

**PC-I FORM**  
for  
**Provision of Machinery & Equipment for improvement of Solid Waste  
Management in Vehari City**

*Project Serial Number*

*Sector :Local Government &Community Development Department*  
*Sub Sector: Social*

<b>1. Name of the project</b>	<b>Provision of Machinery &amp; Equipment for improvement of Solid Waste Management in Vehari City under Punjab Cities Program</b>
<b>2. Location</b>	<b>Location</b> Vehari city lies on Multan-Lahore G.T Road. The towns in the immediate vicinity of Vehari are, Khanewal in North, Bahawalpur district in the south, Bahawalnagar in east and Multan in the west. It is connected with Multan through Multan-Burewala Highway and is about 100 kilometers from Multan. The Kasur-Lodhran railway line passes through this city. The distance of this city from Lahore is 282 Km. The city has coordinates of 30° 3' North and 72°21' East Location map and city description has been given in <b>Annexure-A</b>
<b>3. Authorities responsible for:</b>	
i- Sponsoring	World Bank funding through loan for Punjab Cities Program administered by PMDFC.
ii- Execution	Municipal Committee Vehari under the oversight of PMDFC
iii- Operation and Maintenance	Municipal Committee Vehari
iv-Concerned Provincial Department	Punjab Local Government and Community Development Department
<b>4a. Plan Provision</b>	
i. If the project is included in medium term/five year plan, specify actual allocation	The Technical Assistance (TA) Component of the Punjab Cities Program (PCP) has been funded in ADP 2020-21 at Serial No-1922 with an allocation of Rs180 million. The subproject under this PC-I is one of the projects being planned and executed under Punjab Cities program.
ii- If not included in the current plan, what warrants its inclusion and how it is now proposed to be accommodated	PCP is a World Bank funded Program and as per policy of Government of Punjab, Foreign Funded Programs /projects are not reflected in the ADP. However, as indicated above, the Technical Assistance (TA) Component of PCP has been reflected in ADP 2021-22 at Serial No 1922 with an allocation of Rs 148.792 million and the sub project under this PC-I is one of the subprojects being implemented under PCP.

iii-If the project is proposed to be financed out of block provision indicate.	No; the Program is not funded under the Block Allocation.
4 Provision in the current year PSDP/ADP	Rs. 148.792 million have been allocated under ADP 2021-22 at Sr. No-1922 under the caption of Technical Assistance (TA) Component for Punjab Cities Program.
5. Project objectives and its relationship with sector objectives	<p><b>Sector Objectives</b></p> <p>The sector objectives included in the Annual Development Program 2021-22 as <i>Strategic Intervention (2021-22)</i> are given below:</p> <ol style="list-style-type: none"> <li>1) Construction of wastewater treatment plant at Sahiwal and Sialkot will be initiated under Asian Development Bank assisted project "Punjab Intermediate Cities Investment Improvement Program (PICIIP).</li> <li>2) To Rehabilitate / Improve Water Supply &amp; Sewerage System in Sahiwal project amounting Rs. 9,290 Million will be launched under PICIIP.</li> <li>3) To Rehabilitate / Improve Water Supply &amp; Sewerage System in Sialkot project amounting Rs. 6,560 Million will be launched under PICIIP.</li> <li>4) To conserve historical Lahore Fort and to improve tourism in walled City of Lahore and AFD assisted project amounting Rs. 3,600 Million.</li> <li>5) Performance Based Grants amounting Rs. 7,000 million to 16 cities for improvement of Municipal services under DLI based World Bank Funded "Punjab Cities Program".</li> <li>6) Development Package amounting Rs. 300 million for Provision of Basic infrastructure at the Local level.</li> <li>7) CRVS project will be launched for integration of death and birth</li> </ol> <p><b>Objectives of Sub-Project</b></p> <ul style="list-style-type: none"> <li>• Provision of new improved, economical, efficient and cost effective Solid Waste Collection and Transportation machinery &amp; Equipment for improving the efficiency of collection and disposal of solid waste and the sanitary and hygienic conditions in the city.</li> <li>• Raising the service delivery level in the sector of Solid Waste Management for reduction of the vector and water borne diseases to improve general health standards of the citizen.</li> </ul> <p><b>Scope of the Sub-project</b></p> <p>The scope of the subproject includes :</p> <ol style="list-style-type: none"> <li>1) Provision of equipment and machinery for primary collection of the solid waste in effective manner.</li> <li>2) Provision of machinery for sweeping of roads &amp; streets.</li> <li>3) Provision of machinery for secondary collection and safe</li> </ol>

	<p>transportation of the solid waste to dumping sites.</p> <p>4) Provision of machinery for excavation, re-handling and compaction of the solid waste in dumping sites.</p> <p>5) Provision of motor bikes for easy mobility of the sanitation supervisory staff.</p> <p>Hence, the objectives of the project are in line with the sector objectives given at Sr.No-5 given above.</p>																																																												
<p><b>6. Description, justification, technical parameters and technology transfer aspects (enclose feasibility study for projects costing Rs.300 million and above)</b></p>																																																													
i. Present Condition	Existing situation of solid waste management in the city is given in <b>Annexure-B</b>																																																												
ii. Description of the subproject-	Description of the project including the planning, design and the proposed scope of work has been given as under: <b>Section-I Design Criteria: Annexure-C</b> <b>Section-II Project Proposal: Annexure-D</b>																																																												
iii Provide details of civil works, equipment, machinery and other physical facilities required for the project	<p>The details of the machinery and equipment to be procured by MC under the project are given below:</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Detail of equipment &amp; machinery</th> <th>Unit</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Garbage container 0.8 Cubic meters capacity</td> <td>No.</td> <td>228</td> </tr> <tr> <td>2.</td> <td>Garbage compactor 8 cubic meter capacity</td> <td>No.</td> <td>03</td> </tr> <tr> <td>3.</td> <td>Hand Carts Waste Tipping Trolley</td> <td>No.</td> <td>150</td> </tr> <tr> <td>4.</td> <td>Hand Cart Conventional</td> <td>No.</td> <td>08</td> </tr> <tr> <td>5.</td> <td>Mini Tipper 1 Cubic meter</td> <td>No.</td> <td>03</td> </tr> <tr> <td>6.</td> <td>Water Truck Spray System</td> <td>No.</td> <td>01</td> </tr> <tr> <td>7.</td> <td>Garbage container 5 cubic meters capacity</td> <td>No.</td> <td>15</td> </tr> <tr> <td>8.</td> <td>Dump Truck 10 cubic meter</td> <td>No.</td> <td>01</td> </tr> <tr> <td>9.</td> <td>Chassis Turbo (Euro-III)</td> <td>No</td> <td>04</td> </tr> <tr> <td>10.</td> <td>Chassis Mini Tipper</td> <td>No</td> <td>03</td> </tr> <tr> <td>11.</td> <td>Hino Turbo Intercooler</td> <td>No</td> <td>01</td> </tr> <tr> <td>12.</td> <td>Front blade tractor MF-385 (85 HP)4WD i/c Front Blade</td> <td>No.</td> <td>02</td> </tr> <tr> <td>13.</td> <td>Front and Loader MF-385 (85 HP) 4WD i/c Front End Loader</td> <td>No.</td> <td>03</td> </tr> <tr> <td>14.</td> <td>Hydraulic Rickshaw 200cc</td> <td>No.</td> <td>10</td> </tr> </tbody> </table>	S.No.	Detail of equipment & machinery	Unit	QTY	1.	Garbage container 0.8 Cubic meters capacity	No.	228	2.	Garbage compactor 8 cubic meter capacity	No.	03	3.	Hand Carts Waste Tipping Trolley	No.	150	4.	Hand Cart Conventional	No.	08	5.	Mini Tipper 1 Cubic meter	No.	03	6.	Water Truck Spray System	No.	01	7.	Garbage container 5 cubic meters capacity	No.	15	8.	Dump Truck 10 cubic meter	No.	01	9.	Chassis Turbo (Euro-III)	No	04	10.	Chassis Mini Tipper	No	03	11.	Hino Turbo Intercooler	No	01	12.	Front blade tractor MF-385 (85 HP)4WD i/c Front Blade	No.	02	13.	Front and Loader MF-385 (85 HP) 4WD i/c Front End Loader	No.	03	14.	Hydraulic Rickshaw 200cc	No.	10
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iv Indicate governness issues of the sector relevant to the project and strategy	<ul style="list-style-type: none"> <li>MC has a number of sections that deal with the service delivery, however for design, planning, marketing, and regulating the services MC needs strengthening of certain sections in terms of additional manpower as well as diverse skills. It should have the financial and</li> </ul>																																																												

to resolve them	<p>technical capacity to operate and maintain the existing and additional infrastructure being provided under the project.</p> <ul style="list-style-type: none"> <li>• Presently all MCs in Punjab are short of manpower required for the collection and disposal of waste because of the ban imposed on recruitment of staff since long. The population has increased whereas the manpower has been reduced because of death and retirement of number of skilled and non-skilled workers. Hence even the provision of most efficient machinery and equipment for solid waste collection and disposal will not bring about targeted results if the required manpower is not provided to the MCs.</li> <li>• MC Officers and workers responsible for the solid waste management will have to be trained for operation and maintenance of the machinery and equipment and will have to be monitored for at least Program implementation period to derive the best possible efficiency.</li> </ul>																																																																																				
7- Capital Cost of Project	<p>The total costs of the machinery &amp; equipment has been worked out as given in the table below: (All figures are in million rupees)</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Detail of equipment &amp; machinery</th> <th>Unit</th> <th>Rates</th> <th>QTY</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>✓1</td> <td>Garbage container: 0.8 Cubic meters capacity</td> <td>No</td> <td>78000</td> <td>228</td> <td>17784000</td> </tr> <tr> <td>2</td> <td>Garbage compactor 8 cubic meter capacity</td> <td>No</td> <td>4400000</td> <td>03</td> <td>13200000</td> </tr> <tr> <td>✓3</td> <td>Hand Carts Waste Tipping Trolley</td> <td>No</td> <td>75000</td> <td>150</td> <td>11250000</td> </tr> <tr> <td>✓4</td> <td>Hand Cart Conventional</td> <td>No</td> <td>75,000</td> <td>08</td> <td>600000</td> </tr> <tr> <td>5</td> <td>Mini tipper 1.0 cubic meter</td> <td>No</td> <td>7250000</td> <td>03</td> <td>2175000</td> </tr> <tr> <td>6</td> <td>Water Truck Spray System</td> <td>No</td> <td>1400000</td> <td>01</td> <td>1400000</td> </tr> <tr> <td>✓7</td> <td>Garbage container 5 cubic meters capacity</td> <td>No</td> <td>475000</td> <td>15</td> <td>7125000</td> </tr> <tr> <td>8</td> <td>Dump truck 10 cubic meter</td> <td>No</td> <td>3400000</td> <td>01</td> <td>3400000</td> </tr> <tr> <td>9</td> <td>Chassis Turbo (Euro-III)</td> <td>No</td> <td>6000000</td> <td>04</td> <td>24000000</td> </tr> <tr> <td>10</td> <td>Chassis Mini Tipper</td> <td>No</td> <td>1117000</td> <td>03</td> <td>3351000</td> </tr> <tr> <td>11</td> <td>Hino Turbo Intercooler</td> <td>No</td> <td>12220000</td> <td>01</td> <td>12220000</td> </tr> <tr> <td>12</td> <td>Front blade tractor MF-385(85 HP) 4WD i/c Front Blade</td> <td>No</td> <td>2073700</td> <td>02</td> <td>4147400</td> </tr> <tr> <td>13</td> <td>Front and Loader MF-385 (85 HP) 4WD i/c Front End Loader</td> <td>No</td> <td>2629500</td> <td>03</td> <td>7888500</td> </tr> </tbody> </table>	S. No.	Detail of equipment & machinery	Unit	Rates	QTY	Cost	✓1	Garbage container: 0.8 Cubic meters capacity	No	78000	228	17784000	2	Garbage compactor 8 cubic meter capacity	No	4400000	03	13200000	✓3	Hand Carts Waste Tipping Trolley	No	75000	150	11250000	✓4	Hand Cart Conventional	No	75,000	08	600000	5	Mini tipper 1.0 cubic meter	No	7250000	03	2175000	6	Water Truck Spray System	No	1400000	01	1400000	✓7	Garbage container 5 cubic meters capacity	No	475000	15	7125000	8	Dump truck 10 cubic meter	No	3400000	01	3400000	9	Chassis Turbo (Euro-III)	No	6000000	04	24000000	10	Chassis Mini Tipper	No	1117000	03	3351000	11	Hino Turbo Intercooler	No	12220000	01	12220000	12	Front blade tractor MF-385(85 HP) 4WD i/c Front Blade	No	2073700	02	4147400	13	Front and Loader MF-385 (85 HP) 4WD i/c Front End Loader	No	2629500	03	7888500
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14	Hydraulic Rickshaw 200cc	No	471375	10	4713750
<b>Total of work outlay</b>					<b>113254650</b>
				3%	3397639.5
				2.0%	2265093
				0.25%	283136.63
11	HR cost for 3 years	<b>Annexure-G</b>			27792000
12	Vehicle Tracking & Monitoring system-- Cost for 3 years	<b>Annexure-H</b>			1799738
<b>Total</b>					<b>148792257.13</b>
<b>Cost in million PKR</b>					<b>148.792</b>

The specifications and standards for manufacturing the machinery & equipment have been given in **Annexure-E**.

The details of the cost estimates have been given in **Annexure -F**

i- Indicate date of estimation of the project cost

The project estimates have been framed during the month of December, 2021.

ii- Basis of determining the estimates be provided.

The cost estimates have been framed on the basis of standards and specifications and bill of quantities derived from the planning and design of the equipment and machinery as per population of the city duly taking into consideration the machinery and equipment already available with MC.

The cost estimation has been based on the market rates for which quotations from the manufacturers have been obtained and included in the PC-I. The quotations provided by the manufacturers for truck chassis have validity period of only 45 days. The rates may change after this period and the PC-I may need revision due to change in these rates.

iii- Provide year wise estimation of physical activities

The physical and financial requirements, year wise are included in the following table:

**A. Physical Phasing**

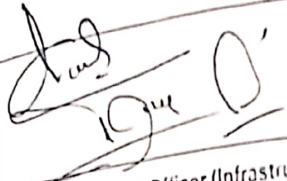

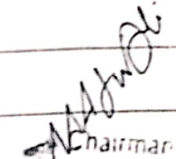
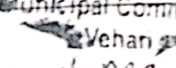
S. #	Items of work	Total	Year 2020-21
1	Machinery & equipment	100 %	100 %
2	Contingencies @ 2%	100%	100%
3	Public awareness @ 0.25%	100%	100%

The HR cost and the cost of Vehicle Tracking System will be spread in three years (from year 2021-22 to 2023-24).

For three  
years  
282,736  
82,736  
50,912  
50,912  
1,824  
2,736  
1,000  
1,000  
856  
792

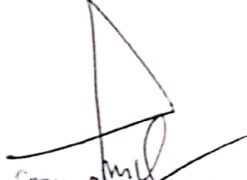
iv- Phasing of capital cost on the basis of each item of work.	<p>The phasing of capital cost of the project is included in the following table:</p> <p><b>B. Financial Phasing</b> (All figures are in million rupees)</p> <table border="1" data-bbox="502 380 1268 952"> <thead> <tr> <th>S. #</th> <th>Items of work</th> <th>Total</th> <th>Year 2021-22</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Cost Estimate (Chassis of Vehicles)Group-A</td> <td>59.277</td> <td>59.277</td> </tr> <tr> <td>2</td> <td>Cost Estimate (Vehicles Super structure and other equipments)Group-B</td> <td>59.923</td> <td>59.923</td> </tr> <tr> <td>4</td> <td>Three year HR Cost for operation of solid waste Machinery(Group-C)</td> <td>27.792</td> <td>Year 2021-22 to 2023-24</td> </tr> <tr> <td>5</td> <td>Vehicle Tracing System</td> <td>1.80</td> <td>Year 2021-22 to 2023-24</td> </tr> <tr> <td></td> <td><b>Total</b></td> <td><b>148.792</b></td> <td></td> </tr> </tbody> </table>	S. #	Items of work	Total	Year 2021-22	1	Cost Estimate (Chassis of Vehicles)Group-A	59.277	59.277	2	Cost Estimate (Vehicles Super structure and other equipments)Group-B	59.923	59.923	4	Three year HR Cost for operation of solid waste Machinery(Group-C)	27.792	Year 2021-22 to 2023-24	5	Vehicle Tracing System	1.80	Year 2021-22 to 2023-24		<b>Total</b>	<b>148.792</b>	
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8- Annual recurrent cost after completion of the project and source of financing	<p><b>i. Annual recurring cost of the project</b></p> <p>Annual operation and maintenance cost of existing manpower. POL &amp; repair and maintenance of machinery &amp; equipment is quite higher because of the inefficient and non-cost effective machinery like tractors which consume much higher POL as compared with the trucks. The POL consumption in case of new machinery will be lower but as 100% efficiency of the solid waste management is targeted hence it may exceed but not so appreciably.</p> <p>Further lower manpower is required in case of compactor trucks than tractors trolleys as it carries almost triple quantity of waste as compared to the tractor trolleys whereas only one vehicle driver is needed as compared with three drivers in case of tractor trolleys. Hence the cost incurred on the vehicle drivers may reduce.</p> <p>Hence it is estimated that the cost presently incurred on O&amp;M of the solid waste machinery and equipment will almost remain the same</p> <p><b>(ii). Source of Financing</b></p> <p>MC is already bearing cost of operation and maintenance of this municipal service and will finance the O &amp; M cost of the facility out of its own resources in future as well.</p> <p>However, HR cost for operation of the proposed machinery for 3 years has been provided in this PC-I. Rest of the cost will be borne by MC.</p>																								
9- Demand & Supply Analysis  i-Existing Capacity of services	<p><b>I. Existing supply level</b></p> <ul style="list-style-type: none"> <li>MC is unable to render satisfactory service to the entire area of city due to shortage of efficient equipment and manpower. Some areas are reasonably served whereas others are deprived of the required level of the service and are served once or twice a week. In present scenario, most of the areas are poorly served and heaps of solid waste accumulated in these areas are only removed when the tolerance level</li> </ul>																								

**16-Certificate**  
 Certified that the project proposal has been prepared on the basis of guidelines provided by the Planning Commission for the preparation of PC-I for social sectors projects

Prepared by		Checked by	
Name	Tariq Habib	Name	Muhammad Naeem Khalid
Designation	Municipal Officer (I&S) MC Vehari	Designation	Chief Officer MC Vehari
Signature		Signature	 Chief Officer Municipal Committee VEHARI
Approved By		Municipal Officer (Infrastructure) Municipal Committee VEHARI	
Name	Nadir Ali Bhatti		
Designation	Chairman	Chairman Municipal Committee Vehari	
Signature			

Initial planning & designing of SWM machinery & equipment has been prepared by PMDFC-PCP Infrastructure development team which was finalized by Mr. Vehari as per their need & duly approved by DDWA. Cost of this machinery & equipment have been prepared by PMDFC & included in PC-I.

  
 Program Officer-1  
 Infrastructure Development  
 Punjab Cities Program-Lahore

  
 Senior Program Officer  
 Infrastructure Development  
 Punjab Cities Program



OFFICE OF THE  
**CHIEF ENGINEER (SOUTH)**  
PUNJAB LOCAL GOVT. BOARD (H.Q) MULTAN  
TEHSIL COUNCIL MULTAN SADDAR  
E-mail chiefengineersouthpunjab@gmail.com

To,

**Municipal Officer (Infrastructure)**  
Municipal Committee Vehari.

No. CE(South)PLGB/TS(112)/2022  
Dated 26th January 2022.

Subject:

**TECHNICAL SANCTION.**

Reference your letter No 188/MO(I)/MC-VR Dated 26-01-2022 on the subject noted above. The following estimate Technically Sanctioned is returned herewith for further necessary action.

Sr. No	Name of Scheme	Estimated Cost (in Million)
1	Provision Of machinery & Equipment for improvement of Solid waste management in Vehari City	148.792

**Condition:-**

1. The Technical Sanction is subject to valid charge, provision of requisite funds, Administrative Approval as per scope and item work provided in the detailed estimate, mutation / transfer of requisite land in the name o department and no complaint / inquiry already being conducted by any Department regarding execution of the Project.
2. The competent authority of the executing agency and the engineer incharge shall ensure that the work is carried out after observation of all financial, codal formalities and strictly in accordance with the sanctioned estimate / specifications of tender accepting authority. The responsibility of the shall rest on the authority approving the rates, as the rates provided the estimate are for purpose only. The tender accepting authority shall also check and satisfy himself regarding quality, durability, economy and lowest market reate in the actual before accepting the rates of supply item. The payment shall be made as per quantity of each item of work/actual work executed at site after record entries with specification and nomenclature as the quantity of each items of works in the estimate is for estimation purpose only and shall not confer any authority for its payment.
3. The quantity of each item of work taken in the estimate is for estimate purpose only. The exact quantity of earth work will be worked out after conduction leveling before executing of E/W in order to avoid possibility of any wrong payment besides preparation of lead char of E/W showing borrowing areas specifying exact khasra and khatoni number.
4. The non-schedule rates as contained in the estimate are for estimate purpose only and should be taken as authority for payment. The payment of such item will also e made after getting competitive rates after observation of all financial and codal formalities.
5. The credit for existing or old dismantled materials should be afforded to the project in accordance with the codal rules and financial procedure properly.
6. The Engineering incharge will certify before making payment be there is no over lapping of the work / item of quality and durability of all terms of works before making the payment.
7. Inform about the schedule of execution.

(KH.IRFAN ASLAM)  
CHIEF ENGINEER (SOUTH),  
PUNJAB LOCAL GOVT. BOARD,  
HEADQUARTER (MULTAN)



Division of Machinery & Equipment for improvement of Solid Waste Management in Vehari  
 City Cost Estimate (Chassis of Vehicles) Group-A

Description	Unit	Quantity	Rate	Amount
			Rupees	Rupees
HINO Duro WU 720R(4x2)Truck Chassis-Turbo intercooled(Euro III). GVW. 8800-9000 kg 6 tyre Engine. Emission standards(Euro-III) Type-Desel 4 Stroke,4cylinders inline, waaater cooled,direct inection,turbocharged with intercooler. Clutch-Dry single plate diaphragm type.Hydraulic control. Transmission-5 Forward and 1 Revers. Axle-Front reverse Elliot -i-Section beam Rear-Full floating type. Brakes-Services;Hydraulic with dual circuit Exhaust-Vecuum operated Dimensions-Wheel base.3800-4000mm. Width-1900-2100mm. Ground Clearance:200-210mm (Electrical)Batteries.2x12 V ,minimum 65 AH Generator-24 V Steering-RHD Suspension- Semi-elliptic, laminated leaf springs, hydraulic double acting telescopic type shock absorbers on front and rear Wheels-Tire size: 7.50-16 with 14 PR No. of tires: 7 including one spare. Fuel tank - Minimum 100 liters	Each	4	6000000	2,40,00,000
Mini Tipper complete.(Chassis)EFI Euro III. RHD Type- Engine- 800-1000 CC (+/- 10 %) Petrol, EFI delivering 30-45 HP Emission Standard : Euro II Length- 3200-3300 mm +/- 10% Width 1400-1500 mm +/- 10% Height- 1600-1700 mm +/- 10% Transmission- 4 forward & 1 reverse Fuel Tank- Minimum 35 liters Tires- 4.50 - 12	Each	3	1117000	33,51,000

  
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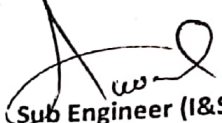
<b>Dimensions-</b> Overall Lenth-3234mm(127.30)inch Overall Lenth 1395mm(54.90)inch Overall Lenth 1650mm(65.00)inch Wheelbae 1840mm(72.40)inch Load deck size,Lenth 1940 mm(76.40)inch Width 1320mm(52.00)inch Height 290mm(11.40)inch					
<b>Weight-</b> Curb weight- 650 kg Seating capacity-2 persons Maximum loading capacity-600 kg(1323 lbs)					
<b>Performance-</b> Maximum horsepower-27.5 kw(37.00 HP at 5000 rpm					
Engin- water cooled OHC & EFI Cylinder- 3 no Bore- 68.50mm Strock- 72.0mm Piston displacement-796cc					
Power transmission type- 4 Forward all synchromesh, 1-Reverse.					
<b>Wheel and suspension-</b> Wheel rim-steel Tyre size-4-50-12 Suspension type,front rear-struct Leaf spring					
Streering,turning radius-4.1m(13.5ft)					
	HINO TURBO INTERCOOLER EURO-III CHASES	Each	1	12220000	1,22,20,000 ✓
	Front Blade Tractor MF 385 85HP 4WD	Each	2	2073700	41,47,400 ✓
	Front End Loader MF 385 85HP	Each	3	2629500	78,88,500 ✓
NS	Loading rikshaw 200cc with Hydrulic unloading complete Model-200ccmotor cycle rikshaw Loading capacity-2000kg Trolly outer size-87"x53"x19/31" Endine-200cc water cooling (4 Forward & 1 Reverse Gear)Power machine Engine. Brake system-Rear hydraulic Leather brake with parking brake - Front,Mechanical. Main features-Heavi duty front shock absorbers,Rear suspension Leaf spring with shock absorbers. Tyre-5-00-12 ULT 10 Ply Starting system-Arm Assy kick/self start Fuel Tank- Minimum 10 liters Battery-12 Volt	Each	10	471375	47,13,750 ✓
<b>Total</b>					<b>5,63,20,650</b>

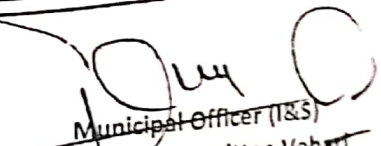
  
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Provision of Machinery & Equipment for ir of Solid Waste Management in Vehari City Cost Estimate (Vehicles Super structure... and other equipments) Group-B



Sr. No	MRS/NS 1ST 2021	Description	Unit	Quantity	Rate	Amount
					Rupees	Rupees
1	NS	Garbage Container 0.8 m3 capacity	Each	228	78000	1,77,84,000
2	NS	TRUCK MOUNTED GARBAGE COMPACTOR 8.0 m³	Each	3	4400000	1,32,00,000
3	NS	WASTE TIPPING TROLLEY / HAND CART 0.4 ~ 0.5 M3 CAPACITY	Each	150	75000	1,12,50,000
4	NS	Three wheeled handcarts with adjustable height compatible with 0.8 cubic meter containers	Each	8	75000	6,00,000
5	NS	Mini tipper 1.0 cubic meter superstructure	Each	3	725000	21,75,000
6	NS	Water bowser with spray system	Each	1	1400000	14,00,000
7	NS	Arm Roll Container 5 m3	Each	15	475000	71,25,000
8		Dump Truck 10 cubicmeter	Each	1	3400000	34,00,000
		<b>Total</b>				5,69,34,000
		Registration fee @ 3%	Million	1.708	PKR	17,08,020
		Contingencies @ 2%	Million	1.139	PKR	11,38,680
		Public awareness @ 0.25%	Million	0.142	PKR	1,42,335
		<b>Grand Total</b>	Million	2.989	PKR	5,99,23,035

  
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Provision of Machinery & Equipment for improvement of Solid Waste Management in Vehari City Cost Estimate (Vehicles Super structure and other equipments) Group-B


MRS/NS 1ST 2021 NS	Description	Unit	Quantity	Rate	Amount
				Rupees	Rupees
	<p><b>Garbage Container</b> 0.8 m3 capacity</p> <p>The rectangular garbage container shall be provided with overall 0.8 m3 capacity. The material of the container shall be hot dip galvanized iron (GI) as per ISO 1461 or ASTM A123. Thickness of the main body shall not be less than 3 mm and thickness of top lid shall not be less than 2 mm. The container dimensions shall be approximately 1200mm x 1200mm x 800mm (±5%). The container shall be provided with six (6) nos. Teflon/steel wheels with NTN, SKF or FAG bearings and a wheel locking mechanism to prevent movement when placed at a location.</p>	Each	228	78000	1,77,84,000
2	<p><b>TRUCK MOUNTED GARBAGE COMPACTOR</b> 8.0 m<sup>3</sup></p> <p>Capacity/Cab- Rigid cab all structural steel welded construction reinforced with beams in doors including air conditioning The cabin shall be factory built, beautifully designed, elegantly styled and comfortable finished. It shall have seating capacity for 3 persons (including driver).</p> <p>Frame-Ladder-shaped "I" channel section made of high strength structural steel Authority letter from chassis manufacture describing that it is in operation in Purchaser's country for at least eight (8) years shall be attached with the bid.</p> <p>Body Capacity 8.0 m3 Excluding Hopper</p> <p>Body Material- DIN ST52, JIS SS 400, equivalent or better grade steel</p> <p>Body floor -4.00~6.00 mm If steel grade used is of yield strength more than 340Mpa, only then 4 mm thickness shall be allowed for Body floor. For DIN ST52 or equivalent material, 5.00 mm plate shall be used.</p> <p>Body Roof 3.00 mm</p> <p>Body Side Plate 4.00 mm Stiffeners to be provided and these shall be full-seam welded on the body if required.</p> <p>Safety Bars Locking &amp; Sealing-2 Nos. Safety Bars under the hopper for maintenance. Hydraulic locking by means of two hydraulic tailgate lifting cylinders which shall also prevent the leakage of the wastewater.</p> <p>Control Valves-Solenoid/Electromechanical valve with safety relief valve for operation from hopper side for press &amp; pack cylinders and on driver side of chassis for Dumping / Ejection Operation.</p> <p>PTO-2 Gear type operated through Electro-vacuum actuator from Cab. This shall be close coupled with Hydraulic Pump.</p>	Each	3	4400000	1,32,00,000


  
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Provision of Machinery & Equipment for improvement of Solid Waste Management in Vehari City Cost Estimate (Vehicles Super structure and other equipments) Group-B

Sr. No.	MRS/NS 1ST 2021	Description	Unit	Quantity	Rate	Amount
					Rupees	Rupees
		Hydraulic Pump-Pump shall be close-coupled with PTO 50-55 cc / rev. Piston type. The operating pressure shall be minimum 180 bars and Max. Pressure 350 bars.				
		Hydraulic Cylinder Double Acting Type-There shall be 8 units of hydraulic double acting cylinders; 4 Nos for Press & Pack plate, 2 Nos for hopper lift and 2 Nos for Bin lift with honed tube and chrome plated rod as per applicable ISO and SAE Standards. The dimensions of cylinders shall be designed to accomplish the stipulated cycle times and compaction ratio. The cylinder shall be warranted for 02 years.				
		Hydraulic Oil Tank-Hydraulic Tank. Capacity min. 75 liters, equipped with line return filter, suction filter, level & temperature gauge & breather cap.				
		Hydraulic Hoses-All high pressure hydraulic oil hoses shall be double braided according to SAE and shall have a burst pressure rating 2 times the working pressure. The hoses in motion are covered and Protected by steel wire.				
		Operation-Auto Cycle with Electro microprocessor control with manual option shall be provided. The system shall be equipped with emergency stop for safety. The operational control shall be placed on driver side with proper weather protection. Following options shall be available: Auto Continuous: With this option the hopper operation shall continuously operate until stopped. Manual: With this operation each action can be done separately by push buttons. Manual override. Manual override shall be provided in each valve for operation. The system shall be controlled from the PLC control box, which enables start, stop, 1 cycle, continuous cycles, and rescue activities. Tailgate and ejector controls shall be in front side of the body. All devices for loading control shall be mounted on tailgate right side, and all shall be manual control for safety purposes. Compaction shall be controlled electrically via push buttons, and manually whenever required. An emergency stop button shall be provided on each side of the truck on the control panel.				
		Ejection / Hopper Lift Operation-Solenoid operational Control be placed on driver side of body with emergency shut off for safety.				
		Water Tank-One tank of minimum 100 liters capacity under the hopper and other tank of minimum 70 liters capacity under the floor with discharge facility Complete in all respects.				
		Mudguards-Two steel mudguards with rubber flaps at rear ends.				
		Foot board-Two foldable type rear footboards for crew to stand.				
		Handles-One handle at each side 3/4" pipe handle for the crews to grasp.				

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