Local Government & Community Development Department

Punjab Cities Program

Rehabilitation of Roads (Tuff Pavers) in MC Jhang

PC-I

Estimated Cost PKR 147.127 Million

March 2023

Municipal Committee, Jhang

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Punjab Cities Program

PC-I Form for Improvement and Rehabilitation of Roads in MC Jhang

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PC-I FORM
for
Improvement and Rehabilitation of Roads in MC Jhang

Project Serial Number

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

<table>
<tr><td>1. Name of the project</td><td>Punjab Cities Program
Improvement and Rehabilitation of Roads in MC Jhang</td></tr>
<tr><td>2.Location</td><td>Jhang city serves as headquarters of Jhang District, and is located in the central portion of the Punjab province.
The city is situated at 72°-20’ East and 31°-16' north at a distance of 92 km from Faisalabad, and 252 km from Lahore. The city is located on the east bank of Chenab River.
Location map of the city is attached in Annexure-A</td></tr>
<tr><td colspan="2">3. Authorities responsible for</td></tr>
<tr><td>i- Sponsoring</td><td>Government of the Punjab (through World Bank funding)</td></tr>
<tr><td>ii- Execution</td><td>Municipal Committee, Jhang</td></tr>
<tr><td>iii- Operation and Maintenance</td><td>Municipal Committee, Jhang</td></tr>
<tr><td>iv-Concerned Provincial Department</td><td>Local Government and Community Development Department Punjab</td></tr>
<tr><td>4a.Plan Provision</td><td></td></tr>
<tr><td>i. If the project is included in medium term/five year plan, specify actual allocation</td><td>Punjab Cities Program (PCP) is a World Bank funded Program with a total cost of USD 236.00 million and comprises of below mentioned components.
<table>
<tr><td>Total loan from World Bank</td><td>USD 200.00 million</td></tr>
<tr><td>Component-1 Infrastructure development (PforR)</td><td>USD 180.00 million USD</td></tr>
<tr><td>Component-2 Technical Assistance</td><td>USD 20.00 million</td></tr>
<tr><td>MCs share (20% of PforR component) equivalent to:</td><td>USD 36.00 million</td></tr>
<tr><td>Total Program cost</td><td>USD 236.00 million</td></tr>
</table></td></tr>
</table>

		Component-2 i-e Technical Assistance component of Program costing USD 20.00 million is meant for management cost of the Program and capacity building of MCs & Government Departments and is included in the medium term/ five-year plan and has been funded now in ADP 2022-23 - under General Serial No-1769 with allocation of PKR 1329.90 million as foreign component.
ii- If not included in the current plan, what warrants its inclusion and how it is now proposed to be accommodated		Not applicable
iii If the project is proposed to be financed out of block provision indicate.		The Project is being financed by World Bank as Donor along with 20% co-financing from the Program Units and is not proposed to be financed out of block allocation.
4b- Provision in the current year PSDP/ADP		PKR.1329.90 million under ADP 2022-23 General Serial No 1769 for Component-2 of the Program i-e Technical Assistance as described above.
5. Project objectives and its relationship with sector objectives		**Sector Objectives** The sector objectives include: 1. Provision of efficient and effective municipality services to the masses. 2. Community development through improving basic infrastructure. 3. Clean and green environment for better living standards. 4. Effective use of land through master planning of urban areas. 5. Social uplifting and cohesion through provision of public open spaces and play grounds. 6. Ease in mobility and communication. 7. Cost efficient Solid Waste Management through waste to energy initiatives. 8. Capacity building of Local Governments. 9. Efficient Road network to make areas easily accessible **Objectives of the Project** The Project aims at improvement of infrastructure of municipal services such as roads, chowks, cross roads, street lights, parks and parking shed

		for SWM machinery for improved communication and recreational facilities. Scope of the work for this particular project includes the rehabilitation and improvement of existing roads, chowks and drainage system along with the construction of new drainage system where needed. However, the cleaning and de-silting of existing drains and pipes will be arranged by MC Jhang from their own resources. The Project has the following objectives; 1. Improvement of service delivery level of the municipal services in the sector of communication. 2. Better travelling facilities for the commuters. 3. Reduction in road accidents. 4. Saving in travelling and repair cost of the vehicles. 5. Reduction in annual maintenance charges of roads and parks 6. Better lit roads and streets adding to security of people travelling at night. 7. Improvement in environments of the city making them livable. 8. Improvement in local and province economy. 9. Improvement in the economic growth potential of the city. Hence, the objectives of the project are in line with the sector objectives mentioned at Sr. No-1, 2, 3, 5 and 6 above and the project forms integral part of the concerned sector.
6. Description, justification, technical parameters and technology transfer aspects		
i. Present Condition		As per PLGA-12019 Urban Local Governments (ULGs) are basically and wholly responsible for delivery of the municipal services with a service delivery level which should satisfy the consumers and citizen. Unfortunately, the prevalent conditions of the service delivery are not encouraging in the city. The major reason of unsatisfactory service delivery is the lack of proper maintenance of the municipal infrastructure in all sectors causing consumer dissatisfaction at one end and degradation of the infrastructure on the other end apart from very low revenue recovery as the consumers are reluctant to pay because of deteriorated service delivery. The roads infrastructure has been damaged and degraded because of lack of repairs and up gradation due to shortage of money and constrained municipal budgets. If these roads & chowks are not improved at this stage, then this infrastructure will be further damaged / degraded giving financial loss to the public as well as private sectors and the growth potential of the city will be adversely affected. Damaged roads will increase the

<table>
<tr><td></td><td>operational expenditure of the vehicles apart from wasting time and giving rise to public frustration and mental agony.

The only way to keep the infrastructure in operational and functional condition for better travelling and recreational facilities to the inhabitants of the city and the surrounding areas, is to improve the roads, chowks and important cross roads</td></tr>
<tr><td>ii. Description of the subproject-</td><td>The project comprises of improvement of 06 No damaged road with total length of 6.44 Km in the city. Detail of the road has been given in the table below.</td></tr>
<tr><td>iii Detail of civil works, equipment & machinery and other physical facilities</td><td>The detail of roads and chowks to be improved, rehabilitated or constructed in the city, is given below
<table>
<tr><th>S. N.</th><th>Name of road</th><th>Detail of works involved</th></tr>
<tr><td>1</td><td>P1-Station Chowk to Laila Majnu Gate</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
<tr><td>2</td><td>P2-Darul Naimat Sweet Dhaji Road</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
<tr><td>3</td><td>P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
<tr><td>4</td><td>P4-Dhup Sarri Road</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
<tr><td>5</td><td>P5-Hussainia School Civil Line Roads</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
<tr><td>6</td><td>P6-Sargodha Road</td><td>• Geometric Improvement
• Rehabilitation of Existing Pavement Structure
• Improvement of drainage system</td></tr>
</table></td></tr>
<tr><td>iv Indicate governess issues of the sector relevant to the project and strategy to resolve them</td><td>• Municipal Committee, Jhang is facing acute shortage of staff. The smooth sailing of the Punjab Cities Program can only be assured when the required staff is available with Unit.
• The Repair and maintenance of the municipal services is not up to the mark in such Unit. Trainings will be imparted by PMDFC to the officers as well as the field staff under the Program but practicing the interventions and method/procedures learnt in these trainings is the actual requirement in which Units are lacking at present. Hence inculcating the mind set for good repair and maintenance is the major requirement for improving the service delivery level.</td></tr>
</table>

7- Capital Cost of Project

The summary of the works included in the project is given below;

S. No	Name of road	Cost (PKR million)
1	P1-Station Chowk to Laila Majnu Gate	33.464
2	P2-Darul Naimat Sweet Dhaji Road	28.076
3	P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road	21.415
4	P4-Dhup Sarri Road	9.178
5	P5-Hussainia School Civil Line Roads	22.274
6	P6-Sargodha Road	6.561
7	Drainage System	14.748
8	Environment And Social Mitigation Cost	0.509
	Total	**136.229**
9	Horticulture @1%	1.362
10	Contingencies @2%	2.724
11	Punjab Sales Tax @5%	6.811
	Grand Total	**147.127**

See **Annexure-B** for details

i- Indicate date of estimation of the project cost

The project estimates have been framed during the month of March, 2023

ii- Basis of determining the estimates be provided.

The cost estimates have been framed on the basis of bill of quantities actually required at site and unit rates from the Market Rate System (MRS) issued by the Government of Punjab (District Jhang 1st biannual of year 2023).

For items not available in the MRS, the same have been analyzed as per prevailing market rates.

iii- Provide year wise estimation of physical activities

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

S. #	Name of road / chowk	Year 2022-2023
1	P1-Station Chowk to Laila Majnu Gate	100%
2	P2-Darul Naimat Sweet Dhaji Road	100%

3	P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road	100%
4	P4-Dhup Sarri Road	100%
5	P5-Hussainia School Civil Line Roads	100%
6	P6-Sargodha Road	100%

iv- Phasing of capital cost on the basis of each item of work.

The phasing of capital cost of the project is included in the following table:

(All figures are in million rupees)

S. #	Items of Road/chowk	Total (PKR million)	Year 2022-2023 (100%)
1	P1-Station Chowk to Laila Majnu Gate	33.464	33.464
2	P2-Darul Naimat Sweet Dhaji Road	28.076	28.076
3	P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road	21.415	21.415
4	P4-Dhup Sarri Road	9.178	9.178
5	P5-Hussainia School Civil Line Roads	22.274	22.274
6	P6-Sargodha Road	6.561	6.561
7	Drainage System	14.748	14.748
8	Environment And Social Mitigation Cost	0.509	0.509
	Total work outlay	**136.229**	**136.229**
10, 11	PST, contingencies, Price escalation and Horticulture	10.898	10.898
	Total project cost (Millions)	**147.127**	**147.127**

8-**Annual recurrent cost after completion of the project and source of financing**

The roads are already being repaired and maintained by the Municipal Committee, Jhang out of its own financial resources. No additional cost will be required after completion of the improvement and up gradation of the roads, rather the repairs cost will be reduced for the initial years. However, the efficiency of the infrastructure and service delivery level will be improved after completion of the project.

9- **Demand & Supply Analysis**

Existing supply level

- Existing geometry of the roads and chowk is not well enough to sustain the smooth traffic flow. Existing pavement structure of the

i- Existing Capacity of services	roads and chowk is deteriorated which needs the rehabilitation to bear the traffic loading and better riding quality. • Municipal Committee, Jhang is unable to render satisfactory service to the entire area of the city because of degraded infrastructure wherein some rehabilitation and improvement are direly needed but MC could not be able to accomplish them because of low revenue recovery and funding constraints. Very few areas are reasonably served but others are deprived of the required level of the service. This is resulting in low credibility of the municipal services and citizen dissatisfaction. Further the infrastructure has not been developed and extended keeping in pace with the growth of population mainly due to migration from rural areas to urban areas. The market prices of the materials and labor have also increased drastically during the last decade which increased the O&M cost of services. This has further degraded the situation and the service delivery level is further deteriorating.
ii- Projected Demand for 10 years	• Traffic is increasing day by day in Jhang city. Projected traffic of project road for 10 year is about 47 million. Project roads of MC Jhang needs to be improved to save the travel time and better riding quality. • The municipal services require radical improvement to enhance the efficiency of the service to increase service delivery to a satisfactory level. For this purpose, the existing infrastructure will have to be improved. • Many shortcomings, problems and bottlenecks have been observed in the existing infrastructure which could not be addressed by MC due to funding constraints and now have been proposed to be addressed by rehabilitation of defective and outlived components of all the municipal services infrastructure.
iii- Capacity of other similar projects being implemented in public/private sector	No other project of this nature is being implemented in public as well as private sector because of funding constrains in the Unit.
iv- Supply and Demand gaps	The nature of supply and demand gap has been explained in the preceding paras which concludes; • Existing condition of the road network is not good enough to bear the traffic load. It's causing excessive delays, increasing travel time, occurring accidents at intersections and vehicles wear and tear due to the poor condition of pavement surface. Increasing traffic load requires the improvement of existing road network and chowk. • The existing infrastructure has poor efficiency resulting in unsatisfactory service delivery level.

<table>
<tr><td></td><td></td><td>

The O&M cost of the infrastructure services is very high because of low efficiency and high market rates while there in a large gap between the O&M expenditure and the revenue recovery.
Large subsidies are being injected by MC to the keep the services in operation
Numerous public complaints are the talk of the day.
Unsatisfactory municipal delivery is not encouraging the city to become engines of economic growth and hence the GDP of our city is much lower than the peers in the developing world.

Hence there is a large gap between the supply and demand which is to be bridged by improvement in the infrastructure and its management.
</td></tr>
<tr><td>v-Designed capacity and output of the project</td><td></td><td>
1. Table showing Name of road, From and to reaches, length, ROW, metaled width and type of pavement of each road and total length is given below:
<table>
<tr><th>Sr. #</th><th>Road Name</th><th>Pavement Type</th><th>ROW</th><th>Carriageway Type</th><th>Length (km)</th></tr>
<tr><td>1</td><td>P1-Station Chowk to Laila Majnu Gate</td><td>Tuff Paver</td><td>27 varies</td><td>Single</td><td>1.88</td></tr>
<tr><td>2</td><td>P2-Darul Naimat Sweet Dhaji Road</td><td>Tuff Paver</td><td>21 varies</td><td>Single</td><td>1.79</td></tr>
<tr><td>3</td><td>P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road</td><td>Tuff Paver</td><td>19 varies</td><td>Single</td><td>0.95</td></tr>
<tr><td>4</td><td>P4-Dhup Sarri Road</td><td>Tuff Paver</td><td>16 varies</td><td>Single</td><td>0.50</td></tr>
<tr><td>5</td><td>P5-Hussainia School Civil Line Roads</td><td>Tuff Paver</td><td>23 varies</td><td>Single</td><td>0.80</td></tr>
<tr><td>6</td><td>P6-Sargodha Road</td><td>Tuff Paver</td><td>20 varies</td><td>Single</td><td>0.52</td></tr>
</table>
2. Roads and are designed for 10-year life.
3. These roads will carry out the 47 Million traffic cumulatively for 10 years.
4. Improvement of this road will decrease the travel time of commuters which will ultimately improve the economy of city.
</td></tr>
<tr><td>10. Financial Plan

Sources of financing

<u>Debt</u>

a) Indicate the local and foreign debt Loan</td><td></td><td>
Below given loan for the Punjab Cities Program has been funded by World Bank for 16 PCP cities in Punjab.
<table>
<tr><td>Total loan to Government of Pakistan/Punjab</td><td>USD 200 million</td></tr>
<tr><td>Component-1 for Infrastructure Development</td><td>USD 180 million</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td><table>
<tr><td>Component-2 for Investment Project Financing For capacity building of MCs & three Govt. organization and program management.</td><td>USD 20 million</td></tr>
<tr><td>20% share of Municipalities is equivalent to</td><td>USD 36 million</td></tr>
<tr><td>Total funds available for Infrastructure Development</td><td>USD 216 million</td></tr>
<tr><td colspan="2">This project will be funded under this financing.</td></tr>
</table></td></tr>
<tr><td>b) Equity</td><td>A. Loan/grant to MC
The amount of loan converted to grant to Jhang Unit will be PKR. (117.702 million. The financing of the project will be as given below:<table>
<tr><td>Grant to Unit for the year 2022-2023 (80% of cost of PC-I)</td><td>PKR 117.702 million</td></tr>
<tr><td>20% Co-finance by MC (20% of the cost of PC-I)</td><td>PKR 29.425 million</td></tr>
<tr><td>Total available funds</td><td>PKR 147.127 million</td></tr>
</table>B. Project Cost PKR 147.127 million
*The loan is from World Bank to Government of Pakistan/Punjab which will trickle down to Jhang Unit as grant.</td></tr>
<tr><td>c) Grants</td><td>No grant is being given by Government of Punjab out of ADP funds. The World Bank loan to Government of Pakistan/Punjab will trickle down as grant to MC from Government of Punjab.</td></tr>
<tr><td>d) Weighted cost of capital</td><td>Nil</td></tr>
<tr><td colspan="2">11-Project benefits and analysis</td></tr>
<tr><td>i.Financial:
Income to the project with assumption</td><td>• The project comprises of improvement of roads and cross roads in the city.
• Jhang Unit has no plan to levy user charges /toll tax on the roads as these are internal roads of city and levying of toll tax is not feasible.
• However, it is an infrastructure sector project but the capital cost of the project is not intended to be recovered. The unit will meet the cost of repair and maintenance out of its own resources. The project economic analysis is given as Annexure-C.</td></tr>
<tr><td>ii.Social benefits to the target group</td><td>The completion of the project will result in:
• Up gradation of the infrastructure.</td></tr>
</table>

		• Enhanced life of the roads and chowks. • Reduction in travelling time of the commuters. • Reduction of road accidents. • Reduction in consumption of POL resulting in saving of the foreign exchange. • Reduction in the operation and maintenance cost of the vehicles. • Improvement in the environment of the city; • Minimized public mental tension and frustration • Improved local economy • Improvement of city growth potential
iii.Environmental Impact negative/positive		Construction/Rehabilitation of Roads and their subsequent long-term use lead to many changes in the environment. There will be some negative impacts during rehabilitation of the Roads and Chowks in the form of noise of the machinery, dismantling of the existing roads, dust pollution, nuisance caused by higher traffic, risked caused by animal intersecting routes or consequences of any crossing water courses etc. Therefore, it is recommended to develop variant solutions in order to choose the one that would be least harmful to the environment, and then to incorporate them in an Environmental and Social Management Framework. However, the impacts will be temporary and there will be no negative impacts after completion of the project, rather, positive impacts, because of improvement in environments of the city, will be observed and present traffic hazards and jams will be eliminated. Hence overall positive impacts will be experienced due to execution and operation of the sub-projects. To facilitate the selection of an optimal solution and for the inclusion of Safe Operating Procedures for Construction workers/labors; assessment indicators or an Environmental Screening Checklists have been developed which is attached as Annexure E (A) of this PC-1. The checklist focuses on Environmental Issues and social concerns and ensure that all environmental and social dimensions are adequately considered. E&S Screening & Involuntary resettlement checklists and Environment & Social Mitigation plan will also be the part of the bidding documents.
iv.Quantifiable project outputs		The quantifiable project out puts have been given above in Sr. No-9 (V). The social benefits to the citizen have been described at Sr. No-11(ii).

v.Unit cost analysis

The unit cost analysis is produced below;

Project capital cost	PKR **147.127** million
Population of the city in year 2023	450,330 persons
Unit capital cost per capita	PKR 326.71

- Unit R&M cost: – The Repair & maintenance cost is already being borne by Jhang Unit and there will be no increase in this cost. Due to improvement of the infrastructure R&M cost will reduce for at least 5 years after completion of the project.

vi.Employment generation (direct and indirect)

Employment Analysis

Direct Employment

a) Planning and Design of projects

The planning and design of the project has been entrusted to local consultants who have appointed staff and experts in road and related disciplines along with their support staff. The consultants will also appoint their staff for resident supervision of the project to verify and certify the items of works to be executed under this PC-I.

b) Execution of the Project

a) PMDFC

PMDFC has the project monitoring and supervisory role and the company has enough experts and staff to complete this assignment. PMDFC has already deployed under mentioned staff for these projects:

- Civil Engineers
- Accounts, administration and audit personnel
- Urban planners
- GIS experts
- Support staff like computer operators, vehicle drivers, office boys and guards.
- Procurement experts
- Communication experts
- Environmental and social experts
- Contract management experts

b) Consultants

PMDFC has employed consultants for detailed design and resident supervision of the projects who will deploy their staff for execution of the project.

c) Municipality

Jhang Unit has regular staff like engineers, sub engineers and other administrative & accounts keeping staff which will be

	responsible for execution of the project and contract management. No additional staff will be needed for execution of this project ***d) Contractor*** The contractor responsible for execution of the sub project will employ skilled and un-skilled labor on this work. **Indirect Employment** Indirect employment for production of material such as cement, steel, stone metal, bitumen, bricks etc. will be generated.
vii. Impacts of delays on project cost and viability	The impact of delay in project implementation will; • Result in increased project cost due to escalation in cost of material and labor. • Delay the benefits to the target group • Result in further deterioration of the infrastructure and the service delivery level.
12-Implementation Schedule	
a) Indicate starting and completion date of the project	The project is anticipated to commence by May 2023 and to be completed by August 2023 with project implementation period of 4 months.
b) Item wise/year wise schedule in line chart	The Gant chart has been attached at **Annexure-D**
13- Management Structure and manpower requirements	
i. Administrative arrangements for the implementation of the project	**ii. Planning & design of the project** The project has been designed by the consultants employed by PMDFC and will also carry out the resident supervision of the project. **iii. Preparation of cost estimation** The cost estimates have been prepared by the design consultants by actual measurements are required at site. The execution of the items of works included in these estimates /PC-I will be certified by these consultants. **iv. Execution of the project** • The project will be executed by Municipal Committee, Jhang and supervised by the Consultants appointed by PMDFC in resident supervision mode. The technical staff & experts in PMDFC will oversee, co-ordinate and collaborate in the project planning, design and implementation through their experts in head office located in Lahore and regional offices. The reporting of progress to LG & CDD & World bank and troubleshooting will also be responsibility of PMDFC.

- MO (I&S) of the Unit has been designated as Project Manager /Engineer in Charge of the project. The supervision of the works will also be carried out by these municipal officers along with their support engineering staff. All supervisory staff is available with MC.
- The procurement of works and goods will be done by Procurement Unit of Jhang Unit as per PPRA Rules.

v. Verification of quantities included in PC-Is and Resident Supervision of the works by consultants

The works will be supervised by Supervision Consultants in resident supervision mode by assuring the quantity and quality of works. The consultants will verify the items of work and their quantities contained in the PC-Is and cost estimates initially and then the quantities and quality of works included in the contractor claims at the stage of payments. Payments will be made by the Unit after these contractor claims have been entered in the measurement books by the Project Manager/Engineer in Charge and pre audited as per LG Works Rules.

ii- The manpower requirements by skills during execution and operation of the project and;

The job description, qualification, experience, age and salary of each post

a) PMDFC experts and staff

For rendering assistance in implementation of infrastructure projects in 16 MCs, PMDFC has the experts and staff in the required fields. In order to facilitate the Program Units, three regional offices have been established by PMDFC at Gujranwala, Faisalabad and Multan/Khanewal.

b) Resident Supervision Consultants

The project will be supervised by consultants. The tentative staff to be employed/deployed by the consultants for the certification of quantities of works and resident supervision of the project is given below.

S #	Personnel	Nos	Qualification
1	Chief Resident Engineer/Team Leader	01	BSc;/BE in Civil engineering from HEC approved University with minimum 20 years' professional experience and 5 years' experience on similar assignment or MSC; Civil Engineering/Public Health Engineering/Environmental Engineering with Bachelor in Civil Engineering and minimum 15 years, experience, with 5 years on similar assignments on urban planning, designing and construction supervision assignment.
2	Assistant Resident Engineer	01	Bachelor Degree in Civil engineering with minimum 8 years' experience in site supervision and execution for projects of similar nature
3	Environmentalist	01	Bachelor Degree in Environmentalist/ Environmental Sciences with minimum 16 years education and 5 years' experience in site supervision and execution for projects of similar nature

4	social Safeguards /Resettlement Specialist	01	Master Degree in Sociology Sciences with minimum 18 years education and 5 years' experience in site supervision and execution for projects of similar nature
5	Site Inspectors	01	DAE in Civil with minimum 10 years' experience in site supervision for projects of similar nature

c) Contractor's Technical staff, skilled & non skilled labor

The contractors will employ the supervisory technical staff and skilled & non skilled labor for execution of works. The works will be supervised by experienced Engineers and sub engineers and the number of slots for engineers and skilled and non-skilled will depend upon the type and quantity of work and its period of completion.

d) Repair & maintenance of the project

MC has its own regular staff which has been deployed for repair and maintenance of the municipal services infrastructure. However, it has been observed that the existing staff is not adequate to repair and maintain the services in a manner which can give good service delivery. Hence it is proposed to;

- Fill up the presently vacant slots
- Recruit additional staff as per need of the infrastructure after obtaining the sanctions from the competent authorities.

14-Additional projects /decisions required to optimize the investment being undertaken

1) Shortage & frequent transfers of Provincially appointed staff

MC is facing shortage in provincially appointed and locally appointed cadres. This will seriously affect the pace of progress of the program and the implementation of the infrastructure projects may be delayed. Provincial Government should fill up the vacant staff immediately for optimizing the investments in MC.

2) Repair & Maintenance (R&M) staff

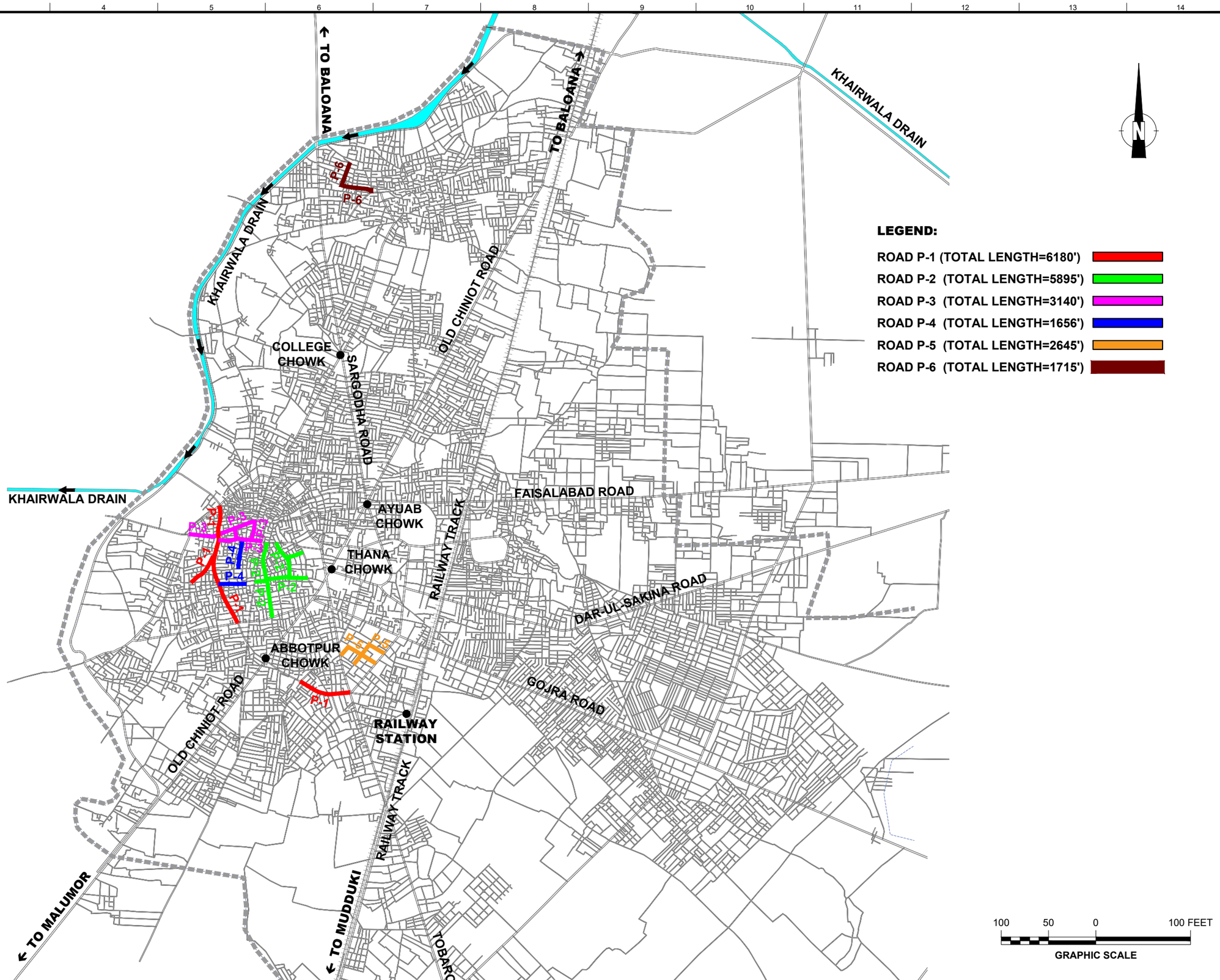
The R&M staff is also deficient and this is adversely affecting the service delivery level. Number of slots are vacant but MC is not allowed to recruit the persons to fill these slots due to ban on recruitments.

Further the sanctioned strength of the field staff is much lesser than the actual requirement because with the increase in population and extension of services, additionally required staff has not been sanctioned by the competent authorities.

Both of the above issues need to be addressed for optimal utilization of the investments and giving targeted benefits to the resident population of these cities.

15-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	JERS Consultancy (Pvt) Ltd	Signatures	
Checked by	Municipal Officer (Infrastructure) Municipal Committee, Jhang	Signatures	
	Chief Officer Municipal Committee, Jhang	Signatures	
	Administrator Municipal Committee, Jhang	Signatures	
Vetted by	Senior Program Officer PMDFC	Signatures	



CLIENT:

PUNJAB MUNICIPAL DEVELOPMENT FUND COMPANY (PMDFC)

CONSULTANTS:

JERS CONSULTANCY (PVT) LTD
24-Civic Center, Quaid-e-Azam Town, Township, Lahore (Pakistan)
Tel: +92 42 35113123, +92 42 35113124
Fax: +92 42 35113125
E-mail: info@jers.com.pk, mail@jers.com.pk
Web: http://www.jers.com.pk

PROJECT:

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB.

DRAWING TITLE:

PROPOSED ROADS KEY PLAN (JHANG)

REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: **JNG-M-01**
SCALE: 1"=3000'
SHEET: 1 OF 1
JOB NO: 488-01

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

TUFF PAVER

MC JHANG

DETAILED COST ESTIMATE

SUMMARY

Sr. No.	Description	Amount (Rs.)
1	ROAD WORKS	120,971,346
2	DRAINAGE SYSTEM	14,748,683
3	ENVIRONMENTAL MITIGATION & MANAGEMENT COST	509,100
	Total Amount (Rs.)	**136,229,129**
	Horticulture @ 1%	1,362,291
	Contingencies @ 2%	2,724,583
	PRA Charges @ 5%	6,811,456
	Total Amount. Rs.	**147,127,459**

PUNJAB CITIES PROGRAM (PCP)
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TUFF PAVER

MC JHANG

DETAILED COST ESTIMATE

SUMMARY

Sr. No.	Description	Amount (Rs.)
1	**ROAD WORKS**	
1.1	P1-Station Chowk to Laila Majnu Gate	33,464,622
1.2	P2-Darul Naimat Sweet Dhaji Road	28,076,294
1.3	P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road	21,415,360
1.4	P4-Dhup Sarri Road	9,178,485
1.5	P5-Hussainia School Civil Line Roads	22,274,686
1.6	P6-Sargodha Road	6,561,898
	1) Total Amount. Rs.	**120,971,346**
2	**DRAINAGE SYSTEM**	
2.1	P1-Station Chowk to Laila Majnu Gate	5,162,334
2.2	P2-Darul Naimat Sweet Dhaji Road	3,549,249
2.3	P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road	2,051,719
2.4	P4-Dhup Sarri Road	571,278
2.5	P5-Hussainia School Civil Line Roads	2,700,889
2.6	P6-Sargodha Road	713,214
	2) Total Amount. Rs.	**14,748,683**
3	**ENVIRONMENTAL MITIGATION & MANAGEMENT COST**	**509,100**
	Total Amount (Rs.) "1+2+3"	**136,229,129**
	Say Millions	**136.23**

ROAD WORKS

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P1-Station Chowk to Laila Majnu Gate

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Scarifying				
1	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100 Sft	974.20	462.00	450,080
		Excavation				
2	3/7	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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	1000Cft	15.85	9,852.50	156,162
		Compaction of Earthwork				
3	3/25	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.	1000Cft	10.57	1,509.00	15,950
		Sub Base Course				
4	18/3/a/ (i) + 1/1	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	69.74	16,138.95	1,125,530

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DETAILED COST ESTIMATE

P1-Station Chowk to Laila Majnu Gate

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Water Bound Macadam				
5	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	391.22	21,253.10	8,314,636
		Tuff Paver				
6	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	118,552.50	197.40	23,402,264
		Total Amount Rs.				**33,464,622**

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DETAILED COST ESTIMATE

P1-Station Chowk to Laila Majnu Gate

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		DRAINAGE SYSTEM				
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	1.94	12,196.80	23,712
		Excavation				
2	3/7/i	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.	1000Cft	1.41	9,852.50	13,853
		P.C.C				
3	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	39.16	38,723.50	1,516,412
		Brick Work				
4	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	57.10	33,467.90	1,911,041
5	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	3.89	2,881.20	11,203
		Plaster				
6	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	81.32	3,639.10	295,927
		Gully Grating Chamber				
7	21/8	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	Each	15.00	17,047.65	255,715

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P1-Station Chowk to Laila Majnu Gate

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
8	7/30	Supplying and filling sand under floor; or plugging in wells.	100Cft	5.63	2,982.00	16,774
		uPVC Pipe				
9	19/47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		Type (SDR 41/SN-4)				
		(vii) 8"(200 mm)	Rft	225.00	455.00	102,375
10	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	3,446.08	73.44	253,083
		RPC Manhole Cover				
11	N.S	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	Each	60.00	12,204.00	732,240
		Manhole Cover				
12	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	60.00	500.00	30,000
		Total Amount (Rs)				**5,162,334**
		Grand Total Amount Rs.				**38,626,957**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P1-Station Chowk to Laila Majnu Gate

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Scarifying						
1	Scarifying old road surface including removal of						
	For Road						
	Rd 0+000 to 0+100	1	100	15.25		1,525	Sft
	Rd 0+100 to 0+600	1	500	15.25		7,625	Sft
	Rd 0+600 to 1+550	1	950	12.00		11,400	Sft
	Rd 1+550 to 4+135	1	2,585	17.00		43,945	Sft
	Rd 4+135 to 5+055	1	920	15.00		13,800	Sft
	Rd 5+055 to 6+180	1	1,125	17.00		19,125	Sft
						97,420	Sft
					Total	**974.20**	**%Sft**
	Excavation						
2	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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:-						
	For Road						
	Rd 0+600 to 1+550	2	950	5.00	0.75	7,125	Cft
	Rd 1+550 to 4+135	2	2,585	2.25	0.75	8,724	Cft
					Total	15,849	Cft
					Total.	**15.85**	**%Cft**
	Compaction of Earthwork						
3	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.						
	For Road						
	Rd 0+600 to 1+550	2	950	5.00	0.50	4,750	Cft
	Rd 1+550 to 4+135	2	2,585	2.25	0.50	5,816	Cft
					Total	10,566	Cft
					Total.	**10.57**	**%oCft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P1-Station Chowk to Laila Majnu Gate

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Sub Base Course						
4	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	For Road Widening						
	Rd 0+600 to 1+550	2	950	5.00	0.33	3,135	Cft
	Rd 1+550 to 4+135	2	2,585	2.25	0.33	3,839	Cft
					Total	6,974	Cft
					Total.	**69.74**	**%Cft**
	Water Bound Macadam						
5	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	For Road						
	Rd 0+000 to 0+100	1	100	15.25	0.33	503	Cft
	Rd 0+100 to 0+600	1	500	15.25	0.33	2,516	Cft
	Rd 0+600 to 1+550	1	950	22.00	0.33	6,897	Cft
	Rd 1+550 to 4+135	1	2,585	21.50	0.33	18,341	Cft
	Rd 4+135 to 5+055	1	920	15.00	0.33	4,554	Cft
	Rd 5+055 to 6+180	1	1,125	17.00	0.33	6,311	Cft
					Total	39,122	Cft
					Total.	**391.22**	**%Cft**

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P1-Station Chowk to Laila Majnu Gate

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Tuff Paver						
6	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	For Road						
	Rd 0+000 to 0+100	1	100	15.25		1,525	Sft
	Rd 0+100 to 0+600	1	500	15.25		7,625	Sft
	Rd 0+600 to 1+550	1	950	22.00		20,900	Sft
	Rd 1+550 to 4+135	1	2,585	21.50		55,578	Sft
	Rd 4+135 to 5+055	1	920	15.00		13,800	Sft
	Rd 5+055 to 6+180	1	1,125	17.00		19,125	Sft
					Total.	**118,553**	**Sft**
	DRAINAGE SYSTEM						
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.						
	Manhole Neck	60	8.64	0.75	0.50	194.41	Cft
					Total	**1.94**	**%Cft**
	Excavation						
2	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.						
	Pipe Laying	15	15.00	2.50	2.50	1,406	Cft
					Total	1,406	Cft
					Total	**1.41**	**%oCft**

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P1-Station Chowk to Laila Majnu Gate

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
3	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	Pipe Laying	15	15.00	1.50	1.50	506	Cft
	For manhole neck	60	8.64	0.75	0.50	194	Cft
	Drain Wall Copping	2	4,730	2.00	0.17	3,216	Cft
					Total	3,916	Cft
					Total	**39.16**	**%Cft**
4	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For manhole neck	60	8.64	0.75	1.00	389	Cft
	Drain	2	4,730	0.75	0.75	5,321	Cft
					Total	5,710	Cft
					Total	**57.10**	**%Cft**
5	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**3.89**	**%Cft**
6	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	For manhole neck (60 x 2 = 120)	120	8.64		1.00	1,037	Sft
	Drain	2	4,730		0.75	7,095	Sft
					Total	8,132	Sft
					Total	**81.32**	**%Sft**
	Gully Grating Chamber						
7	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	15				**15.00**	**Each**
8	Supplying and filling sand under floor; or plugging in wells.	15	15.00	2.50	1.00	**5.63**	**%Cft**

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P1-Station Chowk to Laila Majnu Gate

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	uPVC Pipe						
9	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge						
	Type (SDR 41/SN-4)						
	(vii) 8"(200 mm)	15	15.00			**225**	**Rft**
	RPC Manhole Cover						
10	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	60				**60**	**Each**

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DETAILED COST ESTIMATE

P2-Darul Naimat Sweet Dhaji Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Scarifying				
1	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100 Sft	1,031.63	462.00	476,613
		Water Bound Macadam				
2	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	340.44	21,253.10	7,235,404
		Tuff Paver				
3	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	103,162.50	197.40	20,364,278
		Total Amount Rs.				**28,076,294**

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P2-Darul Naimat Sweet Dhaji Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		DRAINAGE SYSTEM				
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	1.94	12,196.80	23,712
		P.C.C				
2	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	1.94	38,723.50	75,124
		Brick Work				
3	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	69.23	33,467.90	2,317,147
4	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	2.92	2,881.20	8,402
		Plaster				
5	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	96.20	3,639.10	350,087
6	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	170.72	73.44	12,538
		RPC Manhole Cover				
7	N.S	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	Each	60.00	12,204.00	732,240
		Manhole Cover				
8	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	60.00	500.00	30,000
		Total Amount (Rs)				**3,549,249**
		Grand Total Amount Rs.				**31,625,544**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P2-Darul Naimat Sweet Dhaji Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Scarifying						
1	Scarifying old road surface including removal of						
	For Road						
	Rd 0+000 to 5+895	1	5,895	17.50		103,163	Sft
					Total	**1,031.63**	**%Sft**
	Water Bound Macadam						
2	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	For Road						
	Rd 0+000 to 5+895	1	5,895	17.50	0.33	34,044	Cft
					Total	34,044	Cft
					Total.	**340.44**	**%Cft**
	Tuff Paver						
3	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	For Road						
	Rd 0+000 to 5+895	1	5,895	17.50		103,163	Sft
					Total.	**103,163**	**Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P2-Darul Naimat Sweet Dhaji Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	DRAINAGE SYSTEM						
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.						
	Manhole Neck	60	8.64	0.75	0.50	194.41	Cft
					Total	**1.94**	**%Cft**
2	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	For manhole neck	60	8.64	0.75	0.50	194	Cft
	Drain Wall Copping	2	5,895	0.75		-	Cft
					Total	194.00	Cft
					Total	**1.94**	**%Cft**
3	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For manhole neck	60	8.64	0.75	0.75	292	Cft
	Drain	2	5,895	0.75	0.75	6,632	Cft
					Total	6,923	Cft
					Total	**69.23**	**%Cft**
4	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**2.92**	**%Cft**
5	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	For manhole neck (60 x 2 = 120)	120	8.64		0.75	778	Sft
	Drain	2	5,895		0.75	8,843	Sft
					Total	9,620	Sft
					Total	**96.20**	**%Sft**
	RPC Manhole Cover						
6	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	60				**60**	**Each**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Dismantling				
1	4/29	Dismantling brick or flagged flooring without concrete foundation.	100Sft	37.40	942.50	35,250
2	4/19/c	Dismantling Cement Concrete 1:2:4	100Cft	12.38	12,196.80	150,935
3	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100 Sft	187.00	462.00	86,394
		Sub Base Course				
4	18/3/a/ (ii) + 1/1	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	61.71	16,138.95	995,935
		Water Bound Macadam				
5	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	249.49	21,253.10	5,302,435

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Tuff Paver				
6	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	75,602.50	197.40	14,923,934
7	07.001	Deduction of used bricks from original quantity	1000Nos.	18.93	(4,200.00)	(79,522)
		Total Amount Rs.				**21,415,360**
		DRAINAGE SYSTEM				
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	0.65	12,196.80	7,904
		P.C.C				
2	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	8.66	38,723.50	335,346
		Brick Work				
3	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	36.30	33,467.90	1,214,786
4	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	0.97	2,881.20	2,801
		Plaster				
5	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	49.69	3,639.10	180,835
6	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	762.08	73.44	55,968

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DETAILED COST ESTIMATE

P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		RPC Manhole Cover				
7	N.S	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	Each	20.00	12,204.00	244,080
		Manhole Cover				
8	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	20.00	500.00	10,000
		Total Amount (Rs)				**2,051,719**
		Grand Total Amount Rs.				**23,467,079**

PUNJAB CITIES PROGRAM (PCP)
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P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	Dismantling brick or flagged flooring without concrete foundation.						
	For Carriage Way						
	RD 0+000 TO 0+935	0.2	935	20.00		3,740	Sft
					Total.	**37.40**	**%Sft**
2	Dismantling Cement Concrete 1:2:4						
	For Carriage Way						
	RD 0+000 TO 0+935	0.3	625	20.00	0.33	1,238	Cft
					Total	**12.38**	**%Cft**
3	Scarifying old road surface including removal of debris within 1 chain (30 m).						
	For Carriage Way						
	RD 0+000 TO 0+935	1	935	20.00		18,700	Sft
					Total	**187.00**	**%Sft**
	Sub Base Course						
4	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	For Road						
	RD 0+000 TO 0+935	1	935	20.00	0.33	6,171	Cft
					Total	6,171	Cft
					Total.	**61.71**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
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P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Water Bound Macadam						
5	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	For Road						
	RD 0+000 TO 0+935	1	935	35.00	0.33	10,799	Cft
	RD 0+935 TO 2+190	1	1,255	23.00	0.33	9,525	Cft
	RD 2+190 TO 3+140	1	950	14.75	0.33	4,624	Cft
					Total	24,949	Cft
					Total.	**249.49**	**%Cft**
	Tuff Paver						
6	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	For Road						
	RD 0+000 TO 0+935	1	935	35.00		32,725	Sft
	RD 0+935 TO 2+190	1	1,255	23.00		28,865	Sft
	RD 2+190 TO 3+140	1	950	14.75		14,013	Sft
					Total.	**75,603**	**Sft**
	DRAINAGE SYSTEM						
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.						
	Manhole Neck	20	8.64	0.75	0.50	64.80	Cft
					Total	**0.65**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
2	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	For manhole neck	20	8.64	0.75	0.50	65	Cft
	Drain Wall Copping	2	3,140	0.75	0.17	801	Cft
					Total	866	Cft
					Total	**8.66**	**%Cft**
3	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For manhole neck	20	8.64	0.75	0.75	97	Cft
	Drain	2	3,140	0.75	0.75	3,533	Cft
					Total	3,630	Cft
					Total	**36.30**	**%Cft**
4	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**0.97**	**%Cft**
5	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	For manhole neck (20 x 2 = 40)	40	8.64		0.75	259	Sft
	Drain	2	3,140		0.75	4,710	Sft
					Total	4,969	Sft
					Total	**49.69**	**%Sft**
	RPC Manhole Cover						
6	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	20				**20**	**Each**

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P4-Dhup Sarri Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Scarifying				
1	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100Sft	337.26	462.00	155,814
		Water Bound Macadam				
2	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	111.29	21,253.10	2,365,257
		Tuff Paver				
3	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	33,725.50	197.40	6,657,414
		Total Amount Rs.				**9,178,485**
		DRAINAGE SYSTEM				
		P.C.C				
1	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	2.11	38,723.50	81,707
		Brick Work				
2	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	12.42	33,467.90	415,671

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P4-Dhup Sarri Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Plaster				
3	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	16.56	3,639.10	60,263
4	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	185.68	73.44	13,637
		Total Amount (Rs)				**571,278**
		Grand Total Amount Rs.				**9,749,763**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P4-Dhup Sarri Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Scarifying						
1	Scarifying old road surface including removal of debris within 1 chain (30 m).						
	RD 0+000 TO 0+698	1	698	16.75		11,692	Sft
	RD 0+698 TO 1+656	1	958	23.00		22,034	Sft
					Total	**337.26**	**%Sft**
	Water Bound Macadam						
2	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	For Road						
	RD 0+000 TO 0+698	1	698	16.75	0.33	3,858	Cft
	RD 0+698 TO 1+656	1	958	23.00	0.33	7,271	Cft
					Total	11,129	Cft
					Total.	**111.29**	**%Cft**
	Tuff Paver						
3	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	For Road						
	RD 0+000 TO 0+698	1	698	16.75		11,692	Sft
	RD 0+698 TO 1+656	1	958	23.00		22,034	Sft
					Total.	**33,726**	**Sft**

PUNJAB CITIES PROGRAM (PCP)
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P4-Dhup Sarri Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	DRAINAGE SYSTEM						
1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	Drain Copping	1	1,656	0.75	0.17	211	Cft
					Total	211	Cft
					Total	**2.11**	**%Cft**
2	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	Drain	2	1,656	0.75	0.50	1,242	Cft
					Total	1,242	Cft
					Total	**12.42**	**%Cft**
3	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	Drain	2	1,656		0.50	1,656	Sft
					Total	1,656	Sft
					Total	**16.56**	**%Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P5-Hussainia School Civil Line Roads

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Dismantling				
1	4/29	Dismantling brick or flagged flooring without concrete foundation.	100Sft	44.97	942.50	42,380
2	4/19/c	Dismantling Cement Concrete 1:2:4	100Cft	7.42	12,196.80	90,500
3	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100Sft	529.00	462.00	244,398
		Excavation				
4	3/7	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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	1000Cft	22.48	9,852.50	221,484
		Compaction of Earthwork				
5	3/25	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.	1000Cft	37.69	1,509.00	56,874

PUNJAB CITIES PROGRAM (PCP)
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DETAILED COST ESTIMATE

P5-Hussainia School Civil Line Roads

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Sub Base Course				
6	18/3/a/ (i) + 1/1	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	74.19	16,138.95	1,197,349
		Water Bound Macadam				
6	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	248.76	21,253.10	5,286,920
		Tuff Paver				
7	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	75,382.50	197.40	14,880,506
		Road Edging				
8	18/5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	Rft	5,290.00	54.75	289,628

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DETAILED COST ESTIMATE

P5-Hussainia School Civil Line Roads

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
9	18/25/a	Providing, fabrication and fixing pole mounted Direction Board/ road delineator of any shape and size, with specified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect.				
		(a) G.I Sheet 14 SWG				
		CIRCULAR/TRIANGULAR				
		3 ft size	P. Sft	12.00	997.20	11,966
10	18/27/b	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover,hold fasts embeded in PCC 1:2:4 etc, complete in all respect				
		(b) 3 inch diameter	Rft	22.00	1,538.25	33,842
11	13/42/a	Lettering and printing of signage /direction boards/ road delineators of any colour by machine i/c cost of Digital Lettering, Lamination & pasting etc complete in all respect.				
		a) High Intensity Prismatic (HIP) Tape	P. Sft	12.00	1,203.95	14,447
		Deduction				
12	07.001	Deduction of used bricks from original quantity	1000Nos.	22.76	(4,200.00)	(95,607)
		Total Amount Rs.				**22,274,686**
		DRAINAGE SYSTEM				
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	1.46	12,196.80	17,784

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P5-Hussainia School Civil Line Roads

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Excavation				
2	3/7/i	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.	1000Cft	4.69	9,852.50	46,189
		P.C.C				
3	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	18.34	38,723.50	710,189
		Brick Work				
4	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	2.19	33,467.90	73,199
5	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	2.19	2,881.20	6,302
		Plaster				
6	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	5.83	3,639.10	21,224
		Gully Grating Chamber				
7	21/8	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	Each	50.00	17,047.65	852,383
8	7/30	Supplying and filling sand under floor; or plugging in wells.	100Cft	18.75	2,982.00	55,913

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P5-Hussainia School Civil Line Roads

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		uPVC Pipe				
9	19/47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		Type (SDR 41/SN-4)				
		(vii) 8"(200 mm)	Rft	500.00	455.00	227,500
10	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	1,613.92	73.44	118,528
		RPC Manhole Cover				
11	N.S	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	Each	45.00	12,204.00	549,180
		Manhole Cover				
12	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	45.00	500.00	22,500
		Total Amount (Rs)				**2,700,889**
		Grand Total Amount Rs.				**24,975,575**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	Dismantling brick or flagged flooring without concrete foundation.						
	For Shoulders						
	RD 0+000 TO 2+645	0.2	2,645	8.50		4,497	Sft
					Total.	**44.97**	**%Sft**
2	Dismantling Cement Concrete 1:2:4						
	For Shoulders						
	RD 0+000 TO 2+645	0.1	2,645	8.50	0.33	742	Cft
					Total.	**7.42**	**%Cft**
3	Scarifying old road surface including removal of debris within 1 chain (30 m).						
	Road						
	RD 0+000 TO 2+645	1	2,645	20.00		52,900	Sft
					Total.	**529.00**	**%Sft**
4	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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:-						
	Road						
	RD 0+000 TO 2+645	1	2,645	8.50	1.00	22,483	Cft
					Total	22,483	Cft
					Total.	**22.48**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Compaction of Earthwork						
5	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.						
	Road						
	RD 0+000 TO 2+645	1	2,645	28.50	0.50	37,691	Cft
					Total	37,691	Cft
					Total.	**37.69**	**%oCft**
	Sub Base Course						
6	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	For Shoulders						
	RD 0+000 TO 2+645	1	2,645	8.50	0.33	7,419	Cft
					Total	7,419	Cft
					Total.	**74.19**	**%Cft**
	Water Bound Macadam						
6	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	For Shoulders						
	RD 0+000 TO 2+645	1	2,645	8.50	0.33	7,419	Cft
	For Road						
	RD 0+000 TO 2+645	1	2,645	20.00	0.33	17,457	Cft
					Total	24,876	Cft
					Total.	**248.76**	**%Cft**
	Tuff Paver						
7	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	For Shoulders						
	RD 0+000 TO 2+645	1	2,645	8.50		22,483	Sft
	For Road						
	RD 0+000 TO 2+645	1	2,645	20.00		52,900	Sft
					Total.	**75,383**	**Sft**
	Road Edging						
8	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.						
	RD 0+000 TO 2+645	2	2,645			5,290	Rft
					Total.	**5,290**	**Rft**
9	Providing, fabrication and fixing pole mounted Direction Board/ road delineator of any shape and size, with specified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect.						
	(a) G.I Sheet 14 SWG						
	CIRCULAR/TRIANGULAR						
	3 ft size	2	3.00	2.00		**12**	**Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
10	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover,hold fasts embeded in PCC 1:2:4 etc, complete in all respect						
	(b) 3 inch diameter	2	11			**22**	**Rft**
11	Lettering and printing of signage /direction boards/ road delineators of any colour by machine i/c cost of Digital Lettering, Lamination & pasting etc complete in all respect.						
	a) High Intensity Prismatic (HIP) Tape					**12**	**Sft**
	DRAINAGE SYSTEM						
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.						
	Manhole Neck	45	8.64	0.75	0.50	145.81	Cft
					Total	**1.46**	**%Cft**
	Excavation						
2	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.						
	Pipe Laying	50	15.00	2.50	2.50	4,688	Cft
					Total	4,688	Cft
					Total	**4.69**	**%oCft**
3	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Pipe Laying	50	15.00	1.50	1.50	1,688	Cft
	For manhole neck	45	8.64	0.75	0.50	146	Cft
					Total	1,834	Cft
					Total	**18.34**	**%Cft**
4	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For manhole neck	45	8.64	0.75	0.75	219	Cft
					Total	219	Cft
					Total	**2.19**	**%Cft**
5	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**2.19**	**%Cft**
6	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	For manhole neck (45 x 2 = 90)	90	8.64		0.75	583	Sft
					Total	583	Sft
					Total	**5.83**	**%Sft**
	Gully Grating Chamber						
7	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	50				**50.00**	**Each**
8	Supplying and filling sand under floor; or plugging in wells.	50	15.00	2.50	1.00	**18.75**	**%Cft**
	uPVC Pipe						
9	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge						
	Type (SDR 41/SN-4)						
	(vii) 8"(200 mm)	50	10.00			**500**	**Rft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P5-Hussainia School Civil Line Roads

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	RPC Manhole Cover						
10	Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)	45				**45**	**Each**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P6-Sargodha Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		ROAD WORK				
		Dismantling				
1	4/29	Dismantling brick or flagged flooring without concrete foundation.	100Sft	46.80	942.50	44,109
2	4/19/c	Dismantling Cement Concrete 1:2:4	100Cft	15.44	12,196.80	188,367
3	18/11	Scarifying old road surface including removal of debris within 1 chain (30 m).	100 Cft	144.88	462.00	66,935
		Excavation				
4	3/7	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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	1000Cft	7.24	9,016.70	65,281
		Compaction of Earthwork				
5	3/25	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.	1000Cft	11.92	1,509.00	17,987

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P6-Sargodha Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Sub Base Course				
6	18/3/a/ (ii) + 1/1	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	70.70	16,138.95	1,141,024
		Kerb Stone				
7	6/52/b	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.				
		b) With Painting				
		(i) 14" high	P.Rft	450.00	535.05	240,773
		Tuff Paver				
8	10/41	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	23,847.50	197.40	4,707,497
		Road Edging				
9	18/5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	Rft	3,460.00	54.75	189,435
10	07.001	Deduction of used bricks from original quantity	1000Nos.	23.69	(4,200.00)	(99,509)
		Total Amount Rs.				**6,561,898**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

P6-Sargodha Road

ROADS NETWORK

Sr. No	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		DRAINAGE SYSTEM				
		Excavation				
1	3/7/i	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.	1000Cft	0.15	9,852.50	1,478
		P.C.C				
2	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	4.47	38,723.50	173,094
		Brick Work				
3	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	13.35	33,467.90	446,796
		Plaster				
4	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	17.30	3,639.10	62,956
5	1/1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 105 Km)	Cft	393.36	73.44	28,889
		Total Amount (Rs)				**713,214**
		Grand Total Amount Rs.				**7,275,112**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P6-Sargodha Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	Dismantling brick or flagged flooring without concrete foundation.						
	For Carriage Way						
	P7 RD 0+000 TO 0+390	1	390	12.00		4,680	Sft
					Total.	**46.80**	**%Sft**
2	Dismantling Cement Concrete 1:2:4						
	For Carriage Way						
	P7 RD 0+390 TO 0+780	1	390	12.00	0.33	1,544	Cft
					Total.	**15.44**	**%Cft**
3	Scarifying old road surface including removal of debris within 1 chain (30 m).						
	For Carriage Way						
	P7 RD 0+780 TO 1+730	1	950	15.25		14,488	Sft
					Total.	**144.88**	**%Sft**
	Excavation						
4	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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:-						
	For Carriage Way						
	P7 RD 0+780 TO 1+730	1	950	15.25	0.50	7,244	Cft
					Total	7,244	Cft
					Total.	**7.24**	**%Cft**
	Compaction of Earthwork						

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P6-Sargodha Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
4	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.						
	For Carriage Way						
	P7 RD 0+000 TO 0+780	1	780	12.00	0.50	4,680	Cft
	P7 RD 0+780 TO 1+730	1	950	15.25	0.50	7,244	Cft
					Total	11,924	Cft
					Total.	**11.92**	**%oCft**
	Sub Base Course						
5	Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)						
	For Carriage Way						
	P7 RD 0+000 TO 0+780	1	780	12.00	0.50	4,680	Cft
	P7 RD 0+780 TO 1+730 leveling layer	0.5	950	15.25	0.33	2,390	Cft
					Total	7,070	Cft
					Total.	**70.70**	**%Cft**
6	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.						
	b) With Painting						
	(i) 14" high	1	450			450	Rft
					Total.	**450**	**Rft**
	Tuff Paver						

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P6-Sargodha Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
7	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)						
	c) 80-mm thick						
	P7 RD 0+000 TO 0+780	1	780	12.00		9,360	Sft
	P7 RD 0+780 TO 1+730	1	950	15.25		14,488	Sft
					Total.	**23,848**	**Sft**
	Road Edging						
8	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.						
	P7 RD 0+000 TO 0+780	2	780			1,560	Rft
	P7 RD 0+780 TO 1+730	2	950			1,900	Rft
					Total.	**3,460**	**Rft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

P6-Sargodha Road

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	DRAINAGE SYSTEM						
	Excavation						
1	Earthwork excavation in open cutting upto 5'-0" (1.5 m) 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 fromtrenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:- i) in ordinary soil.						
	Drain	1	50.00	1.50	2.00	150	Cft
					Total	150	Cft
					Total	**0.15**	**%oCft**
2	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	Drain	1	50	0.75	0.17	6	Cft
	Drain Copping	2	1,730	0.75	0.17	441	Cft
					Total	447	Cft
					Total	**4.47**	**%Cft**
3	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	Drain	1	50.00	0.75	1.00	38	Cft
	Drain	2	1,730	0.75	0.50	1,298	Cft
					Total	1,335	Cft
					Total	**13.35**	**%Cft**
4	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick						
	Drain	2	1,730		0.50	1,730	Sft
					Total	1,730	Sft
					Total	**17.30**	**%Sft**

ENVIRONMENTAL MITIGATION & MANAGEMENT COST

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

ENVIRONMENTAL MITIGATION & MANAGEMENT COST

Sr No	Description	Unit	Quantity	Unit Rate (Rs.)	Amount Rs.
	A-PPEs				
1	Face Masks (3 PLY) - box	Nos	25.00	300.00	7,500
2	Safety Hard Helmets	Nos	10.00	3,000.00	30,000
3	Safety Shoes	Nos	10.00	3,000.00	30,000
4	Hand Gloves	Nos	10.00	1,000.00	10,000
5	Ear Plugs	Nos	10.00	500.00	5,000
6	Reflective Safety Vest	Nos	10.00	1,000.00	10,000
7	Safety Goggles	Nos	10.00	500.00	5,000
				Sub Total	**97,500**
	B-Community Health and Safety				
1	First Aid Box Complete	Nos	1.00	10,000.00	10,000
2	Safety Signs	Nos	3.00	15,000.00	45,000
3	Safety Cones	Nos	20.00	1,000.00	20,000
4	Safety Tapes	Nos	50.00	1,500.00	75,000
5	Portable Delineator with chain	Nos	3.00	2,200.00	6,600
6	Emergency Portable Lights	Nos	3.00	3,000.00	9,000
7	Solid Waste Collection Drums with Cover	Nos	3.00	12,000.00	36,000
8	Fire Fighting Equipment Purchase and refilling	Nos	1.00	10,000.00	10,000
9	BCC Campaign and waste collection system	Lump sum			100,000
10	Water Sprinkling	Lump sum			100,000
				Sub Total	**411,600**
	Total Amount (Rs)				**509,100**

RATE ANALYSIS

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road- 2

Description

Providing and laying sub-base course of stone product of approved quality and grade including, placing, mixing, spreading and compaction of sub base material to required depth, camber and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)

Crush Stone **125 KM**

Sr. No.	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Lead (Km)	Qty	Rate (Rs)	Amount (Rs)
1		**Material**					
	18-3 a(ii)	ii) Crushed Stone Aggregate	100 Cft	1	1	8,915.25	8,915.25
2		**Carriage**					
		1st KM	100 Cft	1	1.20	305.40	366.48
		2nd KM	100 Cft	1	1.20	145.65	174.78
		3rd KM	100 Cft	1	1.20	114.10	136.92
		4th KM	100 Cft	1	1.20	81.20	97.44
		5th KM	100 Cft	1	1.20	75.85	91.02
	1/1	6th KM	100 Cft	1	1.20	74.60	89.52
		7th KM	100 Cft	1	1.20	69.60	83.52
		8th KM	100 Cft	1	1.20	68.85	82.62
		9th KM	100 Cft	1	1.20	64.75	77.70
		10th KM	100 Cft	1	1.20	60.75	72.90
		From 11 km to 200 km	100 Cft	95	1.20	52.20	5,950.80
		Total.					**16,138.95**
		Total Amount per 100 Cft					**16,138.95**
		Total cast for Per Cft					**161.39**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 3

Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)

125 KM

Sr. No.	1st BI-Annual-2023 (Jan to Jun) Jhang	Description	Unit	Lead (Km)	Qty	Rate (Rs)	Amount (Rs.)
1	18/4(a)	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from Sargodha querry to site, actual compacted depth shall be considered for payment)	100 Cft		1	13,909.00	13,909.00
2	1/1	Carriage of 100 cft of all materials like stone aggregate spawl kanker lime surkhi etc or 150 cft of timber by truck or by any other means owned by the contratcor.					
		1st KM	100 Cft	1	1.22	305.40	372.59
		2nd KM	100 Cft	1	1.22	145.65	177.69
		3rd KM	100 Cft	1	1.22	114.10	139.20
		4th KM	100 Cft	1	1.22	81.20	99.06
		5th KM	100 Cft	1	1.22	75.85	92.54
		6th KM	100 Cft	1	1.22	74.60	91.01
		7th KM	100 Cft	1	1.22	69.60	84.91
		8th KM	100 Cft	1	1.22	68.85	84.00
		9th KM	100 Cft	1	1.22	64.75	79.00
		10th KM	100 Cft	1	1.22	60.75	74.12
		From 11 km to 200 km	100 Cft	95	1.22	52.20	6,049.98
		Total.					**21,253.10**
		Total Amount per 100 Cft					**21,253.10**
		Total Cost for Per Cft					**212.53**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 3

							125 KM
Sr. No.	**1st BI-Annual-2023 (Jan to Jun) Jhang**	**Description**	**Unit**	**Lead (Km)**	**Qty**	**Rate (Rs)**	**Amount (Rs.)**
2	1/1	Carriage of 100 cft of all materials like stone aggregate spawl kanker lime surkhi etc or 150 cft of timber by truck or by any other means owned by the contratcor.					
		1st KM	100 Cft	1	1.22	305.40	372.59
		2nd KM	100 Cft	1	1.22	145.65	177.69
		3rd KM	100 Cft	1	1.22	114.10	139.20
		4th KM	100 Cft	1	1.22	81.20	99.06
		5th KM	100 Cft	1	1.22	75.85	92.54
		6th KM	100 Cft	1	1.22	74.60	91.01
		7th KM	100 Cft	1	1.22	69.60	84.91
		8th KM	100 Cft	1	1.22	68.85	84.00
		9th KM	100 Cft	1	1.22	64.75	79.00
		10th KM	100 Cft	1	1.22	60.75	74.12
		From 11 km to 200 km	100 Cft	95	1.22	52.20	6,049.98
		Total.					**7,344.10**
		Total Amount per 100 Cft					**7,344.10**
		Total Cost for Per Cft					**73.44**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 6

Description

Dismantling / Demolishing of existing Tuff Paver as directed by Engineer's Incharge, Complete in all respect

Dismantling of Tuff Paver **Unit.** **100 Sft**

Sr. No.	Ref Input Rate	Detail	Unit Rate (British System) per 100 Sft						
			Qty			Rate Per Unit			Amount (Rs.)
		LABOUR							
2	LB-015	Cooly un-skilled			0.75	Nos.	1,060.00	per day	795.00
								Total.	**795.00**
		Sundries	10	%					79.50
							Total Rs.		**874.50**
		Contractor's Profit	20	%					174.90
		Total							**1,049.40**
		ITEM RATES							
		Composite rate per 100 Sft						Rs.	**1,049.40**
		Composite rate per Sft						Rs.	**10.50**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 8

Description

Providing and fixing RPC Manhole Cover Manufactured with 100% Reinforced Plastic Composite Material, 650 mm dia with clear opening size 600 mm (24" dia) and RPC manhole frame having dia meter 790 mm (Complete) (Certified under ISO 9001-2015)

Manhole Cover — **Unit.** **Each**

Sr. No.	Ref Input Rate	Detail	Unit Rate (British System) per Each			
			Qty		Rate Per Unit	Amount (Rs.)
	Page No112					
1	A	RPC Manhole Cover	1.00	No	8400 No	8,400.00
		Carriage				1,000
					Total Rs.	**9,400.00**
		LABOUR				
2	LB-024	Skilled Cooly	0.50	Nos.	1,400.00 per day	700.00
					Total.	**700.00**
		Sundries	10 %			70.00
					Total Rs.	**770.00**
					Total (1+2)	**10,170.00**
		Contractor's Profit	20 %			2,034.00
		Total				**12,204**
		ITEM RATES				
		Composite rate Set			**Rs.**	**12,204**

FINANCIAL ANALYSIS ROAD NETWORK

TABLE - 9.1

AVERAGE OPERATING SPEEDS

Km/Hr

WITHOUT PROJECT CONDITION

Years	Cars/Jeeps	Hiace Wagon/ Pickup	Coaster/ Mini Buses	Buses	Trucks 2-AXLE	Trucks 3-AXLE & 4-AXLE	Trucks 5-AXLE & 6-AXLE
Base Year(2022)	25	20	20	15	15	15	15
2029	20	15	15	10	10	10	10
2037	15	10	10	10	10	10	10

WITH PROJECT CONDITION

Years	Cars/Jeeps	Hiace Wagon/ Pickup	Coaster/ Mini Buses	Buses	Trucks 2-AXLE	Trucks 3-AXLE & 4-AXLE	Trucks 5-AXLE & 6-AXLE
Base Year(2022)	40	40	40	40	40	40	40
2029	35	35	35	35	35	35	35
2037	30	30	30	30	30	30	30

TABLE - 9.3
VEHICLE OPERATING COSTS
FOR POOR ROAD CONDITIONS
WITHOUT PROJECT

Rs/Km

SPEEDS	MOTOR CYCLE	RICKSHAW	CAR	WAGON	MINI-BUS	BUS	TRUCK 2-AXLE	TRUCK 3-AXLE & 4-AXLE	TRUCK 5-AXLE & 6-AXLE
10	4.94	6.86	56.39	57.04	68.24	97.79	103.44	109.08	114.72
15	4.21	5.89	47.21	47.89	57.70	82.34	86.88	92.52	98.16
20	3.80	5.35	42.43	43.08	52.15	74.07	75.86	81.50	87.14
25	3.53	5.00	39.47	40.32	48.67	68.87	67.55	73.19	78.83
30	3.35	4.76	37.48	38.27	46.28	65.37	61.01	66.65	72.29
35	3.23	4.60	36.09	36.79	44.55	63.00	55.82	61.46	67.10
40	3.16	4.51	35.10	35.70	43.28	61.46	51.79	57.43	63.07
45	3.12	4.47	34.42	34.89	42.35	60.58	48.80	54.44	60.08
50	3.12	4.47	33.99	34.31	41.69	60.28	46.78	52.42	58.07
55	3.16	4.53	33.76	33.91	41.26	60.48	45.70	51.34	56.98
60	3.22	4.64	33.71	33.68	41.03	61.14	45.52	51.16	56.80
65	3.30	4.77	33.82	33.58	40.98	62.24	46.22	51.86	57.50
70	3.42	4.95	34.09	33.62	41.09	63.76	47.80	53.44	59.08
75	3.56	5.18	34.49	33.77	41.36	65.68	50.23	55.87	61.51
80	3.73	5.42	35.02	34.04	41.76	67.99	53.51	59.15	64.79
85	3.93	5.73	35.68	34.41	42.31	70.68	57.63	63.28	68.92

TABLE- 9.4
FOR GOOD ROAD CONDITIONS
WITH PROJECT

Rs/Km

SPEEDS	MOTOR CYCLE	RICKSHAW	CAR	WAGON	MINI-BUS	BUS	TRUCK 2-AXLE	TRUCK 3-AXLE & 4-AXLE	TRUCK 5-AXLE & 6-AXLE
10	3.71	5.12	35.59	34.99	41.42	61.63	65.14	69.34	73.54
15	3.08	4.29	28.49	28.17	33.56	50.94	54.02	58.23	62.43
20	2.73	3.83	24.80	24.60	29.44	45.22	46.71	50.92	55.12
25	2.50	3.53	22.53	22.35	26.84	41.60	41.22	45.42	49.62
30	2.35	3.33	21.00	20.80	25.05	39.13	36.87	41.08	45.28
35	2.25	3.19	19.92	19.67	23.75	37.40	33.40	37.60	41.80
40	2.19	3.11	19.16	18.83	22.77	36.21	30.65	34.85	39.06
45	2.15	3.07	18.62	18.20	22.05	35.43	28.55	32.76	36.96
50	2.15	3.08	18.26	17.73	21.51	35.01	27.06	31.26	35.46
55	2.17	3.12	18.06	17.39	21.13	34.89	26.13	30.33	34.54
60	2.21	3.19	17.99	17.17	20.88	35.05	25.76	29.96	34.16
65	2.28	3.30	18.04	17.06	20.76	35.48	25.92	30.12	34.32
70	2.37	3.44	18.19	17.03	20.74	36.14	26.61	30.81	35.01
75	2.49	3.61	18.45	17.09	20.83	37.04	27.82	32.02	36.22
80	2.62	3.81	18.80	17.23	21.01	38.17	29.54	33.74	37.94
85	2.77	4.04	19.24	17.44	21.29	39.52	31.77	35.98	40.18
90	2.95	4.31	19.77	17.73	21.65	41.08	31.77	35.98	40.18

TABLE - 9.5
VALUE OF TRAVEL TIME

DESCRIPTION	MOTORCYCLE	CAR	WAGON	COASTER/ FLYING COACH	TRUCK	BUS
TRAVEL TIME VALUE OF PASSENGERS/OCCUPANTS						
Average Income of Passenger (Rs./Month)	40,000	60,000	30,000	22,000	35,000	30,000
Average Income of Passenger (Rs./Annum)	480,000	720,000	360,000	264,000	420,000	360,000
Working Hours /Annum	2424	2424	2424	2424	2424	2424
Rate of passenger Rs./Hour	198	297	149	109	173	149
No. of Occupants	2.00	5.00	16.00	29.00	2.00	45.00
Travel Time Value of occupants---in financial terms (Rs./Hour)	396.04	1485.15	2376.24	3158.42	346.53	6683.17
Travel Time Value of occupants---in economic terms (Rs./Hour) 25%	**99.01**	**371.29**	**594.06**	**789.60**	**86.63**	**1670.79**

NOTE:- 'The value of travel time in a number of studies have been estimated at 25% to 33% of the wage rate due to lack of information on the split of work and non-work travel among passengers and the 'proportion of non-wage earners among passengers.

TABLE - 9.6

MC Jhang

ANNUAL VEHICLE OPERATING COST

WITHOUT PROJECT

(Million Rs.)

Years	Voc/Km (Rs.)	Traffic Volume ADT	Distance Annual Km	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	4.26	654	2,351	6.56
2029	4.57	1112	2,351	11.96
2037	5.05	2001	2,351	23.76
Cars				
Base Year(2022)	39.47	243	2,351	22.55
2029	42.43	413	2,351	41.20
2037	47.21	744	2,351	82.51
Wagons				
Base Year(2022)	43.08	55	2,351	5.57
2029	47.89	94	2,351	10.52
2037	57.04	168	2,351	22.56
Bus				
Base Year(2022)	82.34	3	2,351	0.58
2029	97.79	5	2,351	1.17
2037	97.79	9	2,351	2.11
T.Trolly + Trucks 2-AXLE				
Base Year(2022)	86.88	15	2,351	3.06
2029	103.44	26	2,351	6.20
2037	103.44	46	2,351	11.16
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	92.52	0	2,351	-
2029	109.08	0	2,351	-
2037	109.08	0	2,351	-
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	98.16	0	2,351	-
2029	114.72	0	2,351	-
2037	114.72	0	2,351	-
TOTAL				
Base Year(2022)				**38.32**
2029				**71.05**
2037				**142.10**

Note :"VOC" means Vehicle Operating Cost

TABLE - 9.7

ANNUAL VEHICLE OPERATING COST
WITH PROJECT

(Million Rs.)

Years	Voc/Km (Rs.)	Traffic Volume ADT	Distance Annual Km	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	2.65	654	2,351	4.07
2029	2.72	1112	2,351	7.11
2037	2.84	2001	2,351	13.37
Cars				
Base Year(2022)	19.16	243	2,351	10.94
2029	19.92	413	2,351	19.35
2037	21.00	744	2,351	36.71
Wagons				
Base Year(2022)	18.83	55	2,351	2.43
2029	19.67	94	2,351	4.32
2037	20.80	168	2,351	8.23
Bus				
Base Year(2022)	36.21	3	2,351	0.26
2029	37.40	5	2,351	0.45
2037	39.13	9	2,351	0.84
T.Trolly + Trucks 2-Axle				
Base Year(2022)	22.77	15	2,351	0.80
2029	23.75	26	2,351	1.42
2037	25.05	46	2,351	2.70
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	34.85	0	2,351	-
2029	37.60	0	2,351	-
2037	41.08	0	2,351	-
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	39.06	0	2,351	-
2029	41.80	0	2,351	-
2037	45.28	0	2,351	-
TOTAL				
Base Year(2022)				**18.51**
2029				**32.65**
2037				**61.85**

Note :"VOC" means Vehicle Operating Cost

TABLE - 9.8

(Million Rs.)

YEARS	VEHICLE OPERATING COSTS		SAVINGS
	WITHOUT PROJECT	WITH PROJECT	
Base Year(2022)	38.32	18.51	19.81
2029	71.05	32.65	38.40
2037	142.10	61.85	80.25
		TOTAL	**138.46**

TABLE - 9.9
MC Jhang
ANNUAL VALUE OF TRAVEL TIME COST
WITHOUT PROJECT

(Million Rs.)

Years	VOT Rs/km	Traffic Volume ADT	Distance Annual (Km)	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	3.96	654	2,351	6.09
2029	4.95	1112	2,351	12.94
2037	6.60	2001	2,351	31.05
Cars				
Base Year(2022)	14.85	243	2,351	8.48
2029	18.56	413	2,351	18.03
2037	24.75	744	2,351	43.26
Wagons				
Base Year(2022)	29.70	55	2,351	3.84
2029	39.60	94	2,351	8.70
2037	59.41	168	2,351	23.50
Bus				
Base Year(2022)	39.48	3	2,351	0.28
2029	52.64	5	2,351	0.63
2037	78.96	9	2,351	1.70
T.Trolly + Trucks 2-Axle				
Base Year(2022)	5.78	15	2,351	0.20
2029	8.66	26	2,351	0.52
2037	8.66	46	2,351	0.93
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	5.78	0	2,351	-
2029	8.66	0	2,351	-
2037	8.66	0	2,351	-
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	5.78	0	2,351	-
2029	8.66	0	2,351	-
2037	8.66	0	2,351	-
TOTAL				
Base Year(2022)				**19**
2029				**41**
2037				**100**

Note :"VOT" means value of Travel Cost

TABLE - 9.10

ANNUAL VALUE OF TRAVEL TIME COST
WITH PROJECT

(Million Rs.)

Years	VOT Rs/km	Traffic Volume ADT	Distance Annual (Km)	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	2.65	654	2,351	4.07
2029	2.72	1112	2,351	7.11
2037	2.84	2001	2,351	13.37
Cars				
Base Year(2022)	19.16	243	2,351	10.94
2029	19.92	413	2,351	19.35
2037	21.00	744	2,351	36.71
Wagons				
Base Year(2022)	18.83	55	2,351	2.43
2029	19.67	94	2,351	4.32
2037	20.80	168	2,351	8.23
Bus				
Base Year(2022)	36.21	3	2,351	0.26
2029	37.40	5	2,351	0.45
2037	39.13	9	2,351	0.84
T.Trolly + Trucks 2-Axle				
Base Year(2022)	22.77	15	2,351	0.80
2029	23.75	26	2,351	1.42
2037	25.05	46	2,351	2.70
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	34.85	0	2,351	-
2029	37.60	0	2,351	-
2037	41.08	0	2,351	-
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	39.06	0	2,351	-
2029	41.80	0	2,351	-
2037	45.28	0	2,351	-
TOTAL				
Base Year(2022)				**18.51**
2029				**32.65**
2037				**61.85**

MC Jhang

(Million Rs.)

YEARS	ANNUAL VALUE OF TRAVEL TIME COST (VOTT)		SAVINGS
	WITHOUT PROJECT	WITH PROJECT	
Base Year(2022)	18.89	18.51	0.39
2029	40.82	32.65	8.17
2037	100.45	61.85	38.60
		TOTAL	**47.16**

TABLE - 9.12

TOTAL PROJECT BENEFITS

(Million Rs.)

YEARS	SAVINGS		TOTAL SAVINGS
	VOC	VOTT	
Base Year(2022)	19.81	0.39	20.20
2029	38.40	8.17	46.57
2037	80.25	38.60	118.85
		TOTAL	**186**

TABLE - 9.13

MC Jhang

Calculation of Economic Internal Rate of Return

Million Rs.

Years	PROJECT ECONOMIC COSTS			Project Economic Benefits	**Sensitivity Analysis**			
	Investment	O & M	Total Costs		**(a)**	**(b)**	**(c)**	**(d)**
1	136.23	0.00	136.23	0.00	-136.23	-136.23	-149.85	-149.85
2		0.68	0.68	20.20	19.52	17.50	19.45	17.43
3		0.68	0.68	23.23	22.54	20.22	22.48	20.15
4		0.68	0.68	26.71	26.03	23.36	25.96	23.29
5		0.68	0.68	30.72	30.04	26.96	29.97	26.90
6		0.68	0.68	35.32	34.64	31.11	34.57	31.04
7		0.68	0.68	40.62	39.94	35.88	39.87	35.81
8		0.68	0.68	46.72	46.03	41.36	45.97	41.29
9		0.68	0.68	53.72	53.04	47.67	52.97	47.60
10		0.68	0.68	61.78	61.10	54.92	61.03	54.85
Total :	136.23	6.13	142.36	339.02	196.66	162.75	182.42	148.52

DISCOUNT RATES	**PRESENT WORTH OF COST**		**Present Worth of Benfefit**	**NET PRESENT WORTH**			
10 %	123.84	127.41	144.51	53.23	35.16	40.49	22.42
12 %	121.63	124.87	129.15	36.57	20.42	24.08	7.94
18 %	115.45	117.93	94.42	0.09	-11.71	-11.70	-23.50
20 %	113.52	115.81	85.69	-8.70	-19.41	-20.28	-30.99
ECONOMIC INTERNAL RATE OF RETURN 12% DR				18.02	15.46	15.70	13.26
BENEFIT COST / RATIO AT 12 % D.R			1.03				

* A factor of 0.9 has been used for Capital Cost and O&M Cost in the Economics Terms.

(a) Base Case assuming 10 Years period of analysis.

(b) Benefits decreased by 10 %

(c) Cost over-run by 10 %

(d) Benefit reduction and cost over-run both occuring simultaneously.

TABLE - 9.14

MC Jhang

Calculation of Financial Internal Rate of Return

Million Rs.

Years	PROJECT ECONOMIC COSTS			Project Financial Revenue				
	Investment	O & M	Total Costs		**(a)**	**(b)**	**(c)**	**(d)**
1	136.23	0.00	136.23	0.00	-136.23	-136.23	-149.85	-149.85
2		0.00	0.00	0.00	0.00	0.00	0.00	0.00
3		0.00	0.00	0.00	0.00	0.00	0.00	0.00
4		0.00	0.00	0.00	0.00	0.00	0.00	0.00
5		0.00	0.00	0.00	0.00	0.00	0.00	0.00
6		0.00	0.00	0.00	0.00	0.00	0.00	0.00
7		0.00	0.00	0.00	0.00	0.00	0.00	0.00
8		0.00	0.00	0.00	0.00	0.00	0.00	0.00
9		0.00	0.00	0.00	0.00	0.00	0.00	0.00
10		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total :	136.23	0.00	136.23	0.00	-136.23	-136.23	-149.85	-149.85

DISCOUNT RATES	**PRESENT WORTH OF COST**		**Present Worth of Revenue**	**NET PRESENT WORTH**			
10 %	123.84	123.84	0.00	-123.84	-123.84	-136.23	-136.23
12 %	121.63	121.63	0.00	-121.63	-121.63	-133.80	-133.80
18 %	115.45	115.45	0.00	-115.45	-115.45	-126.99	-126.99
20 %	113.52	113.52	0.00	-113.52	-113.52	-124.88	-124.88
FINANCIAL INTERNAL RATE OF RETURN 12% DR				#NUM!	#NUM!	#NUM!	#NUM!
BENEFIT COST / RATIO AT 12 % D.R			0.00				

* A factor of 0.9 has been used for Capital Cost and O&M Cost in the Economics Terms.

(a) Base Case assuming 10 Years period of analysis.

(b) Benefits decreased by 10 %

(c) Cost over-run by 10 %

(d) Benefit reduction and cost over-run both occuring simultaneously.

TENTATIVE PROJECT IMPLEMENTATION SCHEDULE FOR IMPROVEMENT & REHABILITATION OF ROADS IN JHANG CITY (2022-2023)

Road No.	Road Name	MAY - 23				JUN - 23				JUL - 23				AUG - 23			
P1	Station Chowk to Laila Majnu Gate																
P2	Darul Naimat Sweet Dhaji Road																
P3	Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road																
P4	Dhup Sarri Road																
P5	Hussainia School Civil Line Roads																
P6	Sargodha Road																

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

1

Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P-2-Darul Naimat Sweet Dhaji Road

Sub- Project Categorization:	**E-1**	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 27.885 Million/- PKR (1.79km)

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.
Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.

B. Potential Environmental Impacts Will the Sub-Project cause…			
1. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
2. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
3. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
4. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
5. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
6. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
7. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
8. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
9. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
10. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
11. Generation of solid waste/hazardous waste?	✓		
12. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
13. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.
14. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?			No such impact envisaged in the light of scope of work.

15. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [1](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.

[1] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		
10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name: Faraz Ahwaz**	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer (MOI&S)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P-2-Darul Naimat Sweet Dhaji Road-1.79km

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.
Land-based assets:		✓		

Residential structures				Not Available
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".		✓		No Vulnerable APs recorded as per Sub-Project interventions.

Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities. Mitigation measures provided

Prepared By:	Endorsed By:	Reviewed By:
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

Pictures


GPS Map Camera
Jhang, Punjab, Pakistan
Plot B 3/427, Mohalla Bagh Wala, Jhang, Punjab, Pakistan
Lat 31.267952°
Long 72.312319°
21/02/23 02:42 PM GMT +05:00
Google


GPS Map Camera
Jhang, Punjab, Pakistan
Plot B 3/427, Mohalla Bagh Wala, Jhang, Punjab, Pakistan
Lat 31.267952°
Long 72.312319°
21/02/23 02:42 PM GMT +05:00
Google

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

2

4Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P4-Dhup Sarri Road (0.50km)

Sub- Project Categorization:				
	E-1	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 9.116 Million/- PKR

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.
Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.

B. Potential Environmental Impacts Will the Sub-Project cause…			
16. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
17. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
18. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
19. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
20. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
21. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
22. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
23. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
24. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
25. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
26. Generation of solid waste/hazardous waste?	✓		
27. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
28. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.
29. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?			No such impact envisaged in the light of scope of work.

30. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [2](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.
9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		

[2] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name: Faraz Ahwaz**	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer (MOI&S)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P4-Dhup Sarri Road (0.50km)

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location by MC.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.
Land-based assets:		✓		

Residential structures				Not Available
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".		✓		No Vulnerable APs recorded as per Sub-Project interventions.

Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

Pictures

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

3

Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P5-Hussania School Civil Lines Road(0.80 Km)

Sub- Project Categorization:	**E-1**	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 22.267 Million/- PKR

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.

Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.
B. Potential Environmental Impacts Will the Sub-Project cause…			
31. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
32. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
33. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
34. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
35. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
36. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
37. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
38. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
39. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
40. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
41. Generation of solid waste/hazardous waste?	✓		
42. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
43. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.

44. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?		✓	No such impact envisaged in the light of scope of work.
45. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [3](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.

[3] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		
10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:

Name: Muhammad Imran

Designation: Environment Specialist

Organization: MM Pakistan

Signature:

Date: 22-02-2023

Endorsed By:

Name: Faraz Ahwaz

Designation: Municipal Officer (MOI&S)

Organization: MC Jhang

Signature

Date: 22-02-2023

Reviewed By:

Name: Muhammad Asif Gillani

Designation: Deputy Program Officer ESM

Organization: PMDFC

Signature:

Date: 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: : Rehabilitation of P5-Hussania School Civil Lines Road (0.80 Km)

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location by MC.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.
Land-based assets:		✓		

Residential structures				Not Available
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".		✓		No Vulnerable APs recorded as per Sub-Project interventions.

Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

Pictures

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

4

Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road (0.95 Km)

Sub- Project Categorization:				
	E-1	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 24.967 Million/- PKR

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.
Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.

B. Potential Environmental Impacts Will the Sub-Project cause…			
46. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
47. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
48. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
49. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
50. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
51. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
52. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
53. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
54. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
55. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
56. Generation of solid waste/hazardous waste?	✓		
57. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
58. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.
59. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?		✓	No such impact envisaged in the light of scope of work.

60. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [4](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.
9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		

[4] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name: Faraz Ahwaz**	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer (MOI&S)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P3-Jhang Bazar Chowk to via Ghag Bazar, Akhara, Chirag Pehalwan & Abbkari Road (0.95 Km)

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location by MC.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.

Land-based assets:		✓		Not Available
Residential structures				
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the		✓		No Vulnerable APs recorded as per Sub-Project interventions.

poverty line). Specify the number and vulnerability in "remarks".				
Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

5

Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: P-1-Rehabilitation of road from Station Chowk to Laila Majnou Gate -1.88km

Sub- Project Categorization:	**E-1**	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 33.375 Million/- PKR

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project. One street has been named in memory of Laila Majnoo.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.

Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.
B. Potential Environmental Impacts Will the Sub-Project cause…			
61. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
62. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
63. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
64. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
65. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
66. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
67. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
68. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
69. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
70. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
71. Generation of solid waste/hazardous waste?	✓		
72. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
73. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.

74. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?		✓	No such impact envisaged in the light of scope of work.
75. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [5](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.

[5] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		
10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name: Faraz Ahwaz**	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer (MOI&S)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: : P-1-Rehabilitation of road from Station Chowk to Laila Majnou Gate -1.88km

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location by MC.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.
Land-based assets:		✓		

Residential structures				Not Available
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".		✓		No Vulnerable APs recorded as per Sub-Project interventions.

Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities.

Prepared By:	Endorsed By:	Reviewed By:
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

Pictures


GPS Map Camera
Jhang, Punjab, Pakistan
Plot 66, Mohallah Sheikh Lahori Mohalla
Bulaq Shah, Jhang, Punjab, Pakistan
Lat 31.274395°
Long 72.306245°
21/02/23 02:25 PM GMT +05:00
Google


GPS Map Camera
Jhang, Punjab, Pakistan
Plot 72, Mohalla Bulaq Shah, Jhang, Punjab,
Pakistan
Lat 31.27427°
Long 72.30611°
21/02/23 02:27 PM GMT +05:00
Google

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

6

Instructions:

Environmental and Social Focal Persons (ESFPs) nominated by the MCs for PCP environmental and social management, will use this checklist in field to support the environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures

Name of Enumerator/ESFP: MO Infrastructure (Faraz Ahwaz)

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P-6 Sargodha Road (0.52 Km)

Sub- Project Categorization:				
	E-1	☐	**S-1**	☐
	E-2	☐	**S-2**	☐
	E-3	■	**S-3**	■

Date of Screening: 22/02/2023

Anticipated Project Activities:

- Dismantling of road
- Sand filling under Sub-Base
- Pacca brickwork in cement sand 1: 4
- Raising of manholes
- Repair of Gully Grating
- Relaying of dismantled material
- P/L Tuff Tiles 80 mm complete in all respects

Estimated Cost of Sub-Project: 6.648 Million/- PKR

Approx. Completion Time: 02 Months

Estimated Labor for Sub-Project: 15-20

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Sub-Project area adjacent to or within any of the following? **Environmentally sensitive areas?**			
Cultural heritage site		✓	No cultural heritage site observed within 250 meters of periphery of Sub-Project.
Legally protected Area (core zone or buffer zone)		✓	No legally protected area exists within 250 meters of radius of sub-Project.
Any surface water body (river, canal, stream, lake, wetland) within 250 meters of proposed project?		✓	No water body will be negatively impacted as per scope of work.
Mangrove Forest		✓	No mangrove forest observed.
Estuarine		✓	No estuarine exists in Sub-Project proposed scope of work.
Special area for protecting biodiversity		✓	No protected area or buffer zone lies within peripheral zone of sub-Project.
Buffer zone of protected area		✓	
Man-made forest /game reserve, orchid/crops or any other area of environmental importance		✓	No forest/crops/orchids etc. observed within jurisdiction of Sub-project.
Socially sensitive/Important areas/communities/people?			
PCRs and or any site of cultural/religious importance (Graveyard, Shrine, Mosque, Church, Gordwarah, Temple, Fort, archeological/historical site) within 100 m of the proposed subproject		✓	No PCRs exists within 100 meters of periphery of Sub-Project which will be negatively impacted due to any work activities.
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub project		✓	No such receptors observed within 100 meters of location of Sub-Project that are outside of construction limits.
Any graveyard of local community (Muslims or Christians)		✓	No graveyard observed.
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments of the society and women or children)?		✓	It's a small-scale project regarding sewers linkages development to newly developed disposal stations. Hence, no demographically or socio-economically vulnerable aspects of the sub-project were observed.
Already existing infrastructure (including public amenities) which may be required to dismantle or may be affected temporarily by any means?		✓	No public infrastructure will be damaged/dismantled due to any Sub-Project interventions.

B. Potential Environmental Impacts Will the Sub-Project cause…			
76. Disturbance to habitats/biodiversity of environmentally sensitive or protected areas?		✓	The proposed project site doesn't have any environmentally sensitive or protected areas.
77. Cutting of trees?		✓	No cutting of trees required as per scope of work under Sub-Project.
78. Disruption to habitats/biodiversity of surrounding ecosystem/environment?		✓	No disruption to any habitat/ecosystem due to any Sub-Project activities.
79. Generation of wastewater during construction or operation?		✓	No generation of wastewater due to scope of work under Sub-Project.
80. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	Negligible impact.
81. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/rivers or due to increased soil erosion at construction site?		✓	No Sub-Project activities will trigger such negative impact.
82. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No campsite establishment envisaged. Local labor should be engaged by the Contractor.
83. Over pumping of ground water, leading to salinization and ground subsidence?		✓	
84. Serious contamination of soil due to construction works?	✓		Desiltation material will be generated as per scope of work and need urgent disposal at designated place.
85. Aggravation of solid waste problems in the area?	✓		Stockpiling of dismantled material may temporarily disturb local communities.
86. Generation of solid waste/hazardous waste?	✓		
87. Increased air pollution due to sub-project construction and operation?		✓	Impact is negligible. However ambient air quality will be conducted during execution phase.
88. Noise and vibration due to sub-project construction or operation?		✓	Impact is negligible.
89. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?		✓	No such impact envisaged in the light of scope of work.

90. Use of chemicals during construction?		✓	Under sub-project scope, no hazardous chemical will be used during execution phase.
C: Potential Social Impacts Will the Sub-Project cause…			
1.Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to Physical Cultural Resources (PCRs)?		✓	No damage to any PCRs required under scope of Sub-Project.
2. Displacement or involuntary resettlement of people? (Physical displacement and/or economic displacement)		✓	No significant displacement/ any sort of resettlement/ economic loss is envisaged due to any Sub-Project interventions.
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups [6](mentioned above)?		✓	No disproportionate impacts on the poor, women and children and or other vulnerable groups are anticipated during execution phase
4. Temporary impediments in movements of people/transport and animals?	✓		Temporary hindrance for pedestrians anticipated as project activities. Mitigation measures will be ensured by the Contractor.
5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	No such impact envisaged.
6. Social conflicts if workers from other areas are hired?		✓	Local labor should be hired to avoid social conflicts.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Injuries to labor anticipated. PPEs should be provided to the labor as per nature of their jobs. Mitigation measures needs to be adopted to ensure Occupational Health & Safety of labor.
8. Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Site safety needs to be ensured by the Contractor by displaying caution signs and cordon off working area.

[6] Women, Children, Women headed households, People in old age, people having disabilities, socially isolated community groups and or people living below the poverty line

9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		
10. Any impact on sensitive receptors (mentioned above)		✓	No significant impact is anticipated during execution phase.
11. Any impact of negative nature on already existing infrastructure including public amenities		✓	There is no significant impact expected to any public infrastructure owing to project activities. In the long run, this project is beneficial regarding improvement in road infrastructure.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name: Faraz Ahwaz**	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer (MOI&S)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator/ESFP: MO Planning

Name of City/MC/LG: MC Jhang

Sub-Project Sector: Roads

Sub-Project Title: Rehabilitation of P-6 Sargodha Road (0.52 Km)

Sub- Project Categorization:

S-1 ☐ **S-2** ☐ **S-3** ■

Date of Screening: 22/02/2023

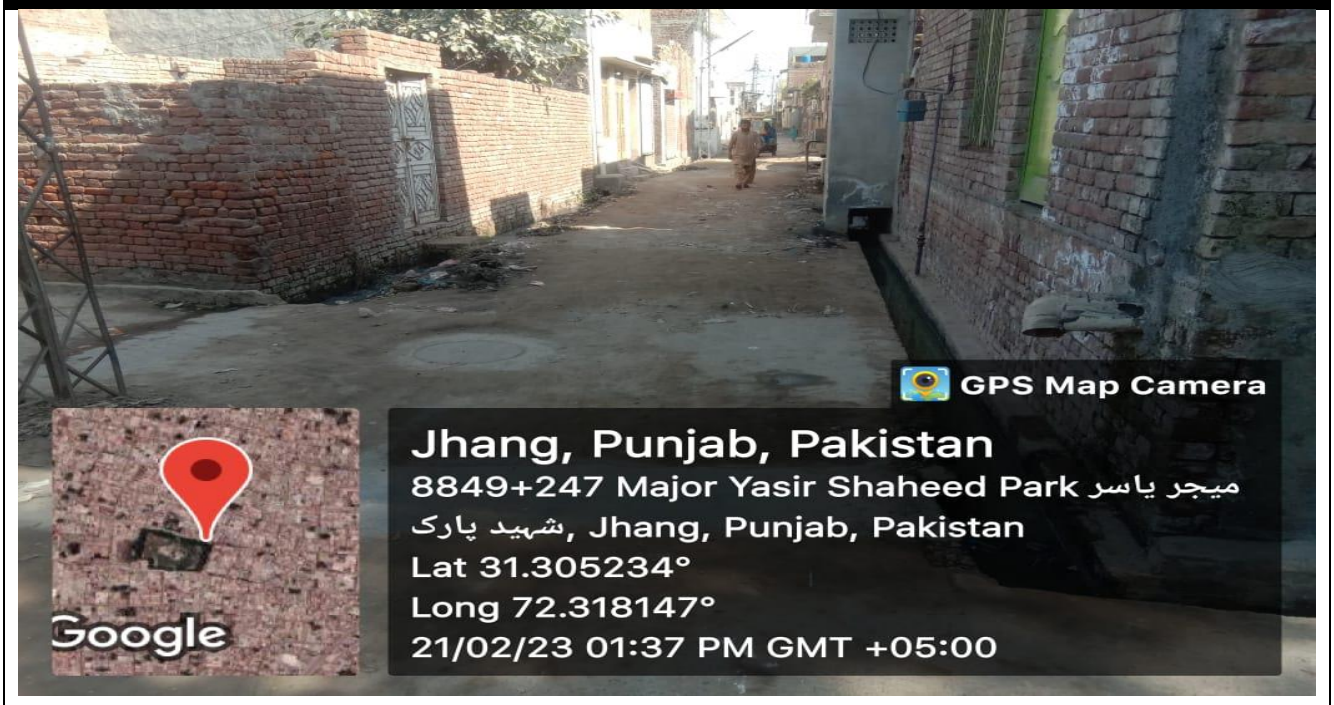
SECTION 1	Yes	No	Expected	Remarks
Does the project require land acquisition? Yes/No		✓		No land will be required for the execution of Sub-Project.
If yes, then describe the type of land being acquired from the categories below:				
Has any AED been conducted at the proposed location by the government1? Yes/No		✓		No AED has been conducted on the proposed location by MC.
Land (Quantify and describe types of land being acquired in "remarks column".				
Government and LG owned land free of occupation (agriculture or settlement)	✓			Sub-project site under possession of MC and free from all sort of settlements.
Government or state-owned land (other than LG) free of occupation (agriculture or settlement)				Not Applicable
Private land				
Residential				
Commercial				
Agricultural				
Communal				
Others (specify in "remarks").				
Name of owner/owners and type of ownership document if available.		✓		MC Jhang owns the land for Sub-Project.
If land is being acquired, describe any structures constructed on it		✓		No land needs to be acquired under Sub-Project.

Land-based assets:		✓		Not Available
Residential structures				
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				No public utilities and structures would be damaged during execution phase
If agricultural land is being acquired, specify the following:		✓		No agriculture land required under Sub-Project.
Agriculture related impacts		✓		Not Applicable
Crops and vegetables (specify types and cropping area in "remarks).		✓		
Trees (specify number and types in "remarks").		✓		
Others (specify in "remarks").		✓		
Affected Persons (APs)		✓		No APs as per scope of work and its impacts.
Will any people be displaced from the land when acquired? Yes/No		✓		No displacement of any people required under Sub-Project.
Number of APs		✓		No APs as per scope of work and its impacts.
Males		✓		
Females		✓		
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters (specify in remarks column)		✓		No encroachment on construction limits under Sub-Project which needs to be addressed.
Vulnerable APs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the		✓		No Vulnerable APs recorded as per Sub-Project interventions.

poverty line). Specify the number and vulnerability in "remarks".				
Others (specify in "remarks")		✓		Not Applicable
How will people be affected?	✓			Dismantled material/construction material may disturb local communities.

Prepared By:	**Endorsed By:**	**Reviewed By:**
Name: Muhammad Imran	**Name:** Younis Saleem	**Name:** Muhammad Asif Gillani
Designation: Environment Specialist	**Designation:** Municipal Officer Planning (MOP)	**Designation:** Deputy Program Officer ESM
Organization: MM Pakistan	**Organization:** MC Jhang	**Organization:** PMDFC
Signature:	**Signature**	**Signature:**
Date: 22-02-2023	**Date:** 22-02-2023	**Date:** 22-02-2023

Pictures


GPS Map Camera
Jhang, Punjab, Pakistan
8849+247 Major Yasir Shaheed Park میجر یاسر
شہید پارک, Jhang, Punjab, Pakistan
Lat 31.305234°
Long 72.318147°
21/02/23 01:37 PM GMT +05:00
Google


GPS Map Camera
Jhang, Punjab, Pakistan
8849+247 Major Yasir Shaheed Park میجر یاسر
شہید پارک, Jhang, Punjab, Pakistan
Lat 31.305311°
Long 72.318174°
21/02/23 01:38 PM GMT +05:00
Google

ENVIRONMENTAL MITIGATION & MANAGEMENT COST

Item	Quantity	Tentative Cost/Item-Rs./-	Total Cost
A-PPEs			
Face Masks (3 PLY) - box	25	300	7500
Safety Hard Helmets	10	3,000	30000
Safety Shoes	10	3,000	30000
Hand Gloves	10	1,000	10000
Ear Plugs	10	500	5000
Reflective Safety Vest	10	1,000	10000
Safety Goggles	10	500	5000
B-Community Health and Safety			
First Aid Box Complete	1	10,000	10000
Safety Signs	3	15,000	45000
Safety Cones	20	1,000	20000
Safety Tapes	50	1,500	75000
Portable Delineator with chain	3	2,200	6600
Emergency Portable Lights	3	3,000	9000
Solid Waste Collection Drums with Cover	3	12,000	36000
Fire Fighting Equipment Purchase and refilling	1	10,000	10000
BCC Campaign and waste collection system	Lump sum		100,000
Water Sprinkling	Lump sum		100,000
Total (PKR)-A+B			**509,100**

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
Design Phase							
	Conflict on design	**Negligible**	No conflict was observed as the subproject scope is the repair of existing pavement structure and it will help the local residents in mobility.	MC ESFPs	MOM & pictures	Design E&S Consultants	ESM team of PMDFC
Construction Phase							
Dismantling, Excavation fine aggregate, base coarse and cleaning & grabbing)	**a) Environmental Issues:** • Dust which may affect visibility, community and labor health • Noise from machineries/ equipment • Waste may be generated due these activities • Safety hazards to labor and nearby resident population. • Worse House Keeping **b) Social Issues:** • Excavated material may cause disturbance in mobility	High	○ Excavated material will be disposed within 24 hours at the designated place of MC Jhang. ○ Updated and tuned machinery will be used to control noise. ○ Water sprinkling will be carried out at consecutive intervals as per instructions ○ Avoiding construction activities during nights. ○ Removal of excess matter/ debris from the site within 24 hours. ○ Provide PPEs ○ Provide appropriate signage near the construction activities to sensitize the communities and minimize accidents. ○ Public must be informed about project major activities, duration of scheme, time and schedule, anticipated impacts and their proposed Mitigation Measures. The contact Nos. of focal person of	Contractor	Visual/ Photographic record, Public consultation, Environment Quality Analysis reports, GRM Complaints record	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
	• Temporary blockage of road may restrict mobility • Conflict with public and public complaints • Economic losses • Livelihood's loss. • Temporary loss of structures and private property • Economic loss of permanent and mobile vendors due to obstruction of passage • Presence of Physical Cultural Resources (PCRs) of Archeological importance • Air and dust pollution • Noise pollution		Grievance Redress Committee will be displayed at different locations and residents will also be informed about it. ○ Construction work will be scheduled in such a way that business of the shopkeepers will not be affected. ○ Contractor will ensure that work should be executed in portions to avoid the temporary disturbances in the accessibility and placement of the temporary vendors ○ Contractor will make sure that labor must not damage the property and structures of the communities (although no such structure was observed during the screening survey) and in case of damage compensation will be provided as per entitlements. ○ If there will be any PCR found during excavation; Contractor will follow guidelines of chance find procedure.				
Construction material	**Environmental Issues:**		• Construction material will be covered to ensure safe passage	Contractor	Visual/ Pictures	Daily site visit during	ESFPs DPO ESM

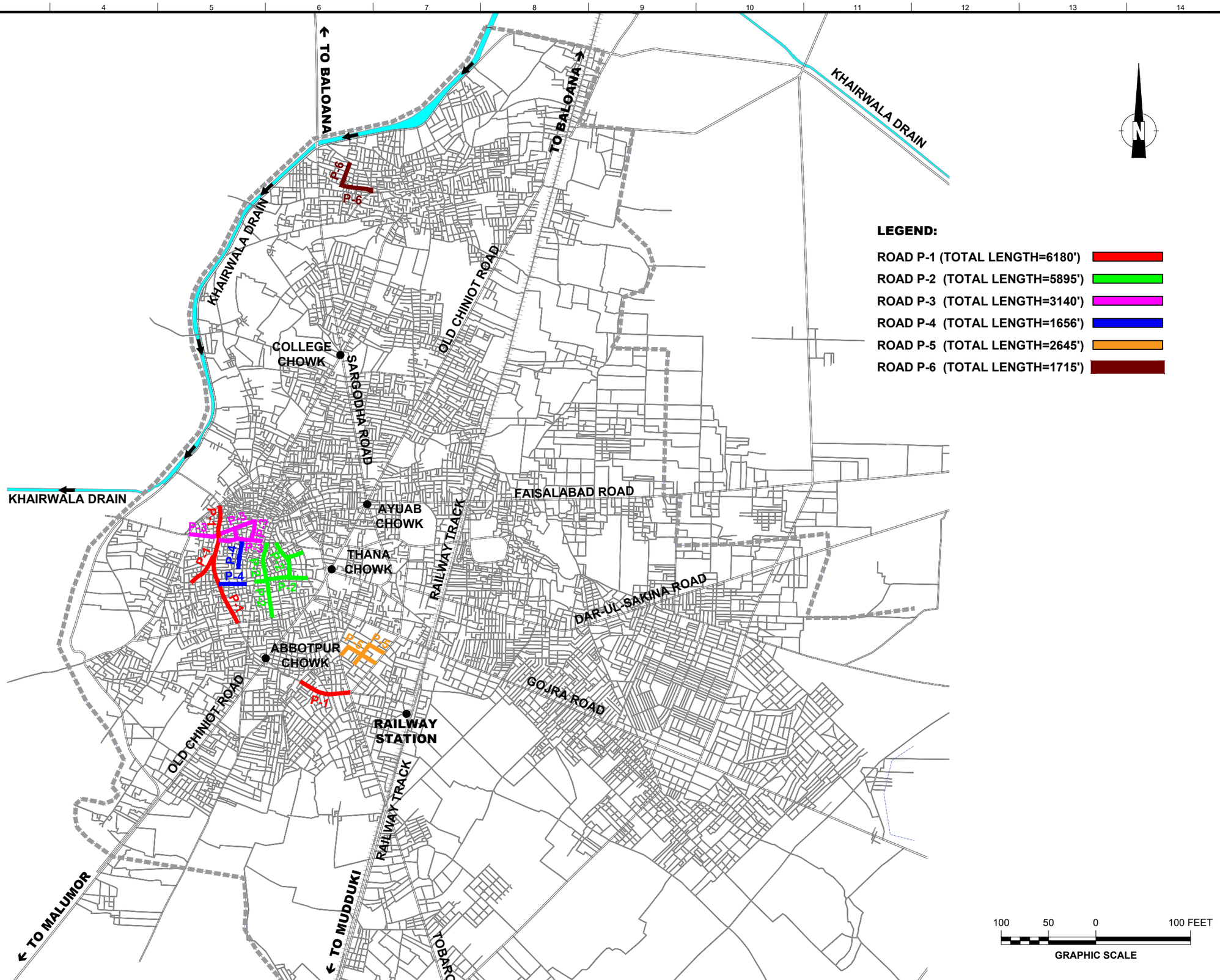
ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
storage, handling and use	○ Ground water may be contaminated due to the any oil spillages from machinery. ○ Health risk to workers and local inhabitants. ○ Poor Housekeeping **Social Issues:** ○ Land acquisition for storage of construction material ○ Accidents/Injuries expected if neglected ○ Blockage of passage for pedestrians ○ Haphazard arrangement of construction material	Medium to negligible	between the destinations during transportation. • Materials will not be loaded to a higher level than the side and tail boards and shall be covered with a good quality tarpaulin; Contractor will lay/utilize construction materials as per work requirement from his storage site. • Contractor will use night vision reflective signboards/ reflective tapes to cordon off the area during construction activities.			construction phase Fortnightly/Weekly Once during the construction phase	Supervision Consultants E&S team
Labor Camp (if established	○ Health impacts due to absence of housing and	Low	No labor camps are expected to be constructed at the project site because the subproject involves the	Contractor	Visual/ Pictures		

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
by Contractor)	sanitation facilities in labor camp. ○ Security of labor ○ Unhygienic conditions		rehabilitation of patches of existing pavement structure.				
Vehicle Movements	• Traffic congestion • Conflicts • Vehicle emissions	High	○ Sign boards and posters will also be displayed at Sub-project site and adjacent areas as well. Inform the residents about timing, schedule and construction work duration. ○ Work will be done in portions so that the alternate road may be used safely and vehicles movement will not be disturbed. ○ Contractor will submit Traffic Management Plan (if required) and it will be approved by the MC and displayed at site before the execution of work and communicated to the locals in a timely manner. ○ Vehicle emissions testing will be ensured (Hand plater, Compactor) once during execution of work	Contractor	Visual/ Pictures, Vehicle emission tests reports, GRM Complaints record	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team
Site Safety Issues	• Accidents	High	Contractor will ensure site safety using safety cautions (night vision), boards, flagmen, cordon tapes for smooth flow	Contractor	Visual/ Pictures	Daily site visit during	ESFPs DPO ESM

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
			of traffic and pedestrians during the construction phase of the Sub-Project.			construction phase Fortnightly/Weekly • Once during the construction phase	Supervision Consultants E&S team
Public access	Problems for pedestrians. Normal mode of transport may be disturbed during Sub-project execution.	Medium	• If it required to provide an alternated access route, contractor will ensure that the alternate access route must consider the safety aspects for all kind of pedestrian i.e. women, children, disabled. • Cordon off the construction zone.	Contractor	Visual/ Pictures	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team
Occupational Health & Safety	• Injuries to workers/LTI	High	• Contractor will follow PMDFC designed Environment, Health and Safety SOPs for Labor/Workers for all activities on the site and these SOPs will be the part of his term of reference and contractual agreement. • Workers will be trained by the PMDFC ESM team and guided to follow SOPs and will be provided with necessary PPEs (Safety Helmets, Safety Shoes, Gloves, Chemical Masks etc.) wherever required. • First aid will be provided onsite	Contractor	Visual/ Pictures	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
			• Careful monitoring will also be carried out.				
Laying of coarse base, gravel, sub base	• Injuries to workers	High	• Contractor will provide Safety Shoes, Hand Gloves, Safety Helmet, and Reflective Vest to all the labor.	Contractor	Visual/ Pictures	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team
Damage to Public Infrastructure/utilities	nts/Incidents/Injuries ral loss Conflicts	High	• Contractor will ensure no damage to public utilities or structures. • Contractor will provide compensation for the damages to entitle accordingly.	Contractor	Visual/ Pictures	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team
Sexual Harassment-Labor Influx-Child Labor	• Social Conflicts	Low	• Contractor will give behavioral training to the workforce. • Contractor will hire local labor for un-skilled works. • No child labor is allowed onsite below 14 years. • GRM at site level will be ensured to report in case of any such incident	Contractor	Visual/ Pictures/Reported/Complains by public during visit	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team

ENVIRONMENTAL MITIGATION & MANAGEMENT PLAN							
Proposed Sub-project activities	**Potential Environmental & Social Impacts**	**Magnitude of Impact**	**Mitigation Measures**	**Responsibility**	**Monitoring Indicators**	**Monitoring Frequency**	**Monitoring Responsibility**
CoViD-19 SOPs implementation	• Spread of Corona among the labor	Low	• Contractor will provide face masks to the labor on daily basis to reduce Corona impact. • Contractor will follow CoViD-19 guidelines during construction works	Contractor	Visual/ Pictures	Daily site visit during construction phase Fortnightly/Weekly Once during the construction phase	ESFPs DPO ESM Supervision Consultants E&S team
Operational Phase							
Road Maintenance - Road Furniture	• Accidents • Complains	Low	• MC will maintain road lighting system for night vision. • Road surface will be repaired/maintained by MC. • Road furniture will be maintained by MC.	Contractor	Visual/ Pictures		MC Officials



CLIENT:

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PROJECT:

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB.

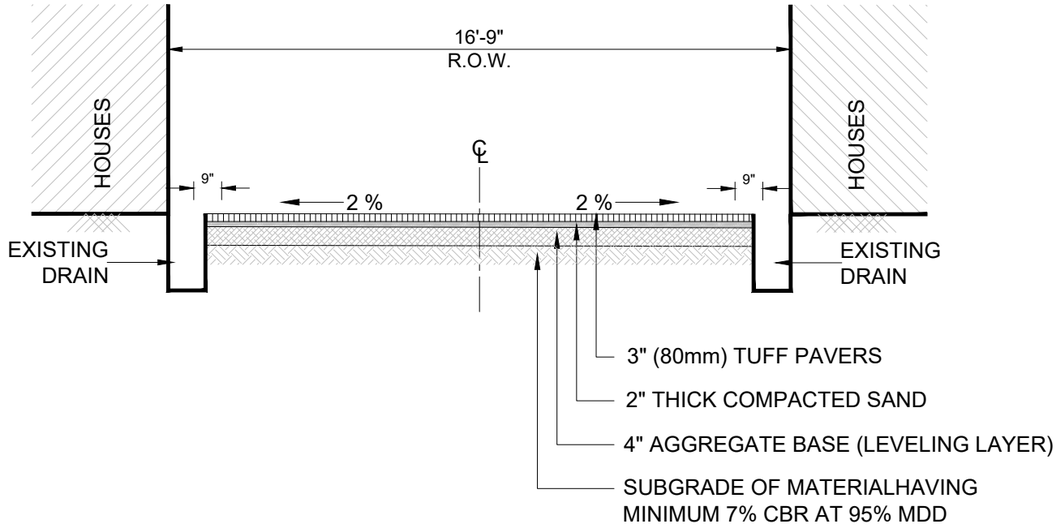
DRAWING TITLE:

PROPOSED ROADS KEY PLAN (JHANG)

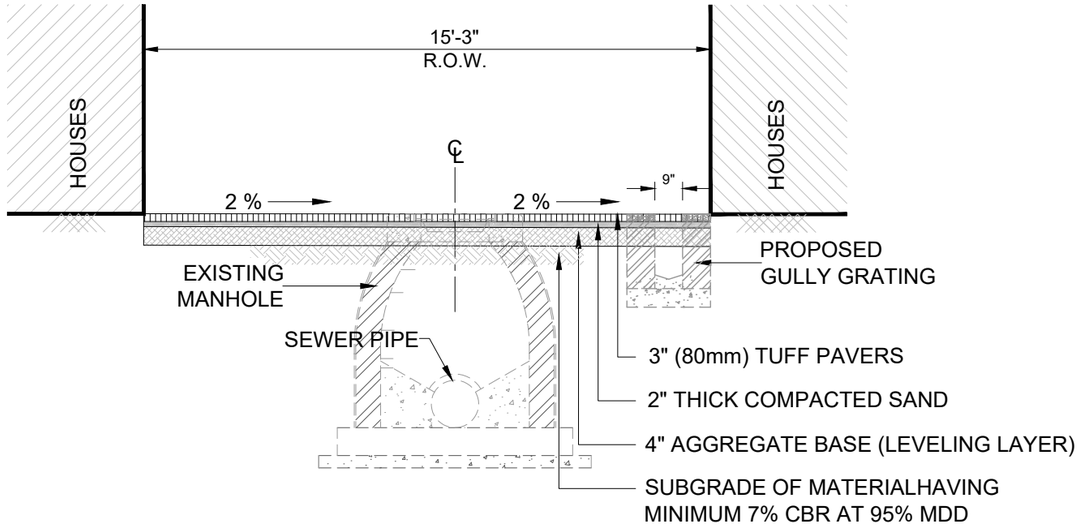
REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

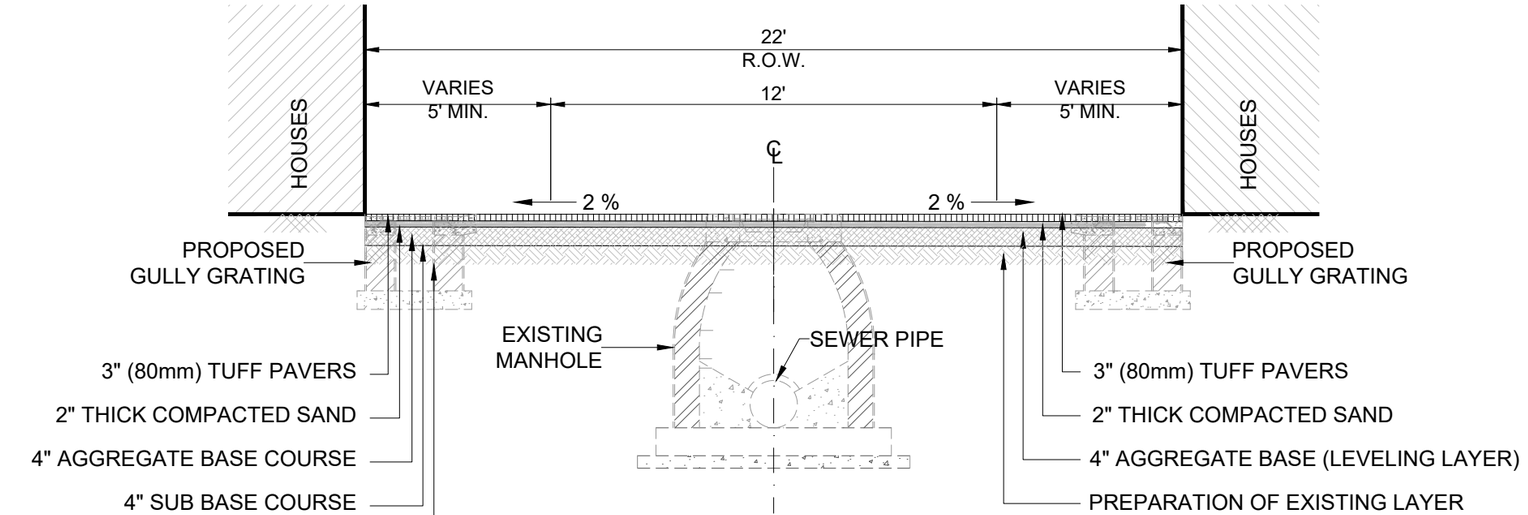
DRAWING NO: **JNG-M-01**
SCALE: 1"=3000'
SHEET: 1 OF 1
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 0+100
1-1



TYPICAL X-SECTION
FROM RD 0+100 TO 0+600
2-2



TYPICAL X-SECTION
FROM RD 0+600 TO 1+550
3-3

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PROJECT:
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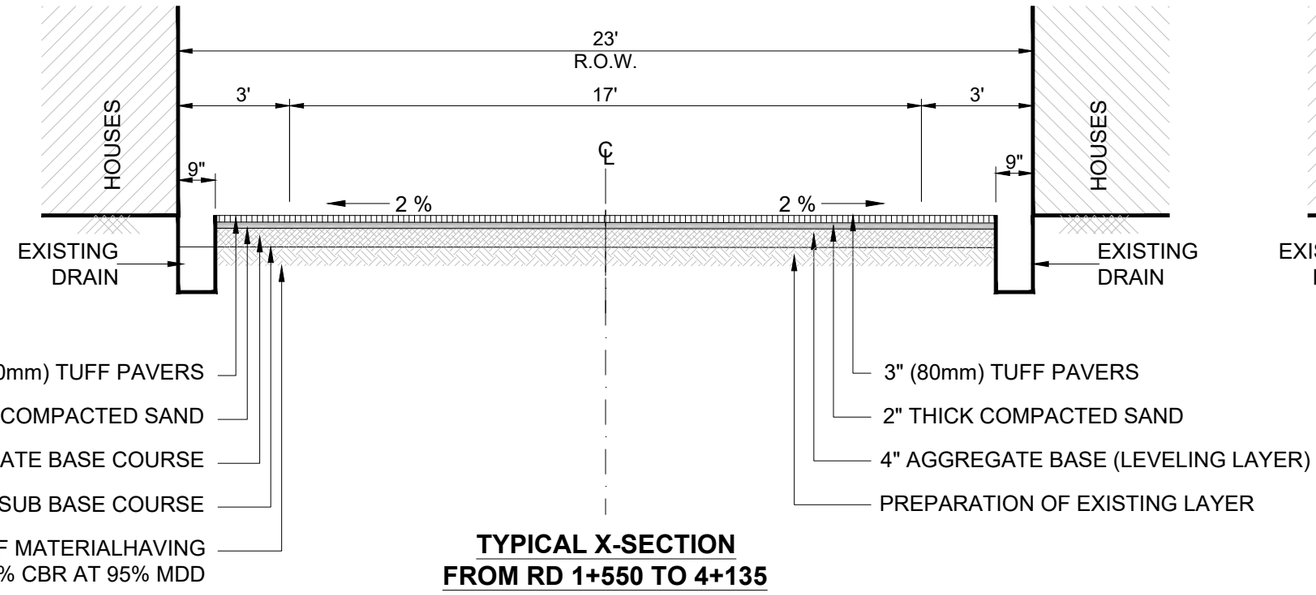
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB.

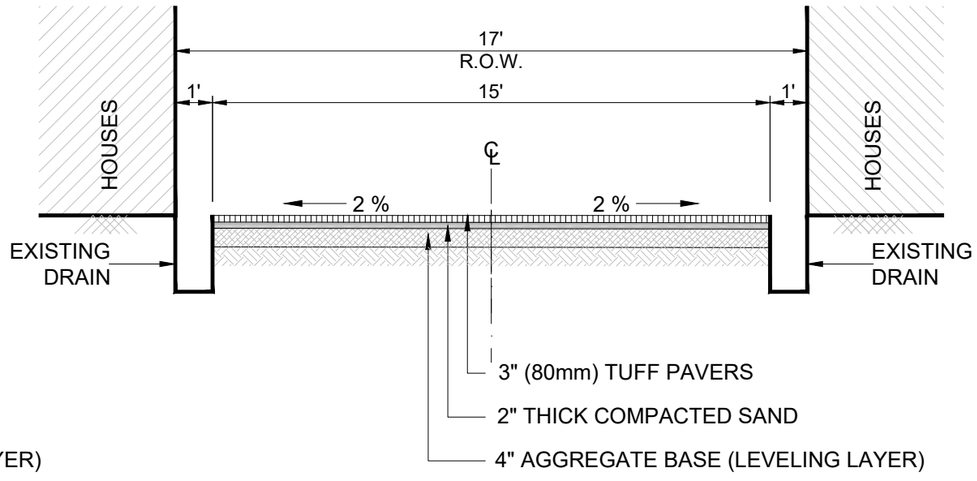
DRAWING TITLE:
PROPOSED ROAD-P1
TYPICAL X-SECTION
(JHANG)

REV.	DATE	DESCRIPTION
-	-	-

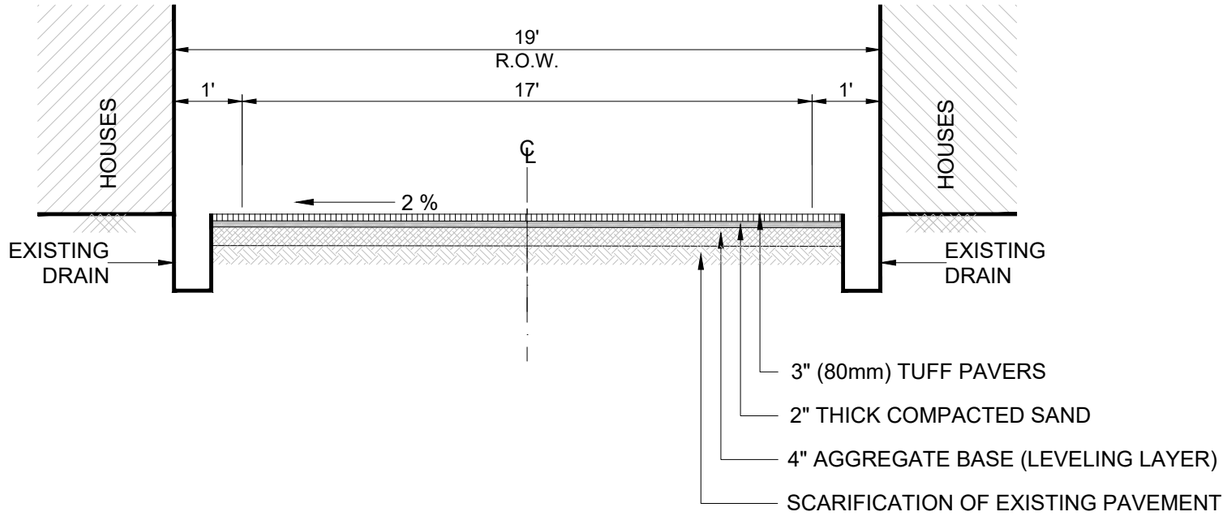
DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023
DRAWING NO: JNG-P1-02
SCALE: UNIT=FEET -
SHEET: 1 OF 2
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 1+550 TO 4+135
4-4



TYPICAL X-SECTION
FROM RD 4+135 TO 5+055
5-5



TYPICAL X-SECTION
FROM RD 5+055 TO 6+180
6-6

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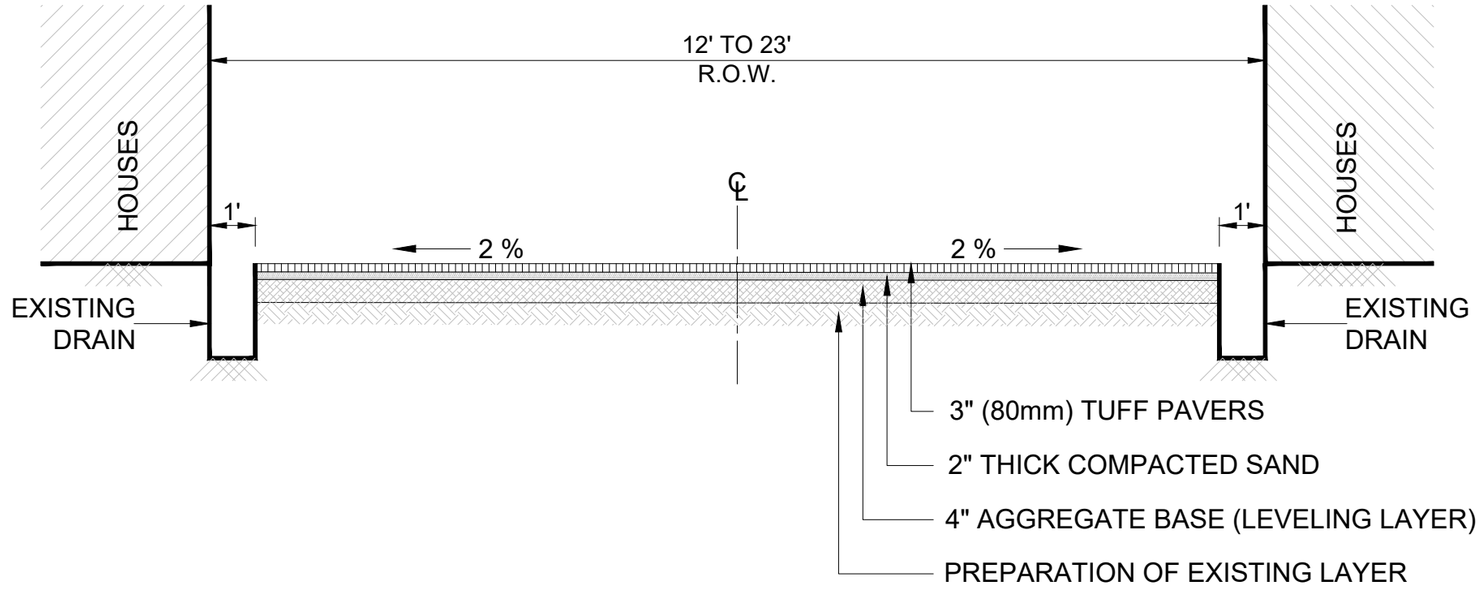
DRAWING TITLE:
PROPOSED ROAD-P1
TYPICAL X-SECTION
(JHANG)

REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: **JNG-P1-02**
SCALE: UNIT=FEET -
SHEET: 2 OF 2
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 5+895
1-1

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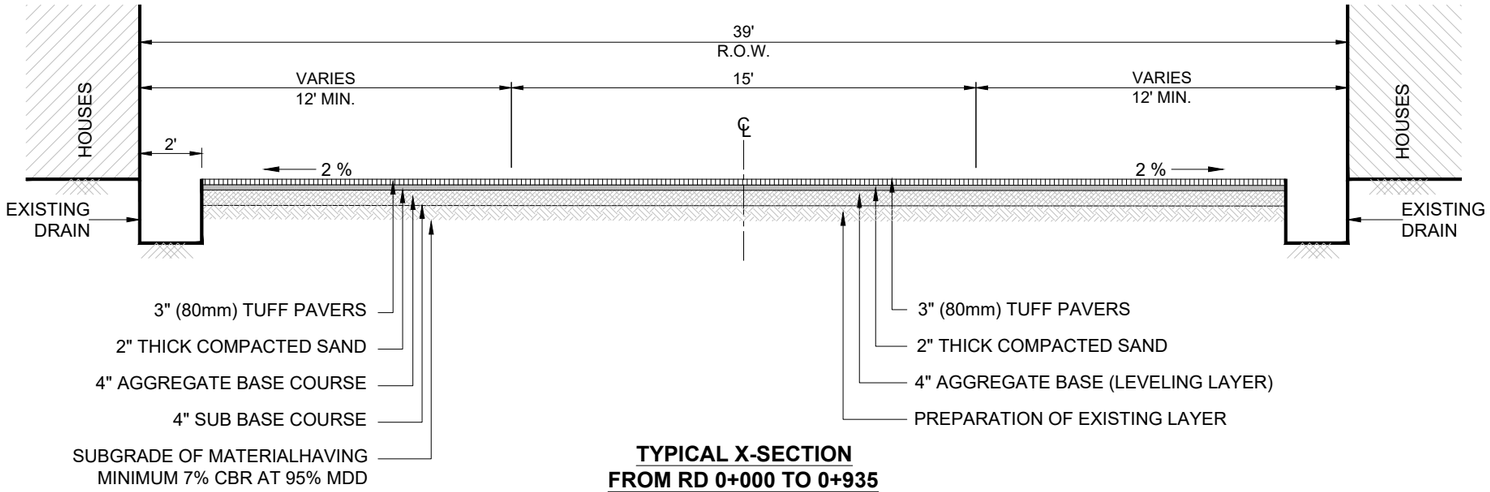
DRAWING TITLE:

PROPOSED ROAD-P2
TYPICAL X-SECTION
(JHANG)

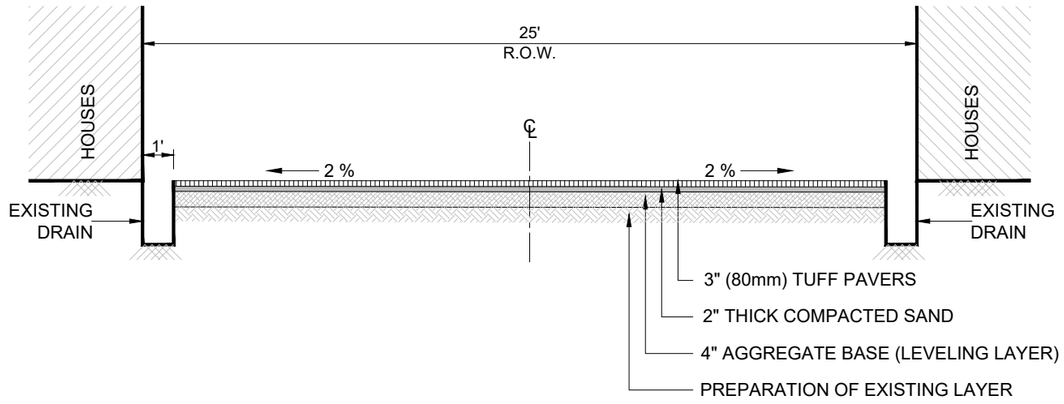
REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

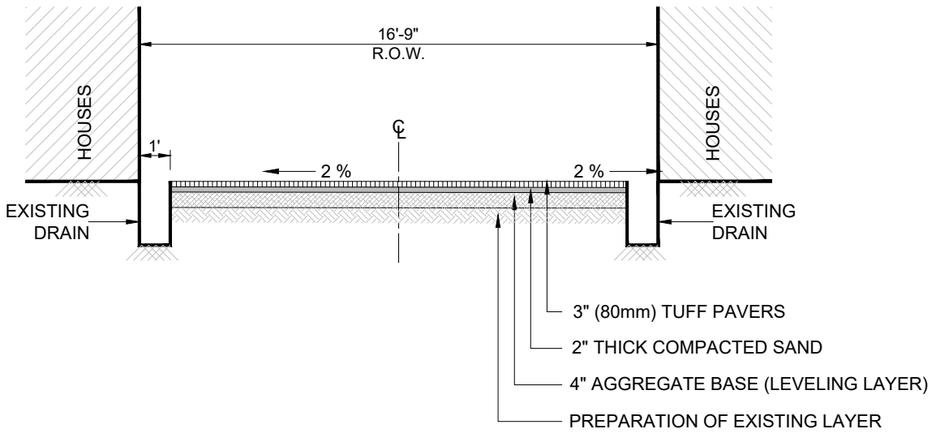
DRAWING NO: JNG-P2-02
SCALE: UNIT=FEET -
SHEET: 1 OF 1
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 0+935
1-1



TYPICAL X-SECTION
FROM RD 0+935 TO 2+190
2-2



TYPICAL X-SECTION
FROM RD 2+190 TO 3+140
3-3

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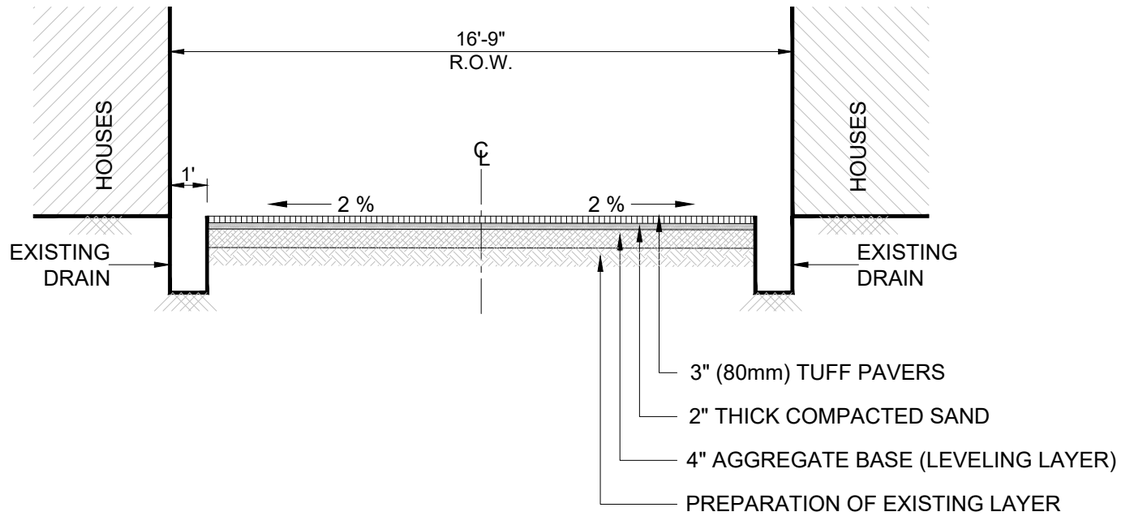
DRAWING TITLE:
PROPOSED ROAD-P3
TYPICAL X-SECTION
(JHANG)

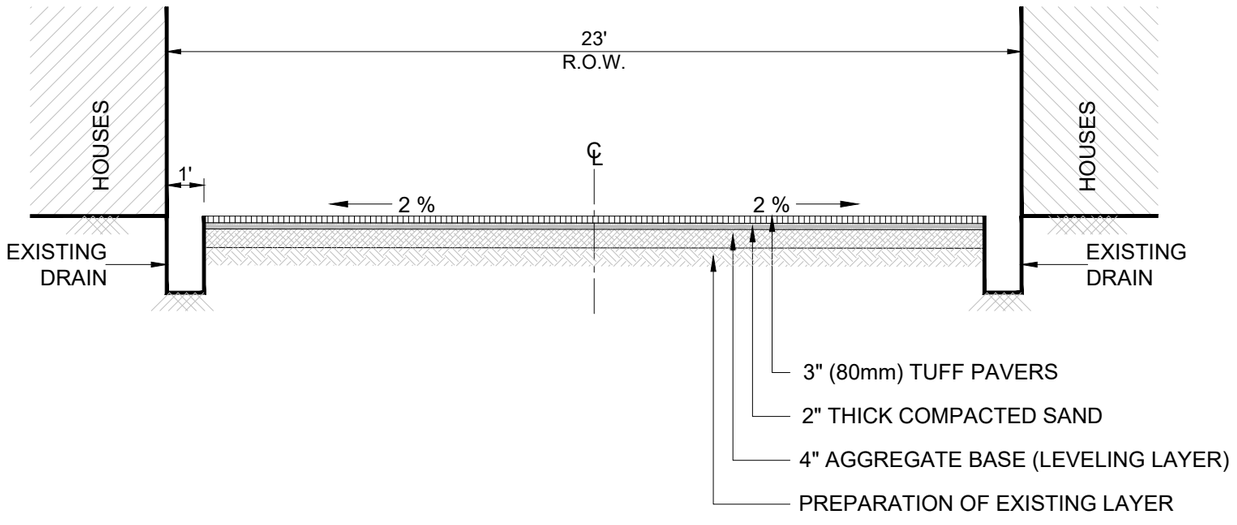
REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: **JNG-P3-02**
SCALE: UNIT=FEET -
SHEET: 1 OF 1
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 0+698
1-1



TYPICAL X-SECTION
FROM RD +698 TO 1+656
2-2

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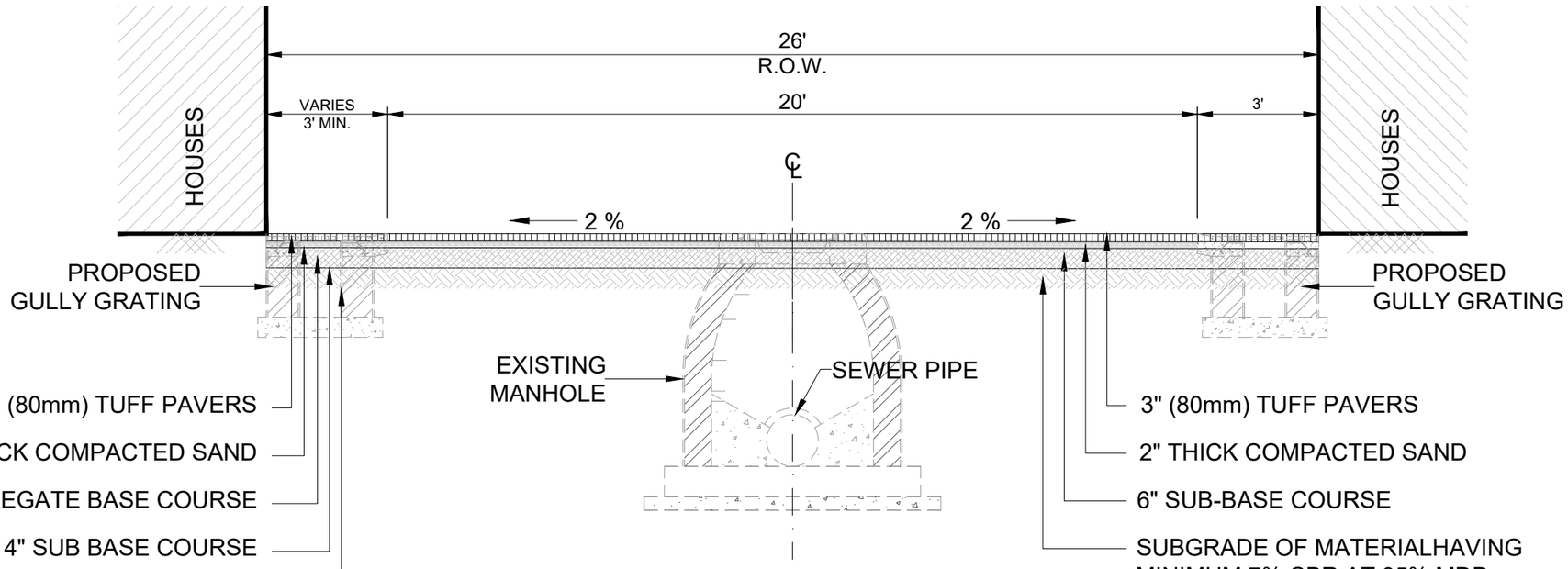
DRAWING TITLE:
PROPOSED ROAD-P4
TYPICAL X-SECTION
(JHANG)

REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: **JNG-P4-02**
SCALE: UNIT=FEET -
SHEET: 1 OF 1
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 2+645
1-1

CLIENT:
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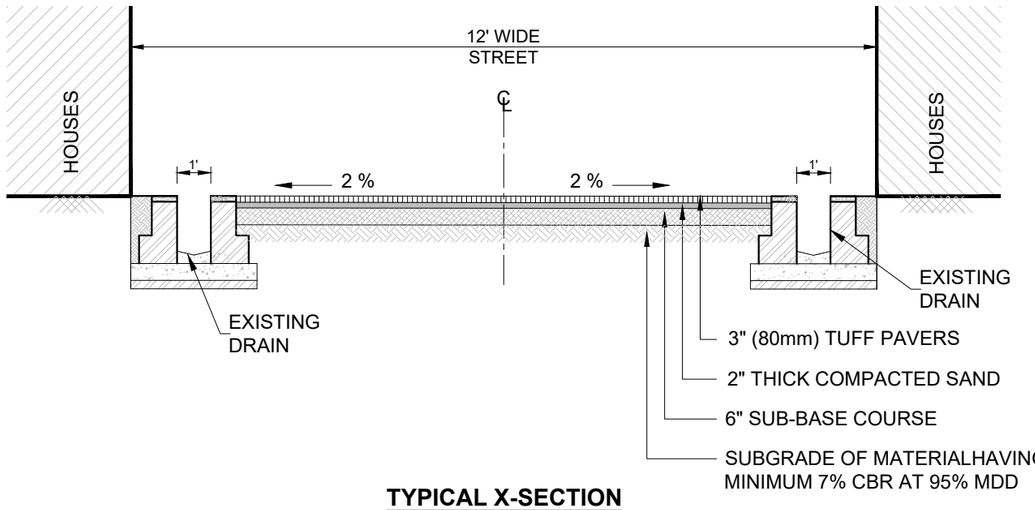
DRAWING TITLE:
PROPOSED ROAD-P5
TYPICAL X-SECTION
(JHANG)

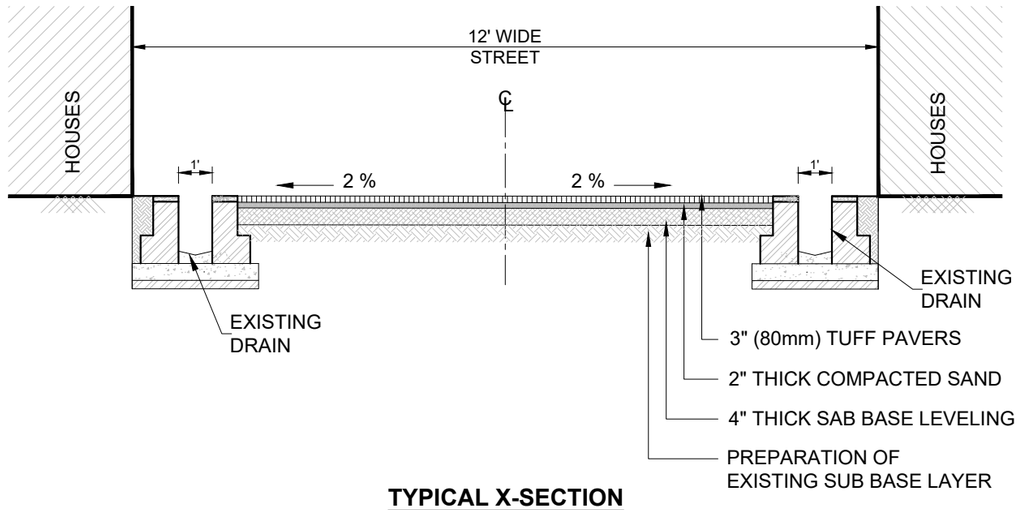
REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: JNG-P5-02
SCALE: UNIT=FEET -
SHEET: -
JOB NO: 488-01



TYPICAL X-SECTION
FROM RD 0+000 TO 0+780
1-1



TYPICAL X-SECTION
FROM RD 0+780 TO 1+715
2-2

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DRAWING TITLE:
PROPOSED ROAD-P6
TYPICAL X-SECTIONS
(JHANG)

REV.	DATE	DESCRIPTION
-	-	-

DRAWN BY: M. HASEEB
CHECKED BY: UMAR
APPROVED BY: SADAT WALEED
DATE: MARCH, 2023

DRAWING NO: **JNG-P6-02**
SCALE: UNIT=FEET -
SHEET: -
JOB NO: 488-01