TRANSACTION ADVISORY SERVICES FOR REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA ROAD (LENGTH = 66.66 KM)

COST ESTIMATE

Bill No. 1 Earthwork and Allied Activities

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
Ch. 3 Item 47a	Jungle clearance and removing within 100 ft. (30 m). a) light	Each	164,800
Ch. 3 Item 46	Uprooting stump and removing within 100 ft. (30 m) from 2 ft. to 6 ft. (600 to 1800 mm) girth.	Each	150
Ch. 18 Item 24	Providing and laying good quality / local sand cushion from approved source (compacted in layers not exceeding 6" thickness) by mechanized means including the cost of front end loader, viberatory roller and all lead and lifts,dressing,watering complete in all respect as approved and directed by the Engineer Incharge.	CM	96,280
Ch. 3 Item 7 (i)	Earthwork excavation in open cutting upto 1.5m (5'-0") depth for storm water channels, drains, sullage drains in open areas, roads, streets, lanes, including under pinning of walls and shoring to protect existing works, shuttering and timbering the trenches, dressed to designed level and dimensions, trimming, removal of surface water from trenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- **i) ordinary**	CM	294,680
Ch. 3 Item 17 (a,b)	Transportation of earth all types when the total distance, including the lead covered in the item of work upto **1 km lead.**	CM	43,630
Ch. 3 Item 5 (i)	Earthwork in ordinary soil for embankments upto 100ft. (30m), including ploughing and mixing with blade grade or disc harrow or other suitable equipment, and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:- i) 95% to 100% maximum modified AASHO dry density. (material within Project area **Roadway excavation**)	CM	243,740

Ch. 3 Item 5 (i) + Ch. 3 Item 17 (a,b,c)	Earthwork in ordinary soil for embankments upto 100ft. (30m) , including ploughing and mixing with blade grade or disc harrow or other suitable equipment, and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:- i) 95% to 100% maximum modified AASHO dry density. (material From **Borrow excavation Including 5km Lead**)	CM	1,132,196
Ch. 3 Item 25 (i)	Compaction of earthwork with power road roller, including ploughing, mixing, moistening earth to optimum moisture content in layers, etc.complete: **i) 95% to 100% maximum modified AASHO dry density.**	CM	129,060
	Total of Bill No. 1		

TRANSACTION ADVISORY SERVICES FOR REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA ROAD (LENGTH = 66.66 KM)
COST ESTIMATE

Bill No. 2 Subbase and Base

Ch./Item No. MRS 1st Bi-Annual 2024	Description	Unit	Quantity
Ch. 18 Item 3 a (i), 1-1	Providing and laying subbase course of **Crushed stone Aggregate (Subbase)** of approved quality and grade, including placing, mixing, spreading and compaction of subbase material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, (Including carriage of all material to site of work from **Sikhanwali Quarry, Sargodha**).	CM	66,850
Ch.18 Item 4a, 1-1	Providing and laying base course **(WBM)** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course **(WBM)** material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, (including carriage of all materials to site of work from **Sikhanwali Quarry, Sargodha**).	CM	306,166
Ch 4 Item 45	Dismantling and removing road metalling.	CM	43,258
Ch 4 Item 46	Dismantling and removing road pavement, etc., including screening and stacking of byproducts upto one chain lead (30 meter)	CM	141,067
Ch 18 Item 3(aii) Labour Only	Re-use of salvaged Granular Material from existing road as subbase	CM	126,960
Ch 1-1	Disposal of Existing Unusable Road Pavement Structure, Including Lead of **1 KM**	CM	57,370
Ch.18 Item 5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	RM	99,090
	Total of Bill No. 2		

COST ESTIMATE

Bill No. 3 Surface Courses & Pavement

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
Ch. 18 Item 6	Providing and laying bituminous priming coat, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	SM	1,015,935
Ch. 18 Item 7	Providing and laying bituminous tack coat, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	SM	1,035,291
Ch. 18 Item 10 (ii), 1-1	Providing and laying plant premixed **bituminous carpet, base course** including compaction and finishing to required camber, grade and density. **3.5% Bitumen** (Including carriage of crushed stone aggregate/bajri from **Sikhanwali Quarry, Sargodha**) .	CM	176,610
Ch. 18 Item 7	Providing and laying bituminous tack coat, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	SM	1,022,717
Ch. 18 Item 10(iii),1-1	Providing and laying plant premixed bituminous carpet, **wearing course** including compaction and finishing to required camber, grade and density. **4.0% Bitumen** (Including carriage of crushed stone aggregate/bajri from **Sikhanwali Quarry Sargodha**) .	CM	50,450
Ch. 18 Item 8 a 1(i),2(i),3 + 1-1	Providing surface treatment to roads, including supply of bitumen and bajri /crushed stone aggregate of approved quality, including cleaning of road surface, heating and spraying bitumen, spreading bajri and rolling with road roller (including its operation cost, fuel and hire charges, etc.) etc. Complete **including carriage** of all materials to site of work including bajjri / crushed stone aggregate from **Sikhanwali Quarry Sargodha. (TST)**	SM	195,360
	Total of Bill No. 3		

TRANSACTION ADVISORY SERVICES FOR REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA ROAD (LENGTH = 66.66 KM)

COST ESTIMATE

Bill No. 4 Structure

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
4	Structure (New RCC Bridges)	Sq.m	572
4.1a	Structure (New Prestressed Bridges) AT RD 19+100		
4.1b	Ramp at RD 19+100		
4.2a	Structure (New Flyover Bridge Prestressed) AT RD 27+700		
4.2b	Ramp at RD 27+700		
4.3	Structure (New Culverts)	Sq.m	200
4.4	Structure (Extension of Culverts)	Sq.m	9,991
4,5	Structure (Pipe Culverts)	Sq.m	293.00
4.6	Pedestrian Bridges	Sq.m	960
4.7	Geo Technical investigation of Bridges (P.S)	P.S	-
	Total of Bill No. 4		

ENGINEER'S ESTIMATE

Bill No.4.1a Structures Flyover

Item #	Item Description	Unit	Ceiling Quantity
Chapter 3/ 21(1)(b)ii	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) **1) Depth upto 5ft (1.5m) b) By Excavator ii) Ordinary soil**	CM	3,999
Ch. 18 Item 24	Providing and laying good quality / local sand cushion from approved source (compacted in layers not exceeding 6" thickness) by mechanized means including the cost of front end loader, viberatory roller and all lead and lifts, dressing, watering complete in all respect as approved and directed by the Engineer Incharge.	CM	2,731

Ch. 6 Item 9c (vi) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(Approach Slab) Strength (vi)3000 PSI**	CM	27
Chapter 6 Item 9c(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(Pile Cap) (iv)Strength 4000 PSI**	CM	1,220
Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Concrete Pads) (iv)Strength 4000 PSI**	CM	6

Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Piers) (iv)Strength 4000 PSI**	CM	498
Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Abutment Wall, Abutment Seat, Curtain Wall and Wing Wall) (iv)Strength 4000 PSI**	CM	187

Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Transom) (iv)Strength 4000 PSI**	CM	216
Chapter 6 / Item 55 b(i) + Ch.1-1	Providing and laying Kerb Block / RCC Barrier of Concrete having compressive strength of 4000 PSI of required size with Slip form Paver / power kerber machine, batching plant, excluding the cost of additive / super plasticizer, steel reinforcement and its labour for bending and laying in position as specified etc complete in all respect. **b) R.C.C Barrier (i) Single Face**	CM	226
Chapter 6 Item 9a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(RCC Box Girder) (iv)Strength 4000 PSI**	CM	3,146
Ch. 6 / 5(i) + Ch.1-1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8 (Lean Concrete)**	CM	48

Chapter 6 / 12(b)ii	Fabrication of mild steel Reinforcement for Cement Concrete (**except Piles**), including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(b) Deformed bars (ii) (Grade-60)**	Ton	1,733
Chapter 6 / 11(ii)	Fabrication of mild steel reinforcement **deformed bar** cage of specified yield strength for **R.C.C bored piles** including cutting bending, lowering of cage with crane in position, welding and fastening, including the cost of binding wire, Crane machine (also includes removal of rust from the bars) as approved and directed by the Engineer Incharge. **ii) Grade-60**	Ton	642
Chapter 18/17	Providing and laying expansion joint of neoprine strip 4"x1/4" (100mm x 6mm) and plastic bitumen (N.J Barrier)	LM	33
Chapter 18 Item 22 II(b)(i)	Providing and laying Elastomeric Neoprene Bearing Pads of specified grade, Specific gravity, hardness, elongation, min tensile strength of 2250psi , and compressive strength of 2000 psi conforming to ASTM D2240 standard test method for rubber as approved and directed by the Engineer Incharge. **II. Grade 60 (b) Laminated (i) Without Anchorage**	cubic centimeter	871,200
Chapter 6 Item 8 b(v) + Ch.1-1	Providing and casting in situ bored reinforced concrete piles using Ordinary portland cement / Sulphate resisting cement or as may be required, incuding screening, washing of aggregates, mixing of constituents using batching plant, Transportation by Transit Mixer,Pouring in the required proportion to achieve a nominal cylinderical strength in the field as per ACI-214, with the specified consistency. i/c the cost of labour, boring, equipment/machinery, plateform (except the cost of steel reinforcement, its labour for bending and laying in position and boat plateform etc. which will be paid separately) excluding the cost of admixture as approved and directed by the Engineer Incharge **In ordinary soil (b) 4000 PSI (v) 1.2 m / 48 inch**	LM	2,832
Ch 6 Item 51	Extra for Kentledge and loading arangements for test pile to ensure structural and Geotechnical soundness of pile upto a maximum test load applying in stages i/c the hiring of machinary required for complete job and furnishing a report in this regard by a qualified /authorized GeoTechnical Engineer by studying the data of at least seven days as approved and directed by the Engineer Incharge. **Pile load test**	Ton	1,350

Ch 6 Item 51	Extra for Kentledge and loading arangements for test pile to ensure structural and Geotechnical soundness of pile upto a maximum test load applying in stages i/c the hiring of machinary required for complete job and furnishing a report in this regard by a qualified /authorized GeoTechnical Engineer by studying the data of at least seven days as approved and directed by the Engineer Incharge. **Proof load test**	Ton	675
NS	Providing and Fixing 150mm Dia. PVC Pipes in piers	LM	169
NS	Providing and fixing dia 100mm PVC pipes in NJ Barrier	LM	726
NS	Providing and fixing dia 75mm dia U-PVC pipes for Cable Ducts	LM	726
Ch 9 Item 21	Rain water down pipe cast iron head fixed in place, including cost of clamp hold fast and painting **(Scupper)**	Each	73
Ch 18 Item 21-b (ii)	Providing and fixing metalic expansion Joints of 3/4" thick Aluminium Alloy strip of specified width duly bolted with check nuts @ 9" c/c with the MS lugs for specified movements as mentioned by the designer i/c the cost of polystrene joint fill but excluding the cost of Lugs complete in all respect as approved and directed by the Engineer Incharge. **(B) Saw-tooth Type (ii) 40 mm to 80 mm**	LM	62
Ch. 13 Item 9(i)	Bitumen Coating to plastered or cement concrete surface for Pile Cap & Pier upto FGL i) 20lbs per 100Sft (9.07Kg per Sq.m)	SM	1,197
NS	Sonic Integrity Test (SIT) on all Piles	Each	66
Ch 25 Item 16	Making bolts and nuts of iron rods	100Kg	30
Total of Bill No. 4.1a			

RAMP R.C. WALL FAISALABAD CHINIOT SARGODHA ROAD

Engineer Estimate

STRUCTURES

Bill No.4.1b

Item	Description	Unit	Quantity
Chapter 3/ 21(1)(b)ii	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) **1) Depth upto 5ft (1.5m) b) By Excavator ii) Ordinary soil**	CM	16,947
Ch. 18 Item 24	Providing and laying good quality / local sand cushion from approved source (compacted in layers not exceeding 6" thickness) by mechanized means including the cost of front end loader, viberatory roller and all lead and lifts,dressing, watering complete in all respect as approved and directed by the Engineer Incharge.	CM	13,532
Ch. 6 Item 9c (iv) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(iv)Strength 4000 PSI (Base Slab)**	CM	1,370
Ch. 6 Item 9 b(iv)ii+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (b) **Retaining/ Shear walls** laid in situ or precast laid in position, or prestressed members cast (Formwork on both sides) **iv) 4000 PSI (ii) More Than 9" Thick (Stem of Retaining Wall)**	CM	1,432

Ch. Item 6/5(i)+ Ch.1-1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (i) Ratio 1: 4: 8 **(Lean Concrete)**	CM	268
Chapter 6 / 12(b)ii	Fabrication of mild steel Reinforcement for Cement Concrete (**except Piles**), including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(b) Deformed bars (ii) (Grade-60)**	Ton	380
Ch. 18 Item 17	Providing and laying expansion joint of neoprine strip 4"x1/4" (100mm x 6mm) and plastic bitumen (Expansion Joint and Contraction Joint)	LM	1,071
Ch. 6 Item 32(ii)	Providing and embedding 10" (250mm) wide PVC water stopper in expansi on joints of RCC structures (Retaining walls, water tanks, Slabs) complete in all respect. **ii) 10 mm thick**	LM	1,071
Chapter 6 / Item 55 b(i) + Ch.1-1	Providing and laying Kerb Block / RCC Barrier of Concrete having compressive strength of 4000 PSI of required size with Slip form Paver / power kerber machine, batching plant, excluding the cost of additive / super plasticizer, steel reinforcement and its labour for bending and laying in position as specified etc complete in all respect. **b) R.C.C Barrier (i) Single Face**	CM	273
Ch. 13 Item 9(i)	Bitumen Coating to plastered or cement concrete surface i) 20lbs per 100Sft (9.07Kg per Sq.m)	SM	6,247
Total of Bill No. 4.1b			

ENGINEER'S ESTIMATE

Bill No.4.2a Structures Flyover

Item #	Item Description	Unit	Ceiling Quantity
Chapter 3/ 21(2)(a)ii	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) **2(a) By Excavator ii) Ordinary soil**	CM	6,766

Ch. 18 Item 24	Providing and laying good quality / local sand cushion from approved source (compacted in layers not exceeding 6" thickness) by mechanized means including the cost of front end loader, viberatory roller and all lead and lifts, dressing, watering complete in all respect as approved and directed by the Engineer Incharge.	CM	4,568
Ch. 6 Item 9c (vi) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(Approach Slab) Strength (vi)3000 PSI**	CM	56
Chapter 6 Item 9c(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(Pile Cap) (iv)Strength 4000 PSI**	CM	2,110

Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Concrete Pads) (iv)Strength 4000 PSI**	CM	12
Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Piers) (iv)Strength 4000 PSI**	CM	954

Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Abutment Wall, Abutment Seat, Curtain Wall and Wing Wall) (iv)Strength 4000 PSI**	CM	386
Chapter 6 Item 9 a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(Transom) (iv)Strength 4000 PSI**	CM	366
Chapter 6 / Item 55 b(i) + Ch.1-1	Providing and laying Kerb Block / RCC Barrier of Concrete having compressive strength of 4000 PSI of required size with Slip form Paver / power kerber machine, batching plant, excluding the cost of additive / super plasticizer, steel reinforcement and its labour for bending and laying in position as specified etc complete in all respect. **b) R.C.C Barrier (i) Single Face**	CM	452

Chapter 6 Item 9a(iv)+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns lintels, girders** and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: **(RCC Box Girder) (iv)Strength 4000 PSI**	CM	6,460
Ch. 6 / 5(i) + Ch.1-1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8 (Lean Concrete)**	CM	90
Chapter 6 / 12(b)ii	Fabrication of mild steel Reinforcement for Cement Concrete (**except Piles**), including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(b) Deformed bars (ii) (Grade-60)**	Ton	3,448
Chapter 6 / 11(ii)	Fabrication of mild steel reinforcement **deformed bar** cage of specified yield strength for **R.C.C bored piles** including cutting bending, lowering of cage with crane in position, welding and fastening, including the cost of binding wire, Crane machine (also includes removal of rust from the bars) as approved and directed by the Engineer Incharge. **ii) Grade-60**	Ton	1,214
Chapter 18/17	Providing and laying expansion joint of neoprine strip 4"x1/4" (100mm x 6mm) and plastic bitumen (N.J Barrier)	LM	66
Chapter 18 Item 22 II(b)(i)	Providing and laying Elastomeric Neoprene Bearing Pads of specified grade, Specific gravity, hardness, elongation, min tensile strength of 2250psi , and compressive strength of 2000 psi conforming to ASTM D2240 standard test method for rubber as approved and directed by the Engineer Incharge. **II. Grade 60 (b) Laminated (i) Without Anchorage**	cubic centimeter	1,742,400

Chapter 6 Item 8 b(v) + Ch.1-1	Providing and casting in situ bored reinforced concrete piles using Ordinary portland cement / Sulphate resisting cement or as may be required, incuding screening, washing of aggregates, mixing of constituents using batching plant, Transportation by Transit Mixer,Pouring in the required proportion to achieve a nominal cylinderical strength in the field as per ACI-214, with the specified consistency. i/c the cost of labour, boring, equipment/machinery, plateform (except the cost of steel reinforcement, its labour for bending and laying in position and boat plateform etc. which will be paid separately) excluding the cost of admixture as approved and directed by the Engineer Incharge **In ordinary soil (b) 4000 PSI (v) 1.2 m / 48 inch**	LM	5,356
Ch 6 Item 51	Extra for Kentledge and loading arangements for test pile to ensure structural and Geotechnical soundness of pile upto a maximum test load applying in stages i/c the hiring of machinary required for complete job and furnishing a report in this regard by a qualified /authorized GeoTechnical Engineer by studying the data of at least seven days as approved and directed by the Engineer Incharge. **Pile load test**	Ton	2,700
Ch 6 Item 51	Extra for Kentledge and loading arangements for test pile to ensure structural and Geotechnical soundness of pile upto a maximum test load applying in stages i/c the hiring of machinary required for complete job and furnishing a report in this regard by a qualified /authorized GeoTechnical Engineer by studying the data of at least seven days as approved and directed by the Engineer Incharge. **Proof load test**	Ton	1,350
NS	Providing and Fixing 150mm Dia. PVC Pipes in piers	LM	374
NS	Providing and fixing dia 100mm PVC pipes in NJ Barrier	LM	1,452
NS	Providing and fixing dia 75mm dia U-PVC pipes for Cable Ducts	LM	1,452
Ch 9 Item 21	Rain water down pipe cast iron head fixed in place, including cost of clamp hold fast and painting **(Scupper)**	Each	146
Ch 18 Item 21-b (ii)	Providing and fixing metalic expansion Joints of 3/4" thick Aluminium Alloy strip of specified width duly bolted with check nuts @ 9" c/c with the MS lugs for specified movements as mentioned by the designer i/c the cost of polystrene joint fill but excluding the cost of Lugs complete in all respect as approved and directed by the Engineer Incharge. **(B) Saw-tooth Type (ii) 40 mm to 80 mm**	LM	128

Ch. 13 Item 9(i)	Bitumen Coating to plastered or cement concrete surface for Pile Cap & Pier upto FGL i) 20lbs per 100Sft (9.07Kg per Sq.m)	SM	2,476
NS	Sonic Integrity Test (SIT) on all Piles	Each	124
Ch 25 Item 16	Making bolts and nuts of iron rods	100Kg	60
Total of Bill No. 4.2a			

RAMP R.C. WALL FAISALABAD CHINIOT SARGODHA ROAD

Engineer Estimate

Bill No.4.2b

Item	Description	Unit	Quantity
Chapter 3/ 21(1)(b)ii	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) **1) Depth upto 5ft (1.5m) b) By Excavator ii) Ordinary soil**	CM	33,894
Ch. 18 Item 24	Providing and laying good quality / local sand cushion from approved source (compacted in layers not exceeding 6" thickness) by mechanized means including the cost of front end loader, viberatory roller and all lead and lifts,dressing, watering complete in all respect as approved and directed by the Engineer Incharge.	CM	27,064
Ch. 6 Item 9c (iv) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Pile Cap, Raft, Strip and Footing Beams) **(iv)Strength 4000 PSI (Base Slab)**	CM	2,740

Ch. 6 Item 9 b(iv)ii+ Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (b) **Retaining/ Shear walls** laid in situ or precast laid in position, or prestressed members cast (Formwork on both sides) **iv) 4000 PSI (ii) More Than 9" Thick** **(Stem of Retaining Wall)**	CM	2,864
Ch. Item 6/5(i)+ Ch.1-1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (i) Ratio 1: 4: 8 **(Lean Concrete)**	CM	536
Chapter 6 / 12(b)ii	Fabrication of mild steel Reinforcement for Cement Concrete (**except Piles**), including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(b) Deformed bars (ii) (Grade-60)**	Ton	760
Ch. 18 Item 17	Providing and laying expansion joint of neoprine strip 4"x1/4" (100mm x 6mm) and plastic bitumen (Expansion Joint and Contraction Joint)	LM	2,142
Ch. 6 Item 32(ii)	Providing and embedding 10" (250mm) wide PVC water stopper in expansi on joints of RCC structures (Retaining walls, water tanks, Slabs) complete in all respect. **ii) 10 mm thick**	LM	2,142
Chapter 6 / Item 55 b(i) + Ch.1-1	Providing and laying Kerb Block / RCC Barrier of Concrete having compressive strength of 4000 PSI of required size with Slip form Paver / power kerber machine, batching plant, excluding the cost of additive / super plasticizer, steel reinforcement and its labour for bending and laying in position as specified etc complete in all respect. **b) R.C.C Barrier (i) Single Face**	CM	546
Ch. 13 Item 9(i)	Bitumen Coating to plastered or cement concrete surface i) 20lbs per 100Sft (9.07Kg per Sq.m)	SM	12,494
Total of Bill No. 4.2b			

COST ESTIMATE

Bill No 5 Drainage & Erosion Works

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
Chapter 3/ 21(2)(a)ii	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m) **2(a) By Excavator ii) Ordinary soil**	CM	50,620.00

Ch. 6 Item 9a (vi) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. (a) Reinforced cement concrete in **roof slab, beams, columns** lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(vi)Strength 3000 PSI (Wall+Top Slab)**	CM	11,660.00
Ch. 6 Item 9c (vi) + Ch.1-1	Placing, compacting, finishing and curing of concrete using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; including screening, washing of aggregates and mixing of constituents using batching plant, Transportation by transit mixer, pouring with pump in the required proportions to achieve a nominal cylindrical strength in the field as per ACI 214, with the specified consistency. i/c the cost of shuttering, compaction with Viberator, excluding the cost of Admixture, as approved and directed by the Engineer Incharge. **(c) Substructure** (Foundations, Raft, Strip and Footing Beams) **(vi) 3000 PSI (Base Slab)**	CM	5,420.00
Ch. 6 / 5(i) + Ch.1-1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8 Lean Concrete**	CM	2,270.00
Chapter 6 / 12(c)	Fabrication of mild steel Reinforcement for Cement Concrete (**except Piles**), including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(c) Deformed bars (Grade-60)**	TON	2,060.00
Ch. 18/17	Providing and laying expansion joint of neoprine strip 4"x¼" (100 mm x 6 mm) and plastic bitumen.	LM	2,230.00
Ch. 4/20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	CM	1,960.00

Ch. 4/19 c	Dismantling cement concrete plain c) Dismantling cement concrete 1:2:4 plain.	CM	160.00
Ch. 4/13	Dismantling brick work in lime or cement mortar.	CM	4,140.00
Ch.13 / 9 (i)	Bitumen coating to plastered or cement concrete surface:- i) 20 lbs. per 100 Sf t. (9.07 Kg per Sq.m)	SM	58,380.00
Chapter 6 / 31	Providing embeding 10" (250 mm) wide ¼" (6 mm) thick rubber water stopper in expansion joints of R.C.C. roof slab complete in all respects.	R.M	2,230.00
NS-2	Credit for Steel Reinforcement Recovered from Dismantled RCC Concrete	Ton	98.00
NS-3	Credit for Bricks/Stone Recovered from Dismantled Brick/Stone Masonry	CM	1,656.00
	Total of Bill No. 5		

COST ESTIMATE

Bill No.6 Ancillary Works

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
NS-4	PVC Pipe 6" Dia.	M	4,200
Ch.18 Item 39(a)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MS angle iron L-100x100x10 mm, webs and struts of L65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engi neer Incharge. **a) Two Supports ii. Two Lane**	SM	194

Ch.18 Item 38(i)	Providing and fixing Cantilever Gantry of specified portal made of 3 mm thick GI sheet (Z-275) of size 4000x2400x3mm supported with a frame of MSangle iron frame of size 40x40 x 5mm all around the sheet with 3 no vertical and one no horizontal braces of MS tees of size 40x40x5 mm duly supported on a truss of 2 no chords of MS pipes 273x7 mmx9.27 mtr and 3 no struts of MS pipe of size 143x4.5mm x 3.098 mtr duly bolted with a post of MS pipe of size 7500x457.5x 12.7 mm thick duly welded with Base plate of 850x850x36 mm with MS stiffners of 18 mm thick MS sheet and fixed with anchor bolts in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge. **i) Single Portal**	SM	77
NS-7	Fence on Center Median	RM	10,000
	Total of Bill No. 6		

TRANSACTION ADVISORY SERVICES FOR REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA ROAD (LENGTH = 66.66 KM)
COST ESTIMATE

Bill No. 8 Electrical Works (Road Lighting Network based on LED Road Lighting Fixtures)

Ch./Item No. MRS 2nd Bi-Annual 2024	Description	Unit	Quantity
	Design, supply, transportation, storage, installation, testing and commissioning of the following items of work, including all material, labour, tools and accessories etc. required for proper completion of each item as per specification, drawings and/or as directed by the Engineer.		
801(a)	12 m high double bent arm conical octagonal galvanized steel pole with extension arm luminaire arrangement, base plate, J-rag bolts, 02 Nos. 2 Amp 10kA SP MCB, pole numbering and earthing etc. as shown on drawing.	Each	33
801(b)	Road Lighting Pole Foundation	Each	33
	Road Lights		

802(a)	Road Lighting LED Luminaries 120W make Signify (Philips), Schreder, Tungsram (GE) or equivalent suitable for M-2 & M-3 roads of wattage suitable for the project requirements, fully IP 66 with corrosion resistant die cast aluminum housing, silicon gas kit, thermally hardened glass complete with LED drivers, surge protection and all accessories/ components required for the proper operation of the system. The luminaries shall be fully flexible for future upgrades and easy replacements for maintenance purposes. Contractor to submit lighting design calculation as per the offered light fixtures.	No.	66
	Conduits / Pipes		
803(a)	PVC pipe/conduit Class-D 100 mm dia with accessories suitable for laying multi-core cables on road crossings.	Rm	100
803(b)	PVC pipe/conduit Class-B 100 mm dia with accessories suitable for laying multi-core cables from pole to pole and in median/walls/structure.	Rm	1,100
	Low Voltage Power Cables		
804 (a)	4 Core 25mm2 Cu. PVC/PVC 600/1000 Voltage grade Unarmored Cable (Tranformer to LCP) (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)	Rm	100
804 (b)	1 Core 25 mm2 Cu. PVC 450/750 Voltage grade earth cable including all fixing accessories as required for earthing of lighting control panels.	Rm	20
804(c)	4 Core 16mm2 Cu. PVC/PVC 600/1000 Voltage grade Unarmored Cable (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)	Rm	1,300
804 (d)	1 Core 16mm2 Cu. PVC 450/750 Voltage grade Unarmored Cable (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)	Rm	1,400
804(e)	3 Nos. 1 core 2.5 mm2 Cu. PVC 450/750 Voltage grade cable (stranded conductor) (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing) from junction box to the fitting through the hollow of pole.		
i	For 12m Pole	No.	66
	Lighting Control Panel		

805	Road lighting control panel with angle iron frame cladded 14 SWG, sheet steel enclosure having high quality powder coated paint, color RAL 7032. The LCP shall be complete with incoming and outgoing MCCBs, Cu bus bars, magnetic contactors, photo-electric switches, meters, indication lights, construction with IP 54 protection class, door, locking arrangement etc. and all other accessories as required for quality work. MATERIAL 1 No. incoming 63 Amp.(adj.) TP, MCCB, 25 kA 4 No. outgoing 25 Amp. (adj.) TP MCCBs, 25 kA 2 No. outgoing 25 Amp. (adj.) TP MCCBs, 25 kA (Spare) 4 No. 32 Amp. magnetic contactor 2 No. 32 Amp. magnetic contactor (Spare) 3 No. photo-electric switches with timers and relays a) 1 No. ammeters 0-100 Amp, with selector switch (04 position) and CT of 100/5 Amp b) 3 No. indication lights c) 1 No. voltmeter with fuse and 7 position selector switch. d) 3 Ph, N & Earth copper bus bars Internal wiring & line-up terminals etc. Brass cable glands/accessories e) 06 Nos. Auto-Manual-OFF (3 position switches for operation in auto (with photocell) and normal (manual mode-photocell override) f) 06 Nos.ON & 06 Nos. OFF push button switch's with indication lights g) Panel Light with limit Switch	Job	1
	Earthing		
806	Earth point comprising of 10 ft. 5/8" dia. (16 mm dia) copper coated M.S. rods driven in ground near each lighting control panel. The earthing rods shall be completed with fixing clamps etc.	Each	2
	Transformer		
807 As per WAPDA Specs.	Pole mounted transformer 25 kVA, 11/0.415 kV and all accessories, Installation and Connection Charges with energy meter as per WAPDA standards and practice.	Job	1
	Total of Bill No 8 (one Km)		
	Total of Bill No 8 (Nine Km)		

Note:

- The cost of materials are inclusive of General Sales Tax (G.S.T)
- The cost of security deposit and obtaining of 11 kV electrical connection with installation material from WAPDA
- The above referred cost is for estimation purposes only and are based on budgetary quotations from the different
- The list of manufacturers/suppliers of different equipment/materials given as below in order to establish conformance of the product in

TRANSACTION ADVISORY SERVICES FOR REHABILITATION OF FAISALABAD - CHINIOT - SARGODHA ROAD (LENGTH = 66.66 KM)
COST ESTIMATE

Bill No. 9: Ancillary Works (Toll Plaza)

Ch./Item No. MRS 1st Bi-Annual 2024	Item Description	Unit	Total Quantity
-	Toll Plazas	PS	2
	Total		

Note: Toll plaza and its allied works are incorporated on provisional sum basis. Contractor shall visit the respective sites and prepare adequate shop drawings of all activities involved in the execution of the toll plaza along with appropriate Bill of Quantities and rates, complete in all respect as stated above and submit to the Engineer for approval. No activity will be commenced prior to the approval of the Engineer.