 400 V , 3 PH , 50 HZ PUMP BASE DIMENSIONS:- (4) HOLES FOR PUMP + (4) HOLES FOR BEARING HOOSE SIDE LENGTH 8 cm + SIDE LENGTH 27 cm FRONT LENGTH 19.5 cm FRONT LENGTH 11 cm MOTOR BASE DIMENSIONS:- (4) HOLES SIDE LENGTH 14 cm FRONT LENGTH 21.5 cm PUMP + MOTOR THE OUT (4) HOLES DIMESION SIDE LENGTH 88 cm	10 COMP LETE
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CODE	ITEM	QTY.
03-01-00360	D.O.L STARTERS FOR LESS THAN 3 KW AND λ.Δ STARTER FOR ALL ABOVE 3 KW THE STARTERS INCLUDED ALL PROTECTION SYSTEMS (THERMAL, SHORT CIRCUIT, PHASE FAILAIR, UNDER VOLTAGE, PROTECTION RELAYS)	FOR EACH PUMP
	UNIT PRICE FOR ALL ITEMIZED SPARE PARTS	
	FOR ALL THE ITEMS MUST BE SUBMITTED THE COMPLETE TECHNICAL SPECIFICATIONS, CONSTRUCTION MATERIAL INFORMATIONS , PERFORMANCE CURVES , DRAWINGS OF INTERNAL PARTS.	

NOTICE

**ALL THE REQUIRED PUMPS NEEDED TO BE INCLUDED , MOTORS ,
STARTERS , SPARE PARTS FOR TWO YEARS OPERATION .**

CHEMICAL DOSIND PUMPS

CODE	ITEM	QTY.
03-01-00361	CHEMICAL DOSING PUMPS Q: 40 l / h , H: 40 m , DIAPHRAGM TYPE, FOR ALUMNIUM SULLPHATE SOLUTION DOSING WITH 10% CONCENTRATION	20
CODE	ITEM	QTY.
03-01-00362	HORIZONTAL PUMP FOR TREATED WATER COMPLETE WITH MOTOR AND BASE PLATE .	
03-01-00363	VOLUTE CASING PUMP WITH RADIAL IMPELLERS SUETION BRANCH = 250mm DN DELIVERY BRANCH = 200mm DN DISCHARGE HEAD = 35m DISCHARGE FLOW = 150 L/S	12
	PUMP UNIT DIMENSIONS TO BE ACCORDING TO THE EXISTING PUMP	

CODE	ITEM	QTY.
	END SECTION PUMP - HORIZONTAL PUMP	
03-01-00364	HEAD = 63m Q = 2 m ³ /min - 120 m ³ /hr RPM = 1440 POWER OF MOTOR = 37 Kw	2
03-01-00365	HEAD = 70m Q = 5.5 m ³ /min - 330 m ³ /hr RPM = 1450 POWER OF MOTOR = 120 Kw	2
	MULTI STAGE PUMP - HORIZONTAL PUMP	
03-01-00366	HEAD = 55 m Q = 0.4 m ³ /min 24 m ³ /hr RPM = 1450 POWER OF MOTOR = 120 Kw	2
	END SECTION PUMP - HORIZONTAL PUMP WITH ELECTRIC MOTOR FIXED ON BASE PLATE	
03-01-00367	HEAD = 55 m Q = 145 m ³ /hr RPM = 2950 POWER OF MOTOR = 37 Kw	4
03-01-00368	HEAD = 25 m Q = 50 m ³ /hr RPM = 2900 POWER OF MOTOR = 5.5 Kw	4

2-2 : SPAIR PARTS FOR WATER TREATMENT PLANTS

2-2-1: WEIR SPARE PARTS

SPARES FOR 500 mm MIXED FLOW BOWL PUMPS

SERIAL N C5/56362/3 - SECTIONAL DRAWING NUMBER P2002452

CODE	ITEM	ITEM NO.	DRG. NO.	QTY.
03-01-00369	IMPELLER	1	P 187358	4
03-01-00370	SHROUD	34	P 187373	4
03-01-00371	TUNNEL TUBE REDUCING ASSEMBLY	96	PM 2051166	8
03-01-00372	PUMP BEARING CUTLESS	51	PX 2101556	8
03-01-00373	SPIDER BEARING CUTLESS	52	PM 2051515	12
03-01-00374	INTERMEDIATE BEARING CUTLESS	53	PM 2051452	12
03-01-00375	PUMP BEARING SLEEVE	9	PY2101557	6
03-01-00376	INTERMEDIATE BEARING SLEEVE	10	PM2051299	6
03-01-00377	THRUST BEARING COLLAR	18	PY2101612	6
03-01-00378	COUPLING PINS	23	45/203	30
03-01-00379	COUPLING BOSHES	24	45/209	30
03-01-00380	TAPER ROLLER THRUST BEARING 114.3 BORE	42	-	6
03-01-00381	BEARING HOUSING CAP.	45	PM2051509	6
03-01-00382	STAVFFER	50	-	6
03-01-00383	TUNNEL TUBE	97	P2002431	10
03-01-00384	TUNNEL TUBE	98	P2002431	10
03-01-00385	TUNNEL TUBE	99	P2002431	10
03-01-00386	TUNNEL TUBE	100	P2002431	10
03-01-00387	"O" RING	101	-	20
03-01-00388	"O" RING	102	-	20

SPARES FOR 1000 mm MIXED FLOW BOWL PUMPS
SERIAL N C5/56362/3 - SECTIONAL DRAWING NUMBER P2002452

CODE	ITEM	ITEM NO.	DRG. NO.	QTY.
03-01-00389	IMPELLER	1	P 2002369	4
03-01-00390	IMPELLER SHROUD	30	P 2002498	8
03-01-00391	TUNNEL TUBE REDUCING ASSEMBLY	99	P 2002455	8
03-01-00392	PUMP BEARING CUTLESS	53	PX 2101561	8
03-01-00393	SPIDER BEARING CUTLESS	54	PM 2051461	32
03-01-00394	PUMP BEARING SLEEVE	8	PX2101562	8
03-01-00395	INTERMEDIATE BEARING SLEEVE	9	PM2051299	32
03-01-00396	"O" RING	104	-	8
03-01-00397	"O" RING	105	-	8
03-01-00398	"V" SEAL	79	-	8
03-01-00399	OIL REAINING STAND PIPE	51	PM2051512	
03-01-00400	COUPLING BUSHES	23	45 / 210	250
03-01-00401	TAPER ROLLER THRUST BEARING 170 BORE	37	-	5

RAW WATER 1000 mm FLOW BOWL PUMP

CODE	ITEM	qty
03-01-00402	IMPELLER NUT	8
03-01-00403	THRUST BEARING COOLER	8
03-01-00404	INTERMEDIATE BEARING CUTLESS	24
03-01-00405	TUNNEL TUBE REDUCING ASSLY	4
03-01-00406	TUNNEL TUBE	4
03-01-00407	TUNNEL TUBE	4
03-01-00408	TUNNEL TUBE	4
03-01-00409	TUNNEL TUBE	4

TREATED WATER PUMPS - SPARES – KARKH WATER TREATMENT PLANT TYPE : 900/800/1024 DESC PUMPS SERIAL NO. : C5/56333-84 R.P.M : 730		
CODE	ITEM	QTY.
03-01-00410	IMPELLER	4
03-01-00411	IMPELLER EYERINGS	8
03-01-00412	SHAFT SLEEVES	16
03-01-00413	SLEEVES RETAINING PLATE	16
03-01-00414	HEAD LAND "V" RING (VL)	32
03-01-00415	MEAD LAND "V" RING "VS"	32
03-01-00416	LOCATITE BLACK SILICON SEALANT	32
03-01-00417	BLACK BITUMASTIC COMPOUND	32
03-01-00418	SPHERICAL - ROLLER BEARING	8
03-01-00419	SPHERICAL - ROLLER BEARING	8
03-01-00420	BEARING HOUSING	8
03-01-00421	GLAND PACKING	8
03-01-00422	LANTERN RING	8
03-01-00423	SPLIT GLAND	8
03-01-00424	"O" RING FOR ITEM 63	8
03-01-00425	BOTTOM BEARING	8

CODE	DESCRIPTION	ITEM NO.	QTY.
	51 / 950 M.L.D 500-500-405AD - D.E.S.C PUMPS DRAWING NUMBER DR/G03-807 AND 808		
03-01-00426	IMPELLER	1	1
03-01-00427	SHAFT	6	1
03-01-00428	IMPELLER EYERINGS	2	2

03-01-00429	SHAFT SLEEVES	7	4
03-01-00430	SHAFT NUT	8	12
03-01-00431	THRUST NUT	9	10
03-01-00432	MALE STUD COUPLING (3/8 B.SP TAPER TO 10 mm OP PIPE)	41	12
03-01-00433	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25m
03-01-00434	CASING EYERING	48	2 st
03-01-00435	BEARING HOUSING CAP	54+55	1
03-01-00436	GLAND PACKING	61	25 st
03-01-00437	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00438	SPLIT GLAND FIBER GLESS	63	1
03-01-00439	NECK BUSH FIBER GLESS	65	2
03-01-00440	BOTTOM BEARING FIBER GLESS	66	2
03-01-00441	BOTTOM BEARING COVER FIBER GLESS	67	1
03-01-00442	SPHERICAL ROUER BEARING FIBER GLESS	53	5
03-01-00443	SPACER RING FIBER GLESS	87	1
03-01-00444	KEY FOR IMPELLER DRIVE	14	1
03-01-00445	LOCKING SCREWS FOR ITEMS 8 AND 9	10	4

CODE	DESCRIPTION	ITEM NO.	QTY.
	170 M.L.D 800-800- 672 AD - D.E.S.C PUMPS DRAWING NUMBER DR/G03-803 - 804		
03-01-00446	IMPELLER	1	1
03-01-00447	SHAFT	6	2
03-01-00448	IMPELLER EYERINGS	2	1
03-01-00449	SHAFT SLEEVES	7	2
03-01-00450	SHAFT NUT	8	2
03-01-00451	THRUST NUT	9	10
03-01-00452	MALE STUD COUPLING	41	4
03-01-00453	NYLON TUBE 16 mm OUT SIDE DIAMETER	47	25m
03-01-00454	CASING EYERING	48	2
03-01-00455	BEARING HOUSING CAP	54+55	1
03-01-00456	GLAND PACKING	61	25 st
03-01-00457	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00458	SPLIT GLAND FIBER GLESS	63	1
03-01-00459	NECK BUSH FIBER GLESS	65	1
03-01-00460	BOTTOM BEARING FIBER GLESS	66	1
03-01-00461	BOTTOM BEARING COVER FIBER GLESS	67	2
03-01-00462	SPHERICAL ROUER BEARING FIBER GLESS	53	6
03-01-00463	SPACER RING FIBER GLESS	87	2
03-01-00464	KEY FOR IMPELLER DRIVE	14	1
03-01-00465	LOCKING SCREWS FOR ITEMS 8 AND 9	10	6
03-01-00466	HEAD AND V RING (VS)	17	6
03-01-00467	'O" RING FOR ITEM 63	64	2
03-01-00468	THRUST WASHER	60	6
	102 / 1180 M.L.D 600-600-600 - D.E.S.C PUMPS DRAWING NUMBER DR/G03- 805 - 806		
03-01-00469	IMPELLER (TOP MARK 11)	1	1
03-01-00470	SHAFT	6	2
03-01-00471	IMPELLER EYERINGS	2	6
03-01-00472	SHAFT SLEEVES	7	4
03-01-00473	THRUST NUT	9	2
03-01-00474	LOCKING SCREWS FOR ITEMS 8 AND 9	10	10
03-01-00475	MALE STUD COUPLING	41	6
03-01-00476	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25m
03-01-00477	CASING EYERING	48	2
03-01-00478	BEARING HOUSING CAP	54+28	1
03-01-00479	GLAND PACKING	61	25 st
03-01-00480	LANTERN RING (IN HALVES) FIBER GLESS	62	2
03-01-00481	SPLIT GLAND FIBER GLESS	63	2
03-01-00482	NECK BUSH FIBER GLESS	65	2
03-01-00483	BOTTOM BEARING FIBER GLESS	66	2

03-01-00484	BOTTOM BEARING COVER FIBER GLESS	67	2
03-01-00485	SPHERICAL ROUER BEARING	53	3
03-01-00486	THRUST WASHER	60	6
03-01-00487	KEY FOR IMPELLER DRIVE	14	2
03-01-00488	"O" RING FOR ITEM 63	64	2

CODE	DESCRIPTION	ITEM NO.	QTY.
	350-300-429 - D.E.S.C PUMPS DRAWING NUMBER DR/G03-801 - 802		
03-01-00489	IMPELLER (TOP MARK 11)	1	1
03-01-00490	SHAFT	6	1
03-01-00491	IMPELLER EYERINGS	2	4
03-01-00492	SHAFT SLEEVES	7	4
03-01-00493	THRUST NUT	9	10
03-01-00494	LOCKING SCREWS FOR ITEMS. 8 AND 9	10	10
03-01-00495	MALE STUD COUPLING	41	6
03-01-00496	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25m
03-01-00497	CASING EYERING	48	2
03-01-00498	BEARING HOUSING CAP	54+28	1
03-01-00499	GLAND PACKING	61	25 st
03-01-00500	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00501	SPLIT GLAND FIBER GLESS	63	1
03-01-00502	NECK BUSH FIBER GLESS	65	2
03-01-00503	BOTTOM BEARING FIBER GLESS	66	2
03-01-00504	BOTTOM BEARING COVER FIBER GLESS	67	1
03-01-00505	SPHERICAL ROUER BEARING FIBER GLESS	53	3
03-01-00506	SPACER RING FIBER GLESS	84	1
03-01-00507	KEY FOR IMPELLER DRIVE	14	1
03-01-00508	THRUST WASHER	60	6
03-01-00509	"O" RING FOR ITEM 63	64	1
	12.5 M.L.D 250 - 225 VERTICAL D.E.S.C PUMPS		
03-01-00510	IMPELLER	1	1
03-01-00511	SHAFT	6	1
03-01-00512	IMPELLER EYERINGS	2	4
03-01-00513	SHAFT SLEEVES	7	4
03-01-00514	SHAFT NUT	8	12
03-01-00515	THRUST NUT	9	10
03-01-00516	LOCKING SCREWS FOR ITM. 8 AND 9	10	1
03-01-00517	MALE STUD COUPLING (3/8 B.SP TAPER TO 10 mm OP PIPE)	41	12
03-01-00518	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25m
03-01-00519	CASING EYERING	48	2 st
03-01-00520	BEARING HOUSING CAP FIBER GLESS	54+55	1
03-01-00521	GLAND PACKING	61	25 st
03-01-00522	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00523	SPLIT GLAND FIBER GLESS	63	1
03-01-00524	NECK BUSH FIBER GLESS	65	2
03-01-00525	BOTTOM BEARING FIBER GLESS	66	2
03-01-00526	BOTTOM BEARING COVER FIBER GLESS	67	1
03-01-00527	SPHERICAL ROUER BEARING FIBER GLESS	53	5
03-01-00528	SPACER RING	87	1
03-01-00529	KEY FOR IMPELLER DRIVE	14	1
	43 M.L.D , HEAD: 32.04 , SPEED : 1474 rpm 400-400-410 PUMP DRAWING NUMBER DR/G03-811 - 812		
03-01-00530	IMPELLER	1	1
03-01-00531	SHAFT	6	1
03-01-00532	IMPELLER EYERINGS	2	2
03-01-00533	SHAFT SLEEVES	7	4
03-01-00534	THRUST WASHER	60	4 st
03-01-00535	ROLLER THRUST BEARING	53	5
03-01-00536	MALE STUD COUPLING	41	6
03-01-00537	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25st

03-01-00538	CASING EYERING	48	4
03-01-00539	BEARING HOUSING CAP	54+55	1
03-01-00540	GLAND PACKING	61	15st
03-01-00541	LANTERN RING (IN HALVES)	62	1
03-01-00542	SPLIT GLAND FIBER GLESS	63	2
03-01-00543	NECK BUSH FIBER GLESS	65	2
03-01-00544	BOTTOM BEARING FIBER GLESS	66	3
03-01-00545	BOTTOM BEARING COVER FIBER GLESS	67	2
03-01-00546	SPACER RING FIBER GLESS	85	1
03-01-00547	KEY FOR IMPELLER DRIVE	14	1

CODE	DESCRIPTION	ITEM NO.	QTY.
	21.5 M.L.D , HEAD : 32.7 350-300-424 PUMP DRAWING NUMBER DR/G03-801 - 802		
03-01-00548	IMPELLER	1	1
03-01-00549	SHAFT	6	1
03-01-00550	IMPELLER EYERINGS	2	2
03-01-00551	SHAFT SLEEVES	7	4
03-01-00552	THRUST WASHER	60	2 st
03-01-00553	ROLLER THRUST BEARING	53	4
03-01-00554	MALE STUD COUPLING	41	6
03-01-00555	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	25m
03-01-00556	CASING EYERING	48	2st
03-01-00557	BEARING HOUSING CAP	54+55+ 56	1
03-01-00558	GLAND PACKING	61	25 st
03-01-00559	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00560	SPLIT GLAND FIBER GLESS	63	2
03-01-00561	NECK BUSH FIBER GLESS	65	1
03-01-00562	BOTTOM BEARING FIBER GLESS	66	1
03-01-00563	BOTTOM BEARING COVER	67	1
03-01-00564	SPACER RING FIBER GLESS	85	1
03-01-00565	KEY FOR IMPELLER DRIVE FIBER GLESS	14	1

CODE	DESCRIPTION	ITEM NO.	QTY.
	35 M.L.D 500-450-460 BD - D.E.S.C PUMPS DRAWING NUMBER DR/G03-809 - 810		
03-01-00566	IMPELLER EYE RIMOS	1	1
03-01-00567	SHAFT	6	1
03-01-00568	SHAFT SLEEVES	7	4
03-01-00569	SHAFT NUT	8	2
03-01-00570	THRUST NUT	9	1
03-01-00571	THRUST WASHER	60	6
03-01-00572	MALE STUD COUPLING (3/8 P.S.B TAPER 10 mm O.P PIPE)	41	6
03-01-00573	NYLON TUBE 10 mm OUT SIDE DIAMETER	47	12 m
03-01-00574	CASING EYERING	48	2st
03-01-00575	BEARING HOUSING CAP	54+28	1
03-01-00576	GLAND PACKING	61	25 st
03-01-00577	LANTERN RING (IN HALVES) FIBER GLESS	62	1
03-01-00578	SPLIT GLAND FIBER GLESS	63	1
03-01-00579	NECK BUSH	65	2
03-01-00580	BOTTOM BEARING	66	2
03-01-00581	BOTTOM BEARING COVER	67	1
03-01-00582	SPACER RING FIBER GLESS	87	1
03-01-00583	KEY FOR IMPELLER DRIVE	14	1
03-01-00584	LOCKING SCREWS FOR ITEM 8 AND 9	10	9
03-01-00585	HEAD LAND "V" RING (VS)	16	2
03-01-00586	HEAD LAND "V" RING (VS)	17	2
03-01-00587	SPHERICAL ROUER BEARING	53	3
03-01-00588	"O" RING FOR ITEM 63	64	2
03-01-00589	LOCKING SCREWS FOR ITEMS. 8 AND 9	10	6

2-2-2: IDP SPARE PARTS

CODE	ITEM	QTY.
	MAIN RAW WATER PUMPS : DWG. : PF 3670 . 00. 2310 . 2 . 06 / 07 / 08	
03-01-00590	INTERMEDIATE SHAFT	18
03-01-00591	TOP SHAFT	7
03-01-00592	SHAFT SLEEVE	26
03-01-00593	BEARING BUSH	60
03-01-00594	IMPELLER BEARING SLEEVE	20
03-01-00595	ADJUSTING NUT	2
03-01-00596	WASHERS (2 PER SET)	14
03-01-00597	WASHER FOR BEARING NUT	14
03-01-00598	COMPLETE MUFF COUPLING WITH SCREWS (2 PER SET)	50
03-01-00599	IMPELLER (1st - 2nd)	32
03-01-00600	1st STAGE PUMP BOWEL	6
03-01-00601	2nd STAGE PUMP BOWL	6
03-01-00602	SET OF RADIAL AND THRUST BEARINGS	20SET
03-01-00603	IMPELLER SHAFT	6
03-01-00604	THRUST BEARING CARRIER	5
03-01-00605	BEARING COVER	2
03-01-00606	IMPELLER BEARING SLEEVE	24
	START RAW WATER PUMPS : DWG. : PF 3670 . 00. 2310 . 2 . 06 / 09 / 10	
03-01-00607	INTERMEDIATE SHAFT	6
03-01-00608	TOP SHAFT	3
03-01-00609	IMPELLER SHAFT	4
03-01-00610	1st STAGE IMPELLER	5
03-01-00611	2nd STAGE IMPELLER	5
03-01-00612	1st STAGE PUMP BOWEL	4
03-01-00613	2nd STAGE PUMP BOWL	4
03-01-00614	ADJUSTING NUT	2
03-01-00615	INTERMEDIATE BEARING SLEEVE	9
03-01-00616	IMPELLER BEARING SLEEVE	9
03-01-00617	SET OF RADIAL & THRUST BEARINGS (2 PER SET)	16SET
03-01-00618	THRUST BEARING CARRIER	1
03-01-00619	BEARING COVER	1
03-01-00620	BEARING BUSH	34
03-01-00621	COMPLETE MUFF COUPLING WITH SCREWS (2PFR SET)	20

CODE	ITEM	QTY.
	MAIN MOTOR COOLING PUMPS COOLING WATER PUMPS MEN 65 - 160 (P.1005 A/B , P.2005 A/B , P. 3005 A/B, P. 5005 A/B) DWG. 3670 . 00 . 2310 . 2 . 05 /4	
03-01-00622	SHAFT	13
03-01-00623	IMPELLER	7
03-01-00624	SHAFT SLEEVE	3
03-01-00625	ROTATING RING	9
03-01-00626	MECHANICAL SEAL SLEEVE	3
03-01-00627	STATIONARY RING	9
03-01-00628	SET OF COUPLING PADS	11
03-01-00629	SET OF BEARING	5SET

CODE	ITEM	QTY.
	CLOSED CIRCUIT COOLING TOWERS DWG. NO. PF. 00 . 2570 . 2 . 12. 404 & 403 DWG. NO. PF. 00 . 2570 . 2 . 12. 004 & 003	
03-01-00630	FAN SHAFT BEARING 40 MM	10
03-01-00631	FAN WHEEL + SCROLL STD - 18 - 13	15
03-01-00632	FAN SHAFT STD - 18	6
03-01-00633	FAN SHAFT - 27	10
03-01-00634	CLUTCH	3
	BULKHEAD GATE	
03-01-00635	SERVO MOTOR	5
03-01-00636	COMPLETE GEAR BOX	5
	TRASH RAKE SCREEN	
03-01-00637	GEAR BOX WITH MOTOR	10
03-01-00638	MOTOR	5
03-01-00639	JACK	20
03-01-00640	SET OF ROPE	10

CODE	ITEM	QTY.
	- HOIST 25 - SPARES	
03-01-00641	HOISTING ROPE 08 LENGTH 67 m	5
03-01-00642	ROPE GUIDE PITCH 9,5	10
03-01-00643	SET OF CROSS BAR (STAINLESS STEEL) 2 PER SET	10
03-01-00644	LIMIT SWITCH SPINDLE (STAINLESS STEEL)	10
03-01-00645	R.S HOISTING MOTOR 3 Kw	2
03-01-00646	L.S HOISTING MOTOR 0.55 Kw	2

CODE	ITEM	QTY.
	HOIST CRANE SPARES PF . 002340 . 2 . 10 DWG . 0011 & 012	
03-01-00647	HOISTING ROPE Q 13 LENGTH 38,20 mm	5
03-01-00648	ROPE GUIDE PITCH (14)	10
03-01-00649	SET OF CROSS BARS (STAINLESS STEEL) 2 PER SET	5
03-01-00650	LIMIT SWITCH SPINDLE (STAINLESS STEEL)	5
03-01-00651	H.S HOISTING MOTOR 5.5 Kw	2
03-01-00652	REMOTE CONTROL BOX WITH ELECTRIC CABLE (COMPLET SET)	5
03-01-00653	L.S HOISTING MOTOR 0.75 Kw	2

CODE	ITEM	QTY.
	BOOSTING PUMPS SPARES DWG. 3670 . 00 . 2310 . 2.07 / 08 / 05	
03-01-00654	IMPELLER SHAFT	5
03-01-00655	INTERMEDIATE SHAFT	5
03-01-00656	TOP SHAFT	5
03-01-00657	IMPELLER	20
03-01-00658	CASING WEAR RING	20
03-01-00659	INTER STAGE SLEEVE OF IMPELLER	20
03-01-00660	INTERMEDIATE SOCKET	20
03-01-00661	INTERSTAGE SLEEVE	15
03-01-00662	IMPELLER BEARING	20
03-01-00663	INTERMEDIATE BEARING SLEEVE	20
03-01-00664	BEARING BUSH	20
03-01-00665	NON RETURN VALVE	8
03-01-00666	SET OF COUPLING PADS	120

CODE	ITEM	QTY.
03-01-00667	COMPLETE VERTICAL BOOSTING PUMPS WITH MOTORS Q : 20 m ³ / h H : 65 m R.P.M : 2950 , 5.5 Kw , 400 V	5
03-01-00668	SPRAY PUMPS WITH MOTOR Q : 2860 R/min 1.1 Kw , 400 V	5

CODE	ITEM	QTY.
	PROGRAMMING CONTROLLER DWG. NO. PF. 3670 . 10 . 2813 . 4 . 01 & 4.03	
03-01-00669	CPU 8 K	2
03-01-00670	WATCH DOG	1
03-01-00671	MAIN POWER SUPPLY	1
03-01-00672	PROGRAMMING KDU	1

2-1-3-5

	MAIN RAW WATER PUMPS:- DWG. NO. PF 3670 - 00 - 2310 - 2 - 06 /07 PF 3670 - 00 - 2310 206 / 10		
CODE	ITEM	ITEM NO.	QTY.
03-01-00673	BELL MOUTH	1	10
03-01-00674	COUPLING RING SPLIT (IN 2 PARTS)	17	20
03-01-00675	SOCKET FOR TIGHTNESS	40	50
03-01-00676	UNION ELBOW (1/2")	42	50
03-01-00677	INTERMEDIATE BEARING	52	10
03-01-00678	UNION FITTING	49	50
03-01-00679	UNION FITTING (1.5")	56	50
03-01-00680	LUBRICATING PIPE	44	30
03-01-00681	REDUCED NIPPLE	41	30
03-01-00682	SET OF SEAL PACKING FOR MAIN PUMPS	6	10 SET
03-01-00683	GATE VALVE (1/2")	67	40
03-01-00684	SHAFT TUNNEL TUBE	51	20
03-01-00685	SHAFT TUNNEL TUBE	24	20
03-01-00686	SHAFT TUNNEL TUBE	10	10

	START RAW WATER PUMPS:- DWG. NO. PF 3670 - 00 - 2310 – 2 - 06 /09		
CODE	ITEM	ITEM NO.	QTY.
03-01-00687	BELL MOUTH	1	5
03-01-00688	COUPLING RING SPLIT (IN 2 PARTS)	17	20
03-01-00689	REDUCED NIPPLE (1/2") COMPLETE WITH LUBRICATING PIPE	41	10
03-01-00690	SET OF SEAL PACKING	6	5 SET
03-01-00691	SHAFT TUNNEL TUBE	51	20
03-01-00692	SHAFT TUNNEL TUBE	24	20
03-01-00693	SHAFT TUNNEL TUBE	10	10
03-01-00694	LOCK WASHER FOR BEARING BUSH	13	20
03-01-00695	INTERMEDIATE BEARING WITH TOP AND LOWER BEARING		10 FOR EACH KIND
03-01-00696	UNION FITTING (1/2")	42	20
03-01-00697	UNION FITTING (1.5")	56	20

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT 2B STATION	
03-01-00698	VALVE OPERATER: GEAR BOX ORDERING DATA: TORKMATIC T430/SGA RATIO 699:1	2
03-01-00699	VALVE OPERATER: GEAR BOX ORDERING DATA: TORKMATIC T250 RATIO 57:1	2
03-01-00700	VALVE OPERATER: GEAR BOX ORDERING DATA: TORKMATIC T400/SGA RATIO 613:1	2
03-01-00701	VALVE OPERATER: GEAR BOX ORDERING DATA: TORKMATIC T300 RATIO 70:1	1
03-01-00702	VALVE OPERATER: GEAR BOX ORDERING DATA: TORKMATIC T330/SGA RATIO 233:1	2

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT	
03-01-00703	VALVE SR 450 m	3
03-01-00704	VALVE SR 400 m	3

CODE	ITEM	QTY
03-01-00705	PRESSURE CONTROL VALVE DN 700 mm	2
03-01-00706	PRESSURE CONTROL VALVE DN 500 mm	2
03-01-00707	NON RETURN VALVE DN 250 mm	3
03-01-00708	BUTTERFLY VALVE DN 700	4
03-01-00709	BUTTERFLY VALVE DN 500	2

CODE	ITEM	QTY.
03-01-00710	1" STEEL PIPE FOR CHLORINE SYSTEM NOT LESS THAN (15) bar	200 m
03-01-00711	1" B.S 1560 FITTING FLANGE	30 FLANGE
03-01-00712	2" STEEL PIPE FOR CHLORINE SYSTEM NOT LESS THAN (15) bar	60 m
03-01-00713	2" B.S 1560 FITTING FLANGE	30 FLANGE
03-01-00714	1/5" STEEL PIPE FOR CHLORINE SYSTEM NOT LESS THAN (15) bar	200 m
03-01-00715	1/2 " B.S 1560 FITTING FLANGE	30 FLANGE

CODE	ITEM	PART NO.	QTY
03-01-00716	HOSE R4" , R3" , R2" MADE OF TREVIRA COMPLETE WITH STORTS COUPLINGS TYPE A (QUICK COUPLING) MADE OF ALUMINIUM ALLOY 25M LENGTHH EACH PEACE PN 10 BAR .		25M X 20 FOR EACH SIZE

CODE	ITEM	PART NO.	QTY
	CLORINE VALVE CONNECTIONS FOR CHLORINE DRUMS		
03-01-00717	DØ = 1/4"		100 PCS
03-01-00718	DØ = 3/4"		100 PCS
03-01-00719	DØ = 3/8"		100 PCS
03-01-00720	DØ = 1"		100 PCS
03-01-00721	DØ = 5/8"		100 PCS
03-01-00722	DØ = 1.25"		100 PCS

CODE	ITEM	PART NO.	QTY
	CHLORINE HEADER FOR CHLORINE DRUMS H = 15kg/h		
03-01-00723	CONNECTING PIPE ST.		500
03-01-00724	TEE ST.		50
03-01-00725	PIPE CLAMP AND SLUD ST.&NYLUN		50
03-01-00726	ELBOW ST.		50
03-01-00727	CONNECTION TUBE Cu		50
03-01-00728	ISOLATING VALVE ST./TEFL		50
03-01-00729	TWIN NIPPLE ST.		50

CODE	ITEM	PART NO.	QTY
	CHLORINATION SYSTEM		
03-01-00730	CHLORINE GAS CHANGEOVER EQUIPEMT WITH PRESSURE GAUGES AND ALL THE CONNECTIONS CAPACITY = 15 KG/H		12
03-01-00731	CATCH POT WITH ALL THE FITTINGS (15 KG/H)		30
03-01-00732	FITTINGS WITH ALL CONNECTIONS (15KG/H)		20
03-01-00733	CHLORINATOR (100-1000) G/H COMPLETE WITH ALL THE ACCESSORIES LIKE PRESSURE GAUGE FOR CHLORINE SUPPLY CHLORINE BARREL AMXILIARY VALVE WITH FLEXIBLE COPPER LINE , MANIFOLD CHLORINE VACUMM REGULATOR , CONTROL UNIT , DIAPHRAGM CHECK VALVE , STUNDARD INJECTOR , CHLORINE INJECTION FITTING , BALL RETAINNG VALVE , SOLENOID VALVE , PREESSURE REDUCING VALVE WITH PRESSURE GAUGE AND STRAINES ,		20
	RECOMMENDED SPARE PARTS FOR TWO YEARS OPERATION FOR EACH UNIT		

CODE	ITEM	QTY
03-01-00734	BATTERY CELLS CLOSING VOLTAGE TYPE : TLP12 NiCd TYPE NO. : ATSC110/19/3/F3/X AUTOMAT REF. : 52028 RTG A/h : 19 A/h 5 A AT 1.45 VOLTS / CELL CELLS TOTAL VOLTAGE : 133.4 VOLTS CAPACITY : 200 m ³ /h , H : 50 m	92
03-01-00735	VARTA TP 55 MCKEL-CADIMUM PATTERY THE CAPACITY :50 A/H VOLTAGE = 43 V D.C VOLT / CELL = 1.2 VOLT	111
03-01-00736	NICKEL CADMIUM BLOCK BATTERY TYPE : L310-2 823 1.45 V/CELL (TARADE MARK) NIFE JUNGNER	57

	FOR SWITCH GEAR 630 A YORKSHIRE	
CODE	DESCRIPTION	QTY.
03-01-00737	TRIPPING COIL	10
03-01-00738	CLOSING COIL	10
03-01-00739	SPRING CHARGE MOTOR	5
03-01-00740	SWITCH	5

	FOR YORKSHIRE SWITCH GEAR	
CODE	DESCRIPTION	QTY.
03-01-00741	VOLTAGE TRANSFORMER BS 3941 SERIAL NO. : 11207 RATIO : 11000 / 110 VA : 100 RVF : 1.5 / 30 sec. FREQUENCY : 50 hz CLASS 1.0 IL : 28 / 75 KV	3

CODE	ITEM	QTY.
	HIGH VOLTAGE FUSES , TYPE: BRUSH	
03-01-00742	125 AMPERE MAIN FUSE	20
03-01-00743	90 AMPERE MAIN FUSE	40
03-01-00744	56 AMPERE FUSE	30
03-01-00745	71 AMPERE FUSE	10
	LOW VOLTAGE FUSES , TYPE: GEC	
03-01-00746	MAIN FUSE TKF 315	30
03-01-00747	MAIN FUSE TKF 250	30
03-01-00748	MAIN FUSE TF 200	30
03-01-00749	MAIN FUSE TC 80	50
03-01-00750	MAIN FUSE TBC 32	60
03-01-00751	MAIN FUSE TBC 16	60
03-01-00752	MAIN FUSE TMF 355	30
03-01-00753	MAIN FUSE TCP 100	30
03-01-00754	MAIN FUSE TBC 63	40
03-01-00755	MAIN FUSE TF 125	30
03-01-00756	MAIN FUSE TF 160	20
03-01-00757	MAIN FUSE TBC 25	60
03-01-00758	MAIN FUSE TBC 63	60
03-01-00759	MAIN FUSE TBC 40	30
03-01-00760	MAIN FUSE TBC 20	30

flocculators

CODE	ITEM	QTY
03-01-00761	FLOCCULATORS: ----- . FLOCCULATORS WILL BE NEEDED FOR BLENDING AND HOMOGENIZING THE SUSPENDED SOLIDS OF RAW WATER (1000 - 15000 NTU) WITH ALUMINIUM SULPHATE SOLUTION IN WATER TREATMENT PLANTS. . FLOCCULATION TANK QUANTITIES (9) TANKS IT WILL BE NEEDED (3) FLOCCULATORS FOR EACH TANK. . FLOCCULATORS NEEDED FOR FLOCS FORMATION AND PREVENTATIVE OF SETTLEMENT FORMATION . FIXATION BY SQUARE FLANGE (). . SHAFT AND PROPELLER TO BE S. STEEL 316 . MOTORS AND ALL THE EQUIPMENTS PROTECTED OF WATER AND ALL CLIMATE VARIATIONS AND TO BE OUT DOR TYPE .	27
03-01-00762	. CONTROL PANEL FOR EACH THREE FLOCCULATORS TO BE INSTALLED IN ONE PANEL INCLUDED ALL THE PROTECTION SYSTEMS LIKE (OVER LOAD, SHORT CIRCUIT, PHASE FAILURE, VOLTAGE VARIATIONS, REVERSE SEQUENCE .. etc. .. . FLEXIBLE CABLE WITH 50 m LENGTH FOR EACH FLOCCULATOR. . SPEED (RPM) OF THE FLOCCULATORS NOT MORE THAN 30 rpm .	9 PANELS (EACH PANEL CAPABLE FOR OPERATION OF THREE FLOCCULATORS)

CODE	ITEM	QTY
03-01-00763	TURBIDITY METER FOR CLEAR WATER AND RAW WATER PORTABLE MAX RANG 10000 N.T.U LOWER RANG 0.1 N.T.U	2

CODE	ITEM	QTY
	NICKEL CADMIUM , BATTERIES NICD	
03-01-00764	TLP24 , CAPACITY : 24 A/h , VOLT: 1.65	200
03-01-00765	TLP37 , CAPACITY : 46 A/h , VOLT : 1.65	200
03-01-00766	TLP 11.5 , CAPACITY : 11.5 A/h , VOLT : 1.65	400

CODE	ITEM	QTY.
03-01-00767	PACKING 1/2" , 5/8 "	1000m foreach size
03-01-00768	FOOT VALVE (SCREEN + NON-RETURN VALVE) SIZE 2" , 3" , 4"	20 pcs for each size

CODE	ITEM	QTY
03-01-00769	PROTECTION RELAY TYPE: VAWA/SPEC27BP457A NO. 041754 W	6
03-01-00770	PROTECTION RELAY TYPE: VAJ Y11BP5044BA NO. 041769 W	6
03-01-00771	PROTECTION RELAY TYPE: MVAJ 13D/GB0283A NO. 202488E AQUA POWER	6
03-01-00772	ALKALINE BATTERY TYPE: ALCAD , LP 28	120
03-01-00773	ALKALINE BATTERY TYPE : ALCAD , EP 3	30

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT	
03-01-00774	UPS CHARGER , SERIAL NO. 8L1117978 INPUT 250 / 240 , FLOAT VOLTAGE : 36 CHARGER OUTPUT : 3A , BOOST VOLTAGE : 42.5	2
03-01-00775	VOLTAGE TRANSFORMER BS 3941 1975 , RATIO 11000/110 , VA 100 RVF 1.5 / 30 SEC , FREQ : 50 HZ , GLASS 1.0 I _L : 28 / 75 KV	2

CODE	DESCRIPTION	QTY.
	COUPLING TYPE FLANDT NVPX FOR PUMPS TYPE KSB TYPE .	
03-01-00776	RDL 200-400 B	28
03-01-00777	RDL 150-430 A	8

INGERSOLL - DRESSER PUMPS				
PUMP TYPE 25 PKH - 1 STAGE				
DWG - NO. CS000297				
CODE	DESCRIPTION	REF. NO.	P. NO.	QTY.
03-01-00778	PUMP SHAFT	6	81828659	8
03-01-00779	LINE SHAFT	12A	81828634	8
03-01-00780	LINE SHAFT	12	82424151	6
03-01-00781	COUPLING	471	82030594	16
03-01-00782	TOP SHAFT	12B	81827818	6
03-01-00783	BELL RING	319	81828667	8
03-01-00784	IMPELLER RING	8	82296989	12
03-01-00785	BEARING		82449265	12
03-01-00786	THREAD BRGS	320	82216573	12
03-01-00787	THREAD BRGS	103	82175696	80
03-01-00788	PACKING SETS		82123464	12
03-01-00789	25 PKH IMPELLER		81819849	4
03-01-00790	SKF 7318 BEARING			6
03-01-00791	SKF 6022 BEARING			6
03-01-00792	PACKING SETS		82194911	12
03-01-00793	ENCL TUBE		81828428	12
03-01-00794	ENCL TUBE		81828600	10
03-01-00795	ENCL TUBE		81828626	10
03-01-00796	BEARING THRUST	444		7
03-01-00797	GLAND PKG SPLIT	17		7
03-01-00798	NUT PKG	301		7
03-01-00799	PLT.TUBE/TENSION	302		7
03-01-00800	RING LTRN	29		7
03-01-00801	SLEEVE STUFFING BOX	370		7
03-01-00802	SLEEVE LINE SHAFT	14		50

CODE	DESCRIPTION	QTY.
03-01-00803	BEARING ROLLIX GROUP DEFFONTAING TYPE 080675 - Z200A NO - 0230	10

2-3: H-STARTERS + SWITCH BOARD

2-3-1:

CODE	ITEM	QTY
	ELECTRIC MOTOR STARTERS	
03-01-00804	A- STAR- DELTA STARTERS GENERAL SPECIFICATIONS 1-POWER SUPPLY 415V,50HZ. 2-CONTROL SUPPLY 230V. 3. ON - OFF PUSH BOTTOMS 4- MAIN C.B. 5- PHASE FAILUIRE 6- OVER LOAD CURRENT 7- INDICATING LAMPS FOR ON - OFF - TRIP 8- VOLTMETER WITH SELECTOR SWITCH. 9- AMMETER WITH SELECTOR SWITCH. 10- THE STARTER EQUIPPED WITH VENT.FAN ,SPACE HEATER AND THERMOSTAT 11- IP: 55,INSULATED ENCLOURE 12- CATEGORY :AC3 13- AMBIENT TEMP 55 °C	
	MOTOR POWER (KW) :-	QTY.
03-01-00805	75	10
03-01-00806	125	10
03-01-00807	130	10
03-01-00808	200	10
03-01-00809	250	10
03-01-00810	315	10
	B- DIRECT ON LINE STARTERS GENERAL SPECIFICATIONS 1-POWER SUPPLY 415V,50HZ. 2-CONTROL SUPPLY 230V. 3. ON - OFF PUSH BOTTOMS 4- PHASE FAILUIRE 5- OVER LOAD CURRENT 6- INDICATING LAMPS FOR ON - OFF - TRIP 7- IP :65 ,DOUBLE INSULATED ENCLOUSER. 8- CATEGORY ,AC3 9- AMBIENT TEMP 55°C	
	MOTOR POWER (KW):-	QTY.
03-01-00811	2.2	20
03-01-00812	5.5	20
03-01-00813	7.5	20
03-01-00814	10	20
03-01-00815	15	20
03-01-00816	18.5	20

2-3-2

CODE	ITEM	QTY.
03-01-00817	SUPPLY OF 7,2 KV STARTERS A- 7.2 KV C.B TYPE SF6 OR CONTACTOR TYPE SFC 320 RATED CURRENT 300 A , CLOSING CAPACITY 16.5 KA BREAKING CAPACITY 6600 A , COIL VOLTAGE 240 V TO REPLACE THE EXISTING CONTACTORS ACCORDING PHYSICAL DIMENTIONS WITH FOLLOWING . 1- VOLTMETER + SELECTOR SW. 2. AMMETER + = 3- PUSH BOTTOMS FOR MANUAL ON+OFF 4-SHORT CCT CURRENT PROTECTION 5- PHASE SEQUENCE + PHASE FAILURE PROTECTION 6- OVER LOAD PROTECTION 7- INDICATOR LAMPS FOR OFF+ON OPERATION 8- HOUR METER 9- UNDER VOLTAGE PROTECTION 10- EARTH LEAKGE PROTECTION	10
03-01-00818	B- SUPPLY OF 7.2 KV C.B TYPE : SF6 , RATED CURRENT 630 A , TO REPLACE THE EXISTING C.BS ACCORDING PHYSICAL DIMENTIONS WITH FOLLOWING :- 1- VOLTMETER + SELECTOR SW. 2. AMMETER + = 3- PUSH BOTTOMS FOR MANUAL ON+OFF 4-SHORT CCT CURRENT PROTECTION 5- PHASE SEQUENCE + PHASE FAILURE PROTECTION 6- OVER LOAD PROTECTION 7- INDICATOR LAMPS FOR OFF+ON OPERATION 8- HOUR METER 9- UNDER VOLTAGE PROTECTION 10- EARTH LEAKGE PROTECTION	4

2-3-3

	ELECTRIC MOTOR STARTERS	
	<u>C- ELECTRONIC STARTERS (SOFT STARTERS)</u> GENERAL SPECIFICATIONS 1-POWER SUPPLY 415V,50HZ. 2-CONTROL SUPPLY 230V. 3- AMBIENT TEMP 55°C 4- SERIAL LINK : COMMUNICATION WITH PC OR PLC . 5- CONSOLE : FOR SIMPLE PROGRAMMING , DIAGNOSTICS ,AND PARAMETER VISUALLIZATION VIA KEY PAD AND DIGITAL LCD	
	MOTOR POWER (KW)	QTY.
03-01-00819	18.5	12
03-01-00820	25	8
03-01-00821	37	10
03-01-00822	45	12
03-01-00823	75	35

ELECTRICAL BOARD

CODE	ITEM	QTY
	ELECTRICAL BOARD FOR HORIZONTAL SCRAPER	
03-01-00824	THE BOARD CONSISTS OF : TOW STARTERS (D.O.L.) TO OPERATE (2) MOTORS IN TWO DIRECTIONS (PS = 0.4KW , V = 400 , N = 700RPM H= 50 HZ , IP = 65)	8
	TWO LIMIT SWITCHS FOR EACH MOTOR IN BOTH SIDES THERE FUNCTIONS TO STOP AND REVERSE IT IS DIRECTION	
	SPECIAL RELAYS WORKING WITH LIMIT SWITCHS	
	MAIN CIRCUIT BREAKER	
	D.O.L. STARTER FOR SLUDGE SUBMERSIBLE PUMP WITH MAXIMUM LOAD (20A) AND THE OVER LOAD SETTING TO BE IN THE RANGE (8-15) AMPER	
	EACH STARTER TO INCLUDE THE FOLLOWING PROTECTION RELAYS :- A) SHORT CIRCUIT B) OVER LOAD C) PHASE FAILAIR D) UNDER VOLTAGE	
	ON - OFF MANUALLY AND AUTO -MATICALLY OPERATION FOR ALL THE UNITS	
	ALARM AS ASOUND	
	THE ELECTRICAL BOARD TO BE OUTSIDE DOOR TYPE PROVIDED WITH WATER PROOF ROOF , SUNPROTECTION ROOF	
	INDICATION LAMPS FOR , OPERATION , STOP , FAULT	
	VOLT AND AMPER METERS	
	RECOMEADED SPARE PARTS FOR TWO YEARS OPERATION	

SUPPLY LOW TENTION DISTRIBUTION SWITCH BOARD
ALQADSSIYA TREATMENT PLANT

PHYSICAL DIMINSIONS : 4 m x 2.15 x 0.7 m

CODE	ITEM	QTY
	THE SWITCH BOARD CONSISTS OF TWO INCOME FEEDER CIRCUIT BREAKER SIX CIRCUIT BREAKERS TO SUPPLY PUMP STARTERS BUS SECTION CIRCUIT BREAKER , AND SMALL POWER DISTRIBUTION BOARD TO SUPPLY DRAINAGE PUMP , SOCKET OUT LETS, LIGHTING , etc. .. THE FRONT PANEL CONSISTS OF ALL MEASURING EQUIPMENT SUCH AS 3 ϕ AMMETERS , VOLTMETERS	
03-01-00825	1. INCOME FEEDER CIRCUIT BREAKER AND BUS COUPLER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 2000 A * RATED INSULATION VOLTAGE : 1000 V * RATED OPERATIONAL VOLTAGE : 660 V * MANUAL & MOTOR CHARGED SPRING STORAGE MECHANISM (MOTOR CONTROL VOLTAGE) : 220 V * CLOSING RELEASE (CONTROL VOLTAGE) : 220 V * UNDER VOLTAGE TRIP (CONTROL VOLTAGE) : 220 V * THE C.B EQUIBED WITH SOLID STATE DOGTRIP TOSUIT THE OPERATING CONDITION THE DIGTRIP COMPRISES THE TRIPPING FUNCTIONS & INDICATIONS AS FOLLOWS * OVER LOAD / SHORT CIRCUIT * INSTANTANEOUS SHORT CCT * EARTH FAULT * DIGITAL DISPLY FOR CURRENT & VOLTAGE	3
03-01-00826	2. PUMP STARTER CIRCUIT BREAKER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 630 A * ALL OTHER TECHNICAL DATA AS IN PARA. 1	6
03-01-00827	3. SMALL POWER DISTRIBUTION: MIN. C. B BREAKER 60A WITH 1 x 25 C.B. AND 3 x 15 C.B.	2

2-3-6

**** 3. single line diagram

FRONT PANEL VIEW

* A : AMMETER

V: VOLTMETER

. ON : RED ON INDICATOR

. OFF : OFF GREEN INDICATOR

2-3-7

SUPPLY LOW TENTION DISTRIBUTION SWITCH BOARD AL- RASHED TREATMENT PLANT		
CODE	ITEM	QTY
	THE SWITCH BOARD CONSISTS OF TWO INCOME FEEDERS,TWO GENERATOR FEEDERS, SIX BREAKERS TO SUPPLY PUMP STARTERS, BUS SECTION CIRCUIT BREAKERS ,FEEDERS FOR LOW LIFT STATION,FILTERS,ALUMSTATION,CLARIFIERS,SLUGE PUMPS,&SMALL POWER DISTRIBUTION BOARD TO SUPPLY SOCKET OUTLETS, LIGHTING , etc. .. THE FRONT PANELS CONSISTS OF ALL MEASURING EQUIPMENT SUCH AS 3 ϕ AMMETERS , VOLTMETERS.	
03-01-00828	1. GENERATOR FEEDER CIRCUIT BREAKER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 1000 A * RATED INSULATION VOLTAGE : 1000 V * RATED OPERATIONAL VOLTAGE : 660 V * MANUAL & MOTOR CHARGED SPRING STORAGE MECHANISM (MOTOR CONTROL VOLTAGE) : 220 V AC * CLOSING RELEASE (CONTROL VOLTAGE) : 220 V AC * UNDER VOLTAGE TRIP (CONTROL VOLTAGE) : 380 V AC * THE C.B EQUIBED WITH SOLID STATE DIGTRIP TO SUIT THE OPERATING CONDITION THE DIGTRIP COMPRISES THE TRIPPING FUNCTIONS & INDICATIONS AS FOLLOWS * OVER LOAD / SHORT CIRCUIT * INSTANTANEOUS SHORT CCT * EARTH FAULT * DIGITAL DISPLY FOR CURRENT , VOLTAGE,&FREQUANCY	2
03-01-00829	2. LOW LIFT STATION FEEDER CIRCUIT BREAKER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 2000 A * RATED INSULATION VOLTAGE : 1000 V * RATED OPERATIONAL VOLTAGE : 660 V * MANUAL & MOTOR CHARGED SPRING STORAGE MECHANISM (MOTOR CONTROL VOLTAGE) : 220 V AC * CLOSING RELEASE (CONTROL VOLTAGE) : 220 V AC * UNDER VOLTAGE TRIP (CONTROL VOLTAGE) : 380 V AC * THE C.B EQUIBED WITH SOLID STATE DIGTRIP TO SUIT THE OPERATING CONDITION THE DIGTRIP COMPRISES THE TRIPPING FUNCTIONS & INDICATIONS AS FOLLOWS * OVER LOAD / SHORT CIRCUIT * INSTANTANEOUS SHORT CCT * EARTH FAULT * DIGITAL DISPLY FOR CURRENT & VOLTAGE	1

2-3-8

CODE	ITEM	QTY.
03-01-00830	3. INCOME FEEDER CIRCUIT BREAKER AND BUS COUPLER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 2000 A * RATED INSULATION VOLTAGE : 1000 V * RATED OPERATIONAL VOLTAGE : 660 V * MANUAL & MOTOR CHARGED SPRING STORAGE MECHANISM (MOTOR CONTROL VOLTAGE) : 220 V AC * CLOSING RELEASE (CONTROL VOLTAGE) : 220 V AC * UNDER VOLTAGE TRIP (CONTROL VOLTAGE) : 380 V AC * THE C.B EQUIBED WITH SOLID STATE DIGTRIP TO SUIT THE OPERATING CONDITION THE DIGTRIP COMPRISES THE TRIPPING FUNCTIONS & INDICATIONS AS FOLLOWS * OVER LOAD / SHORT CIRCUIT * INSTANTANEOUS SHORT CCT * EARTH FAULT * DIGITAL DISPLY FOR CURRENT & VOLTAGE	3
03-01-00831	4. MCCB PUMP STARTER CIRCUIT BREAKER GENERAL TECHINCAL DATA : 3 POLE WITH DRAUABLE TYPE * RATED CONTINUOUS CURRENT : 630 A * ALL OTHER TECHNICAL DATA AS ABOVE.	6
03-01-00832	5. SMALL POWER DISTRIBUTION: MIN.MCCB 60A,WITH 1 x 25A & 3 x 15A MCCB.	2
03-01-00833	6. MCCB FOR AIR BLOWERS 300 A.	2
03-01-00834	7- MCCB FOR CLARIFIERS,DRAINPUMP,& ALUMSTATION 50A.	5
03-01-00835	8- MCCB FOR SLUGE PUMPS	2

2-3-9

CODE	ITEM	QTY.
	11 KV SWITCH BOARD TO REPLACE KPS3 SWITCH BOARD AS FOLLOWS	
03-01-00836	1- CIRCUIT BREAKER 630 A , 11KV FOR PUMPS & TRANSFORMERS SF6 TYPE .	12
03-01-00837	2- CIRCUIT BREAKER 1250 A , 11KV FOR FEEDERS & BUS -COUPLER .	3
03-01-00838	3- COMPLETE PROTECTION & MONITARING SYSTEM FOR THE WITCH BOARD	L.S
03-01-00839	4- SPARE C.B. 630 A .	2
03-01-00840	5- SPARE C.B. 1250 A .	1

2-4: VALVES

CODE	DESCRIPTION	QTY.
	BUTTERFLY VALVE ELECTRICAL ACTUATER OPERATING PRESSURE 10 bar , THE MEDIUM IS THE WATER WITH 2.5 PPM CL2 SOLUTION , THE INTERNAL PART MUST BE PROTECTED BY COATING WITH RESISTANCE MATERIAL FOR CORROSIVE SOLUTION .	
03-01-00841	SIZE 200 NO. BOLTS (8) LENGTH 225 mm	20
03-01-00842	SIZE 250 NO. BOLTS (12) LENGTH 240 mm	50
03-01-00843	SIZE 300 NO. BOLTS (12) LENGTH 260 mm	60
03-01-00844	SIZE 350 NO. BOLTS (14) LENGTH 292, 280 mm	12
03-01-00845	SIZE 400 NO. BOLTS (16) LENGTH 300 mm	50
03-01-00846	SIZE 500 =	50

2-5:LAB

2-5-1

LABORATORY KITS & EQUIPMENTS		
CODE NO.	ITEM	QTY.
03-01-00847	1- MACCONKEY BROTH	50 KG
03-01-00848	2- MEAT EXTRACT	5 KG
03-01-00849	3- NUETRIENT AGAR	10 KG
03-01-00850	4- PEPTON FOR BACTERIOLOGY	20 KG
03-01-00851	5- D.P.D TABLETS	1000 TABLET
03-01-00852	6- NESSLER REAGENT SOL	10 LITERS
03-01-00853	7- CONC HYDROCHLORIC ACID SOL	25 L
03-01-00854	8- DI- SODIUM ETHYLENE DI - AMINE TETRA ACCTIC ACID	10 KG
03-01-00855	9- GLECEROL	10 L
03-01-00856	10 -AMMONIA (AMMONIUM HYDROXIDE) SOL. AR 35% NH ₃	10 L
03-01-00857	11- ASCORBIC ACID	500 G
03-01-00858	12- RED MERCURIC IODIDE AR	5 KG
03-01-00859	13- SILVER NITRATE AR	1 KG
03-01-00860	14- SODIUM OXALATE	500 G
03-01-00861	15- POTASSIUM ALUMINOM SULFATE	500 G
03-01-00862	16- DI- SODIUM HYDROGEN ORTHOPHOSPHATE	1 KG
03-01-00863	17- MURE XIDE	500 G
03-01-00864	18- COBALTOUSE CHLORIDE AR	500 G
03-01-00865	19- ERIOCHROME BLACK T	500 G
03-01-00866	20- N-N DIETHYL PARA PHANILINE DIAMINE SULLFATE	1 KG
03-01-00867	21- ATOMIC ABSORPTION FOR HEAVY METAL	1
03-01-00868	22- SPEETOR PHOTOMETAR	1
03-01-00869	23- SULPHURIC ACID SOL. 0.02N CONVOL	1x80 PIECES
03-01-00870	24- DI SODIUM ETHYLENE DI-AMINE TETREA ACETIC ACID SOL. (0.02N) CONVOL	1x80 PIECES
03-01-00871	25- 4-DIMETHYL AMINO BENZALDHYDE	4x25 g
03-01-00872	26- FILTER PAPER TYPE GF/C 7.0 cm.	40x100 PACK
03-01-00873	27- AUTOMATIC BURETTE CAP. 50ml	10
03-01-00874	28- DROPPING BOTTLES CAP. 500 , 100 ml	20

2-5-2

CODE NO.	ITEM	QTY.
03-01-00875	1- GRADUATED PIPETTE (5 ML)	250
03-01-00876	2- GRADUATED PIPETTE (10 ML)	250
03-01-00877	3- = = (1 ML)	100
03-01-00878	4- = = (25 ML)	50
03-01-00879	5- GLASS STOPPERED BOTTELS (150 ML VOL)	200
03-01-00880	6- = = = (250 ML VOL)	200
03-01-00881	7- NESSLER TUBE (100 ML)	200
03-01-00882	8- = = = (50 ML)	100
03-01-00883	9- JAR SPECIMEN TRANSPARENT PETG CAPACITY 1 LITTER (90 x 180 MM)	50
03-01-00884	10- AUTOMATIC PIPET GRADUATED (1 ML CAPACITY)	20
03-01-00885	11- COMBINED ELECTRODE FOR TYPYE UNICA PH METER	6
03-01-00886	12- SPARE ELECTRODE TYPE LTA 100 NO- 0432-101 FOR LABORATORY CONDUETIVITY METER MODEL LF -42	6
03-01-00887	13- HEATING ELEMENT 1.5 KW FOR 00B WATER STILL	5
03-01-00888	14- COMPORUTOR TUBE 10 ML CAPACITY (COMPARATORE MOULDED 13.5 mm CELL)	400
03-01-00889	15- PIPET SAFETY FILTER (RUBBER) PIPETTE FILLER AND CONTROLLER	50
03-01-00890	16- LABORATORY CONDUCTIVITE METER W.T.W IF 530-220 VOLT . DR W.T.W LF 42 WITH ALL ACCESSORIES	4
03-01-00891	17- LABORATORY PH- METER (PYE - UNIEN) 220-VOLT	4
03-01-00892	18- HEATING ELEMENT FOR WATER DISTILL TYPE GFL	4
03-01-00893	19- WATER DISTILL TYPE GFL	4
03-01-00894	20- COMPARATOR DISC FOR CHLORINE ORTHOTOLIDINE (0,2-4 MG/L) USING CELLS 10 ML WITH LOVIBOND 2000 COMPARATION	10
03-01-00895	21- STANDARIZATION TURBIDITY KIT (1-0 , 10 , 100 , 1000 N.T.U) USED WITH LAB. TURBIDITY METER MODEL 2100 A.	10
03-01-00896	22- FUNNEL COLLS QUART2 1CM, 200-850 NM TYPE MTYU NO. 55 85 69 USED WITH CARLZEISS SPECTROPHOTO METER P M 2 A	2
03-01-00897	23- COPPER SULFATE	5 KG
03-01-00898	24- DROPPING BOTTLES GLEAR GLASS CAPACITY 50 mL	20
03-01-00899	25- POTASSIUM FLUORIDE A.R	1 KG
03-01-00900	26- DENSITY HYDROMETERS RANGE (0-15)	

2-5-3

1- BEAKERS		
CODE NO.	ITEM	QTY.
03-01-00901	1000 ML	10
03-01-00902	600 ML	20
03-01-00903	400 ML	20
03-01-00904	250 ML	20
03-01-00905	100 ML	10
2- VOLUMETRIC FLASKS		
03-01-00906	500 ML	20
03-01-00907	250 ML	20
03-01-00908	100 ML	20
03-01-00909	50 ML	20
03-01-00910	25 ML	20

CODE	ITEM	QTY.
03-01-00911	ACETIC ACID CH_3COOH = 60.05 MINIMUM ASSAY (ACIDIMETRIC) 99.5% (CAT NO 27013 CW (BDH))	30 X 25 L
03-01-00912	SODIUM ACETATE ANHYDROUS MINIMUM ASSAY (eXNa) 98% CH_3COONa = 82.03 (CAT NO 30104 CT (BDH))	3 X 50 Kg

2-5-4

CODE	CHEMICAL REAGENT	QTY
03-01-00913	AMMONIUM CHLORIDE NH_4Cl	2 x 500 gr
03-01-00914	4- DIMETHYLEAMINO BENZAL DE HYDEE	4 x 25 gr
03-01-00915	HYDROCHLORIC ACID	4 x 2.5 L.
03-01-00916	MEMBRANE FILTER . PORE SIZE : 0.45 CHARGE NO. : 781 2510600531	100 x 100 paper
03-01-00917	TRYPTONE . CODE L42	2 x 500 gr
03-01-00918	TRYPTONE WATER . CODE CM 87	2 x 500 gr
03-01-00919	YEAST EXTRACT AGAR . CODE CM 19	4 x 500 gr
03-01-00920	MEMBRANE . FAECAL COLIFORM BROTH , CODE : MM 563	2 x 500 gr
03-01-00921	BRILLIANT GREEN BILE (2%) BROTH , CODE : CM 31	2 x 500 gr
03-01-00922	M- ENDO AGAR LES , CODE : MM 551	2 x 500 gr
03-01-00923	SODIUM GLUTAMATE , CODE : L 124	3 x 500 gr
03-01-00924	MINERALS MODIFIED MEDIUM BASE , CODE : CM 607	3 x 500 gr
03-01-00925	MACCONKEY BROTH , CODE : CM 5	2 x 500 gr
03-01-00926	KF STREPTOCOCCUS AGAR CODE CM 701	1 x 500 gr
03-01-00927	TEST TUBE 50 ML	50
03-01-00928	TEST TUBE 100 ML	50

2-6: CHLORINE DRUM WITH GAS

CODE	ITEM	QTY.
03-01-00929	SUPPLY AND FILLING (TON) CHLORINE DRUM WITH CHLORINE GAS	1500 tons

CHLORINE DRUMS:

IN ACCORDANCE WITH B.S.S 1500-1958 OR ANY INTERNATIONAL STANDARD EQUIVALENT TO BRITISH STANDARD ABOVE, EACH CYLINDER HAVE A CAPACITY OF 1000 KG OF LIQUID CHLORINE OF 99.9% PURETY.

PRINCIPLE DIMENSION:

WATER CAPACITY	840 LITERS
THICKNESS OF STEEL	0.472 INCH
WALL THICKNESS OF PLATE & PLATS	12 mm
OVERALL LENGTH OF THE SYLINDER	2020 mm

MATERILAS :

- A- SHELL PLATE AND PLATE ARE TO BE MADE OUT OF STEEL PLATE
- B- SCREWED CONNECTION MADE FROM ROUND STEEL BAR.
- C- SKIRT MADE FROM STEEL PLATE.
- D- BACKING STRIP MADE FROM STEEL PLATE .
- E- CAPS MADE FROM MOLDABLE CAST RION.
- F- LEADS PIPE MADE FROM CARBON STEEL PIPE.

SCREWED CONNECTION AND CAP:

SCREWED CONNECTION AND CAP THEEADS SHALL BE MADE ACCORDANCE WITH B.S.341, B.S.2779 . THE SCREWED CONNECTION SHALL BE OF 1-DIA, STANDERD TAPER 1.8.14 THEARD PER INCH AND VALVE EXIT THEARD ACCONDANCE TO B.S.P.RII.3/5 INCH.

VALVES & FUSE PLUGS ;

VALVE AND FUSE PLUG SHALL BE APPLIED THE THREADS MADE IN ACCORDANCE WITH B.S.341 & B.S.2779 . EACH CYLINDER SHALL BE COMPLETE WITH TWO VALVES, ONE FOR CHARGING LIQUID AND OTHER FOR DISCHARGING OF THE GAS. EACH OF THESE TWO VALVES SHALL BE ARRANGE FOR PRESSURE RELINING & THE CONNECTION WITH CYLINDER SHALL BE I INCH B.S.B.R.H. THERD TENDERED TAPER 14 THEARD PER INCH, THE SIDE OUTHER OF THE VALVE SHALL BE 5/8 INCH B.S.P.R.H. 14 THREADS PER INCH WITH PROPER COVER.

THE BODY OF THE VALVE SHALL BE MADE OF SUITABLE BRASS ALLOY WITH MONEL METAL SPINDLE . EACH CYLINDER WHILE IN STORAGE OF USE .

THE MATERIAL OF THE FUSE HAS MILTING POINT 90 ± 5 C.

PAINTING:

AFTER REMOVING SCALE CLEANING THE SURFACE , ONE COAT OF PRIMER AND ONE OF FINISHINGPAINT SHALL BE APPLIED. THE COLOR OF FINISHED PAIN SHALL BE GOLDEN YELLOW.

NOTES:

- 2 COPIES OF MANUAL INSTRUCTIONS FOR OPERATION AND MAINTENANCE SHALL BE SUBMITTED
- INSPECTION CERTIFICATED FOR THE CHLORINE CYLINDER GAS ISSUED FROM THE MANUFACTAER , SHALL BE SUBMITTED.

2-7:

CODE	ITEM	QTY.
03-01-00930	ALUM. SULPHATE WITH FOLOWING SPEC. 1- IN SOLUBLE MATER SHALL NOT EXCEED 0.5 % (PURIFIED) . 2- CONTENT OF ALUMINUM AS Al_2O_3 NOT LESS THAN 16.5 % . 3- FREE ACIDITY NIL. 4- HAVEY METAL AS (pb) SHALL NOT EXCEED 0.02 IN WEIGHT. 5- ARSENIC (As) AS As_2O_3 SHALL NOT EXCEED 0.005. 6- PH (SOLUTION 5%) NOT DECREASE THAN 3.0. 7- IRON AS Fe SHALL NOT EXCEED 0.01 % IN WEIGHT. 8- AMMONIUM ASLTS AS (NH_3) AT MAXIMUM 0.03 % IN WEIGHT. 9- GROUND ALUMINUM SULFATE FOR USE IN DRY FEEDING MACHINES SHALL BE OF SUCH SIZE THAT NOT LESS THAN 90% SHALL PASS A NO. 10 SIERC 1.7mm & 100 % SIERC NO. 4 mm. 10- PACKED IN 50 KG SACKS.	8000 TON

2-8:

CODE	ITEM	QTY.
03-01-00931	POLY ELECTROLYTE CATONIC ALLIED COLLOIDS	120 TON

2-9: TREATMENT PLANTS AND RES. COMPUTER WORK STATIONS.

CODE	ITEM	QTY
03-01-00932	PERSONAL COMPUTER ,PANTIUM II SPEED 333 MHZ , HARD 6 GB , RAM 128 MB A GP CARD 8 MB RAM 21" SUGA MONITOR CD ROM 34 X 3.5" FLOPPY DISC DRIVE 64 BIT SOUND CARD + 100 WATT SPEAKER KEYBOARD + MOUSE	20
03-01-00933	PRINTER 1- LQ- FX 2170 WITH RIBBONS & HEADS AS ASPARES 2- A4 LASER PRINTER (12 PAGES PER MINUTE)	15 2
03-01-00934	UPS ,AS REQUIERD FOR 4 WORKING HOURS	20
03-01-00935	CD WRITER 4 X WRITER 8 X READER WITH BLANK ROM 650 MB	2 100

CODE	ITEM	QTY
03-01-00936	COMPUTER, PENTUM , 6 GB H.D , 64 MB RAM , 300 MH	10
03-01-00937	IBM MOUSE , WITH MOUSE PAD	10
03-01-00938	CD DRIVE , 34 X.	10
03-01-00939	MONITR, SVGA	10
03-01-00940	LAND CARD , ETHERNET 32 BIT	10

03-01-00941	PRINTER , EPSON , DFX 8000	4
03-01-00942	PRINTER , EPSON , LQ2170	4
03-01-00943	DISTRIBUTION BOARD WITH 10 CONNECTIONS , HUB	2
03-01-00944	DISTRIBUTION CABLE , 10 M	5
03-01-00945	DISTRIBUTION CABLE , 3 M	10
03-01-00946	DISTRIBUTION CABLE , 50 M	2
03-01-00947	MULTIMEDIA CREATIVE	3
03-01-00948	POWER SUPPLY , 23V,900VA	4
03-01-00949	RIBBONS FOR (DFX-8000)	200
03-01-00950	PAPER FOR REPORTS,THREE COPIES , 36.5CMWIDE,28CM LONG	50 BOX
03-01-00951	PAPER FOR REPORTS,TWO COPIES , 36.5CMWIDE,28CM LONG	100 BOX
03-01-00952	PAPER FOR REPORTS,ONE COPY , 36.5CMWIDE,28CM LONG	300 BOX
03-01-00953	BILL PAPERS, 30.5CMWIDE,28CM LONG	400 BOX
03-01-00954	PAPER CUTTING MACHINE, GIGH DETACHER 710	2

2-10: CONTROL OF WATER LOSSES IN THE WATER SYSTEM OF BAGHDAD

2-10-1

CODE	ITEM	qty
	A- SCOPE OF WORK 1- DOCUMENTATION - COLLECTION OF DETAILED MAPS OF TRUNKS AND DISTRIBUTOR NETWORK CONTAINING DIAMETERS, LENGTHS, VALVES, PUMPING STATIONS AND OTHER INSTALLATIONS IN THE NETWORK. 2- CALCULATION STRUCTURE PLAN-BASED ON THE DOCUMENTATION OF THE NETWORK . A DIGITIZED MODEL OF THE NETWORK SHOULD BE IMPLEMENTED ON THE COMPUTER. THIS CALCULATION STRUCTURE PLAN CONTAINS HYDRAULIC NETWORK NODES AND PIPE CONNECTING THESE NODES AS ABASES FOR FURTHER PROCESSING . 3- HYDRAULIC SIMULATION-BASED ON HYDRAULIC MODEL AND THE ALLOCATED CONSUMPTION AND PRODUCTION FIGURES . 4- OPTIMIZATION OF HYDRAULIC OPERATION BASED ON THE IMPROVED HYDRAULIC MODEL . 5-TRAINING OF BWA-STAFF	
	B- SCOPE OF SUPPLY 1- HARDWARE	
03-01-00955	A- DATA SERVER PENTIUM PRO 200 MMX 128 MB MEMORY 12 GB DISK STREAMER FOR BACK - UPS SVGA COLOUR SCREEN 15" CD ROM DRIVE MOUSE KEYBOARD ETHERNET NETWORK BOARD WINDOWS NT SERVER OPERATING SYSTEM	1
03-01-00956	B- STAND - ALONE WORK STATION AS ABOVE BUT 64 MB MEMORY AND INCLUDING MICROSOFT ANIVIRUS	6
03-01-00957	C- COMMUNICATION LINKS MODEM 33600 BANDS	1
03-01-00958	D- PLOTTER AO PLOTTER COLOUR INKJET HPGL COMPATIBLE	1
03-01-00959	E- PRINTER A4 LASER PRINTER (12 PAGES PER MINUTE)	1
03-01-00960	F- SCANNING DEVICE A1 SCANNER 400 bpi	1
	G- SUPPLIES	
03-01-00961	PLOTTER PAPER (roll)	20
03-01-00962	DISKETTES	100
03-01-00963	STREAMER TAPES	30
03-01-00964	PLOTTER INK CARTRIDGES	100
03-01-00965	CARTRIDGES FOR LASER PRINTER	20
03-01-00966	A4 PAPER FOR PRINTER	20000
03-01-00967	NETWORK CABLES	5

CODE	ITEM	QTY.
	2- SOFTWARE	
03-01-00968	A- SOFTWARE PRODUCT TO MANAGE THE NETWORK DATA BASE TO BE CUSTOMIZED TO MEET BWA'S NEEDS.	3
03-01-00969	B- DATA SERVER FOR THE WORK STATION	1
03-01-00970	C- RELATIONAL DATA BASE MANAGEMENT SYSTEM (RDBMS) INCLUDING 1 SERVER LICENSE AND 4 USER LICENSES .	1
03-01-00971	D- SOFTWARE PROGRAM TO COMPUTE PRESSURE AND FLOW VALVES .	1
03-01-00972	E- SCANNING RASTER DATA MANIPULATION AND MANAGEMENT SOFTWARE COMPATIBLE WITH THE SCANNING DEVICE PROPOSED .	1
	3- SUPPLY OF INSTRUMENTS	
03-01-00973	A- PIPE LOCATOR	2
03-01-00974	B- PRESSURE METER WITH TRANSMITTER	100
03-01-00975	C- LEVEL METER WITH TRANSMITTER	20
03-01-00976	D- ULTRA SONIC FLOW METER WITH TRANSMITTER	100
03-01-00977	E- GAS DETECTOR (CO , H ₂ S , CH ₄ , O ₂)	4
03-01-00978	F- RADIO / MODEMS WITH DATA COLLECTOR	40
03-01-00979	G- OVER HEAD PROJECTOR CONNECTED TO MONITOR	2
03-01-00980	H- SLAVE MONITORS	4

2-11: PVC PIPES AND FITTING

CODE	ITEM	QTY.
03-01-00981	P.V.C VALVE 2" , DIMENSION : 63 NW 50	20
03-01-00982	P.V.C. T CONNECTION , DIMENSION : 63 NW 50	25
03-01-00983	P.V.C. ELBOW 90 ° , DIMENSION : 63 NW 50	35
03-01-00984	REDUCER BUSH (P.V.C), DIMENSION : 110 - 90	30
03-01-00985	P.V.C. ELBOW 90 ° , DIMENSION : 110 NW 100	30
03-01-00986	P.V.C. T CONNECTION , DIMENSION : 110 NW 100	30
03-01-00987	P.V.C. FLANGE , DIMENSION : 110 NW 100	15
03-01-00988	VALVE DIMENSION : 6"	10
03-01-00989	P.V.C. UNION , DIMENSION : 63 NW 50	60
03-01-00990	P.V.C. ELBOW 120° , DIMENSION : 63 NW 50	4
03-01-00991	P.V.C. PIPE , DIMENSION : 110 NW 100	60 m
03-01-00992	P.V.C. PIPE , DIMENSION : 63 NW 50	74 m
03-01-00993	P.V.C. BUSH , DIMENSION : 63 NW 50	30
03-01-00994	P.V.C. ELBOW 90 ° , DIMENSION : 2"	3
03-01-00995	P.V.C. T CONNECTION , DIMENSION : 2"	10
03-01-00996	P.V.C. PIPE , DIMENSION : 2"	25 m
03-01-00997	VALVE P.V.C. , DIMENSION : 110 NW 100	10
03-01-00998	P.V.C. BALL VALVE , DIMENSION : 63 NW 50	2
03-01-00999	P.V.C. PIPE , 63 NW 50	460 m

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT PVC FITTINGS	
03-01-01000	REDUCING BUSH , SIZE : 110 - 90	8
03-01-01001	REDUCING BUSH , SIZE : 90 - 63	8
03-01-01002	REDUCING BUSH , SIZE : 1.5" - 1"	3
03-01-01003	REDUCING BUSH , SIZE : 2" - 1.5"	1
03-01-01004	REDUCING BUSH , SIZE : 2" - 3/4"	2
03-01-01005	BUSH , SIZE : 1"	3
03-01-01006	PIPE , SIZE : 3/4"	6 m

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT PVC FITTINGS	
03-01-01007	DIAPHRAGM VALVES , SIZE : DA 63 , NW 50	8
03-01-01008	DOUBLE UNION BALL VALVES , SIZE: d 32 , DN 25 1"	3
03-01-01009	DOUBLE UNION BALL VALVES , SIZE: d 25 , DN 20 3/4"	5
03-01-01010	TEE , SIZE : 1.5"	10
03-01-01011	TEE , SIZE : DA 63 , NW 50	15
03-01-01012	TEE , SIZE : DA 110 , NW 100	15
03-01-01013	TEE , SIZE: BS 4346/1 1.5"	4
03-01-01014	TEE , SIZE : NW 20 , 25 mm	4
03-01-01015	ELBOW 90° , SIZE : DA 63 , NW 50	15
03-01-01016	ELBOW 90° , SIZE : 1.5"	8
03-01-01017	ELBOW 45° , SIZE : 3/4"	5
03-01-01018	ELBOW 90° , SIZE : DA 110 , NW 100	15
03-01-01019	ELBOW 90° , SIZE : NW 20 , 25 mm	6
03-01-01020	UNION , SIZE : PVC1 NW50	10
03-01-01021	UNION , SIZE: 1"	10
03-01-01022	UNION , SIZE: 1.5" PVC1	3
03-01-01023	UNION , SIZE : NW20 , 25 mm	2

CODE	ITEM	QTY
	SPARE PART LIST FOR 7-NISSAN PROJECT PVC FITTINGS	
03-01-01024	PIPE PVC DIA 63-110-140	50 m
03-01-01025	TEE 90 DIA 63-110-140-160	10
03-01-01026	ELBOW 90 DIA 63-110-140-160	10
03-01-01027	FLANGE ADAPTERS DIA 63-100-110-140-160	10
03-01-01028	BLACKING FLANGE DIA 110-140-160	10
03-01-01029	FLANGE ADAPTER (WITH "O" RING SROOVE) 140-160	10
03-01-01030	UNION NUT DIA 63	25
03-01-01031	UNION DIA 50-63-110	20
03-01-01032	REDUCING BUSH DIA 140 - 110	5
	110 - 90	5
	63 - 50	5
03-01-01033	ELBOW DIA 110 - 90	5
	90 - 63	5
03-01-01034	PRESSURE RELIEF VALVE DIA 63	8
03-01-01035	ISOLATING VALVE DIA 63	20
03-01-01036	ISOLATING VALVE DIA 50	10
03-01-01037	VALVE ADAPTER UNION DIA 63	20
03-01-01038	ELBOW 45 DIA 110-140-160	5
03-01-01039	SOCKET DIA 63-110-140-160	10
03-01-01040	TANGIT (275) GRM	20

CODE	ITEM	QTY
	P.V.C. PIPES AND FITTINGS	
	DOUBLE UNION BALL VALVE PLAIN SOCKET	
03-01-01041	1"	10
03-01-01042	1.5"	15
03-01-01043	2"	25
03-01-01044	2.5"	25
03-01-01045	3"	25
03-01-01046	3.5"	25
	DOUBLE UNION BALL VALVE THREADED SOCKET	
03-01-01047	1.5"	25

03-01-01048	2"	25
03-01-01049	2.5"	25
03-01-01050	3"	25
	DOUBLE UNION BALL VALVE FLANGED	
03-01-01051	1"	5
03-01-01052	1.5"	10
03-01-01053	2"	15
03-01-01054	2.5"	15
03-01-01055	3"	15
	CHECK VALVE	
03-01-01056	1"	10
03-01-01057	1.5"	15
03-01-01058	2"	25
03-01-01059	2.5"	25
03-01-01060	3"	25
03-01-01061	3.5"	25
	DIAPHRAGM VALVE FLANG TYPE	
03-01-01062	2"	25
03-01-01063	2.5"	25
03-01-01064	3"	25
03-01-01065	3.5"	25
	ANGLE SEAT VALVE PLAM SOCKS	
03-01-01066	1"	10
03-01-01067	1.25"	10
03-01-01068	1.5"	10
03-01-01069	2"	10
03-01-01070	2.25"	10
03-01-01071	2.5"	10
03-01-01072	3"	10
	SEDIMENT STRAINERS	
03-01-01073	1"	10
03-01-01074	1.25"	10
03-01-01075	1.5"	10
03-01-01076	2"	10
03-01-01077	2.25"	10
03-01-01078	2.5"	10
03-01-01079	3"	10
03-01-01080	3.5"	10

CODE	ITEM	QTY
	PIPE FITTING A-SOCKET PLAIN	
03-01-01081	1"	30
03-01-01082	1.5"	30
03-01-01083	2"	30
03-01-01084	2.5"	30
03-01-01085	3"	30
03-01-01086	3.5"	30
	ELBOWS 90° PLAIN	
03-01-01087	1"	30
03-01-01088	1.5"	30
03-01-01089	2"	30
03-01-01090	2.5"	30
03-01-01091	3"	30
03-01-01092	3.5"	30
	ELBOWS 45° PLAIN	
03-01-01093	1"	10
03-01-01094	1.5"	10

03-01-01095	2"	10
03-01-01096	2.5"	10
03-01-01097	3"	10
03-01-01098	3.5"	10
	UNION PLAIN	
03-01-01099	1"	30
03-01-01100	1.5"	30
03-01-01101	2"	30
03-01-01102	2.5"	30
03-01-01103	3"	30
03-01-01104	3.5"	30
	TEE 90° PLAIN	
03-01-01105	1"	25
03-01-01106	1.5"	25
03-01-01107	2"	25
03-01-01108	2.5"	25
03-01-01109	3"	25
03-01-01110	3.5"	25
	BEND 90° SHORT REDUCE PLAIN	
03-01-01111	1"	10
03-01-01112	1.5"	10
03-01-01113	2"	10
03-01-01114	2.5"	10
03-01-01115	3"	10
03-01-01116	3.5"	10
	HOSE ADAPTORS	
03-01-01117	0.5"	10
03-01-01118	0.75"	10
03-01-01119	1"	10
	FLANG , FULL FACE FLANG PLAIN	
03-01-01120	0.75"	15
03-01-01121	1"	15
03-01-01122	1.5"	15
03-01-01123	2"	15
03-01-01124	2.5"	15
03-01-01125	3"	15
03-01-01126	3.5"	15

CODE	ITEM	QTY
03-01-01127	VARIABLE AREA FLOW METERS 2" , FLOW 400-4000 L/HR	15
03-01-01128	SOLVENT CEMENT 0.5 L	50
03-01-01129	CLEANER 0.5 L	25
03-01-01130	PTFE THREAD - WARP TAPE	500
03-01-01131	CHAIN WRENCH	8
03-01-01132	STRAP WRENCH	8
	PIPS	
03-01-01133	1"	200 mm
03-01-01134	1.5"	200 mm
03-01-01135	2"	200 mm
03-01-01136	2.5"	200 mm
03-01-01137	3"	200 mm
03-01-01138	3.5"	200 mm

2-11: DUCTILE IRON PIPES AND FITTINGS

CODE	ITEM	QTY.
	SUPPLY OF SPIGOT AND SOCKET DUCTILE IRON PIPES ACCORDING TO ISO STANDARD 2531 TYPE K=9 WITH THE FOLLOWING TECHNICAL SPECIFICATIONS. 1- INTERNAL PRESSURE PROOF TEST = 50 BARS 2- WALL THICKNESS SHOULD BE ACCORDING TO THE FOLLOWING FORMULA : $e = 5.8 + 0.003 ND$ WHERE , e = WALL THICKNESS IN (mm) ND = NOMINAL DIAMETER (mm) 3- LENGTH OF EACH PIPE SEGMENT SHOULD BE 6 METERS 4- PIPES OF PUSH JOINT. 5- PIPES SHOULD HAVE ASPUN CEMENT MORTER INSIDE LINING AND OUT SIDE BITUMEN COATING. - SCOPE OF SUPPLY :	
03-01-01139	a- DUCTILE IRON PIPES WITH NOMINAL DIAMETER OF 100 mm INCLUDING RUBBER JOINTS.	5000 M
03-01-01140	b- DITTO. WITH NOMINAL DIAMETER OF 150 mm INCLUDING RUBBER JOINTS.	15000 M
03-01-01141	c- DITTO. WITH NOMINAL DIAMETER OF 200 mm INCLUDING RUBBER JOINTS.	5000 M

	SUPPLY OF DUCTILE IRON FITTINGS SUITABLE FOR DUCTILE IRON PIPES ACCORDING TO ISO STANDARD 2531 WITH THE FOLLOWING TECHNICAL SPECIFICATIONS a- FLANGES SHOULD BE OF TYPE NP 16. b- FITTINGS SHOULD HAVE A CEMENT MORTER INSIDE DINING AND OUT SIDE BITUMEN COATING. c- HYDROSTATIC LEAK- TIEGHTNESS TEST PRESSURE SHOULD BE NOT LESS THEN 25 BARS. d- WALL THICKNESS SHOULD BE ACCORDING TO THE FOLLOWING FORMULA. $e = 7 + 0.014 ND$ FOR TEES. $e = 6 + 0.012 ND$ FOR OTHER FITTINGS. - SCOPE OF SUPPLY THE SCOPE OF SUPPLY INCLUDE ALL NECESSARY RUBBER JOINTS, GASKITS, WASHERS, BOLTS , NUTS AND GLANDS, ALL SOCKET JOINTS TO BE MECHNICAL.	
03-01-01142	a- DOUBLE FLANGE BEND -90 °- Nominal Diameter (mm) : 100	100 PCS.
03-01-01143	b- DITTO . Nominal Diameter (mm): 150	50
03-01-01144	c- DITTO Nominal Diameter (mm) : 200	25
03-01-01145	d- DOUBLE SOCKET BEND --90 °- Nominal Diameter (mm) : 100	250
03-01-01146	e- DITTO Nominal Diameter (mm): 150	150
03-01-01147	f- DITTO Nominal Diameter (mm) : 200	50
03-01-01148	g- DOUBLE FLANGE BEND 45° Nominal Diameter (mm) : 100	50
03-01-01149	h- DITTO Nominal Diameter (mm) : 150	50
03-01-01150	i- FLANGE SPIGOT Nominal Diameter (mm) : 100	150
03-01-01151	j- FLANGE SOCKET Nominal Diameter (mm) : 150	150
03-01-01152	k- ALL SOCKET TEE 150X100 mm	100
03-01-01153	l- ALL SOCKET TEE 100X100 mm	100
03-01-01154	m- DOUBLE FLANGE REDUCER 150X100	50

CODE	ITEM	QTY.
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03-01-01155	PC 486 33 MH2 16MRAM SVGA MONITOR 500 MB(min) HD	35
03-01-01156	SLIP PRINTER FOR CASH WITH PUNCHING BILLS AND PAPER ROLE O/P	35
03-01-01157	PC PENTIUM 200 MH2 64MRAM SVGA MONITOR 2 GB HD	6
03-01-01158	LQ FX 2170 PRINTER	5
03-01-01159	CASH COUNTING MACHINE PLUS P329	4
03-01-01160	BOX CONTAINS PAPER A3 2000 PAPER SINGLE COPY	75
03-01-01161	BOX CONTAINS PAPER A3 1000 PAPER 2 COPIES	75
03-01-01162	BOX CONTAINING PAPER A3 700 PAPER 3 COPIES	50

SECTION 3: MACHINERY AND EQUIPMENT

3-1: GARBAGE COLLECTING VEHICLE

CODE NO.	ITEM	QTY
03-01-01163	CHASSIS CAB : 4 X 2 ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER POWER: NOT LESS THAN 240 HP. CLUTCH : SINGLE PLATE GEAR BOX : 8 SPEED G. V. W : NOT LESS THAN 19 TON PAYLOAD : NOT LESS THAN 11 TON TRY SIZE : 1200 X 20 DISK TYPE CAPACITY : 16 m ³ COMPACT RATIO: 6:1	300

3-2: STREET SWEEPERS

CODE NO.	ITEM	QTY
03-01-01164	G.V.W: 14-16 TON. DIESEL ENGINE 4 CYLINDERS DIRECT INJECTION PUMPS. POWER 80-110 HP AUXILIARY ENGINE : 4 CYLINDER, WATER COOLED , DIRECT INJECTION PUMP, POWER 80-100HP BODY: CONTAINER CAP: 8-10 M ³ SWEEPING SPEED : 0-20 KM/H AIRFLOW CAP: 8-10 M ³ /H. WATER CONTAINER VOLUME : 1-1250 M ³ CENTER BRUSH: 400 MM Ø X 1500 ML MAX. SUCTION DEPTH : 200 MM WITH REAR HOSE FOR SUCTION MAX. SWEEPING WIDTH NOT LESS THAN 3500 MM	10

3-3: JETTING VEHICLES

CODE NO.	ITEM	QTY
03-01-01165	CHASSIS CAB : 4 X 2 ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER POWER: NOT LESS THAN 200 HP. CLUTCH : SINGLE PLATE GEAR BOX : 8 SPEED G. V. W : NOT LESS THAN 19 TON PAYLOAD : NOT LESS THAN 12 TON TRY SIZE : 1200 X 20 DISK TYPE TANK CAPACITY : 9000 L PUMP PRES. NOT LESS THAN 200 BAR. FLOW 300 L/MIN.	20

3-4: CESSPIT EMPTIER

CODE NO.	ITEM	QTY
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3-8: TIPPERS

CODE NO.	ITEM	QTY
03-01-01172	CHASSIS CAB : 6 X 4 ENGINE : 4- STROKE , 6 CYLINDER IN LINE TURBOCHARGER POWER: NOT LESS THAN 280 HP. CLUTCH : SINGLE PLATE GEAR BOX : 9 SPEED G. V. W : NOT LESS THAN 30 TON PAYLOAD : NOT LESS THAN 20 TON TRY SIZE : 1200 X 20 DISK TYPE TIPPER CAPACITY : 16m ³	50

3-9: GRADERS

CODE NO.	ITEM	QTY
03-01-01173	OPERATING WEIGHT : 11-13 TON ENGINE POWER: 135-155 HP BLADE DIMENSION: NOT LESS THAN (LENGTH,HIGHT,THICKNESS) (3710,600,19)MM CUTTING ANGEL: NOT LESS THAN 35 DEGREE TIRE SIZE : 1300X24 STARTING MOTOR, ALTERNATOR :24 V	30

3-10: CRAWLER DOZER

CODE NO.	ITEM	QTY
03-01-01174	OPERATING WEIGHT : 35000-40000 KG ENGINE POWER: 243 KW DIESEL ENGINE DIRECT INJECTION PUMP. POWER: 50-70 HP.	18

3-11: ROLLERS

CODE NO.	ITEM	QTY
03-01-01175	WHEEL ROLLERS OPERATING WEIGHT UP TO 10.8 TON ROLLING WIDTH: 1800 MM NO. OF TIERS :7	4
03-01-01176	STEEL ROLLER DOUBLE DRUM VIBRATING ROLLER OPERATING WEIGHT : NOT LESS THAN 7.2-8.2 TON DRUM WIDTH : NOT LESS THAN 1500 MM	4
03-01-01177	SMALL STEEL ROLLERS	18
03-01-01178	SHEEP FOOT ROLLERS, WITH VIBRATORY SYSTEM DRUM WIDTH : 1676 MM NO. OF PADS: 96 PAD HEIGHT: 90MM PAD FACE AREA: 90CM SQUARE ENGINE: 4 CYLINDER , TURBOCHARGER, DIESEL ENGINE , NET POWER : 95-105 HP. OPERATING WEIGHT : 7000-7250 KG	6

3-12: TRACTORS

CODE NO.	ITEM	QTY
03-01-01179		30

3-13: PORTABLE WATER PUMPS DIESEL OPERATED

CODE NO.	ITEM	QTY
03-01-01180	PUMP SIZE SUCTION X DISCHARGE 100X100 MM	10
03-01-01181	PUMP SIZE SUCTION X DISCHARGE 150X150 MM	10
03-01-01182	PUMP SIZE SUCTION X DISCHARGE 200X200 MM	10

3-14: FIELD VEHICLES

CODE NO.	ITEM	QTY
03-01-01183	FIELD VEHICLE 2 WHEEL DRIVE 2 CABIN	30
03-01-01184	STATION , 4 WHEEL DRIVE, 4 DOORS	50
03-01-01185	2 CABIN , SEATING CAPACITY : 6 , PAY LOAD :1750- 2000 KG, GVW: 4300-4600KG, ENGINE POWER: 75-80 HP., BODY SIZE: L=3400-3600 MM, W= 1700-1900MM, H= 350-450MM	20
03-01-01186	CITY BUS: SEATING CAPACITY: 31 RIDING CAPACITY :60 WHEEL BASE: 5M, OVER ALL DIMENSION : 10000X2500X3000 MM GVW: 12200KG, ENGIN: 118KW	10
03-01-01187	CITY BUS: SEATING CAPACITY:24 OVER ALL DIMENSION : 7000X200X2800 MM ENGINE: 92KW	15

3-15:WHEEL STREET PAVERS

CODE NO.	ITEM	QTY
03-01-01188	BASIC WIDTH 2.5- 5 M MAX. PAVING WIDTH WITH EXTENSION : 8M ENGINE OUT PUT : NOT LESS THAN 87 KW LAY DOWN RATE : UP TO 600 TON/H. PAVING DEPTH : UP TO 300MM HOPPER CAPACITY: 12TON	4

3-16:ASPHALT HOT RECYCLERS

CODE NO.	ITEM	QTY
03-01-01189		1

3-17: CONCRETE MIXING TRUCK

CODE NO.	ITEM	QTY
03-01-01190	CHASSIS CAB : 6 X 4 ENGINE : 4- STROKE , 6 CYLINDER IN LINE TURBOCHARGER, WATER COOLING SYSTEM POWER : NOT LESS THAN 280 HP. CLUTCH : SINGLE PLATE DOUBLE AXLE GEAR BOX : 9 SPEED TIRE SIZE : 1200 X 20 DISK TYPE. MIXING: BY HYDRAULIC SYSTEM OR AUXILIARY ENGINE MIXER CAPACITY : NOT LESS THAN 6 M ³ MIXER TO BE WITH COVERING PLATE.	25

3-18: POWER CURBER MACHINE

CODE NO.	ITEM	QTY
03-01-01191	CURB AND GUTTER MACHINE CRAWLER TYPE WITH 3 TRACKS SUITABLE FOR ROADS 6M WIDE EQUIPPED WITH MOLDS FOR CURB,BARRIER , TRENCH, TO BE EASY CHANGE TYPE. SUITABLE FOR PAVING ROADS 6M WIDE WITH CONCERT SUPPLIED WITH CONCRETE VIA BELT CONVEYER (SWING) AND NOT WITH AUGER CONVEYOR EQUIPPED WITH TRIMMER TO CUT SOIL.(DEPTH UP TO 100MM). WORKING WITH COMPLETE HYDRAULIC SYSTEM AND ELECTRONIC SENSORS FOR ALL ACTIVITIES ONE SINGLE PASS TYPE (CUTTING SOIL AND CASTING CONCRETE IN ONE TIME). HEIGHT AND ALIGNMENT CONTROLLED BY ELECTRONIC SENSORS SPARE PARTS FOR 24 MONTHS WORKING WIDTH: 2-6M MAX. PAVING THICKNESS: 450 MM ENGINE OUT PUT: 123 KW/167 PS WEIGH: 13-27 TON. DEPENDING ON JOB.(CURBING OR PAVING). FOR CASTING CURBS UP TO 630 MM HEIGHT, AND GUTTER UP TO 800 MM AND BARRIER UP TO 900 MM (ADJUSTABLE) DIESEL ENGINE RATTED AT 84.5 HP.,2500 RPM EQUIPPED WITH WATER TANK 300 L. HIGH PRESSURE	4

3-19: ASPHALT PLANTS:

CODE NO.	ITEM	QTY
03-01-01192	COMPLETE ASPHALT PLANT WITH CAPACITY NOT LESS THAN (250-300 T/HR) .OR(500 M³), WITH COMPLETE FILTERING SYSTEM (FILTERIZED) AGAINST POLLUTION DETAILS OF PLANT: UN PORTABLE FILLER TANK WITH A CAPACITY NOT LESS THAN: 260 TON. BITUMEN TANK WITH AUTOMATIC HEAT CONTROL FOR OIL TEMPERATURE FOR EACH OF THREE TANKS WITH A CAPACITY OF 60M³ ALL ACTIVITIES IS AUTOMATIC AND CONTROLLED BY COMPUTER SCREENING SYSTEM WORKS ON SCREENING AND BY PASS. TURBINE PUMP SHALL BE MECHANICAL TYPE (NO RUBBER PARTS). GENERATOR FOR STARTING THE HEAT EXCHANGER OF THE PLANT WITH ELECTRIC PROTECTION SYSTEM AGAINST ANY CHANGE IN THE CURRENT GENERATOR WITH AUTOMATIC CHANGE OVER THE DRYER TO BE DRIVEN EITHER BY FRICTION OR CHAIN. SILOS FOR STORING ASPHALT WITH A CAPACITY NOT LESS THAN 300 TON. WITH HEATING SYSTEM WITH 5 HOPPERS WITH A CAPACITY OF 12M³ EACH. WITH ADDITIONAL GENERATORS NOT LESS THAN 150 KVA FOR THE BITUMEN HEATER WITH AUTOMATIC FIRE PROTECTION SYSTEM FOR THE BITUMEN HEATER AND MAIN CABIN .	2

3-20: STREET MAINTENANCE TRUCK

CODE NO.	ITEM	QTY
03-01-01193	CHASSIS CAB : 4 X 2 WITH TIPPING BACK UP TO 4 m ³ ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER POWER : NOT LESS THAN 240 HP. CLUTCH : SINGLE PLATE GEAR BOX : 8 SPEED G. V. W : NOT LESS THAN 19 TON PAYLOAD : NOT LESS THAN 12 TON TIRE SIZE : 1200 X 20 DISK TYPE LIFTING CAPACITY : 6 TON - M EQUIPPED WITH : COMPRESSOR, HAMMER, SMALL MANUAL STEEL ROLLER , CRANE WITH SUFFICIENT LIFTING POWER TO LIFT THE STEEL ROLLER	20

3-21: CRANE EQUIPPED TRUCK

CODE NO.	ITEM	QTY
03-01-01194	CHASSIS CAB : 4 X 2 ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER POWER: NOT LESS THAN 240 HP. CLUTCH : SINGLE PLATE GEAR BOX : 8 SPEED G. V. W : NOT LESS THAN 19 TON PAYLOAD : NOT LESS THAN 12 TON TRY SIZE : 1200 X 20 DISK TYPE LIFTING CAPACITY : 6 TON - M	20

3-22: TIERS

CODE NO.	ITEM	QTY
03-01-01195	TIERS SIZE: FRONT : E3HR , 2100X35 , 36 RP, NO. 569-30-12250	60
03-01-01196	TIERS SIZE: REAR: E3HR , 2100X35 , 36 PR , NO. 5-30-12550	30

3-23: LOW LOADER

CODE NO.	DESCRIPTION	QTY.
03-01-01197	MAX. LIFTING WEIGH: 50 TON LIFTING GOTH: 45 M ENGINE POWER: 210 kW.	2
03-01-01198	MAX. LIFTING WEIGH: 30 TON LIFTING GOTH: 45 M ENGINE POWER: 210 kW.	4

3-24:HYDRAULIC TRUCK CRANE

CODE NO.	DESCRIPTION	QTY.
03-01-01199	LIFTING WEIGHT: 80 TON ENGINE POWER: 220 kW LIFTING HEIGHT: 50 M	1
03-01-01200	LIFTING WEIGHT: 50 TON ENGINE POWER: 210 kW LIFTING HEIGHT: 37 M	2
03-01-01201	LIFTING WEIGHT: 30 TON ENGINE POWER: 48 kW LIFTING HEIGHT: 46 M	1
03-01-01202	LIFTING WEIGHT: 20 TON ENGINE POWER: 160 kW LIFTING HEIGHT: 34 M	2
03-01-01203	LIFTING WEIGHT: 10 TON ENGINE POWER: 160 kW LIFTING HEIGHT: 25 M	2

3-25: DIESEL WELDING MACHINE

CODE NO.	DESCRIPTION	QTY.
03-01-01204	PORTABLE TYPE WITH WHEEL	6

3-26: CRUSHERS

CODE NO.	ITEM	QTY
03-01-01205	IMPACT CRUSHING PLANT WEST ORIGIN CAPACITY PRODUCTION APPROX. 150 M ³ /H	3
03-01-01206	COMPLETE SCREENING SYSTEM PLANT	3
03-01-01207	TRANSPORT BRIDGES WITH BELT CONVEYORS AND ELECTRIC MOTORS & GEAR BOX	24
03-01-01208	WATER PUMPS SIZE 8*6 WITH ELECTRIC MOTORS POWER 55KW	6
03-01-01209	SPARE PARTS FOR ABOVE CRUSHING &SCREENING PLANTS AS : BLOW BARS LATERAL LINING PLATE BELT CONVEYORS GRINDING BARS	100 100 100 100
03-01-01210	ELECTRIC BOARDS DESIGN TO WORKING THE ABOVE CRUSHING & SCREENING PLANTS	4

3-27:ROAD MARKING MACHINE

CODE NO.	DESCRIPTION	QTY.
03-01-01211	CONSIST OF CHASSIS OF SUITABLE CAR (SUCH AS MERCEDES BENZ) 2 TON LOAD , THE MACHINE CONSIST OF COMPRESSORS AND PAINT TANK OF CAPACITY OF 1000 LITER OR MORE AND MARKING EQUIPMENTS(GUNE, HOSES, TAPS) , AND THINNER TANK OF 40 LITER. THECAR HAS OUTOMATIC GEAR BOX AND THE MOTOR WORKS ON BENZIN FUEL OR DIESEL. ACCESSORIES SUCH AS LINE GUIDE, GUNS CARRIAGE, WORKING LIGHTS WARNING LIGHTS, WORKING CANS , WORKING SUITS ETC.. SHOULD BE PROVIDED	4
03-01-01212	SMALL MACHINE WITH ONE STROKE ENGIN CAPACITY 2 H.P , 40 LITER PAINT/ TANK , WITH ALL ACCESSORIES	4

3-28:LEAKAGE TREATMENT MATERIALS

CODE NO.	DESECRPTION	QTY.
03-01-01213	LEYCO PUR 251 VISCOSITY (23 C) ROTATION VISCOMETER M PAS 250-350 DIN BEAKER (4MM) SEC 90-110) DENSITY(23 C) G/CUBIC CM. MIN. REACTION TEMP. O C REACTION TIMES : 1st. INITIATION SEC 10-15 2nd.B. DEVELOPMENT SEC. 50-60 3rd. SETTING TIME MIN 2-3	500 KG
03-01-01214	HI- SEAL 500 (EPOXY RESIN) PHYSICAL PROPERTIES : VISCOSITY 20 C 130 MPAS POT LIFE AT 20 C 30 MIN COMPRESSIVE STRENGTH 80-90 N/ CUBIC MM TENSILE STRENGTH 60-65 N/CUBIC MM ELASTIC MODULUS 3100-3300 N/ CUBIC MM ADHESION TO CONCRETE 4-4.5 N/CUBIC MM	500 KG

3-29: COLD MILLING MACHINES

CODE NO.	DESECRPTION	QTY.
03-01-01215	MILLING WIDTH: 1900 MM MILLING DEPTH: 0-300 MM ENGINE OUT PUT: 297 KW /404 PS OPERATING WIDTH : APPROXMATLY 24-25 TON MILLING DRUM DRIVE :MECHANICAL TRAVEL DRIVE SYSTEM: HYDRAULIC / ALL CRAWLERS	2
03-01-01216	MILLING WIDTH: 400-600 MM MILLING DEPTH: 0-300 MM ENGINE OUT PUT: 123 KW /67 PS OPERATING WIDTH : 12 TON MILLING DRUM DRIVE :MECHANICAL TRAVEL DRIVE SYSTEM: HYDRAULIC / ALL WHEEL NO. OF WHEELS: 4	1
03-01-01217	MILLING WIDTH: 1000 MM MILLING DEPTH: 0-300 MM ENGINE OUT PUT: 165KW /225 PS OPERATING WIDTH : 17 TON. MILLING DRUM DRIVE :MECHANICAL TRAVEL DRIVE SYSTEM: HYDRAULIC / ALL WHEEL NO. OF WHEELS: 4	1

3-30:TRAFFIC ENGINEERING PROGRAMS

CODE NO.	DESECRPTION	QTY.
03-01-01218	PROGRAMS FOR ANALYSING AND EVALUATING THE GEOMETRIC DESIGN OF ROADS AND INTERSECTIONS , FOR ESTIMATION THE LEVEL OF CONGESTION FOR ANY GEOMETRIC DESIGN : 1. SATURN PROGRAMS. FOR BIG NETWORK , 2. TRAFFICO PROGRAMS. FOR SMALL NETWORK 3. SIDRA . FOR ISOLATED INTERSECTION , OR OTHERS	LUMP

3-31:EPOXY

CODE NO.	DESECRPTION	QTY.
03-01-01219	CONSIST OF TWO COMPONENT FOR ROAD STUDS AND CATEYES	1500 KG

3-32:LEAKAGE TREATMENT EQUIPMENTS

CODE NO.	DESECRPTION	QTY.
03-01-01220	COMPLETE SET OF LEAKAGE TREATMENT EQUIPMENTS	4

3-33:GUARD RAIL MAINTENANCE MOBIL WORKSHOP

CODE NO.	DESECRPTION	QTY.
03-01-01221	TRUCK TYPE DIESEL WITH OPEN FLAT BACK LENGTH OF THE BACK : NOT LEDD THAN 5M , INCLUDES: -ASPACE FOR 50 PIECES OF BLADE+ 50 POSTS -AMACHINE FOR NIALING POST ON THE GROUND (AND IF POSSIBLE TAKE OUT THE DAMAGED POSTS) -WELDING MACHINE , DIESEL H.D -AIR COMPRESSOR MACHINE , DIESEL WITH MULTY OUTPUT INCLUDES: -AIR GUN DRILL SETS CAN BE CHANGED TO -WRENCH SET FOR M16-M10 BOLTS -HAND CIRCULAR SOW SETS - SMALL GENERATOR 6 KVA	2

3-34: GUARD RAILS

CODE NO.	DESECRPTION	QTY.
03-01-01222	PROFILE B , C/C LENGTH: 4000 MM WITH 7 SOLTED HOLES IN EACH END + ONE HOLE IN THE CENTERL FOR THE BLADE , ALL HOLES MUST BE FOR BULT TYPE MI6, THE ENDS OF THE BLADE MUST BE OVER LAPP , THE QTY. INCLUDES: 1. 50000 BULT TYPE MIBWITH NUTS AND WASHERS, THE HEAD OF THE BULT MUST BE CIRCULAR , THE LENGTH MUST BE NOT LESS THAN 60 MM 2. 10000 POSTS TYPE IPE100, HEIGHT 1500 MM OR ANY STANDARD TYPE WITH HOLE FOR BULT TYPE MI6 3. 10000 WASHERS (SMALL PLATE) , 115X40 MM , THICKNESS 5 MM WITH HOLE FOR BULT TYPE MI6 4. 500 END – WINGS TYPE B ALL MATERIALS TO BE MADE OF STEEL WITH HOT DEEP GALVANIZED COAT NOT LESS THAN 60 MICRON OR ACCORDING TO DIN (RAL RG 620) ALL MATERIALS MUST BE BANDED STRONG	25 KM 6250 BLADE PIECES

3-35:TRAFFIC LIGHTS REQUIREMENTS

CODE NO.	DESECRPTION	QTY.
03-01-01223	HALOGEN LAMP PHILIPS NETHERLAND FOR TRAFFIC LIGHTS , 10VOLT, 50 WATT, 9000 HOUR LIVE, LOMINA: 820	10000
03-01-01224	CABLE MULTI SHELLED ONE OF THEM IS CUPRIC SCREEN , OF THE KIND IS 5X1.5 SQUARE MM SOLD	15 KILOMETER
03-01-01225	ELASTIC CABLE 5X1.5 SQUARE M NOT SOLD	2000M
03-01-01226	BATTERY NICKEL CADMIUM , RECHARGABLE 5 VOLTS , 1200 MPH.	300
03-01-01227	RECHARGEABLE BATTERY 10A 6V	10
03-01-01228	LOGICAL TIMER 24 HOUR , THE OUT PUT SUICUES LESS THAN 6 STILL WORKING WHEN THE ELECTRICITY TURN OFF	300

3-36:CONCRETE PATCHING PLANT

CODE NO.	DESECRPTION	QTY.
03-01-01229	FIXED TYPE , WITH CAPACITY UP TO 60CUBIC METER /HR. WITH CONVYER BELT SIZE 800 MM WIDE	2
03-01-01230	FIXED TYPE , WITH CAPACITY UP TO 35CUBIC METER /HR.	1

3-37:CONCRETE PUMP TRUCK

CODE NO.	DESECRPTION	QTY.
03-01-01231	SUITABLE TO REACH HIGHT OF 28 METER	2

3-38:CONCRETE CASTING MACHINE FOR WALKWAYS PAVING MATERIALS

CODE NO.	DESECRPTION	QTY.
03-01-01232	FOR INTERLOCKING TILES (ZENITH ,940 SUPER WITH HOPER) , OR EQUIVELENT: HYDRAULIC PUMP : 2X5.5 KW 1st. CONCRETE LOADER FEDDING 900/1600LITER 2nd.COVER HEAD PEEDING 2500 LITER WITH ALL AXCESSORIES AND MATERIALS FOR ERECTION AND MAINTENANCE	3
03-01-01233	FOR BLOCK UNITS (ZENITH 940) , OR EQUIVELENT 800 CYCLES/8 H 4000 BLOCKS/8H WITH ALL AXCESSORIES AND MATERIALS FOR ERECTION AND MAINTENANCE	2
03-01-01234	FOR ROAD CURBSTON UNITS (ZENITH ,HYDRO-AUTOMATION -939) , OR EQUIVELENT: CONCRETE LOADER FEEDING 1000 LITERS OVERHEAD LEADING 2500 LITER HYDRAULIC MOTOR : 7.5 KW TRAVEL GEAR MOTOR: 2.2 KW WITH ALL AXCESSORIES AND MATERIALS FOR ERECTION AND MAINTENANCE	1

3-39 : HYDRAULIC CLAMP MACHINE FOR LIFTING CONCRETE PAVING UNITS

CODE NO.	DESCRIPTION	QTY.
03-01-01235	SUITABLE FOR LIFTING AND TRANSPORTING PRODUCT OF THE CONCRETE MACHINES REFEREED IN SECTION 3-38	4

3-40: SMALL CONCRETE LOADER

CODE NO.	DESECRPTION	QTY.
03-01-01236	SUITABLE FOR FEEDING CONCRETE CASTING MACHINES , REFERED IN SECTION 3-38	6

SECTION 4: SPARE PARTS FOR MACHINERY
SPARE PARTS OF VOLVO N12:

QT.	DESCRIPTION	CODE NO
60	CYLINDER LINER KIT PART NO. 275060	03-01-01237
60	COMPRESSION RING PART NO. 275309	03-01-01238
10	OIL PUMP PART NO. 468023	03-01-01239
20	GASKET COMPLETE LEVER ART NO. 275695	03-01-01240
25	OIL PUMP PART NO. 1587788	03-01-01241
40	DRIVEN PLATE PART NO. 1655355	03-01-01242
40	DRIVEN PLATE PART NO. 1668145	03-01-01243
40	CLUTCH HOUSING PART NO. 382245	03-01-01244
30	MASTER CYLINDER PART NO. 1581200	03-01-01245
30	CLUTCH SERVO PART NO. 267321	03-01-01246
40	CLUTCH PART NO. 1655899	03-01-01247
50	HANDLE PART NO. 1526594	03-01-01248
200	NOZZLE NO. 468218	03-01-01249
200	PUMP ELEMENT PART NO. 244401	03-01-01250
200	DELIVERY VALVE PART NO. 240423	03-01-01251
40	RELEASE BEARING PART NO. 1655843	03-01-01252
30	REPAIR KIT PART NO. 273660	03-01-01253
30	RUBBER HOSE PART NO. 273447	03-01-01254
30	TURBO CHARGER PART NO. 468231	03-01-01255
50	ROLLER BEARING PART NO. 1584340	03-01-01256
50	BEARING PART NO. 232367	03-01-01257
50	STARTER SOLENOID PART NO. 240493	03-01-01258
50	CENTRAL SOLENOID PART NO. 240488	03-01-01259
50	RECTOR PART NO. 244343	03-01-01260
25	CIRCUIT CARD PART NO. 1576950	03-01-01261
25	SOLENOID VALVE PART NO. 6886834	03-01-01262

QT.	DESCRIPTION	CODE NO
25	VALVE PROTECTION PART NO. 1573255	03-01-01263
25	ROBIRT COMMAND SREIN PART NO.1589620	03-01-01264
25	STARTER SWITCH PART NO. 1578866	03-01-01265
50	ROLLER BEARING PART NO. 184086	03-01-01266
40	ROLLER SPRING PART NO. 1518450	03-01-01267
40	FAN NO. 496977	03-01-01268
10	GEAR BOX PART NO. 1521059	03-01-01269
20	ENGAGING RING PART NO. 382797	03-01-01270
20	ENGAGING RING PART NO. 267284	03-01-01271
20	FLY WHEEL HOUSING PART NO. 468553	03-01-01272
20	INPUT SHAFT PART NO. 1527077	03-01-01273
20	ROLLER BEARING PART NO. 1526601	03-01-01274
20	ENGAGING RING PART NO.267949	03-01-01275
20	ENGAGING SLEEVE PART NO. 1526943	03-01-01276
50	SPIDER PART NO. 6885514	03-01-01277
25	CYLINDER HEAD PART NO. 468869	03-01-01278
50	GASKET PART NO. 275548	03-01-01279
25	CONNECTING ROD PART NO. 423029	03-01-01280
25	FUEL INJECTION PUMP PART NO. 244389	03-01-01281
10	RADIATOR PART NO. 6886550	03-01-01282
10	STARTER MOTOR PART NO. 468202	03-01-01283
8	CRANK SHAFT PART NO. 423401	03-01-01284
10	OIL PUMP KIT PART NO. 275547	03-01-01285
10	MAIN BEARING KIT PART NO. 270449	03-01-01286
10	MAIN BEARING KIT PART NO. 270450	03-01-01287
10	MAIN BEARING KIT PART NO. 270451	03-01-01288

QT.	DESCRIPTION	CODE NO
10	MAIN BEARING KIT PART NO. 270452	03-01-01289
10	BIGEND BEARING KIT PART NO. 270105	03-01-01290
10	BIGEND BEARING KIT PART NO. 270106	03-01-01291
10	BIGEND BEARING KIT PART NO. 270107	03-01-01292
10	BIGEND BEARING KIT PART NO. 270108	03-01-01293
1000	WHEEL STUD PART NO. 1581604	03-01-01294
25	ENGINE CASING PART NO. 1607652	03-01-01295
25	WIPER WASHER SWITCH PART NO. 1594959	03-01-01296
1000	CLAMP SHOE PART NO. 1581193	03-01-01297
1000	NUT PART NO. 362166	03-01-01298
25	OIL RESERVOIR PART NO. 1592945	03-01-01299
25	LINK RODE PART NO. 1588017	03-01-01300
25	LINK STERN PART NO. 1626492	03-01-01301
25	TACHO GRAPH PART NO. 6882068	03-01-01302
25	AMMETER PART NO. 6882069	03-01-01303
25	FUEL GAUGE PART NO. 1582762	03-01-01304
25	VOLTMETER PART NO. 1581772	03-01-01305
25	PRESSURE GAUGE PART NO. 1590396	03-01-01306
25	MANOMETER PART NO. 1582254	03-01-01307
25	OIL PRESSURE SENSOR PART NO. 6884143	03-01-01308
25	SWITCH PART NO. 1594958	03-01-01309
5	ENGINE PART NO. 5002852	03-01-01310
50	BELT PART NO. 165601	03-01-01311
25	AMNEAU PART NO. 1518438	03-01-01312
60	FILTER AIR PART NO. 1542743	03-01-01313
15	MAIN SWITCH PART NO. 6885863	03-01-01314

QT.	DESCRIPTION	CODE NO
60	RIM LEFT HAND PART NO. 6886672	03-01-01315
60	RIM RIGHT HAND PART NO. 6886673	03-01-01316
25	RETAINER PART NO. 1607746	03-01-01317
25	FILTER WHEEL PART NO. 1591143	03-01-01318
25	WEARING PART NO. 1518223	03-01-01319
25	BUMPER PART NO. 1587508	03-01-01320
50	ENGINE CASING PART NO. 1667652	03-01-01321
60	MIRROR PART NO. 8121428	03-01-01322
50	GRILLE PART NO. 1582754	03-01-01323
10	BONED PART NO. 688005	03-01-01324
25	HUB PART NO. 6884509	03-01-01325
25	SPOKE WHEEL HUB PART NO. 1592891	03-01-01326
25	S. STAY PART NO. 1576252	03-01-01327
50	HOLLOW SPRING PART NO. 1609657	03-01-01328

SPARE PARTS OF VOLVO N10 :

QT.	DESCRIPTION	CODE NO
60	CYLINDER HEAD PART NO.154599	03-01-01329
60	GASKET KIT PART NO.27PART OF 5551	03-01-01330
60	SEALING RING PART NO. 469336	03-01-01331
20	FLY WHEEL HOUSING PART NO. 467148	03-01-01332
50	RUBBER BUSTION PART NO.1502144	03-01-01333
50	ANCHORAGE PART NO.1503283	03-01-01334
80	CYLINDER LINER KIT PART NO.275036	03-01-01335
60	BUSHING PART NO. 417463	03-01-01336
25	CONNECTING PART NO. 422139	03-01-01337
20	FLANGE PART NO.469324	03-01-01338

QT.	DESCRIPTION	CODE NO
25	SLEEVE PART NO.1545023	03-01-01339
60	INLET VALVE PART NO.154290	03-01-01340
60	EXHOUST VALVE PART NO.467682	03-01-01341
100	PLUG PART NO. 467714	03-01-01342
25	OIL PUMP PART NO.467517	03-01-01343
10	OIL COOLER PART NO. 420365	03-01-01344
60	OIL FILTER PART NO. 466634	03-01-01345
20	PISTON RING KIT PART NO. 272896	03-01-01346
25	OIL PUMP PART NO. 1587787	03-01-01347
25	FUEL PUMP PART NO. 1545102	03-01-01348
10	PRESSURE EXHUST NOZZLE PART NO.417652	03-01-01349
60	DELIVERY VALVE PART NO. 240423	03-01-01350
100	FILTER PART NO. 243004	03-01-01351
80	NOZZLE PART NO. 238896	03-01-01352
25	TURBO CHARGER PART NO.467369	03-01-01353
10	COOLANT PIPE PART NO. 475002	03-01-01354

QT.	DESCRIPTION	CODE NO
15	COOLANT PUMP PART NO. 467204	03-01-01355
25	LEVER PART NO. 467325	03-01-01356
25	BALL BEARING PART NO. 465328	03-01-01357
50	V-BELT SET PART NO. 966393	03-01-01358
50	BRACKET PART NO. 467430	03-01-01359
25	ALTERNATOR PART NO. 1578938	03-01-01360
20	SHAFT PART NO. 262985	03-01-01361
20	ROLLER BEARING PART NO.1584340	03-01-01362
20	ROLLER BEARING PART NO. 184056	03-01-01363
50	ROTOR KIT PART NO.1695595	03-01-01364
20	PLATE PART NO. 1695594	03-01-01365
20	PLATE PART NO. 1695596	03-01-01366
20	CLUTCH HOUSING PART NO. 1653158	03-01-01367
20	MASTER CYLINDER PART NO. 1614351	03-01-01368
30	REPAIR KIT PART NO.273660	03-01-01369
25	CENTER BEARING PART NO. 232367	03-01-01370
15	ROTOR PART NO. 249608	03-01-01371
15	STATOR PART NO.244334	03-01-01372
15	RECTIFIER PART NO. 244610	03-01-01373
20	CONTROL SOLENOID PART NO. 240488	03-01-01374
20	STARTER SOLENOID PART NO. 240493	03-01-01375
15	ANCHOR PART NO. 6212614	03-01-01376
15	BEARING SHIELD PART NO. 244315	03-01-01377
15	WIPER MOTOR PART NO. 1500403	03-01-01378
10	ELECTRICAL DISTRIBUTION PART NO. 1501170	03-01-01379
20	FLASHER RELAY PART NO. 1587993	03-01-01380
120	RELAY PART NO. 1561832	03-01-01381
25	CLUTCH PART NO. 267142	03-01-01382
25	BALL BEARING PART NO. 1527696	03-01-01383

30	LUBRICATING HOUSE PART NO. 353059	03-01-01384
25	CLUTCH SERVO PART NO. 267321	03-01-01385
25	RUBBER HOUSE PART NO. 230191	03-01-01386
5	ENGINE PART NO. 497710	03-01-01387
70	EXHAUST MANY FOLD PART NO. 467111	03-01-01388
20	INLET MANY FOLD PART NO. 467895	03-01-01389
20	BIGEND BEARING KIT PART NO. 270099	03-01-01390
20	BIGEND BEARING KIT PART NO. 270100	03-01-01391
20	BIGEND BEARING KIT PART NO. 270101	03-01-01392
20	BIGEND BEARING KIT PART NO. 270102	03-01-01393
20	BIGEND BEARING KIT PART NO. 270 103	03-01-01394
20	BIGEND BEARING KIT PARTNO. 270104	03-01-01395
20	MAIN BEARING KIT PART NO. 270438	03-01-01396
20	MAIN BEARING KIT PART NO. 270439	03-01-01397
20	MAIN BEARING KIT PART NO. 270440	03-01-01398
20	MAIN BEARING KIT PART NO. 270441	03-01-01399
20	MAIN BEARING KIT PART NO. 270442	03-01-01400
20	MAIN BEARING KIT PART NO. 270443	03-01-01401
10	CAM SHAFT PART NO. 467853	03-01-01402
10	CRANK SHAFT PART NO. 1545657	03-01-01403
15	OIL SUMP PART NO. 479060	03-01-01404
20	SWITCH PART NO. 1578712	03-01-01405
30	TEMPERATURE SENSOR PART NO. 1598034	03-01-01406
8	GEAR BOX PART NO. 254788	03-01-01407
10	GEAR LEVER PART NO. 382939	03-01-01408
25	VALVE PART NO.267859	03-01-01409
25	CLUTCH HOUSING PART NO. 1655158	03-01-01410
25	SPRING WASHER PART NO. 1505056	03-01-01411
25	BRAKE CHAMBER PART NO. 1505041	03-01-01412
25	PARKING BRAKE VALVE PART NO. 1588103	03-01-01413

10	COMPRESSOR PART NO. 351423	03-01-01414
50	HOSE PART NO. 87970	03-01-01415
10	STEERING GEAR PART NO. 250182	03-01-01416
30	SOLENOID VALVE PART NO. 1501827	03-01-01417
5	FUEL TANK PART NO. 260084	03-01-01418
30	FRICTION DISC PART NO. 417512	03-01-01419

QT.	DESCRIPTION	CODE NO
10	INJECTION PUMP PART NO. 243440	03-01-01420
50	HAND PUMP PART NO. 76703	03-01-01421
20	FAN PART NO. 475142	03-01-01422
20	RADIATOR PART NO. 1542816	03-01-01423
60	BRACKET PART NO. 467430	03-01-01424
20	RIM PART NO. 1508163	03-01-01425
50	DIRECTIONAL SWITCH PART NO. 1501805	03-01-01426
50	WIND SCREEN WIPERS PART NO. 1501806	03-01-01427
50	SWITCH PART NO . 1578732	03-01-01428
25	ELECTRICAL PART NO. 1501170	03-01-01429
20	TACHO GRAPH PART NO. 1508431	03-01-01430
50	SPEED METER PART NO. 1502191	03-01-01431
25	TEMPERATURE GAUGE PART NO. 1582901	03-01-01432

SPARE PARTS FOR LOADER . KOMATSO TYPE : W30

CODE NO.	DESCRIPTION	QTY.
03-01-01433	BLOCK CYLINDER, PART NO. 6144-21-1110	10
03-01-01434	BOLT CUP, PART NO . 6142-21-1610	200
03-01-01435	CUP METAL NO.,PART NO. 6142-22-1220	50
03-01-01436	LINER CYLINDER, PART NO: 6142-22-2211	100
03-01-01437	O- RING , PART NO. 6142-21-2221	100
03-01-01438	O-RING , PART NO. 6142-21-2230	100
03-01-01439	OIL SEAL , PART NO. 6144-21-4231	25
03-01-01440	CRANK SHAFT, PART NO. 6144-31-1110	20
03-01-01441	GEAR CRANK, PART NO. 6140-31-1121	20
03-01-01442	KEY, PART NO . 04010-00519	25
03-01-01443	METAL, PART NO. 6140-21-8110	20
03-01-01444	METAL, PART NO. 6140-27-8110	20
03-01-01445	METAL, PART NO. 6140-28-8110	20
03-01-01446	METAL, PART NO. 6140-26-8110	20
03-01-01447	METAL, PART NO. 6140-29-8110	20
03-01-01448	METAL UPPER , PART NO. 6141-21-8510	20
03-01-01449	METAL LOWER, PART NO. 6141-21-8520	20
03-01-01450	METAL UPPER (OVER SIZE 0.25), PART NO. 6141-29-8510	20
03-01-01451	METAL LOWER , (OVER SIZE 0.25) , PART NO. 6141-29-8520	20
03-01-01452	METAL UPPER,(OVER SIZE 0.5) PART NO. 6141-28-8510	20
03-01-01453	METAL LOWER , (OVER SIZE 0. 5) , PART NO. 6141-28-8520	20
03-01-01454	METAL UPPER , (OVER SIZE 0.75) , PART NO. 6141-27-8510	20
03-01-01455	METAL LOWER , (OVER SIZE 0.75) , PART NO. 6141-27-8520	20
03-01-01456	METAL UPPER , (OVER SIZE 1) , PART NO. 6141-26-8510	20
03-01-01457	METAL LOWER , (OVER SIZE 1) , PART NO. 6141-26-8520	20
03-01-01458	PISTON, PART NO. 6142-32-2110	80
03-01-01459	PIN PISTON, PART NO. 6140-31-2410	80
03-01-01460	SNAP RING, PART NO. 6140-31-2120	100
03-01-01461	TOP RING , PART NO. 6140-31-2210	80
03-01-01462	RING , PART NO. 6142-31-2210	80
03-01-01463	OIL RING , PART NO. 6142-32-2240	80
03-01-01464	RED CONNECTION , PART NO. 6141-31-3111	80
03-01-01465	BUSLING , PART NO. 6140-31-3131	80
03-01-01466	BOLT CONNECTING ROAD , PART NO. 6140-31-3312	200
03-01-01467	NUT , PART NO. 6140-31-3320	200
03-01-01468	METAL STD , PART NO. 6140-31-3410	100
03-01-01469	METAL UNDER SIZE 0.25MM , PART NO. 6140-39-3040	100
03-01-01470	METAL UNDER SIZE 0. 5MM , PART NO. 6140-38-3040	100
03-01-01471	METAL UNDER SIZE 0.75MM , PART NO. 6140-37-3040	100
03-01-01472	METAL UNDER SIZE 1 MM , PART NO. 6140-36-3040	100
03-01-01473	CAM SHFT , PART NO. 6144-41-1110	20
03-01-01474	COVER RONT, PART NO. 6144-21-3112	20
03-01-01475	COVER OIL PUMP , , PART NO. 6144-51-1120	20
03-01-01476	GEAR OIL PUMP, PART NO. 6144-52-143020	20
03-01-01477	OIL COOLER, PART NO. 6144-61-2102	20
03-01-01478	FUEL PUMP , PART NO. 6144-71-1110	20
03-01-01479	HOLDER NOZEL, PART NO. 6142-12-3110	80
03-01-01480	NOZZEL, PART NO. 6142121-3130	80
03-01-01481	PLUG GL0U, PART NO. 600-815-1340	100
03-01-01482	HEAD CYLINDER , PART NO. 6144-11-1110	10
03-01-01483	VALVE INTAKE , , PART NO. 6140-41-4111	80
03-01-01484	VALVE EXHUST , PART NO. 6142-42-4210	80
03-01-01485	GASKET HEAD, , PART NO. 6144-11-1810	80
03-01-01486	GASKET , , PART NO. 6144-11-4810	80
03-01-01487	GASKET , , PART NO. 6144-11-5811	80
03-01-01488	GASKET , , PART NO. 6144-21-5811	80
03-01-01489	GEAR RING, , PART NO. 6144-31-1320	80

03-01-01490	BEARING , PART NO.06000-06204	50
03-01-01491	GASKET , PART NO, 6142-22-2810	80
03-01-01492	WATER PUMP, PART NO. 6144-61-1100	20
03-01-01493	FAN, PART NO. 600-613-0440	20
03-01-01494	V- BELT, PART NO. 6144-81-2610	250
03-01-01495	V- BELT , PART NO. 6144-81-2620	250

SPAIR PARTS FOR LYLAND CLYDESDAL

CODE NO.	DESCRIPTION	QTY.
03-01-01496	LINER , PART NO. NAJ-2883	120
03-01-01497	PISTON, PART NO. 10907240	120
03-01-01498	CRANK SHAFT , PART NO. CJJ0004	20
03-01-01499	CONNECTING ROAD , PART NO. AAL-2097	120
03-01-01500	OIL PUMP , PART NO. 613768	20
03-01-01501	MASTER CYLINDER, PART NO. 80K5769	100
03-01-01502	CLUTCH SLAVE CYLINDER, PART NO. AAU-8410	100
03-01-01503	DUAL CONCENTRIC VALVE, PART NO. 83H-0552	50
03-01-01504	FAN , PART NO. MAK-8449	100
03-01-01505	DRIVEN PLATE ASSEMBLY, PART NO. ABU- 1121	100
03-01-01506	CENTER BEARING ASSEMBLY, PART NO. 846854	50
03-01-01507	FUEL PUMP, PART NO.ACUS351	20
03-01-01508	INJECTOR, PART NO. NAJ-IM7405	120
03-01-01509	STARTER MOTOR, PART NO, 850461	20
03-01-01510	PISTON RING, PART NO. NAJ 2861	120
03-01-01511	PISTON RING, PART NO.NAJ2862	120
03-01-01512	PISTON RING, PART NO. NAJ4103	120
03-01-01513	OIL PUMP STEARING , PART NO. AAU2069410	50
03-01-01514	HYDRAULIC PUMP, PART NO. HYP-1002	100
03-01-01515	WATER PUMP. PART NO. NAJ 8382	100
03-01-01516	AIR COMPRESSOR, PART NO. AUU-4835	50
03-01-01517	FAN, PART NO. NJK 1116	150
03-01-01518	BREAK ACTUATOR, PART NO. AAU-9699	100
03-01-01519	OIL SEAL, PART NO. 10907024	150
03-01-01520	COMPENION FLANGE, PART NO, AAU-8296	50
03-01-01521	VALVE, PART NO. 10898411	100
03-01-01522	HYD CONTROL, PART NO. HYV-2001	40
03-01-01523	HYD CONTROL, PART NO, HYV-1001	40
03-01-01524	BEARING SET , PART NO, 610476 STO	20
03-01-01525	BIG END BEARING SET, PART NO, 6115711 STD	20
03-01-01526	BEARING SET , PART NO, 610976 S2	40
03-01-01527	BIGEND BEARING SET , PART NO, 611571 S2	40
03-01-01528	STEARING SHAFT ASSEMBLY, PART NO. 1537Z210488112	40
03-01-01529	SOLENOID, PART NO. 850686	50
03-01-01530	BUSH, PART NO. 272918	100
03-01-01531	BUSH, PART NO. 604117	100
03-01-01532	BUSH , PART NO. 267115	100
03-01-01533	BUSH SET , PART NO. BUJ-0002	50
03-01-01534	ALTERNATOR , PART NO. 854221	50
03-01-01535	CYLINDER HEAD , PART NO. 810131	50
03-01-01536	RADIATOR, PART NO. 741K67	50
03-01-01537	FEED PUMP , PART NO. ABU- 4624	50
03-01-01538	GASKET SET OVERHAUL, PART NO. 10907422	100
03-01-01539	STERRING BOX LH, PART NO. 1582Z80	25
03-01-01540	POWER STEERING CYLINDER , PART NO. 1567210	50
03-01-01541	DRIVE HEAD , PART NO. 664K66	25
03-01-01542	TORSION BAR, PART NO. 61K355	150
03-01-01543	GEAR, PART NO. 512K49	20
03-01-01544	COMPELET GEAR BOX., PART NO. GB 28319	10
03-01-01545	COVER ASSEMBLY , PART NO. 10897968	50
03-01-01546	COMPELET ENGIN , PART NO2CD4016D	10

SPAIR PARTS FOR LYLAND TRAIN

CODE NO.	DESCRIPTION	QTY.
03-01-01547	GASKET, PART NO. CU-3036126	50
03-01-01548	INJECTOR, PART NO. CU-3013725	60
03-01-01549	FUEL PUMP , PART NO. CU-3017808	20
03-01-01550	RING SET , PART NO. CU-3016786	50
03-01-01551	PISTON ASSEMBLY , PART NO. CU-3013459	60
03-01-01552	LINER , PART NO. CU-AR11317	60
03-01-01553	WATER PUMP , PART NO. CU-3022474	20
03-01-01554	PRESSURE PLATE , PART NO. ABU-979718	50
03-01-01555	AIR COMPRESSOR , PART NO. CU-3018527	10
03-01-01556	CRANK SHAFT , PART NO. CU-3004165	20
03-01-01557	CONNECTING ROAD , PART NO. CU-3013930	60
03-01-01558	BIG END BEARING SET , PART NO. CU-2149512	20
03-01-01559	BEARING SET , PART NO . CU-38012621	20
03-01-01560	TURBO CHARGER , PART NO. CU3502076	25
03-01-01561	ENGINE PART NO CU-NTE 29012	5
03-01-01562	BASIC ENGINE, PART NO. CU-3260379	10
03-01-01563	CYLINDER HEAD, PART NO. CU-3008096	30
03-01-01564	CAM SHAFT, PART NO. CU-3026955	20
03-01-01565	BUSH, PARTNO. CU-187420	120
03-01-01566	BEARING SET , PART NO. CU-214950	20
03-01-01567	BIGEND BEARING SET ,PART NO. CU-3801260	20
03-01-01568	VALVE, PART NO. CU- BM69985	30
03-01-01569	OIL PUMP, PART NO. CU-3015273	50
03-01-01570	STARTER MOTOR, PART NO. 851078	50
03-01-01571	ALTERNATOR , PART NO. ACU-3656	50
03-01-01572	PUMP, PART NO. NCK2899	25
03-01-01573	MASTER CYLINDER , PART NO. ACU3337	50
03-01-01574	FIFTH WHEEL , PART NO. HCK 3857	10
03-01-01575	FLY WHEEL , CU13016481	10
03-01-01576	GEAR PUMP, PART NO. CU-3026284	30
03-01-01577	OIL FILTER , PART NO. CU-250825	50
03-01-01578	AIR FILTER , PART NO. ABU-9145	100
03-01-01579	SOLENOID, PART NO. 850686	50
03-01-01580	DRIVE, PART NO. 852959	50
03-01-01581	GASKET SET OVERHAUL, PART NO. CU-3013480	50
03-01-01582	RADIATOR, PART NO. RRR1034	20
03-01-01583	GEAR BOX, PART NO ACU3357	5
03-01-01584	DRIVING HEAD , PART NO. HAK1471	5