

ARAB REPUBLIC OF EGYPT

**MINISTRY OF WATER RESOURCES AND IRRIGATION
MECHANICAL AND ELECTRICAL DEPARTMENT
ON BEHALF OF
NORTH SINAI DEVELOPMENT ORGANIZATION**

NORTH SINAI DEVELOPMENT PROJECT

**CONVEYANCE SYSTEM OF
EL SHEIKH GABER EL SABBAAH CANAL
BETWEEN KM 86.500 AND KM 108.466**

TENDER DOCUMENTS

VOLUME II

BILL OF QUANTITIES

(month) 200x

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466**

SUMMARY AND TOTAL

Pay Item No.	Item of Works	Amount Egyptian Pound	Remarks
OC-0100	No.1 and No.2 Open Canals		
BC-0200	Box Culvert Conduit		
SW-0300	Spillway System		
AR-0400	No.1 and No.2 Access Roads		
MW-0500	Mechanical Works		
Total			

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
Bill of Quantities**

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0100	No.1 & No.2 Open Canals				
OC-0101	<p>Excavation (1)</p> <p>Earthworks in excavation for cutting, removal and driving away of soils that are above the level of embankments, design berms, or the levels defined by the NSDO, or the soils unsuitable for construction works, and which may contain harmful materials, and whether this was in the route of canal or pond areas and swamps in which these canals pass, or the like, and storing excavation and cutting outcome and removing them outside public utilities. This will be carried out according to the drawings, conditions and instructions.</p> <p>The unit price includes and is charged with removal of all obstacles inside the path with the whole width of canal right of way whether visible or invisible and to reach the design levels whether the excavation was in clayey, sandy or gravelly land, or petrified lands, or a mixture of any of them. Leveling the outcome of excavation will be according to the instructions, by an acceptable engineering method and by the mean, which the contractor finds appropriate for operation whether by mechanical machines or manually by labor force.</p> <p>The unit price will be given including everything, by one cubic meter.</p>	Cu.m	2,180,000		
OC-0102	<p>Excavation (2)</p> <p>Earthworks - excavation according to the cross section under the designed embankments level and to the bottom level, or according to cross section, and to store the unnecessary outcome of excavation outside the canal right of way limits on both banks, and in the places defined by the NSDO whatever was the transport distance, and according to the conditions, drawings and instructions.</p> <p>The unit price includes and is charged with cutting trees and removal of weeds, and all kinds of buildings (visible and invisible) confronting the canal section, as well as making replacement irrigation methods, such as culverts, pipes and the like.</p>	Cu.m	1,800,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0102	<p>The contractor is bound to reach the approved and determined levels of the cross section whether excavation was in a petrified soil, and whatever costs the work require for its execution. Also, work rates are included in water draining, construction, maintenance and removal of the required dams. Also, the unit price includes and is charged with trimming excavation, leveling the bottom, side slopes, berms and embankments to the levels and according to the approved cross section, by the means which the Contractor regards appropriate for manual or mechanical operation. It is absolutely impermissible to carry out any excavation works, which are more than the approved cross section, because this is connected with lining works.</p> <p>The unit price includes and is charged with all necessary tests required to determine the suitability of soil for lining as well as standard compaction tests, and according to what is mentioned in the special and general conditions. The unit price is to be given by one cubic meter.</p>				
OC-0103	<p>Fill (1) Earthworks - backfilling on layers to establish and form the backfilling bearing the lining (the core) required for establishing and forming the canal according to the conditions and specifications, and in the cases requiring that and approved by the NSDO. The unit price includes hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.</p>	Cu.m	1,580,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0104	<p>Fill (2)</p> <p>Earthworks - backfilling on layers to form embankments, front and back berms, backfilling ponds, moors and swamps in the area according to the drawings, instructions, and to the levels to be defined by the NSDO.</p> <p>The unit price includes loading, hauling and emptying for whatever distance, whether work is carried out manually by workers or by machines. The soil used in backfilling should be clean and free from solid blocks and organic materials. Backfilling must be done on layers whose thickness after compaction does not exceed 30 cm (thirty) and according to the technical principles appropriate for the kind of the soil used. The unit price includes and is charged with all works of leveling, spraying with water, making the tests required for standard compaction, according to the specifications. The unit price is to be given including everything by one cubic meter.</p>	Cu.m	2,190,000		
OC-0105	<p>Trimming of Side Slopes of Concrete Lined Canal</p> <p>Earthworks for trimming the water section according to the approved cross section with a thickness within the limits of 45 cm including the total lining thickness according to the drawings and instructions. The unit price includes and is charged with works of excavation, spraying, compacting, water draining (if needed), and leveling the canal internal section to the determined levels, and preparing it for lining, together with storing the outcome of trimming outside public utilities. The unit price is to be given by one cubic meter.</p>	Cu.m	140,000		
OC-0106	<p>Fill with Laterite and Laterite Bedding</p> <p>Earthworks - backfilling required for establishing and forming the laterite bedding according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p> <p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p>	Cu.m	2,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0106	The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.				
OC-0107	<p>Laterite Pavement of 0.2m thick on Berms, etc.</p> <p>By Square Meter, Supply and Making Supporting Layer for Embankments of laterite soil with a thickness of 20 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department.</p> <p>The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions.</p> <p>The unit price will be given by Square meter.</p>	Sq.m	118,000		
OC-0108	<p>Stone Pitching with Mortar Caulking</p> <p>Supply and Making Wet Stone Pitching by Mortar for Lining, of the white kind, which should be clean, solid and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings, and instructions, with mortar composed of 350 Kg (Three Hundred and Fifty) ordinary Portland cement to one cubic meter coarse sand. The unit price also includes making the required pointing after emptying the recessed straight joints. This will be done by a mortar consisting of 700 Kg (Seven Hundred) ordinary Portland cement added to one cubic meter sand.</p>	Cu.m	220,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0108	The unit price includes also excavation works with the thickness of pitching, preparing the slopes, scaffoldings, Workmanship, and works of water draining, as well as all what is required for completing the work perfectly according to the specifications. The unit price is given by one cubic meter.				
OC-0109	Crushed Gravel Bedding Supply and Making Gravel Bedding , with dimensions and, drawings, and according to instructions. The unit price includes and is charged with hauling the crushed gravel suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications. The unit price is to be given including everything by cubic meter.	Cu.m	2,400		
OC-0110	Mortar Lining of 10cm thick Supply and Making a Layer of Mortar from cement and sand at a rate of 150 kg Sulfate Resistant Portland Cement (Type-V) to one cubic meter sand, with a thickness of 10 cm. The unit price includes and is charged with supplying, placement, workmanship and special shuttering, and all requirements to complete the work perfectly, and by the form to be approved by the NSDO. The unit price will be given by one square meter of the layer with a thickness of 10 cm.	Sq.m	482,000		
OC-0111	Polyethylene Sheet (1.5mm thick) Supply and Fix Thin Sheets of Polyethylene with thickness at least 1500 Microns , of the coarse kind under lining and in the places to be defined by the NSDO, in such a manner that the thin sheets cover the canal water section completely with the welding and overlaps, in such a manner be at least 10 cm. The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample to approve it before supplying and fixing. The NSDO will have the absolute right to carry out laboratory tests to make sure of the specifications and the quality of these thin sheets, before or after supplying, on the account of the Contractor and in the specialized laboratories to be accepted by the NSDO.	Sq.m	480,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
CC-0111	The unit price is to be given by one square meter.				
OC-0112	Concrete Lining (0.25m thick), ck=225kgf/cm ² Supply and Making Mechanical Lining for the Bottom and Side Slopes of Plain Concrete , to the required thickness and at a minimum rate of Sulfate Resistant Portland Cement (Type-V) 300 Kg to one cubic meter of the produced soft concrete. The unit price includes and is charged with supplying, placement, workmanship, and special shuttering, and all what is mentioned in the special conditions for lining works. Also, making the different kinds of joints (expansion, shrinkage and placement joints), and filling these joints with the front and back filling materials (Poly sulfide substance). The unit price also includes the works of leveling surfaces and treatment with chemical substances or the like, constructing stairs in the sites, and with the required widths, according to the drawings, instructions and conditions, and all what is required for completing the work perfectly and the form to be accepted by the NSDO. The unit price will be given by square meter of lining works.	Sq.m	351,000		
OC-0113	Concrete Lining (0.20m thick), ck=225kgf/cm ² the same as OC-0114.	Sq.m	112,000		
OC-0114	Leakage Test Making Inclusive Tests To Determine the Suitability of the Canal After Lining It , with respect to leakage of water in the reaches which will be defined by the NSDO, and with a length of 500 meters for the one reach measured from the axis of the front and back barrier. The unit price includes and is charged with all what is mentioned in the Special Conditions in the Contract in this concern. The unit price includes also and is charged with making, maintaining and removing barriers, and all what is required to carry out the experiment in the correct form. The unit price is to be given by one experiment.	No.	30		
OC-0115	Reinforced Concrete (1) other than Bridge Deck, ck=275kgf/cm ² Supply and Making Reinforced Concrete for other than Bridge Deck , foundations, walls, columns, abutments, and piers,	Cu.m	7,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0115	<p>consisting of 0.8 M3 gravel + 0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V), and reinforcement with steel bars No. 52 of at least 50 Kg in the cubic meter and according to the drawings.</p> <p>The unit price includes supply, workmanship, scaffolding, wooden shuttering, mechanical mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement according to the specifications.</p> <p>The unit price includes also all work requirements of excavation, backfilling, leveling, trimming, compaction, and all works of water draining by the appropriate means and methods, as well as construction, maintenance and removal of barriers, making the required quality tests to make sure of concrete endurance. Unit price is to be given by one cubic meter.</p>				
OC-0116	<p>Reinforced Concrete (2) for Bridge Deck, ck=275kgf/cm²</p> <p>Supply and Making Reinforced Concrete for Bridge Deck, Caps, Beams, Ceilings, Slabs, Blinds, Passageways, Handrails and the like, consisting of 0.8 M3 gravel +0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). Reinforcement will be steel bar No. 52 of at least 130 Kg in cubic meter, and according to the drawings, instructions and specifications. The unit price includes and is charged with supply, workmanship, scaffolding, and special wooden Shuttering, which after placement produce a smooth concrete. Application therein is made by means of Plywood boards, together with forming chamfers, correcting edges, and using appropriate equipment to reach even edges and using bolts for the shuttering, and treating joints and edges with putty, and painting all surfaces of the wooden shuttering adjacent to the concrete with a material accepted by the NSDO, and which gives smooth surface to the concrete. Also, the unit price includes mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement, or by chemical substances to be accepted by the NSDO. Furthermore, the unit price includes and is charged with supply, making, and fixing steel angles for entrances, joints, and sidewalks size 100x100x10 mm, and also</p>	Cu.m	800		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0116	the horizontal isolating layers composed of two layers of tarred canvas, and the vertical of wood filler boards 20 mm thick, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.				
OC-0117	<p>Fino Concrete, (ck=275kgf/cm²) Supply and Making Fino Concrete, required for protecting the surfaces of reinforced concrete, sidewalks, floorings, as well as wrapping pipes and all purposes. It consists of 0.8 M³ fine gravel + 0.4M³ sand + 350 Kg Sulfate Resistant Portland Cement (Type-V).</p> <p>The unit price includes and is charged with supplying, workmanship, scaffoldings, and special wooden shuttering which after placement produce a smooth concrete. The application therein is made by means of plywood boards, together with forming the chamfers, correcting the edges, and using bolts in the shuttering, and making joints, and all what is required of works, materiel, equipment and instruments, to carry out the work perfectly, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.</p>	Cu.m	100		
OC-0118	<p>Plain Concrete (ck=180kgf/cm²) Supply and Making Plain Concrete for Foundations, consisting of 0.8 M³ gravel +0.4 M³ sand +250 Kg Sulfate Resistant Portland Cement (Type-V).</p> <p>The unit price includes supply, excavation, backfilling, leveling, compacting, trimming, making wooden shuttering, mechanical mixing placement, compaction and surface leveling, spraying water for a period of at least 15 days after placement. Also, draining water by the appropriate means and method, and construction, maintenance, and removal of barriers, as well as carrying out the required quality tests to make sure of endurance of concrete. Unit price is to be given by one cubic meter.</p>	Cu.m	1,200		
OC-0119	<p>Water Stop (B=0.20m) Supply and Install Water Stop, according to the drawings, instructions and specifications.</p> <p>The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample to approve</p>	m	200		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0119	it before supplying and fixing. The unit price is to be given by one linear meter.				
OC-0120	Bitumen Coating Supply and Making a Paint Two Heavy Coats with Oxidized Bitumen , for walls and concrete works adjacent to the backfilling, according to the specifications and conditions. The unit price includes and is charged with cleaning these walls thoroughly, rubbing them with wire brushes before painting, and filling the dividing joints and recessed straight joints completely with bitumen. The unit price also includes and is charged with all required excavation and backfilling works, making scaffolds, supply and workmanship. The unit price is given by one square meter.	Sq.m	4,400		
OC-0121	Ladder Rung & Miscellaneous Steel Supply and Install Steel Works , required for ladder rung, safety rack, fences, emergency gates, parapets, stairs, shades and the like, according to the approved drawings, general and special conditions and instructions. The unit price includes fixing works in walls and concrete, as well as painting -works by approved recent painting materials. The unit price is to given by one ton of the actual weights provided that they should not exceed the Standard Works according to Steel Works Specifications.	t	1		
OC-0122	Additional Reinforcement, (High tensile steel bars with protrusions No. 52) Supply, Operating, Cutting and Installing Additional Reinforcement Steel Bars for the Concrete , whose design and execution necessitate placing or adding them to change the rate of reinforcement steel bars, other than what is mentioned in the drawings, from the allowed diameters. The unit price includes and is charged with cleaning the steel bars from impurities such as grease, paints and crusty rust. It will be bent without heating to form it according to the drawings and instructions. The unit price includes and is charged with workmanship, installation, and tying up according to the drawings, instructions and specifications. The unit price is given by one ton.	t	50		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0123	<p>Laterite Paved Road (0.25m thick Laterite Pavement) By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by Square meter.</p>	Sq.m	196,000		
OC-0124	<p>Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick) Supply and making a premixed asphalt concrete layer without painting, with a thickness of 5 cm after compaction, at the road width, according to the instructions, drawings and specifications, by using tips of solid stones resulting from the crushing process of crushers, which sticks thoroughly to the asphalt, and using solid asphalt (60/70) Production of Suez or Alexandria Petroleum Company, corresponding to the Standard Specifications of Road Department. The unit price includes mixing by mechanical mixers while asphalt is in a suitable temperature, transport, spreading and compaction, provided that the surface to be paved must be cleaned before spreading and using the steamrollers to reach the maximum possible density. The unit price is given by square meter.</p>	Sq.m	189,000		
OC-0125	<p>Prime Coat Supply and Making Initial Painting Coat (Prime) (MCO), over a base layer with asphalt paint, having a medium volatility (O.T.Zero), at a rate of 1.5 Kg/M2 according to the instructions, drawings and specifications. The unit price includes and is charged with supplying the required asphalt as well as all works of workmanship</p>	Sq.m	189,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0125	<p>including reshaping the base layer (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate.</p> <p>The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers, distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given per square meter for the surface to be sprayed with asphalt. (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate.</p> <p>The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers, distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given by square meter for the surface to be sprayed with asphalt.</p>				
OC-0126	<p>Upper Subgrade (Macadam Layer of 0.30m thick)</p> <p>Supply and Making Base Layer of Solid Graded Stones, resulting from the crushing process of crushers with a thickness of 30 cm after compaction, according to the instructions, drawings and specifications. The unit price includes and is charged with supply, workmanship, leveling the base layer, compaction of substances, spreading and mixing them, adding water, mixing, leveling and spreading, and continuing maintenance till the date of initial handing over, or executing the initial painting process. The unit price also includes the required equipment and labor force, and all what is required for completing the work according to the specifications, drawings and instructions. The unit price is given by one square meter.</p>	Sq.m	196,000		
OC-0127	<p>Lower Subgrade (0.25m thick Laterite Pavement)</p> <p>By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be</p>	Sq.m	196,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0127	done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price is given by Square meter.				
OC-0128	Kilometer Sign Supply and Fix Kilometer Signs according to the specifications and drawings.	No.	15		
OC-0129	Excavation of Pits for Planting Trees Digging Pits with Diameter 50 cm and Depth of 50 cm for Planting Trees , on both sides of the roads or the places to be defined by the NSDO, according to the drawings, and instructions, provided that the pits line is straight and parallel to the road edge exactly, or with the engineering shape requested by the NSDO. The number of pits should be 1000 (One Thousand) pits in each linear kilometer for the one row. The unit price includes and is charged with leveling the soils - the outcome of excavation, and moving them outside the pits. The unit price is to be given including everything by one linear kilometer for the one row of pits.	Km	152		
OC-0130	Supply of Clayey Soil for Pits Supply Agricultural Clay Free from Salt and Harmful Materials for the growth of plants and free from the seeds of harmful gross , or any other impurities. The rate of clay therein should not be less than 70%, from a known source to be approved by the NSDO, and filling each of the pits mentioned in the previous item to the higher level of the pit. The unit price is given including everything by a longitudinal kilometer for the one row of pits.	Km	152		
OC-0131	Plantation of Gasuarina Trees Supply and Planting Transplants of Gasuarina , whose green part with a height of at least 70 cm and less than and equal to 90 cm., measured from the surface of soil of the plastic bags containing the transplant, provided that it has a well growing capability to be accepted by the NSDO.	Km	94		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0131	These transplants will be planted inside the pits mentioned in the previous items. The unit price will be given including everything by one linear kilometer for the one row, or at a rate of 500 transplants in one linear kilometer of the one row.				
OC-0132	Plantation of Acacia Trees Supply and Planting Acacia Transplants for Fixing Sand Dunes , the green part of it with a height of at least 40 cm and less than and equal to 70 cm, measured from the soil surface of the plastic bags containing the transplant, and provided that they have a well growing capability to be accepted by the NSDO. These transplants will be planted alternately with the Gasuarina trees inside the pits mentioned in the previous items. The unit price will be given including everything by linear kilometer for the one row, at a rate of 500 transplants in the linear kilometer for the one row.	Km	58		
OC-0133	Care of Trees Irrigation Works, Service Care and Protection for the Planted Transplants , including replacement of damaged transplants with others new, one by one. It also includes adding fertilizers, maintenance and guarding works. The unit price is given inclusive by linear kilometer for the one row for each year as of the completion of planting the kilometer.	Km	152		
OC-0134	Drip Irrigation Systems for Pay Item Nos. OC-0131, OC-0132, BC-0225 and BC-0226 Supply and Install Drip Irrigation System , according to the instructions. The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample and drawings to approve it before supplying and installing. The unit price is to be given by one system.	L.S.	1		
OC-0135	Marble Staff Gauge Supply and Install Marble Scales of Measurement , type Karara, 15 cm wide, and a thickness of at least 2 cm, of the best qualities and at the determined levels, and according to the instructions. The unit price includes fixing the scales of measurement with cement and sand mortar at a rate of 700 Kg ordinary Portland cement to one cubic meter sand.	m	62		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
OC-0135	The unit price also includes and is charged with supply, install marble squares with spots which indicate complete meters and half meters according to the instructions. The unit price is to be given by one linear meter.				
OC-0100	Total				

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
Bill of Quantities**

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0200	Box Culvert Conduit				
BC-0201	<p>Excavation (1)</p> <p>Earthworks in excavation for cutting, removal and driving away of soils that are above the level of embankments, design berms, or the levels defined by the NSDO, or the soils unsuitable for construction works, and which may contain harmful materials, and whether this was in the route of canal or pond areas and swamps in which these canals pass, or the like, and storing excavation and cutting outcome and removing them outside public utilities. This will be carried out according to the drawings, conditions and instructions.</p> <p>The unit price includes and is charged with removal of all obstacles inside the path with the whole width of canal right of way whether visible or invisible and to reach the design levels whether the excavation was in clayey, sandy or gravelly land, or petrified lands, or a mixture of any of them. Leveling the outcome of excavation will be according to the instructions, by an acceptable engineering method and by the mean, which the contractor finds appropriate for operation whether by mechanical machines or manually by labor force.</p> <p>The unit price will be given including everything, by one cubic meter.</p>	Cu.m	1,090,000		
BC-0202	<p>Excavation (2)</p> <p>Earthworks - excavation according to the cross section under the designed embankments level and to the bottom level, or according to cross section, and to store the unnecessary outcome of excavation outside the canal right of way limits on both banks, and in the places defined by the NSDO whatever was the transport distance, and according to the conditions, drawings and instructions.</p> <p>The unit price includes and is charged with cutting trees and removal of weeds, and all kinds of buildings (visible and invisible) confronting the canal section, as well as making replacement irrigation methods, such as culverts, pipes and the like. The contractor is bound to reach the approved and determined levels of the cross section whether excavation was in a petrified soil,</p>	Cu.m	1,370,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0202	and whatever costs the work require for its execution. Also, work rates are included in water draining, construction, maintenance and removal of the required dams. Also, the unit price includes and is charged with trimming excavation, leveling the bottom, side slopes, berms and embankments to the levels and according to the approved cross section, by the means which the Contractor regards appropriate for manual or mechanical operation. It is absolutely impermissible to carry out any excavation works, which are more than the approved cross section, because this is connected with lining works. The unit price includes and is charged with all necessary tests required to determine the suitability of soil for lining as well as standard compaction tests, and according to what is mentioned in the special and general conditions. The unit price is to be given by one cubic meter.				
BC-0203	<p>Fill and Backfill</p> <p>Earthworks - backfilling required for establishing and forming the backfilling around the structures according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p> <p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.</p>	Cu.m	1,230,000		
BC-0204	<p>Laterite Pavement of 0.2m thick on Berms, etc.</p> <p>By Square Meter, Supply and Making Supporting Layer for Embankments of laterite soil with a thickness of 20 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator,</p>	Sq.m	45,200		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0204	<p>and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department.</p> <p>The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.</p>				
BC-0205	<p>Stone Pitching with Mortar Caulking</p> <p>Supply and Making Wet Stone Pitching by Mortar for Lining, of the white kind, which should be clean, solid and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings, and instructions, with mortar composed of 350 Kg (Three Hundred and Fifty) ordinary Portland cement to one cubic meter coarse sand. The unit price also includes making the required pointing after emptying the recessed straight joints. This will be done by a mortar consisting of 700 Kg (Seven Hundred) ordinary Portland cement added to one cubic meter sand.</p> <p>The unit price includes also excavation works with the thickness of pitching, preparing the slopes, scaffoldings, Workmanship, and works of water draining, as well as all what is required for completing the work perfectly according to the specifications. The unit price is given by one cubic meter.</p>	Cu.m	77,200		
BC-0206	<p>Laterite Bedding</p> <p>Earthworks - backfilling required for establishing and forming the laterite bedding according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p> <p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling</p>	Cu.m	160,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0206	and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.				
BC-0207	<p>Leakage Test</p> <p>Making Inclusive Tests To Determine the Suitability of the Canal After Lining It, with respect to leakage of water in the reaches which will be defined by the NSDO, and with a length of 500 meters for the one reach measured from the axis of the front and back barrier. The unit price includes and is charged with all what is mentioned in the Special Conditions in the Contract in this concern. The unit price includes also and is charged with making, maintaining and removing barriers, and all what is required to carry out the experiment in the correct form. The unit price is to be given by one experiment.</p>	No.	9		
BC-0208	<p>Reinforced Concrete (2), ck=275kgf/cm²</p> <p>Supply and Making Reinforced Concrete for Box Culvert, consisting of 0.8 M3 gravel +0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). Reinforcement will be steel bar No. 52 of at least 130 Kg in cubic meter, and according to the drawings, instructions and specifications. The unit price includes and is charged with supply, workmanship, scaffolding, supports and special steel Shuttering, which after placement produce a smooth concrete. Application therein is made by means of Steel Form, together with forming chamfers, correcting edges, and using appropriate equipment to reach even edges and using bolts for the shuttering, and treating joints and edges with putty, and painting all surfaces of the steel shuttering adjacent to the concrete with a material accepted by the NSDO, and which gives smooth surface to the concrete. Also, the unit price includes mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement, or by chemical substances to be accepted by the NSDO. Furthermore, the unit price includes and is charged with supply, making, and fixing steel angles for entrances, joints, and sidewalks size 100x100x10 mm, and also the horizontal isolating layers composed of two layers of tarred canvas, and the vertical of wood filler boards 20 mm thick,</p>	Cu.m	193,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0208	and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.				
BC-0209	Plain Concrete, ck=180kgf/cm2 Supply and Making Plain Concrete for Foundations , consisting of 0.8 M3 gravel +0.4M3 sand +250 Kg Sulfate Resistant Portland Cement (Type-V). The unit price includes supply, excavation, backfilling, leveling, compacting, patterning, making wooden shuttering, mechanical mixing placement, compaction and surface leveling, spraying water for a period of at least 15 days after placement. Also, draining water by the appropriate means and method, and construction, maintenance, and removal of barriers, as well as carrying out the required quality tests to make sure of endurance of concrete. Unit price is to be given by one cubic meter.	Cu.m	28,000		
BC-0210	R.C. Cover (t=0.40m) the same as BC-0208	Sq.m	1,800		
BC-0211	Water Stop (w=0.20m) Supply and Install Water Stop , according to the drawings, instructions and specifications. The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample to approve it before supplying and fixing. The unit price is to be given by one linear meter.	m	29,000		
BC-0212	Expansion Joint Supply and Making Expansion Joint according to the specifications and drawings. The unit price is to be given by one square meter.	Sq.m	3,600		
BC-0213	Contraction Joint Supply and Making Contraction Joint according to the specifications and drawings. The unit price is to be given by one square meter.	Sq.m	18,000		
BC-0214	Bitumen Coating Supply and Making a Paint Two Heavy Coats with Oxidized Bitumen , for walls and concrete works adjacent to the backfilling, according to the specifications and conditions. The unit price includes and is charged with cleaning these walls thoroughly, rubbing them with wire brushes before painting, and filling the dividing joints and recessed straight joints completely with bitumen.	Sq.m	197,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0214	The unit price also includes and is charged with all required excavation and backfilling works, making scaffolds, supply and workmanship. The unit price is given by one square meter.				
BC-0215	Ladder Rung & Miscellaneous Steel Supply and Install Steel Works , required for ladder rung, safety rack, fences, emergency gates, parapets, navy stairs, shades and the like, according to the approved drawings, general and special conditions and instructions. The unit price includes fixing works in walls and concrete, as well as painting -works by approved recent painting materials. The unit price is to given by one ton of the actual weights provided that they should not exceed the Standard Works according to Steel Works Specifications.	ton	2.5		
BC-0216	Handrail (H=1.10m) Supply, Making, Manufacturing, installing and Fixing Steel Pipes Handrails , according to the drawings, sections, shapes and sizes mentioned therein. The unit price includes and is charged with assembling by continuous welding, and removing protrusions in visible faces, and making the faces completely even with the sticking surfaces. The process of assembling, installing and fixing for all parts of pipes, wrought iron and the like will be corresponding to the technical rules and industry practices. The unit price includes and is charged with painting two coats of red lead and three coats of oil paint with the color to be defined by the NSDO. The unit price will be given by linear meter.	m	100		
BC-0217	Additional Reinforcement (High tensile steel bars with protrusions No. 52) Supply, Operating, Cutting and Installing Additional Reinforcement Steel Bars for the Concrete , whose design and execution necessitate placing or adding them to change the rate of reinforcement steel bars, other than what is mentioned in the drawings, from the allowed diameters. The unit price includes and is charged with cleaning the steel bars from impurities such as grease, paints and crusty rust. It will be bent without heating to form it according to the drawings and instructions.	t	100		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0217	The unit price includes and is charged with workmanship, installation, and tying up according to the drawings, instructions and specifications. The unit price is given by one ton.				
BC-0218	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick) Supply and making a premixed asphalt concrete layer without painting , with a thickness of 5 cm after compaction, at the road width, according to the instructions, drawings and specifications, by using tips of solid stones resulting from the crushing process of crushers, which sticks thoroughly to the asphalt, and using solid asphalt (60/70) Production of Suez or Alexandria Petroleum Company, corresponding to the Standard Specifications of Road Department. The unit price includes mixing by mechanical mixers while asphalt is in a suitable temperature, transport, spreading and compaction, provided that the surface to be paved must be cleaned before spreading and using the steamrollers to reach the maximum possible density. The unit price is given by square meter.	Sq.m	98,000		
BC-0219	Prime Coat Supply and Making Initial Painting Coat (Prime) (MCO) , over a base layer with asphalt paint, having a medium volatility (O.T.Zero), at a rate of 1.5 Kg/M2 according to the instructions, drawings and specifications. The unit price includes and is charged with supplying the required asphalt as well as all works of workmanship including reshaping the base layer (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate. The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers, distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given by square meter for the surface to be sprayed with asphalt.	Sq.m	98,000		
BC-0220	Upper Subgrade (Macadam Layer of 0.30m) Supply and Making Base Layer of Solid Graded Stones , resulting from the crushing process of crushers with a thickness of 30 cm after compaction, according to the instructions, drawings and specifications. The unit price includes and is charged with supply, workmanship, leveling the base layer,	Sq.m	102,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0220	compaction of substances, spreading and mixing them, adding water, mixing, leveling and spreading, and continuing maintenance till the date of initial handing over, or executing the initial painting process. The unit price also includes the required equipment and labor force, and all what is required for completing the work according to the specifications, drawings and instructions. The unit price is given by one square meter.				
BC-0221	Lower Subgrade (0.25m thick Laterite Pavement) By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.	Sq.m	102,000		
BC-0222	Kilometer Post Supply and Making Kilometer Post according to the specifications and drawings. The unit price is to be given by one post.	No.	16		
BC-0223	Excavation of Pits for Planting Trees Digging Pits with Diameter 50 cm and Depth of 50 cm for Planting Trees, on both sides of the roads or the places to be defined by the NSDO, according to the drawings, and instructions, provided that the pits line is straight and parallel to the road edge exactly, or with the engineering shape requested by the NSDO. The number of pits should be 1000 (One Thousand) pits in each linear kilometer for the one row. The unit price includes and is charged with leveling the soils - the outcome of excavation, and moving them outside the pits. The unit price is to be given including everything by one linear kilometer for the one row of pits.	Km	30		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0224	<p>Supply of Clayey Soil for Pits</p> <p>Supply Agricultural Clay Free from Salt and Harmful Materials for the growth of plants and free from the seeds of harmful gross, or any other impurities. The rate of clay therein should not be less than 70%, from a known source to be approved by the NSDO, and filling each of the pits mentioned in the previous item to the higher level of the pit.</p> <p>The unit price is given including everything by a longitudinal kilometer for the one row of pits.</p>	Km	30		
BC-0225	<p>Plantation of Gasurina Trees</p> <p>Supply and Planting Transplants of Gasuarina, whose green part with a height of at least 70 cm and less than or equal to 90 cm., measured from the surface of soil of the plastic bags containing the transplant, provided that it has a well growing capability to be accepted by the NSDO. These transplants will be planted inside the pits mentioned in the previous items.</p> <p>The unit price will be given including everything by one linear kilometer for the one row, or at a rate of 500 transplants in one linear kilometer of the one row.</p>	Km	15		
BC-0226	<p>Plantation of Acacia Trees</p> <p>Supply and Planting Acacia Transplants for Fixing Sand Dunes, the green part of it with a height of at least 40 cm and less than or equal to 70 cm, measured from the soil surface of the plastic bags containing the transplant, and provided that they have a well growing capability to be accepted by the NSDO. These transplants will be planted alternately with the Gasuarina trees inside the pits mentioned in the previous items.</p> <p>The unit price will be given including everything by linear kilometer for the one row, at a rate of 500 transplants in the linear kilometer for the one row.</p>	Km	15		
BC-0227	<p>Care of Trees</p> <p>Irrigation Works, Service Care and Protection for the Planted Transplants, including replacement of damaged transplants with others new, one by one. It also includes adding fertilizers, maintenance and guarding works.</p> <p>The unit price is given inclusive by linear kilometer for the one row for each year as of the completion of planting the kilometer.</p>	Km	30		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0228	<p>Marble Staff Gauge</p> <p>Supply and Install Marble Scales of Measurement, type Karara, 15 cm wide, and a thickness of at least 2 cm, of the best qualities and at the determined levels, and according to the instructions.</p> <p>The unit price includes fixing the scales of measurement with cement and sand mortar at a rate of 700 Kg ordinary Portland cement to one cubic meter sand.</p> <p>The unit price also includes and is charged with supply, install marble squares with spots which indicate complete meters and half meters according to the instructions. The unit price is to be given by one linear meter.</p>	m	72		
BC-0200	Total				

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
Bill of Quantities**

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0300	Spillway System				
(1)	Spillway and Spillway Outlet Channel				
SW-0301	<p>Excavation (1)</p> <p>Earthworks in excavation for cutting, removal and driving away of soils that are above the level of embankments, design berms, or the levels defined by the NSDO, or the soils unsuitable for construction works, and which may contain harmful materials, and whether this was in the route of canal or pond areas and swamps in which these canals pass, or the like, and storing excavation and cutting outcome and removing them outside public utilities. This will be carried out according to the drawings, conditions and instructions.</p> <p>The unit price includes and is charged with removal of all obstacles inside the path with the whole width of canal right of way whether visible or invisible and to reach the design levels whether the excavation was in clayey, sandy or gravelly land, or petrified lands, or a mixture of any of them. Leveling the outcome of excavation will be according to the instructions, by an acceptable engineering method and by the mean, which the contractor finds appropriate for operation whether by mechanical machines or manually by labor force.</p> <p>The unit price will be given including everything, by one cubic meter.</p>	Cu.m	370,000		
SW-0302	<p>Excavation (2)</p> <p>Earthworks - excavation according to the cross section under the designed embankments level and to the bottom level, or according to cross section, and to store the unnecessary outcome of excavation outside the canal right of way limits on both banks, and in the places defined by the NSDO whatever was the transport distance, and according to the conditions, drawings and instructions.</p> <p>The unit price includes and is charged with cutting trees and removal of weeds, and all kinds of buildings (visible and invisible) confronting the canal section, as well as making replacement irrigation methods, such as culverts, pipes and the like. The contractor is bound to reach the approved and determined levels of the cross section whether excavation was in a petrified soil,</p>	Cu.m	230,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0302	and whatever costs the work require for its execution. Also, work rates are included in water draining, construction, maintenance and removal of the required dams. Also, the unit price includes and is charged with trimming excavation, leveling the bottom, side slopes, berms and embankments to the levels and according to the approved cross section, by the means which the Contractor regards appropriate for manual or mechanical operation. It is absolutely impermissible to carry out any excavation works, which are more than the approved cross section, because this is connected with lining works. The unit price includes and is charged with all necessary tests required to determine the suitability of soil for lining as well as standard compaction tests, and according to what is mentioned in the special and general conditions. The unit price is to be given by one cubic meter.				
SW-0303	Fill and Backfill Earthworks - backfilling required for establishing and forming the backfilling around the structures according to the conditions and specifications, and in the cases requiring that and approved by the NSDO. The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications. The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.	Cu.m	91,000		
SW-0304	Fill with Laterite and Laterite Bedding Earthworks - backfilling required for establishing and forming the laterite bedding according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.	Cu.m	12,100		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0304	<p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.</p>				
SW-0305	<p>Laterite Pavement of 0.2m thick on Berms, etc.</p> <p>By Square Meter, Supply and Making Supporting Layer for Embankments of gravelly soil with a thickness of 20 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department.</p> <p>The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.</p>	Sq.m	23,000		
SW-0306	<p>Riprap</p> <p>Supply and Making Dry Stone Pitching, for lining, of the white kind, clean, solid, and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings and instructions.</p> <p>The unit price includes and is charged with transport, compaction on site, and making stones with a thickness of 15 cm by rubble stones of huge stones with the whole thickness.</p> <p>The unit price also includes excavation works with the thickness of buildings, as well as preparing the inclinations, scaffolds,</p>	Cu.m	12,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0306	workmanship and any works of water draining, compacting soil, spraying with water, and all what is required to complete the work in a perfect way and according to the specifications. The unit price will be given by one cubic meter of the building with the whole thickness.				
SW-0307	Stone Pitching with Mortal Caulking Supply and Making Wet Stone Pitching by Mortar for Lining , of the white kind, which should be clean, solid and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings, and instructions, with mortar composed of 350 Kg (Three Hundred and Fifty) ordinary Portland cement to one cubic meter coarse sand. The unit price also includes making the required pointing after emptying the recessed straight joints. This will be done by a mortar consisting of 700 Kg (Seven Hundred) ordinary Portland cement added to one cubic meter sand. The unit price includes also excavation works with the thickness of pitching, preparing the slopes, scaffoldings, Workmanship, and works of water draining, as well as all what is required for completing the work perfectly according to the specifications. The unit price is given by one cubic meter.	Cu.m	21,000		
SW-0308	Crushed Gravel Bedding Supply and Making Gravel Bedding , with dimensions and, drawings, and according to instructions. The unit price includes and is charged with hauling the crushed gravel suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications. The unit price is to be given including everything by cubic meter.	Cu.m	9,600		
SW-0309	Reinforced Concrete (1) for other than Bridge Deck, $ck=275\text{kgf/cm}^2$ Supply and Making Reinforced Concrete for other than Bridge Deck , foundations, walls, columns, abutments, and piers, consisting of 0.8 M3 gravel + 0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V), and reinforcement with steel bars No. 52 of at least 50 Kg in the cubic meter and according to the drawings. The unit price includes supply, workmanship,	Cu.m	13,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0309	<p>scaffolding, wooden shuttering, mechanical mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement according to the specifications.</p> <p>The unit price includes also all work requirements of excavation, backfilling, leveling, trimming, compaction, and all works of water draining by the appropriate means and methods, as well as construction, maintenance and removal of barriers, making the required quality tests to make sure of concrete endurance. Unit price is to be given per one cubic meter.</p>				
SW-0310	<p>Reinforced Concrete (2) for Bridge Deck, ck=275kg/cm²</p> <p>Supply and Making Reinforced Concrete for Bridge Deck, Caps, Beams, Ceilings, Slabs, Blinds, Passageways, Handrails and the like, consisting of 0.8 M3 gravel +0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). Reinforcement will be steel bar No. 52 of at least 130 Kg in cubic meter, and according to the drawings, instructions and specifications.</p> <p>The unit price includes and is charged with supply, workmanship, scaffolding, and special wooden Shuttering, which after placement produce a plain concrete. Application therein is made by means of Plywood boards, together with forming chamfers, correcting edges, and using appropriate equipment to reach even edges and using bolts for the shuttering, and treating joints and edges with putty, and painting all surfaces of the wooden shuttering adjacent to the concrete with a material accepted by the NSDO, and which gives smooth surface to the concrete. Also, the unit price includes mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement, or by chemical substances to be accepted by the NSDO.</p> <p>Furthermore, the unit price includes and is charged with supply, making, and fixing steel angles for entrances, joints, and sidewalks size 100x100x10 mm, and also the horizontal isolating layers composed of two layers of tarred canvas, and the vertical of wood filler boards 20 mm thick, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.</p>	Cu.m	600		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0311	<p>Fino Concrete, ck=275kgf/cm2</p> <p>Supply and Making Fino Concrete, required for protecting the surfaces of reinforced concrete, sidewalks, floorings, as well as wrapping pipes and all purposes. It consists of 0.8 M3 fine gravel + 0.4M3 sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). The unit price includes and is charged with supplying, workmanship, scaffoldings, and special wooden shuttering which after placement produce a smooth concrete. The application therein is made by means of plywood boards, together with forming the chamfers, correcting the edges, and using bolts in the shuttering, and making joints, and all what is required of works, materiel, equipment and instruments, to carry out the work perfectly, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.</p>	Cu.m	50		
SW-0312	<p>Plain Concrete, ck=180kgf/cm2</p> <p>Supply and Making Plain Concrete for Foundations, consisting of 0.8 M3 gravel +0.4 M3 sand +250 Kg Sulfate Resistant Portland Cement (Type-V). The unit price includes supply, excavation, backfilling, leveling, compacting, patterning, making wooden shuttering, mechanical mixing placement, compaction and surface leveling, spraying water for a period of at least 15 days after placement. Also, draining water by the appropriate means and method, and construction, maintenance, and removal of barriers, as well as carrying out the required quality tests to make sure of endurance of concrete. Unit price is to be given by one cubic meter.</p>	Cu.m	2,300		
SW-0313	<p>Water Stop (w=0.20m)</p> <p>Supply and Install Water Stop, according to the drawings, instructions and specifications. The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample to approve it before supplying and fixing. The unit price is to be given by one linear meter.</p>	m	1,500		
SW-0314	<p>Expansion Joint</p> <p>Supply and Making Expansion Joint according to the specifications and drawings. The unit price is to be given by one square meter.</p>	Sq.m	800		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0315	Contraction Joint Supply and Making Contraction Joint according to the specifications and drawings. The unit price is to be given by one square meter.	Sq.m	1,000		
SW-0316	Dowel Bars (ϕ 19, L=1.0m) Supply and Making Dowel Bars according to the specifications and drawings. The unit price is to be given by one bar.	No.	2,700		
SW-0317	Bitumen Coating Supply and Making a Paint Two Heavy Coats with Oxidized Bitumen , for walls and concrete works adjacent to the backfilling, according to the specifications and conditions. The unit price includes and is charged with cleaning these walls thoroughly, rubbing them with wire brushes before painting, and filling the dividing joints and recessed straight joints completely with bitumen. The unit price also includes and is charged with all required excavation and backfilling works, making scaffolds, supply and workmanship. The unit price is given by one square meter.	Sq.m	10,000		
SW-0318	Ladder Rung & Miscellaneous Steel Supply and Install Steel Works , required for ladder rung, safety rack, fences, emergency gates, parapets, navy stairs, shades and the like, according to the approved drawings, general and special conditions and instructions. The unit price includes fixing works in walls and concrete, as well as painting -works by approved recent painting materials. The unit price is to given by one ton of the actual weights provided that they should not exceed the Standard Works according to Steel Works Specifications.	t	1		
SW-0319	Additional Reinforcement (High tensile steel bars with protrusions No. 52) Supply, Operating, Cutting and Installing Additional Reinforcement Steel Bars for the Concrete , whose design and execution necessitate placing or adding them to change the rate of reinforcement steel bars, other than what is mentioned in the drawings, from the allowed diameters. The unit price includes and is charged with cleaning the steel bars from impurities such as grease, paints and crusty rust. It will be bent without heating to form it according to the drawings and instructions. The unit price includes and is charged with workmanship, installation, and tying up	t	100		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0319	according to the drawings, instructions and specifications. The unit price is given by one ton.				
SW-0320	<p>Laterite Paved Road (0.25m thick Laterite Pavement) By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm.</p> <p>The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.</p>	Sq.m	35,000		
SW-0321	<p>Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick) Supply and making a premixed asphalt concrete layer without painting, with a thickness of 5 cm after compaction, at the road width, according to the instructions, drawings and specifications, by using tips of solid stones resulting from the crushing process of crushers, which sticks thoroughly to the asphalt, and using solid asphalt (60/70) Production of Suez or Alexandria Petroleum Company, corresponding to the Standard Specifications of Road Department.</p> <p>The unit price includes mixing by mechanical mixers while asphalt is in a suitable temperature, transport, spreading and compaction, provided that the surface to be paved must be cleaned before spreading and using the steamrollers to reach the maximum possible density. The unit price is given by square meter.</p>	Sq.m	8,600		
SW-0322	<p>Prime Coat Supply and Making Initial Painting Coat (Prime) (MCO), over a base layer with asphalt paint, having a medium volatility (O.T.Zero), at a rate of 1.5 Kg/M2 according to the instructions, drawings and specifications.</p> <p>The unit price includes and is charged with</p>	Sq.m	8,600		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0322	<p>supplying the required asphalt as well as all works of workmanship including reshaping the base layer (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate.</p> <p>The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers, distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given by square meter for the surface to be sprayed with asphalt.</p>				
SW-0323	<p>Upper Subgrade (Macadam Layer of 0.30m thick)</p> <p>Supply and Making Base Layer of Solid Graded Stones, resulting from the crushing process of crushers with a thickness of 30 cm after compaction, according to the instructions, drawings and specifications.</p> <p>The unit price includes and is charged with supply, workmanship, leveling the base layer, compaction of substances, spreading and mixing them, adding water, mixing, leveling and spreading, and continuing maintenance till the date of initial handing over, or executing the initial painting process. The unit price also includes the required equipment and labor force, and all what is required for completing the work according to the specifications, drawings and instructions. The unit price is given by one square meter.</p>	Sq.m	8,600		
SW-0324	<p>Lower Subgrade (0.25m thick Laterite Pavement)</p> <p>By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm.</p> <p>The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department.</p> <p>The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions.</p>	Sq.m	8,600		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0324	The unit price will be given by square meter.				
SW-0325	Net Wire Fence H=1.5m Supply and Making Net Wire Fence according to the specifications and drawings. The unit price is to be given by square meter.	Sq.m	3,600		
	Sub-Total (1)				

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
(2)	Dike and Emergency Spillway				
SW-0351	<p>Excavation</p> <p>Earthworks in excavation for cutting, removal and driving away of soils that are above the level of embankments, design berms, or the levels defined by the NSDO, or the soils unsuitable for construction works, and which may contain harmful materials, and whether this was in the route of canal or pond areas and swamps in which these canals pass, or the like, and storing excavation and cutting outcome and removing them outside public utilities. This will be carried out according to the drawings, conditions and instructions. The unit price includes and is charged with removal of all obstacles inside the path with the whole width of canal right of way whether visible or invisible and to reach the design levels whether the excavation was in clayey, sandy or gravelly land, or petrified lands, or a mixture of any of them. Leveling the outcome of excavation will be according to the instructions, by an acceptable engineering method and by the mean, which the contractor finds appropriate for operation whether by mechanical machines or manually by labor force.</p> <p>The unit price will be given including everything, by one cubic meter.</p>	Cu.m	48,000		
SW-0352	<p>Embankment of Zone (1) of Dike (Embankment with Laterite)</p> <p>Earthworks - backfilling on layers to form embankments, according to the drawings, instructions, and to the levels to be defined by the NSDO.</p> <p>The unit price includes loading, hauling and emptying for whatever distance, whether work is carried out manually by workers or by machines. The laterite used in embankment should be clean and free from solid blocks and organic materials. Embankment must be done on layers whose thickness after compaction does not exceed 30 cm (thirty) and according to the technical principles appropriate for the kind of the soil used. The unit price includes and is charged with all works of leveling, spraying with water, making the tests required for standard compaction, according to the specifications. The unit price is to be given including everything by one cubic meter.</p>	Cu.m	58,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0353	<p>Embankment of Zone (2) of Dike (Embankment with Sandy Materials) Earthworks - backfilling on layers to form embankments, according to the drawings, instructions, and to the levels to be defined by the NSDO.</p> <p>The unit price includes loading, hauling and emptying for whatever distance, whether work is carried out manually by workers or by machines. The sandy soil used in embankment should be clean and free from solid blocks and organic materials. Embankment must be done on layers whose thickness after compaction does not exceed 30 cm (thirty) and according to the technical principles appropriate for the kind of the soil used. The unit price includes and is charged with all works of leveling, spraying with water, making the tests required for standard compaction, according to the specifications. The unit price is to be given including everything by one cubic meter.</p>	Cu.m	150,000		
SW-0354	<p>Fill and Backfill Earthworks - backfilling required for establishing and forming the backfilling around the structures according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p> <p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.</p>	Cu.m	1,000		
SW-0355	<p>Fill with Laterite and Laterite Bedding Earthworks - backfilling required for establishing and forming the laterite bedding according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p>	Cu.m	9,100		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0355	<p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines, spraying water and leveling works. The unit price is to be given including everything by cubic meter.</p>				
SW-0356	<p>Laterite Pavement of 0.2m thick By Square Meter, Supply and Making Supporting Layer for Embankments of laterite soil with a thickness of 20 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.</p>	Sq.m	4,400		
SW-0357	<p>Riprap Supply and Making Dry Stone Pitching, for lining, of the white kind, clean, solid, and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings and instructions. The unit price includes and is charged with transport, compaction on site, and making stones with a thickness of 15 cm by rubble stones of huge stones with the whole thickness. The unit price also includes excavation works with the thickness of buildings, as well as preparing the inclinations, scaffolds, workmanship and any works of water draining, compacting soil, spraying with water, and all what is required</p>	Cu.m	1,800		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0357	to complete the work in a perfect way and according to the specifications. The unit price will be given by one cubic meter of the pitching with the whole thickness.				
SW-0358	Stone Pitching with Mortar Caulking Supply and Making Wet Stone Pitching by Mortar for Lining , of the white kind, which should be clean, solid and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings, and instructions, with mortar composed of 350 Kg (Three Hundred and Fifty) ordinary Portland cement to one cubic meter coarse sand. The unit price also includes making the required pointing after emptying the recessed straight joints. This will be done by a mortar consisting of 700 Kg (Seven Hundred) ordinary Portland cement added to one cubic meter sand. The unit price includes also excavation works with the thickness of pitching, preparing the slopes, scaffoldings, Workmanship, and works of water draining, as well as all what is required for completing the work perfectly according to the specifications. The unit price is given by one cubic meter.	Cu.m	19,000		
SW-0359	Stone Pitching without Mortar Caulking Supply and Making Dry Stone Pitching , for lining, of the white kind, clean, solid, and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings and instructions. The unit price includes and is charged with transport, compaction on site, and making a filter of small stone of the same kind of stones with a thickness of 15 cm by rubble stones of huge stones with the whole thickness. The unit price also includes excavation works with the thickness of buildings and filter, as well as preparing the inclinations, scaffolds, workmanship and any works of water draining, compacting soil, spraying with water, and all what is required to complete the work in a perfect way and according to the specifications. The unit price will be given by one cubic meter of the pitching with the whole thickness including the filter.	Cu.m	8,000		
SW-0360	Crushed Gravel Bedding Supply and Making Gravel Bedding , with dimensions and, drawings, and according to instructions. The unit price includes and is charged with hauling the crushed gravel	Cu.m	33,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0360	<p>suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price is to be given including everything by cubic meter.</p>				
SW-0361	<p>Reinforced Concrete (1) for other than Bridge Deck, $ck=275\text{kgf/cm}^2$</p> <p>Supply and Making Reinforced Concrete for other than Bridge Deck, foundations, walls, columns, abutments, and piers, consisting of 0.8 M3 gravel + 0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V), and reinforcement with steel bars No. 52 of at least 50 Kg in the cubic meter and according to the drawings.</p> <p>The unit price includes supply, workmanship, scaffolding, wooden shuttering, mechanical mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days after placement according to the specifications.</p> <p>The unit price includes also all work requirements of excavation, backfilling, leveling, trimming, compaction, and all works of water draining by the appropriate means and methods, as well as construction, maintenance and removal of barriers, making the required quality tests to make sure of concrete endurance. Unit price is to be given per one cubic meter.</p>	Cu.m	2,000		
SW-0362	<p>Reinforced Concrete (2) for Bridge Deck, $ck=275\text{kgf/cm}^2$</p> <p>Supply and Making Reinforced Concrete for Bridge Deck, Caps, Beams, Ceilings, Slabs, Blinds, Passageways, Handrails and the like, consisting of 0.8 M3 gravel +0.4 M3 coarse sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). Reinforcement will be steel bar No. 52 of at least 130 Kg in cubic meter, and according to the drawings, instructions and specifications.</p> <p>The unit price includes and is charged with supply, workmanship, scaffolding, and special wooden Shuttering, which after placement produce a plain concrete. Application therein is made by means of Plywood boards, together with forming chamfers, correcting edges, and using appropriate equipment to reach even edges and using bolts for the shuttering, and treating joints and edges with putty, and painting all surfaces of the wooden shuttering adjacent to the concrete with</p>	Cu.m	400		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0362	a material accepted by the NSDO, and which gives smooth surface to the concrete. Also, the unit price includes mixing, placement, compacting, surface leveling and spraying water for a period of at least 15 days, or by chemical substances to be accepted by the NSDO. Furthermore, the unit price includes and is charged with supply, making, and fixing steel angles for entrances, joints, and sidewalks size 100x100x10 mm, and also the horizontal isolating layers composed of two layers of tarred canvas, and the vertical of wood filler boards 20 mm thick, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.				
SW-0363	Fino Concrete, ck=275kgf/cm2 Supply and Making Fino Concrete , required for protecting the surfaces of reinforced concrete, sidewalks, floorings, as well as wrapping pipes and all purposes. It consists of 0.8 M3 fine gravel + 0.4M3 sand + 350 Kg Sulfate Resistant Portland Cement (Type-V). The unit price includes and is charged with supplying, workmanship, scaffoldings, and special wooden shuttering which after placement produce a smooth concrete. The application therein is made by means of plywood boards, together with forming the chamfers, correcting the edges, and using bolts in the shuttering, and making joints, and all what is required of works, materiel, equipment and instruments, to carry out the work perfectly, and according to the drawings, instructions and specifications. The unit price is to be given by one cubic meter.	Cu.m	30		
SW-0364	Plain Concrete, ck=180kgf/cm2 Supply and Making Plain Concrete for Foundations , consisting of 0.8 M3 gravel +0.4 M3 sand +250 Kg Sulfate Resistant Portland Cement (Type-V). The unit price includes supply, excavation, backfilling, leveling, compacting, trimming, making wooden shuttering, mechanical mixing placement, compaction and surface leveling, spraying water for a period of at least 15 days after placement. Also, draining water by the appropriate means and method, and construction, maintenance, and removal of barriers, as well as carrying out the required quality tests to make sure of endurance of concrete. Unit price is to be given by one cubic meter.	Cu.m	300		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0365	<p>Water Stop (w=0.20m) Supply and Install Water Stop, according to the drawings, instructions and specifications. The unit price includes and is charged with all works required to complete such process perfectly, as well as all what is required of workmanship and tests. The NSDO must be provided with a sample to approve it before supplying and fixing. The unit price is to be given by one linear meter.</p>	m	240		
SW-0366	<p>Expansion Joint Supply and Making Expansion Joint according to the specifications and drawings. The unit price is to be given by one square meter.</p>	Sq.m	160		
SW-0367	<p>Contraction Joint Supply and Making Contraction Joint according to the specifications and drawings. The unit price is to be given by one square meter.</p>	Sq.m	90		
SW-0368	<p>Bitumen Coating Supply and Making a Paint Two Heavy Coats with Oxidized Bitumen, for walls and concrete works adjacent to the backfilling, according to the specifications and conditions. The unit price includes and is charged with cleaning these walls thoroughly, rubbing them with wire brushes before painting, and filling the dividing joints and recessed straight joints completely with bitumen. The unit price also includes and is charged with all required excavation and backfilling works, making scaffolds, supply and workmanship. The unit price is given by one square meter.</p>	Sq.m	700		
SW-0369	<p>Ladder Rung & Miscellaneous Steel Supply and Install Steel Works, required for ladder rung, safety rack, fences, emergency gates, parapets, navy stairs, shades and the like, according to the approved drawings, general and special conditions and instructions. The unit price includes fixing works in walls and concrete, as well as painting -works by approved recent painting materials. The unit price is to given by one ton of the actual weights provided that they should not exceed the Standard Works according to Steel Works Specifications.</p>	t	1		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0370	<p>Additional Reinforcement (High tensile steel bars with protrusions No. 52) Supply, Operating, Cutting and Installing Additional Reinforcement Steel Bars for the Concrete, whose design and execution necessitate placing or adding them to change the rate of reinforcement steel bars, other than what is mentioned in the drawings, from the allowed diameters. The unit price includes and is charged with cleaning the steel bars from impurities such as grease, paints and crusty rust. It will be bent without heating to form it according to the drawings and instructions. The unit price includes and is charged with workmanship, installation, and tying up according to the drawings, instructions and specifications. The unit price is given by one ton.</p>	t	10		
SW-0371	<p>Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick) Supply and making a premixed asphalt concrete layer without painting, with a thickness of 5 cm after compaction, at the road width, according to the instructions, drawings and specifications, by using tips of solid stones resulting from the crushing process of crushers, which sticks thoroughly to the asphalt, and using solid asphalt (60/70) Production of Suez or Alexandria Petroleum Company, corresponding to the Standard Specifications of Road Department. The unit price includes mixing by mechanical mixers while asphalt is in a suitable temperature, transport, spreading and compaction, provided that the surface to be paved must be cleaned before spreading and using the steamrollers to reach the maximum possible density. The unit price is given by square meter.</p>	Sq.m	19,000		
SW-0372	<p>Prime Coat Supply and Making Initial Painting Coat (Prime) (MCO), over a base layer with asphalt paint, having a medium volatility (O.T.Zero), at a rate of 1.5 Kg/M2 according to the instructions, drawings and specifications. The unit price includes and is charged with supplying the required asphalt as well as all works of workmanship including reshaping the base layer (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate. The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers,</p>	Sq.m	19,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0372	distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given by square meter for the surface to be sprayed with asphalt.				
SW-0373	Upper Subgrade (Macadam Layer of 0.30m thick) Supply and Making Base Layer of Solid Graded Stones , resulting from the crushing process of crushers with a thickness of 30 cm after compaction, according to the instructions, drawings and specifications. The unit price includes and is charged with supply, workmanship, leveling the base layer, compaction of substances, spreading and mixing them, adding water, mixing, leveling and spreading, and continuing maintenance till the date of initial handing over, or executing the initial painting process. The unit price also includes the required equipment and labor force, and all what is required for completing the work according to the specifications, drawings and instructions. The unit price is given by one square meter.	Sq.m	19,000		
SW-0374	Lower Subgrade (0.25m thick Laterite Pavement) By Square Meter, Supply and Making Supporting Layer for Embankments , and roads of laterite soil with a thickness of 25 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.	Sq.m	19,000		
	Sub-Total (2)				
SW-0300	Total =(1)+(2)				

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
Bill of Quantities**

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
AR-0400	No.1 and No.2 Access Roads				
AR-0401	<p>Excavation</p> <p>Earthworks in excavation for cutting, removal and driving away of soils that are above the level of embankments, design berms, or the levels defined by the NSDO, or the soils unsuitable for construction works, and which may contain harmful materials, and whether this was in the route of canal or pond areas and swamps in which these canals pass, or the like, and storing excavation and cutting outcome and removing them outside public utilities. This will be carried out according to the drawings, conditions and instructions.</p> <p>The unit price includes and is charged with removal of all obstacles inside the path with the whole width of canal right of way whether visible or invisible and to reach the design levels whether the excavation was in clayey, sandy or gravelly land, or petrified lands, or a mixture of any of them. Leveling the outcome of excavation will be according to the instructions, by an acceptable engineering method and by the mean, which the contractor finds appropriate for operation whether by mechanical machines or manually by labor force.</p> <p>The unit price will be given including everything, by one cubic meter.</p>	Cu.m	222,000		
AR-0402	<p>Fill</p> <p>Earthworks - backfilling on layers to establish and form the backfilling bearing the road required for establishing and forming the road according to the conditions and specifications, and in the cases requiring that and approved by the NSDO.</p> <p>The unit price includes and is charged with hauling the soil suitable for that purpose from any suitable place, which the tests show its suitability, and to be approved by the NSDO, and according to what is mentioned in the conditions and specifications.</p> <p>The unit price includes and is charged with hauling and emptying for any distance whatever, and all works of compaction, shaking, turning upside down, backfilling in layers, and carrying out quality control tests for the supplied soil of the formed backfilling and all requirements of equipment, machines,</p>	Cu.m	366,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
AR-0402	spraying water and leveling works. The unit price is to be given including everything by cubic meter.				
AR-0403	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick) Supply and making a premixed asphalt concrete layer without painting , with a thickness of 5 cm after compaction, at the road width, according to the instructions, drawings and specifications, by using tips of solid stones resulting from the crushing process of crushers, which sticks thoroughly to the asphalt, and using solid asphalt (60/70) Production of Suez or Alexandria Petroleum Company, corresponding to the Standard Specifications of Road Department. The unit price includes mixing by mechanical mixers while asphalt is in a suitable temperature, transport, spreading and compaction, provided that the surface to be paved must be cleaned before spreading and using the steamrollers to reach the maximum possible density. The unit price is given by square meter.	Sq.m	50,000		
AR-0404	Prime Coat Supply and Making Initial Painting Coat (Prime) (MCO) , over a base layer with asphalt paint, having a medium volatility (O.T.Zero), at a rate of 1.5 Kg/M2 according to the instructions, drawings and specifications. The unit price includes and is charged with supplying the required asphalt as well as all works of workmanship including reshaping the base layer (if needed), and leveling it, and spraying the asphalt within the specified width after heating it at the rate. The unit price includes also and is charged with cleaning the base surface, bringing and operating all machines, equipment, boilers, distributors and all what is required to complete the works according to the specifications, drawings and instructions. The unit price is given by square meter for the surface to be sprayed with asphalt.	Sq.m	50,000		
AR-0405	Upper Subgrade (Macadam Layer of 0.30m thick) Supply and Making Base Layer of Solid Graded Stones , resulting from the crushing process of crushers with a thickness of 30 cm after compaction, according to the instructions, drawings and specifications. The unit price includes and is charged with supply, workmanship, leveling the base layer,	Sq.m	52,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
AR-0405	compaction of substances, spreading and mixing them, adding water, mixing, leveling and spreading, and continuing maintenance till the date of initial handing over, or executing the initial painting process. The unit price also includes the required equipment and labor force, and all what is required for completing the work according to the specifications, drawings and instructions. The unit price is given by one square meter.				
AR-0406	Lower Subgrade (Laterite Pavement of 0.25cm thick) By Square Meter, Supply and Making Supporting Layer for Embankments, and roads of laterite soil with a thickness of 25 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.	Sq.m	52,000		
AR-0407	Laterite Pavement of 0.2m thick on Berms, etc. By Square Meter, Supply and Making Supporting Layer for Embankments of laterite soil with a thickness of 20 cm. The unit price includes and is charged with transport, supply, spreading, spraying with water, leveling and crushing by a steam roller weighing 10 tons, or by steam roller vibrator, and continuing maintenance works till handing over of the works. Work will be done according to the lengths and widths determined by the NSDO, and pursuant to the Specifications of Roads and Bridges Department. The unit price also includes and is charged with all what is required of tests regarded by the NSDO as required for verifying the suitability of the layer after crushing, according to the specification and conditions. The unit price will be given by square meter.	Sq.m	20,000		

Bill of Quantities

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
AR-0408	<p>Stone Pitching with Mortar Caulking</p> <p>Supply and Making Wet Stone Pitching by Mortar for Lining, of the white kind, which should be clean, solid and free from stains, soft and parasite veins, from approved quarries to be accepted by the NSDO, according to the drawings, and instructions, with mortar composed of 350 Kg (Three Hundred and Fifty) ordinary Portland cement to one cubic meter coarse sand.</p> <p>The unit price also includes making the required pointing after emptying the recessed straight joints. This will be done by a mortar consisting of 700 Kg (Seven Hundred) ordinary Portland cement added to one cubic meter sand.</p> <p>The unit price includes also excavation works with the thickness of pitching, preparing the slopes, scaffoldings, Workmanship, and works of water draining, as well as all what is required for completing the work perfectly according to the specifications. The unit price is given by one cubic meter.</p>	Cu.m	38,000		
AR-0400	Total				

**Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
Bill of Quantities**

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
MW-0500	Mechanical Works				
MW-0501	Stop-log gate guides & bottom seals (H=5.2m x 2, W=4.1m) for inlet and outlet of box culvert conduit Supply and Install Mechanical Equipment , according to the instructions, specifications and drawings. The unit price includes and is charged with all works required to complete such process perfectly and spare parts, as well as all what is required of workmanship and tests. The unit price is to be given by one set.	Set	16		
MW-0502	Stop-log gate guides and bottom seals (H=6.2m x 2, W=4.0m) for openings of box culvert conduit the same as MW-0501.	Set	128		
MW-0503	Stop-log gate (H=1.2m x 3=3.6m, W=4.1m) and a lifting beam for box culvert conduit, see Drawing SPW-111. the same as MW-0501.	Set	12		
MW-0504	Safety rack for inlet of box culvert conduit the same as MW-0501.	Set	4		
MW-0505	Gantry and traveling cranes for spillway stop-logs, see Drawing SPW-110. the same as MW-0501	Set	1		
MW-0506	Radial gate (H=4.5m, W=4.0m) for spillway, see Drawing SPW-110. the same as MW-0501	Set	2		
MW-0507	Stop-log gate guides and bottom seals (H=6.2m x 2, B=4.4m) for spillway the same as MW-0501	Set.	4		
MW-0508	Stop-log gate (H=1.2m x 3 = 3.6m, W=4.4m) and a lifting beam for spillway the same as MW-0501	Set	2		
MW-0500	Total				

Declaration By the Contractor

I certify that I reviewed the maps and drawings album concerning this Contract and inspected work locations - the subject of this Contract as they exist, and verified the nature of land and work, as well as the area conditions and all statements required for the completion of work. Also, I studied the items of the General Contract of the Ministry - Form No. 2333 B in due time, the special conditions, the main bill of quantities, and the annex of bill of quantities and developed my unit prices on this basis, and on my responsibility.

Furthermore, I accept the State Council amendments.

The Contractor

Undersecretary for
For Studies, Specifications and Designs
Engineer/ (Mohammed Nasser Ahmed Nassar)