

# POST-FLOOD 2022 RECONSTRUCTION PROGRAM: RESILIENCE ENHANCEMENT AND LIVELIHOOD DIVERSIFICATION IN BALOCHISTAN

## TERMS OF REFERENCE

### CONSULTANCY SERVICES FOR PREPARATION OF ASSESSMENT STUDY, PREPARATION OF DETAILED DESIGNS, PROCUREMENT ASSISTANCE AND SUPERVISION OF WORKS

#### 1 BACKGROUND

Over the past two decades, Pakistan significantly reduced poverty, but human development outcomes have lagged, and severe economic challenges put past gains at risk. Pakistan made significant progress towards reducing poverty between 2001 and 2018 when the expansion of off-farm economic opportunities and increased inflow of remittances allowed over 47 million Pakistanis to rise out of poverty. However, this rapid poverty reduction has not fully translated into improved socio-economic conditions, as human capital outcomes have remained poor and stagnant, with high levels of stunting at 38% and learning poverty at 75%. The deterioration of economic conditions, in combination with non-economic shocks such as the COVID 19 pandemic and the devastating floods of 2022, are expected to reduce household incomes and increase their vulnerability to fall below the national poverty line.

Pakistan's economy is currently under severe stress with low foreign reserves, a depreciating currency, and high inflation. Reflecting a consumption-driven growth model, with limited productivity-enhancing investment and exports, strong economic growth has often come at the cost of economic imbalances and frequent macroeconomic crises. Long-term growth of real gross domestic product (GDP) per capita has therefore been low, averaging only around 2.2% annually over 2000-22. With high public consumption, economic growth increased substantively above potential in 2022 fiscal year (FY22) that led to strong pressures on domestic prices, external and fiscal sectors, the exchange rate, and foreign reserves. These imbalances were exacerbated by the catastrophic flooding in 2022, surging world commodity prices, tightening global financing conditions, and domestic political uncertainty. Furthermore, distortive policy measures, including periods of informal exchange rate restrictions and import controls, delayed the International Monetary Fund (IMF) Extended Fund Facility (EFF) program, and contributed to creditworthiness downgrades, lower confidence, high yields and interest payments, and the loss of access to international capital markets.

The recent floods have had enormous human and economic impacts. Pakistan experienced heavy monsoon rains between June and September 2022, severely affecting millions of households, mainly in Sindh and Balochistan. Roughly 33 million people have been displaced, and more than 13,000 km of roads destroyed. The flooding has damaged 2.2 million houses, flooded around 9.4 million acres of crops, and killed an estimated 1.2 million livestock, adversely affecting rural livelihoods. Limited access to input and output markets and temporary disruptions to supply chains have driven up food prices and added to existing price pressures resulting from reduced agricultural yields and the global rise of food prices. Due to significant crop and livestock losses, food shortages have intensified in the fall and winter, with food price inflation increasing to more than 50%. With the destruction of infrastructure and disrupted access to schools, medical facilities, and sanitation systems, the floods have negatively impacted health and education outcomes especially for rural areas, potentially affecting long-term human capital accumulation. Preliminary estimates suggest that the national poverty rate may increase by up to 4 percentage points as a direct consequence of the floods, potentially pushing around 9 million people into poverty. The recently completed Post-Disaster Needs Assessment (PDNA)<sup>1</sup> estimated that the need for rehabilitation and reconstruction is at US\$ 16.3 billion, not including much-needed new investments to strengthen Pakistan's resilience to future shocks.

At a national level, the PDNA shows that housing, agriculture, water supply and sanitation, and irrigation sectors bear the brunt of the damage. The provinces of Sindh and Balochistan account for

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<sup>1</sup> Government of Pakistan (2022) *Pakistan Floods 2022 Post-Disaster Needs Assessment*. Ministry of Planning Development and Special Initiatives.

approximately 50% and 15% of recovery and reconstruction needs, respectively. Table 1 shows the damage, loss, and needs<sup>2</sup> breakdown by region.

**Table 1 Total damage, loss and needs in Pakistan (source: Government of Pakistan, 2022)**

Region	Damage		Loss		Needs	
	PKR billion	US\$ million	PKR billion	US\$ million	PKR billion	US\$ million
Balochistan	349	1,625	541	2,516	491	2,286
Khyber Pakhtunkwa	201	935	141	658	168	780
Punjab	111	515	122	566	160	746
Sindh	1,948	9,068	2,444	11,376	1,688	7,860
Cross-provincial*	587	2,731	14	67	975	4,540
Special regions**	7	32	11	49	10	48
Grand total	3,202	14,906	3,272	15,233	3,493	16,261

\* Cross-provincial includes assets that affect more than one province or are calculated at the national level (e.g. railways, roads, telecommunications, etc.). The classification is in line with the public budget.<sup>o</sup>

\*\* Special regions include districts outside of the four main provinces that have been affected by the floods and declared “calamity-hit”.

The recently published Country Climate Development Report (CCDR)<sup>3</sup> shows that Pakistan’s high vulnerability to climate change is a risk multiplier, compounding its human and economic development challenges. The country consistently ranks among the top ten countries worldwide most affected by climate change<sup>4</sup>. Extreme weather events have increased in frequency and intensity, impacting ecosystems, people, settlements, and infrastructure. Heatwaves, heavy precipitation events, droughts, and cyclones are prevalent risks. Attribution research on the 2022 floods has shown that the 5-day maximum average rainfall of Balochistan and neighboring Sindh was around 75% more intense than it would have had the climate not warmed by 1.2°C<sup>5</sup>. Climate projections have been predicting such a shifting trend for years. Historical records show that heavy rainfall has significantly increased in the region alongside the increase in greenhouse gas emissions, strongly suggesting climate change played a central role in the event. The floods came on the heels of a severe heatwave and saw temperatures continuously above 45°C, resulting in crop losses, power outages, and forest fires. These changes in climate and extreme events are likely to disproportionately affect the most disadvantaged groups, among these low-income businesses, those engaged in manual labor jobs, poorer farmers, women, and children.

Pakistan is especially vulnerable to flooding - including riverine, flash, glacial lake outbursts, and coastal flooding - and the country regularly experiences large-scale flooding, most notably in 2010 and, more recently, in June 2022. Pakistan faces some of the highest disaster risk levels in the world, ranking 18 out of 191 countries according to the 2020 Inform Risk Index and eighth at risk of flooding. Despite a history of other disasters such as earthquakes, heatwaves, and droughts, floods remain the dominant hazard. Most of the country’s population lives along the Indus River, which is prone to severe flooding during the monsoon season. The catastrophic 2010 rainfall flooded one-fifth of the country, affecting 20 million people, and claiming 2,000 lives. The World Bank estimates that Pakistan loses, on average, US\$ 1 billion annually due to flooding. This figure will rise due to climate change and the unprecedented

<sup>2</sup> **Damage** is defined as direct costs of destroyed or damaged physical assets. It is valued in monetary terms with costs estimated based on replacing or repairing physical assets and infrastructure, considering the replacement price prevailing before the crisis. **Loss** is defined as changes in economic flows resulting from the disaster and valued in monetary terms. Together, damage and loss constitute the effects of the crisis. Needs costing draws on the monetary value of damage and loss but is not equal to the sum of those estimates. Recovery and reconstruction needs are calculated in terms of replacement costs according to current prices and include a premium linked to building-back-better principles and needs associated with the recovery of the sector. The reconstruction and recovery needs include short (up to 12 months) and intermediate to long-term (up to five years) activities.

<sup>3</sup> World Bank Group (2022) Pakistan Country Climate Development Report.

<sup>4</sup> Germanwatch. Global Climate Risk Index 2021. <https://www.germanwatch.org/en/19777>

<sup>5</sup> World Weather Attribution (2022) <https://www.worldweatherattribution.org/wp-content/uploads/Pakistan-floods-scientific-report.pdf>

losses experienced during the 2022 floods, which have exceeded the scale of the 2010 monsoon flooding (previously the worst flooding in the country's history). In addition, Pakistan's climate vulnerability and uncertainty surrounding annual glacial melt, average precipitation, and extreme temperature changes highlight the need for ex-ante disaster preparedness and resilience building.

The Ministry of Planning, Development and Special Initiatives (MoPDSI) has developed the Resilient Recovery, Rehabilitation and Reconstruction Framework (4RF) to guide the Government's response to the 2022 floods based on the needs identified across the 17 sectors covered in the PDNA. The 4RF defines measures to ensure a resilient recovery and prevent multi-generational impacts that may manifest through reduced developmental gains. Through the 4RF, Government of Pakistan (GoP) recognizes the importance of long-term resilience in the aftermath of the unprecedented flooding and is committed to consolidating ongoing efforts and undertaking new measures toward improved resilience. The proposed operation responds to immediate emergency recovery needs in Balochistan province while contributing to building flood resilience.

The total damage is estimated at PKR 3.2 trillion (US\$ 14.9 billion), total loss at PKR 3.3 trillion (US\$ 15.2 billion), and total needs at PKR 3.5 trillion (US\$ 16.3 billion). The sectors that suffered the most damage are housing at PKR 1.2 trillion (US\$ 5.6 billion), agriculture, food, livestock, and fisheries at PKR 800 billion (US\$ 3.7 billion), and transport and communications at PKR 701 billion (US\$ 3.3 billion). The transport and communications sector has the highest reconstruction and recovery needs at PKR 1.1 trillion (US\$ 5.0 billion), followed by agriculture, food, livestock, and fisheries at PKR 854 billion (US\$ 4.0 billion), and housing at PKR 592 billion (US\$ 2.8 billion). The provinces of Sindh and Balochistan account for approximately 50% and 15% of recovery and reconstruction needs, respectively (PDNA Report 2022).

The Government of Pakistan (GoP) with the financial Assistance of the World Bank has approved PC-I of another project for "Post Flood 2022 Reconstruction Programme Resilience Enhancement and Livelihood Diversification in Balochistan". The umbrella PC-I of the project has been approved by the ECNEC at a cost of PKR 88 billion (US\$ 400 million). The amount of US\$ 50 million equivalent to PKR 11 billion (at an exchange rate of 1 US\$ = 220 PKR has been allocated for reconstruction of road infrastructure damaged by the flood of 2022. The whole reconstruction project is sequenced as Series of Projects (SoP) in total amounting to \$50 million. For SoP-1 only \$10 million will be allocated by the GoP for the implementation of civil works. Remaining \$40 million will be allocated for SoP-2 which will be subject to implementation of SoP-1.

As per advice of the GoP, Government of Balochistan (GoB) and contents of approved PC-I, followed by project preparatory meetings held in the GoB Planning and Development Department, the BIWRMD Project Implementation Unit PIU has taken steps towards the assessment for renovation/rehabilitation of flood-affected roads.

The IFRAP PIU intends to conduct detailed assessment for reconstruction/rehabilitation of the damaged roads caused by floods in 2022 (as reported in PDNA) in the reported districts of Balochistan through a consultancy agreement against the US\$ 50 million allocated share in the umbrella PC-I for the project titled "Resilience, Enhancement, and Livelihood Diversification in Baluchistan" through ranking on the basis of cost effectiveness. The Communications and Works Department (CWD) of GoB, be the implementing agency of the project and necessary staff will be deployed to the PIU that has already been established for BIWRMDP/IFRAP headed by a Project Director (Client's Representative).

The consulting assignment is divided into two phases lasting a total of 32 months, with the first phase taking about 8 months and the second that would last up to 24 months, based on the project's timeframe and circumstances.

**Phase-I will comprise the design of infrastructure for both SoP-1 and 2 i.e for the total allocation of \$50 million.** The detailed activities for Phase I will comprise:

- (i) Comprehensive assessment level study for the CWD roads networks, presented in Table 2 below,
- (ii) Feasibility level study of CWD roads network with necessary technical engineering studies level;
- (iii) Identify the underlying causes, prepare detailed engineering designs, and develop a plan for restoration /rehabilitation of the damaged roads with estimated cost;

- (iv) Preparation of tender documents for procurement, construction planning/supervision arrangement modality and provide procurement support;
- (v) Preparation of site-specific ESMPs that are fully compliant with the World Bank's safeguards requirements.

Phase-II will initially comprise implementation and supervision of works under SoP-1 i.e within the allocation of \$10 million only. The detailed activities for Phase II will comprise:

- (i) Construction supervision and contract administration, including post-construction activities, to ensure that high-quality construction is completed on time and within budget, and that all works are completed in full compliance with the approved engineering designs, technical specifications, agreed-upon work schedule, and all other contract documents and sound engineering principles;
- (ii) Project safeguards management and supervising implementation of environmental and social management plans (ESMPs) during implementation phase, including monitoring and evaluating the Contractor's and Employer's implementation of ESMPs, resettlement plans, and other social safeguard measures.

**Table 2 District wise summary of flood damaged roads and bridges**

No.	Districts	Number of damaged roads	Damaged length [km]	Number of damaged bridges
1	Awaran	5	62.00	0
2	Barkhan	21	95.28	0
3	Chaman	24	80.02	0
4	Dera Bugti	9	56.50	3
5	Duki	2	4.00	0
6	Gwadar	3	2.46	0
7	Harnai	7	18.00	6
8	Jaffar Abad	24	82.00	0
9	Jhal Magsi	14	94.06	5
10	Kachhi	15	105.00	3
11	Kalat	22	160.51	1
12	Kech	4	4.00	0
13	Kharan	21	10.10	1
14	Khuzdar	28	166.38	2
15	Killa Abdullah	20	38.00	2
16	Killa Saifullah	7	80.40	1
17	Kohi	5	5.00	0
18	Lasbela	126	176.00	1
19	Loralai	1	12.50	0
20	Mastung	45	103.08	1
21	Musakhail	8	102.40	0
22	Naseer Abad	11	26.50	0
23	Nushki	28	12.00	2
24	Panjgur	4	16.00	0
25	Pishin	8	86.00	5
26	Quetta Provincial	24	28.78	0
	Quetta Project	9	29.00	10
27	Sherani	3	26.50	0
28	Sibi	8	11.78	0
29	Sohbatpur	38	226.75	0
30	Surab	7	57.00	0

No.	Districts	Number of damaged roads	Damaged length [km]	Number of damaged bridges
31	Washuk	5	2.08	0
32	Zhob	14	93.86	0
33	Ziarat	25	207.00	0
	Total:	595	2,280.94	43

The assessment report will include all necessary aspects covering technical, institutional and economics, social/environmental assessments, procurement, and financial management etc. required for approval by the GoP and the international funding institutions, including the World Bank.

## 2 OBJECTIVE OF THE SERVICES

The primary objectives of the consulting services are to: (i) provide detailed assessment of the flood affected roads, (ii) enable efficient and resilient construction through the preparation of detailed engineering designs, (iii) support the PIU in conducting project procurement, and (iv) provide overall supervision and technical support during the construction phase.

To achieve these objectives, the Consultant may need to conduct a detailed survey of the sites, assess the damage caused by the floods, and develop a comprehensive plan for rehabilitation and improvement that considers environmental and safety standards (ESS). The Consultant should also collaborate with relevant stakeholders to ensure that the design and implementation phases are aligned with the project goals, budgets, and timelines. Ultimately, the consulting services should result in a sustainable CWD roads network that improves community roads network in a sustainable way to ensure durability and credibility.

## 3 SCOPE OF SERVICES

The scope of services, grouped in two phases, consist of the following major tasks.

### 3.1 PHASE I (for SoP-1 and 2 i.e for total allocation of \$50 million)

#### 3.1.1 Assessment of damaged roads and feasibility analysis

Initial assessment of damaged roads will follow a series of activities to enable preparation of feasibility study and improvement of detailed design as presented in the below list:

- (i) Assess the extent and severity of the damage caused by floods. This evaluation will help to determine the scope of the rehabilitation work and to identify specific areas and sections of the road network that require attention;
- (ii) Conduct a geotechnical analysis to understand the soil conditions in the affected areas. This includes evaluating soil stability, bearing capacity, and any potential risks such as liquefaction or settlement. The geotechnical assessment provides essential data for designing appropriate foundations and earthworks;
- (iii) A traffic survey should be conducted to determine the volume and nature of traffic that the road is expected to handle. This survey will enable identification of the design parameters such as road width, pavement thickness, and other geometric and pavement design features;
- (iv) Pavement condition survey to determine the current condition of the impacted road networks and gather data to support the design review and improvement process;
- (v) Evaluate the hydraulic characteristics of the area, including flood patterns, water flow rates, and drainage systems. The analysis will provide input data to determine the flood-prone areas and to design effective drainage systems and flood management measures;
- (vi) Assess the structural integrity of the road infrastructure components, such as bridges, culverts, retaining walls, and embankments. This evaluation will help in identifying the need for repairs, replacements, or reinforcement to ensure the structural stability and safety of the road;
- (vii) Estimate the costs associated with the rehabilitation project. This includes considering materials, labor, equipment, and any additional costs such as environmental mitigation measures. Accurate cost estimation will ensure that the project remains within budgetary constraints;

- (viii) An economic analysis shall be carried out to determine the project's financial viability, including the project's costs and benefits;
- (ix) Evaluate the potential environmental impacts of the rehabilitation activities. This assessment shall consider factors such as soil erosion, water contamination, and disruption to ecosystems. It will help to identify mitigation measures to minimize adverse environmental effects and ensure compliance with environmental regulations;
- (x) Evaluate the social and economic implications of the damaged roads and the proposed rehabilitation. This assessment shall consider factors such as improved connectivity, reduced travel time, enhanced access to services, and economic benefits for the local communities. It will help in demonstrating the projects positive impact and potential returns on investment;
- (xi) A social impact assessment should be conducted to identify and evaluate the potential social impacts of the project on the local communities and stakeholders;
- (xii) Identify potential risks and challenges associated with the rehabilitation project. This analysis will consider risks related to construction, funding, natural disasters, and community engagement. It will support development of risk mitigation strategies and contingency plans to address potential obstacles.

Based on the above analyses, a feasibility report shall be prepared, including the project's technical and economic viability, environmental and social impacts, risk analysis, and a project implementation plan. Once the feasibility report is prepared, it will be used as a basis for the detailed engineering design of the road rehabilitation project.

### 3.1.2 Detailed engineering designs

Based on field surveys and assessment (as described above in 3.1.1), including data collected through the traffic survey and forecast, topographic surveys, soil investigations, hydrological studies, and design criteria for the proposed candidate roads and bridges, the Consultant shall prepare detailed climate resilient designs for roads, structures, drainage and other allied infrastructure. Specific emphasis during the design review shall be given to the design of road cross sections and accommodating all road users through the space sharing concept (where applicable). Detailed engineering designs should incorporate the latest engineering standards and best practices, and result in climate resilient designs for roads, structures, drainage, and other allied infrastructure.

Major conditions that need to be reflected through the detailed designs comprise the following:

- provide all road users with a comfortable, safe and stress-free environment;
- accommodate existing and future traffic and climate resilience needs, including the new design or redesign of intersections;
- accommodate pedestrian infrastructure such as sidewalks and crossings in urban and tourist spots with adequate capacity;
- accommodate local traffic taking into consideration the needs of local population and their activities (agricultural vehicles, cattle carts, livestock, animal crossings, etc.);
- accommodate landscaping and street arrangement within the road design for urban and areas;
- accommodate local weather, terrain, soil and hydrological conditions;
- meet international design standards;
- minimize future maintenance requirements;
- minimize adverse community and environmental impacts.

The design will include right-of-way plans, geometric design, pavement design, structural design, intersection design (where required), drainage system design, structural design, bill of quantities (BoQ) and cost estimate. The Consultant shall also prepare design calculations, detailed technical specifications, and drawings for the road rehabilitation project. These specifications and drawings shall be comprehensive and clear, ensuring that all bidders understand the project requirements, as well as to unambiguously support construction works.

The following design rules are applicable for the preparation of detailed designs:

- Geometric design of road facilities shall generally be in accordance with the requirements and recommendations given in “A Policy of Geometric Design of Highways and Streets” - AASHTO Guidelines (2003);
- Design of pavement structures, meeting safety and serviceability requirements to avoid any distress during design life of pavement shall follow AASHTO-93 guide, British Road Note No. 31 and latest SHRP recommendations with load factor from NTRC;
- Road drainage elements shall be in accordance with the requirements of AASHTO “Highway Drainage Guidelines” (1989);
- Uniform Building Code (UBC) with latest seismic zoning map for Pakistan.

### 3.1.3 Climate change assessment

A climate change assessment for road restoration works involves the following elements:

- (i) **Climate Projections:** Assessing future climate projections for the project area to understand how temperature, precipitation patterns, and extreme weather events may change over the project's lifespan. This information will help in designing road infrastructure that can withstand and adapt to future climate conditions;
- (ii) **Vulnerability Assessment:** Identifying the vulnerability of the road infrastructure to climate change impacts, such as increased flood risks, erosion, or thermal stress. This assessment will help in identifying the areas and components of the road that require specific adaptation measure;
- (iii) **Risk Assessment:** Evaluating the risks associated with climate change impacts on the road infrastructure, including the potential for damage, disruptions, and increased maintenance costs. This assessment will support prioritization of adaptation measures and allocating resources effectively;
- (iv) **Adaptation Strategies:** Developing adaptation strategies and measures to enhance the resilience of the road infrastructure to climate change impacts. This may include measures such as improving drainage systems, reinforcing embankments, using climate-resistant materials, or incorporating flexible design features;
- (v) **Integration with Land Use Planning:** Considering the potential changes in land use patterns and development that may result from climate change when designing road restoration projects. This integration will ensure that the road infrastructure aligns with future land use and will minimize risks associated with increased urbanization or changes in traffic patterns;
- (vi) **Long-Term Maintenance and Monitoring:** Including provisions for regular maintenance and monitoring of the road infrastructure to ensure its continued resilience and adaptability to changing climate conditions.

The Consultant shall undertake the following tasks to ensure that the project roads designs properly incorporated climate adaptation measures which suite the project areas:

- (i) Collect and review relevant documents of baseline (historical) levels of key parameters (temperature, precipitations, flood/disaster records) at national and provisional levels (at least), and identify any potential climate-related risks (floods, landslides, and/or hazards) that may occur in future along each road and its surrounding areas and develop a profile of each road;
- (ii) Examine the proposed design measures, including those potentially remaining for the operation phase, in consultation with the PIU and other stakeholders;
- (iii) Assess and present appropriate adaptation options in consideration of each project road site and design objectives, including physical and non-physical approaches, and estimate the climate adaptation cost.

The results of the assessment shall be documented in a Climate Change Risk Report.

### 3.1.4 Technical review meetings

The Consultant shall hold the relevant number of technical review meetings with the PIU during the review of delivered detailed designs to understand the principles applied and solutions adopted, and to agree on the steps forward to meet the requirements for launching the procurement process and for works implementation.

### 3.1.5 Road safety audit

The Consultant will assist the PIU to arrange and perform road safety audit (RSA) of the road designs through an independent detailed systematic and technical safety check relating to the design characteristics of a road infrastructure. The road safety auditor shall be an independent person/entity outside the team of experts who were involved in the design or design review of the subject project. The PIU will hire the independent road safety auditor under a separate contract. The third-party RSA would be practically performed in three stages, namely:

- (i) RSA of the road designs to evaluate final geometric design features, traffic signing and pavement marking plans, lighting plans, landscaping, intersections' details, facilities for other all participants in traffic, drainage, guardrails, and other roadside objects;
- (ii) RSA of the executed work during the construction stage to evaluate execution of geometric design features, traffic signing and pavement marking plans, lighting plans, landscaping, intersections' details, facilities for all other participants in traffic, drainage, guardrails, and other roadside objects;
- (iii) RSA post completion of construction work to suggest further improvements in the as build infrastructure which the Contractor shall rectify during the defect notification period (DNP).

Principally, the audit will follow the Road Safety Audit Guideline issued by the World Road Association (2007).

The Consultant will ensure that results from RSA are reflected in the engineering design and operation.

### 3.1.6 Procurement assistance

The Consultant shall provide all necessary procurement assistance to the PIU to ensure that the materials and services procured are of high quality and meet the project specifications. The Consultant shall provide necessary support to the PIU in selection of contractors by assisting in:

- preparation of bidding documents;
- advertising invitations to bid;
- responding to questions by potential bidders;
- conducting pre-bid conference and site visits;
- opening of proposals;
- evaluation of proposals;
- preparation of evaluation reports;
- contract award;
- responding to bidders' appeals, if any;
- any negotiations/clarification with the successful bidder.

All procurement activities will be done using the World Bank Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services. The bidding documents will include specific requirements that minimize the use of expatriate workers and encourage hiring of local workers.

Bidding documents will comprise the following:

- Volume I Request for Proposal using the World Bank standard bidding documents (including invitation to bid, instructions to bidders, qualification requirements, bid forms, conditions of contract);
- Volume II Technical Specifications (general and specific);
- Volume III Bill of Quantities;
- Volume IV Drawings.

Bidding documents will be subject to the PIU's as well as the World Bank's review.



3.2 PHASE II (initially comprise implementation and supervision of works under SoP-1 i.e within the allocation of \$10 million only)

3.2.1 Engineering supervision

The Consultant shall perform the duties and authority of “the Engineer” as specified in or as necessarily implied by the works contracts, as well as administer the works contracts. Taking due regard of all relevant circumstances, the Consultant shall perform his duties or act:

- proactively, where the initiative lies with the Employer/Consultant in administering the works contracts;
- reactively, in response to the Contractor’s or the Employer’s requests; and
- passively, in observing the requirements of the works contracts;

Wherever appropriate and not in conflict with the works contracts, the Consultant shall exercise every reasonable care to protect the interests of the Employer. In order to fulfill the above objectives, the Consultant (in the capacity of the Engineer for the works contracts) shall at all times take necessary measures and provide appropriate advice to the PIU to enable the works contracts to be completed in timely and cost-effective manner, in conformity with the contracts’ conditions and specifications.

During the construction period the Consultant shall:

- (i) Satisfy himself as thoroughly as possible to the nature and scope of the works, of all information available and of documents and materials to be used by the Contractors in executing the works, so as to enable him to perform his duties satisfactorily, study and check all documents associated with the works contract, foresee possible problems and advise the PIU appropriately during the construction;
- (ii) Monitor the implementation of contractual conditions/clauses in letter and spirit and timely advise Employer of any lapses. All submissions made by the Contractors, with respect to the works contracts shall be scrutinized, get corrected from the Contractors and submitted to the Employer with appropriate recommendations under the provisions of the works contracts. Such recommendations must carry contractual and legal qualifications;
- (iii) Set up and establish the system of managerial control for the works contracts with provision of assistance to the PIU maintaining control over activities’ prices and contracts outcome costs, in monitoring the progress of the works, the disbursements and technical records;
- (iv) Obtain a copy and keep a file of any applicable standards, rules, or regulations of all the relevant authorities and public bodies and companies, whose property or rights are affected or may be affected in any way by the PIU. Monitor and report to the PIU on obtaining compliance with the specified consents by the Contractors;
- (v) Supervise the construction of the works with due diligence and efficiency and in accordance with sound technical, administrative, financial, and economic practice. The Consultant shall perform all duties associated with such tasks to ensure that only the best construction practices are followed, and that the final product is in all respects equal to, or better than that specified, and is carried out in full compliance with the governing specifications. The Consultant shall vigilantly monitor the quality of works and advise the Employer through brief weekly reports;
- (vi) Verify that the progress of the works is following the time program and milestone schedule approved under the works contracts. Notify the Employer as early as possible in advance of any possible failure to attain a milestone by the applicable date or non-compliance with the program. If for any cause other than those listed in the works contracts, the rate of progress of the works is at any time, in the Consultant’s opinion, too slow to ensure the completion of the works within time for completion, instruct the Contractors in accordance with the works contracts in writing with a copy to the Employer;
- (vii) Issue acceptance and/or approval, as appropriate, of submissions required from the Contractors, including, but not limited to: staff appointments, insurances, guarantees, licenses, programs, method statements, traffic management plan (TMP), safety measures, suppliers and materials for incorporation in the works, quality assurance and control plans, laboratory provisions and execution of the testing program, subcontractors, plant, equipment and Contractors’ ESMP (CESMP);

- (viii) Coordinate actions and activities of all the stakeholders concerned with the project through appropriate meetings, which are to be recorded. The minutes shall report on the actions to be taken by all parties. Thereafter, the Consultant will check that the actions to be taken by the parties are implemented. The Consultant will act on behalf of the PIU in this matter and will be responsible for enforcing quality criteria, including safety measures, actions identified in the CESMP and TMP, time schedule, and all other conditions included in the works contracts;
- (ix) Ensure that the day-to-day construction activities are carried out in an environmentally and socially sound and sustainable manner, and monitor compliance with environmental and social impact mitigation measures during the works implementation in consultation with the environmental and social staff in the PIU;
- (x) Jointly with the Contractors, identify and mark all utilities with the help of competent authorities and assist the PIU in effecting removal/relocation/protection (where necessary) of utilities within the construction sites;
- (xi) Jointly with the Contractors, identify and locate all beacons and benchmarks to enable the Contractors to set out and perform the works;
- (xii) Liaise with the respective authorities to ensure that the assessment and compensation for properties if any, within the construction sites is done before the Contractor is given possession of site;
- (xiii) Inspect, test or have tested by competent entities and approve all materials to be incorporated into the works to ensure compliance with technical specifications requirements. A system of formal testing procedures must be set up covering the frequency of testing, type of tests to be carried out and methods and formats of reporting the result. According to the provisions of the laws and regulations regarding control of the quality of the works, the Consultant shall: (i) prepare the program of testing the quality of the executed works, (ii) order any investigations and testing to determine the cause of defects and instructing the removal of improper work, (iii) take samples from the site, (iv) supervise performance of the test work, (v) issue reports regarding the observed quality of the executed works, and (vi) recommend actions to be taken in the case of unsatisfactory result;
- (xiv) Prepare and maintain a diligent record of all records and correspondences in a scanned digital archiving database. Keep updated all records including reports, works diaries, correspondence, instructions given to the Contractors, test records, payment records and all other relevant documents pertaining to the works performance and their supervision;
- (xv) Maintain site diaries daily with the contents and format to be agreed with the PIU. Site diaries will record all events pertaining to administration of works contracts, instructions issued to the Contractors, pertinent requests from the Contractors and any other information which will be of assistance in resolving any dispute or claims. The site diaries will include the daily diary sheets from members of the supervision staff, and instructions and observations made by the representative of the PIU during any of his site visits;
- (xvi) Prepare consolidated monthly reports on physical and financial status, site meetings and contractual matters with a specific reference to variation orders and Contractors' claims. Monthly reports shall deal specifically with monitoring and follow-up of agreed environmental and social mitigation measures and with the Contractors' adherence to health and safety standards and anti-corruption measures as applicable under the contract. Specifically, report will include a breakdown of non-compliances and rectification by the Contractors, and the summary of testing and monitoring results. Each monthly report should include recommendations if any, for action by the PIU;
- (xvii) Provide immediate notification to the Client should any incident in the following categories occur while carrying out the services: confirmed or likely violation of any law or international agreement, any fatality or serious (lost time) injury, significant adverse effects or damage to private property, or any allegation of gender-based violence (GBV), sexual exploitation or abuse (SEA), sexual harassment or sexual misbehavior, rape, sexual assault, child abuse or defilement, or other violations involving children. Full details of such incidents shall be provided to the PIU within the timeframe agreed with the PIU;

- (xviii) Immediately inform and share with the PIU any notification related to ESHS incidents provided to the Consultant by the Contractors, and as required of the Contractors as part of the monthly and quarterly reporting;
- (xix) In collaboration with the Contractors, monitor the creation of employment opportunities resulting from the works, by recording month by month the number of people employed by the Contractors and sub-contractors, and calculate the number of person-days of work created by the works contracts (separately for men and women). As much as possible and reasonable, estimate the creation of employment opportunities also through businesses indirectly related to the works;
- (xx) Prepare control charts of main activities and a project master schedule, indicating both past performance and forecasts for completion including time involved in each case. The methodology will involve development of a hierarchy of programs, including a summary program for overall control, Contractors' mobilization, construction activities including key dates, completion and commissioning, and defects liability requirements. It will also cover document review and formal contract documentation. Representation of progress on individual elements will depend on the nature of the works. The progress of each major operation will be reported individually and marked-up diagrams used to show the comparison of work actually completed with programmed completion. This clear diagram presentation supplements the activity progress information given in the tabular schedule reports and bar charts. The Consultant shall to the extent possible link and generate the progress and all status reports and monitoring of the work program using multi software for clear understanding.
- (xxi) Check and ascertain the Contractors' interim and final payment certificates for consideration by the PIU. Monthly payment certificates for the works executed should clearly indicate the foreign exchange costs, the local costs and taxes and duties. Monthly payment certificates to be submitted to the PIU for payment purposes shall include the total cost of the works executed in foreign exchange and local costs (net of taxes and duties). Resolve with the Contractors, where possible, any mistakes and queries which may arise in conjunction therewith, and advise the Employer of any adjustments considered necessary;
- (xxii) Record, examine and evaluate all claims submitted by the Contractors and submit timely recommendations thereof for consideration by the PIU;
- (xxiii) Negotiate with the Contractors the price of additional works in the contract, if any, subject to the approval of the PIU;
- (xxiv) The Consultant may, with prior consultation with the PIU, effect changes in design or specifications where required, which will improve the quality of the works. Such changes shall not increase the contract time, nor shall increase in contract price resulting from such changes exceed a percentage to be agreed with the PIU;
- (xxv) The Consultant shall monitor and keep an inventory of all shop drawings for each works contract. A digital computer-based archiving database in this regard shall be developed. The Consultant shall advise the Employer that the material and specifications used conform to the agreed conditions of contract as depicted from the shop drawings. 10% sampling of fixtures shall be tested for compliance;
- (xxvi) Prepare and submit to the PIU the final account for the executed works;
- (xxvii) Foresee potential problems and advise the PIU appropriately during the construction period;
- (xxviii) The Consultant shall assist the Employer in settling of the audit observations and objections raised (if any) by any department/ authority/agency and prepare replies in this regard, related to the project and provide available relevant documents/papers/letters etc. to support the replies;
- (xxix) Where applicable, the Consultant shall continuously review condition of the existing traffic infrastructure in the area of works used as construction transport routes, and order necessary repairs of damage due to such traffic to the appropriate quality standards;
- (xxx) Supervise Contractors' work on preparation of as-built drawings and maintenance manuals. The Consultant shall validate the drawings as per construction done. The Consultant shall develop the firm-up estimate as per final completion of the project;
- (xxxi) Prepare a final construction report for each works contract;
- (xxxii) Prepare complete set of documents for technical acceptance procedure with the relevant authorities, as well as complete set of documents to enable entry into official records;

- (xxxiii) Participate in the semi-annual project supervision missions, which may take place in Pakistan or in neighboring countries, upon the request of the PIU or the World Bank;
- (xxxiv) The Consultant shall assist the Employer during the dispute adjudication board (DAB) proceedings and assist Employer in submission of response to DAB queries and attend meetings alongside Employer whenever required during the DAB proceedings.

The Consultant shall seek prior written approval of the PIU to:

- (a) issue the order to commence the works;
- (b) issue any variation of scope of work with or without financial implications for the contract price, except in an emergency situation, as reasonably determined by the Consultant;
- (c) sanction additional items, sums or costs;
- (d) approve subletting of any part of the works valued more than US\$ 50,000;
- (e) approve any extension of the time for completion;
- (f) issue instruction for suspension of all the works;
- (g) approve any other type of variation;
- (h) perform additional control testing in excess of the quantities defined by the relevant regulations.

If the Consultant does not fulfill its obligations under subparagraphs (a) to (h) above, it will assume full financial and legal responsibility of such fault.

### 3.2.2 Post-construction activities

The Consultant shall supervise any corrective repairs and other works (including the administrative aspects of the works) during the DNP of 12 months for each works contract. For the purpose of carrying out these services the Engineer shall assign his personnel to carry out quarterly inspections of the works and send a team of his personnel to the final inspection, preparation and issuing of final certificate. During this period, the Consultant shall be expected to draw the attention of the Contractors to any defects as soon as such defects are noticed and shall supervise the subsequent remedial works by the Contractor, as well as report to the PIU on defects and remedial works.

## 4 REPORTING

The Consultant shall prepare and submit designs, documents and reports described in this section. All reports will be submitted in English in hard copy to the PIU and in electronic form as PDF files through an appropriate large file transfer application. The PIU shall review draft reports within 2 weeks of submission upon which the Consultant will have 2 additional weeks for submission of the final versions.

### 4.1 PHASE I REPORTS

The Consultant is required to deliver the reports listed in the following Table 3 as per the specified schedule.

**Table 3 Phase I deliverables**

No.	Report	Number of copies	Delivery schedule
1	Feasibility Assessment Report	5	60 days after commencement of the services
2	Site specific ESMPs	5	90 days after commencement of the services
3	Detailed Engineering Design Documents	5	240 days after commencement of the services
4	Bidding Documents	electronic	240 days after commencement of the services

### 4.2 PHASE II REPORTS

The Consultant is required to deliver the following reports. All reports will be submitted in English in hard copy to the PIU and in electronic form as PDF files through an appropriate large file transfer application.

#### 4.2.1 Works commencement report

Works Commencement Report shall be prepared separately for each road restoration projects damaged by floods, and shall include the following essential information:

- Project Overview - A concise summary of the road restoration project, including its location and extent of damage caused by the flood;
- Objectives - Primary objectives of the restoration project, such as restoring road connectivity, ensuring safe transportation, and mitigating future flood risks;
- Scope of work - Scope of the project, specifying the sections of the road to be restored, key infrastructure components to be repaired or reconstructed, and any additional features or considerations unique to the flood-affected area;
- Implementation plan - High-level implementation plan, including key milestones and timelines for the restoration works;
- Technical specifications - A brief overview of the technical specifications and standards to be followed during the restoration, ensuring compliance with relevant engineering guidelines;
- ES considerations - A highlight of any specific ES considerations related to the restoration, such as measures to minimize environmental impacts and engage with local communities;
- Budget and financing - Summary of the project's budget and sources of funding, including any financing arrangements or partnerships that have been established;
- Roles and responsibilities - Identification of the main stakeholders involved in the project and brief outline of their roles and responsibilities to ensure effective coordination;
- Health and safety - Importance of health and safety measures during the restoration works to protect workers and the public;
- Monitoring and evaluation - Brief description of the monitoring and evaluation plan, including key performance indicators to assess the progress and quality of the restoration works.

#### 4.2.2 Monthly progress reports

The Consultant shall prepare regular Monthly Progress Reports for each road to provide the PIU with a clear and transparent update on the project's progress, challenges, and achievements during the reporting period.

Monthly Progress Report shall include the following information:

- Project overview - A brief overview of the project, including its objectives, scope, and purpose;
- Project status - An update on the project's status, including progress made during the reporting period;
- Milestones - List of any milestones achieved during the reporting period and any upcoming milestones;
- Schedule - A status update on the project's schedule, including any delays, changes, or adjustments made during the reporting period;
- Budget - An update on the project's budget, including any changes or adjustments made during the reporting period;
- Resources - An update on the resources allocated to the project, including equipment, materials, and labor;
- Quality control - An update on the project's quality control measures, including any issues or concerns that arose during the reporting period;
- Safety - An update on the project's safety measures, including any incidents, accidents, or near-misses that occurred during the reporting period;
- ES safeguards - An update on the project's ES safeguards, including any measures taken to mitigate negative impacts on the environment or local communities;
- Stakeholder communication - An update on stakeholder communication and engagement during the reporting period, including any issues or concerns raised by stakeholders;
- Risks and issues - Identification of any risks or issues that arose during the reporting period and outlining any measures taken to address them;
- Recommendations - Any recommendations or suggestions for improving the project's progress, schedule, budget, or quality.

#### 4.2.3 Quality assurance plan

The Consultant must provide the Quality Assurance Plan in a comprehensive manner that outlines the Consultant's quality control and quality assurance procedures, to meet the consultant's work standards and regulations, and that the project is completed successfully. It must include the following:

- Introduction - Purpose of the document, the scope of the Consultant's services, and the standards and regulations that the Consultant will adhere to;
- Organizational structure - The organizational structure of the Consultant's team, including the roles and responsibilities of each team member;
- Quality control procedures - Outline of the consultant's quality control procedures, including how the Consultant will ensure that all work meets the required standards and regulations. This should include procedures for design review, documentation review, and testing;
- Quality assurance procedures - Description of the Consultant's quality assurance procedures, including how the Consultant will monitor and evaluate the quality of the work being performed. This should include procedures for audits, inspections, and reviews;
- Document control procedures - Outline of the Consultant's document control procedures, including how the Consultant will manage and store all project-related documents, such as drawings, specifications, and reports;
- Training and development - Description of the Consultant's training and development procedures, including how the Consultant will ensure that all team members are properly trained and qualified to perform their duties;
- Subcontractor management - Outline of the Consultant's procedures for managing subcontractors, including how the Consultant will ensure that all subcontractors meet the required standards and regulations;
- Health and safety - Description of the Consultants health and safety procedures, including how the Consultant will ensure that all work is performed safely and in compliance with applicable regulations;
- Non-conformance reporting - Defining procedures for reporting and addressing any non-conformances or deficiencies that are identified during the project;
- Performance monitoring and reporting - Outline on how the Consultant will monitor and report on the performance of the quality control and quality assurance procedures.

#### 4.2.4 Annual and semi-annual progress report

The Annual and Semi-annual Progress Report shall summarize major achievements and issues for all individual contracts and shall include the following information:

- Introduction - Explanation of the purpose of the document, the scope of the project, and the standards and regulations that the project is adhering to;
- Project overview - An overview of the project, including its objectives, scope, and purpose;
- Physical progress - An update on the physical progress of the project, including the status of construction work, any delays or obstacles encountered, and any changes or adjustments made to the project schedule;
- Financial progress - An update on the financial progress of the project, including the budget status, any expenditures made during the reporting period, and any changes or adjustments made to the project budget.
- Milestones - Any milestones achieved during the reporting period and any upcoming milestones.
- Resources - An update on the resources allocated to the project, including equipment, materials, and labor;
- Quality control - An update on the project's quality control measures, including any issues or concerns that arose during the reporting period;
- Safety - An update on the project's safety measures, including any incidents, accidents, or near-misses that occurred during the reporting period;
- ES safeguards - An update on the project's ES safeguards, including any measures taken to mitigate negative impacts on the environment or local communities;
- Stakeholder communication - An update on stakeholder communication and engagement during the reporting period, including any issues or concerns raised by stakeholders;
- Risks and issues - Identifying any risks or issues that arose during the reporting period and outline any measures taken to address them;
- Lessons learned - Outline any lessons learned during the reporting period, including any improvements that can be made to the project's progress, schedule, budget, or quality;

- Recommendations - Recommendations or suggestions for improving the project's progress, schedule, budget, or quality;
- Conclusion - A summary of the project's progress during the reporting period and an overview of any upcoming activities or milestones.

#### 4.2.5 Works completion report

Works Commencement Report shall be prepared separately for each road restoration projects damaged by floods at its completion, and shall include the following essential information:

- Project overview - A brief overview of the project, including its objectives, scope, and purpose;
- Project status - Complete inventory of works and activities completed;
- Milestones - List of all milestones achieved during the implementation;
- Schedule - Summary of the project's schedule, including any delays, changes, or adjustments made during the implementation;
- Budget - Summary of the project's budget, including any changes or adjustments made during the implementation;
- Resources - Summary of resources allocated to the project, including equipment, materials, and labor;
- Quality control - Summary on the project's quality control measures, including any issues or concerns that arose during the implementation;
- Safety – Summary of safety measures, including any incidents, accidents, or near-misses that occurred during the implementation;
- ES safeguards - Summary of ES safeguards, including any measures taken to mitigate negative impacts on the environment or local communities;
- Stakeholder communication - Summary of stakeholder communication and engagement during the implementation, including any issues or concerns raised by stakeholders;
- Risks and issues – Summary of risks or issues that arose during the implementation and measures taken to address them;
- Planning Commission Proforma IV (PC-IV) - Official project completion report;
- Recommendations - Any recommendations or suggestions for improving the future performance.

#### 4.2.6 DNP reports

DNP Reports shall be prepared separately for each road restoration projects damaged by floods after completion of each site inspection during the DNP. It shall include the following essential information:

- Project overview - A brief overview of the project, including its objectives, scope, and purpose;
- Status of repairs - Summary of actions taken to address issues recorded during the previous inspection;
- Defects - Summary if issues recorded at the site during the inspection;
- Orders and recommendations - Any orders and recommendations to implement repair activities for the identifies defects.

**Table 4 Phase II deliverables**

No.	Report	Number of copies	Delivery schedule
1	Works Commencement Report	5	15 days after commencement of each works contract
2	Monthly Progress Report	5	10 days after completion of each month
3	Quality Assurance Plan	5	180 days after commencement of the services
4	Semi-annual Progress Report	5	10 days after completion of the reporting period
5	Annual Progress Report	5	15 days after completion of the reporting period
6	Works Completion Report	5	30 days after completion of each works contract
7	DNP Reports	5	15 days after completion of each DNP inspection
8	Ad-hoc reports on any major issue raised during the works implementation, at the PIU's request (e.g. revised PC-I,	5	As and when required

	additional bidding documents, additional working drawings, screening reports, additional design reports, etc.)		
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## 5 STAFFING

To fulfill its obligations, the Consultant shall provide the staff and its head office expert assistance as described hereunder. The following Table 5 provides a preliminary estimate of the time effort for the key and non-key staff required for the entire assignment.

The Consultant should propose a staffing plan and skill mix necessary to meet the objectives and the scope of the services. The Consultant is encouraged to use national expertise and experience, as well as to use the Balochistan expertise to the extent possible. Additionally, the Consultant is strongly encouraged to ensure a gender balance across the team, and to ensure appropriate skills and experience in gender issues relevant to Project implementation. The Consultant is also advised to propose the staff keeping in view that the project will be sequenced in SoP-1 and 2.

**Table 5 Team composition**

No.	Position	Staff months
<b>A Key staff</b>		
1	Design Team Leader / Highway Design Engineer	8 + 4
2	Senior Structural Design Engineer	8 + 20 + 2 DNP
3	Procurement and Contract Specialist	18
5	Supervision Team Leader / Chief Resident Engineer	20 + 3 DNP
Subtotal A		83
<b>B Non-key staff</b>		
<b>B.1 Phase I</b>		
1	Pavement Design Engineer	6
2	Geometric Highway Design Engineer (2 positions)	16
3	Structure / Bridge Design Engineer (2 positions)	16
4	Hydrologist / Drainage Engineer (2 positions)	16
5	Geotechnical Engineer (2 positions)	16
6	Traffic Specialist	6
7	Road Safety Expert	6
8	GIS Expert (2 positions)	16
8	Transport Economist	6
10	Financial Analyst	6
Subtotal B.1		110
<b>B.2 Supervision</b>		
11	Resident Engineer (10 positions)	200 + 40 DNP
12	Materials Engineer (3 positions)	60
13	Site Supervision Engineers (highway & structures) (20 positions)	400
14	Site Surveyors (25 positions)	500
15	Environmental Specialist (3 positions)	60
16	Social Specialist (3 positions)	60
17	Road Safety Expert (3 positions)	60
18	Quantity Surveyor (5 positions)	100
Subtotal B.2		1,480
<b>Grand total (A+B)</b>		<b>1,673</b>



Support staff will support the work of the key and non-key staff and will be deployed at the specific site according to the requirements of the Consultant's team. The following expertise would be required: road designers, structural designers, drainage designers, quantity surveyors, surveyors, road inspectors, structural inspectors, material inspectors, laboratory technicians, environmental associates, social associates, administrative and additional staff. The total workload for the support staff is estimated at 3,000 staff months.

In addition to the above, the Consultant shall plan for the back-office support in the amount of 24 staff months.

#### 5.1 STAFF REQUIREMENTS

S/No	Title	Experience, Qualification & Responsibilities	
<b>Key Experts</b>			
<b>1</b>	<b>Team Leader / Highway Design Engineer</b>	<b>Experience:</b>	Bachelor's degrees in Civil Engineering – preferably Masters in Civil Engineering / Highway Engineering / Transportation Engineering or equivalent
		<b>Qualification:</b>	Twelve (12) years relevant international experience, and eight (8) years of experience as Team Leader/Project Manager in Design of Highway Geometric and Pavement
		<b>Responsibilities:</b>	<p>Overall responsibility for the organization, conduct and delivery of consultancy services and reporting to C&amp;W Department, Project Director, PIU, RAP. The Team Leader / Highway Design Engineer will head the Consultant team and will work directly to manage the project and will maintain liaison with C&amp;W Department, Project Director, PIU, RAP in connection with scope of work as mentioned in Terms of Reference for feasibility study and detailed design for the RAP roads and environment impact assessment. It is obligation of Team Leader of consulting firm to provide complete support to construction team if his consulting firm does not emerge to be the supervision consultant.</p> <p>Responsibilities of the Team Leader / Highway Design Engineer will include but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Assume full responsibility for the consulting team and performance of services under the consultancy contract.</li> <li>• Keep the Employer informed of technical issues and progress of all works both by informal and formal meetings and</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>correspondence and assist in any project issue which the Employer as may require.</p> <p><b><u>Major Activities:</u></b></p> <p><b><u>(1) For Road Assessment Study</u></b></p> <ul style="list-style-type: none"> <li>• Collect all relevant data on economy, population, traffic, industry, trade, with all concerned local Departments</li> <li>• Conduct traffic count &amp; O&amp;D survey for the proposed alignment</li> <li>• Prepare a 3-D simulation for the various alternative analysis</li> <li>• Prepare the standard feasibility study report</li> </ul> <p><b><u>(2) For Detailed Design</u></b></p> <ul style="list-style-type: none"> <li>• Conduct detailed survey and geometric design for the approved alignment including L. profile, cross sections, layout design of all structures such as bridges, culverts, interchanges, underpasses, retaining structures, any other structures use for slope stabilization etc.</li> <li>• Conduct soil investigation, and Geometric Design with Highway Safety duly furnished in it.</li> <li>• Detailed topographic survey or use of Stereo DEM with Ground Control Point (GCP) validation.</li> <li>• Detailed Soil investigation survey, and hydrology survey, on the proposed alignment.</li> <li>• Identification of quarry sites and borrow areas and construction material survey.</li> <li>• Identification of problematic areas as regards to deposition of ice / sand dunes along with appropriate design to address</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>shifting of ice / sand dunes on roadway with cost effective remedial measures.</p> <ul style="list-style-type: none"> <li>• Geotechnical Investigation survey for bridges and related structures.</li> <li>• Remedial measures for scouring etc. if any.</li> <li>• Hydraulic Model Study if required.</li> <li>• Design of Toll Plazas associated buildings, and rest areas, including architectural drawings and detailing construction specifications.</li> <li>• Geometric Design of Highway with detailed Highway Safety Report. Detailed design of up gradation of existing road.</li> <li>• Road furniture design including traffic signs and gantries.</li> <li>• Hydrology &amp; Hydraulic design of structures.</li> <li>• Structure Design including electrical design of lightening for bridge etc.</li> <li>• Horticulture and Landscaping of intersections.</li> <li>• Axle load survey or collection of data from nearby weigh stations.</li> <li>• Pavement Design with surface and subsurface drainage.</li> <li>• Provision of ducts/crossing of future utilities like OFC, pipelines etc.</li> <li>• Stakeout of design alignment after approval for ground validation.</li> <li>• Utility folders and Land acquisition plans using imageries, cadastral maps on GIS.</li> <li>• Fixation of ROW markers when required by the Client.</li> <li>• Preparation of Bidding Documents, BOQ, Engineers Estimate.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities
		<ul style="list-style-type: none"> <li>• Preparation/revisions of PC-1s.</li> <li>• Prepare design report of all design drawings.</li> <li>• Team leader at the end of design shall make final presentation with following details: <ul style="list-style-type: none"> <li>➤ Team leader will describe the selected road alignment, merits, demerits, land acquisition and other impediments (if any).</li> <li>➤ Team leader will highlight important components of project like major bridges, flyovers, interchanges, service areas and landslides (if any) etc.</li> <li>➤ Important parameters of sub-soil investigation like CBR, Pile Capacity and General Soil Classification etc.</li> <li>➤ Team leader will also highlight the environmental impact of the road construction on the road influence areas.</li> <li>➤ Important hydraulic parameters used in the design of bridges over rivers/ canals.</li> <li>➤ Results of traffic study and axle load survey.</li> <li>➤ Location of quarry sites.</li> <li>➤ Team leader shall clearly explain the traffic management plans.</li> <li>➤ Complete description of design criteria and functional requirements.</li> <li>➤ Description of specialized equipment and machinery required for the construction.</li> <li>➤ Description of methodology/ codes for pavement and structural design including details of computer models.</li> <li>➤ For Structural Design, Summary of results of computer output.</li> <li>➤ Maximum and minimum forces for all elements) in tabulated form shall be presented.</li> <li>➤ A plan showing major quarry sites/ borrows area sites including mass diagram showing</li> </ul> </li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>cut and full along the finally selected alignment shall be presented.</p> <ul style="list-style-type: none"> <li>Any other points, which the TL may like to highlight, should be included.</li> </ul>
2	Senior Structural / Bridge Design Engineer	<p><b>Experience:</b></p>	<p>Ten (10) years relevant international experience and five (5) years of experience in major structural / bridge design of major Road Projects.</p>
		<p><b>Qualification:</b></p>	<p>Bachelor's degrees in Civil Engineering – preferably Masters in Structural Engineering</p>
		<p><b>Responsibilities:</b></p>	<p>He/she will be responsible for Design and Design Review of structural elements of road components i.e., bridges, culverts, interchanges, underpasses, retaining walls and specifications on cost effective multi hazard resistant design including detailed structural drawing specification and estimates.</p> <p>Responsibilities of Senior Structure/Bridge Design Engineer will include but not limited to:</p> <ul style="list-style-type: none"> <li>He will assist the TL in the performance of his tasks.</li> <li>It is required that Senior Structure/Bridge Design Engineer should undertake the job in professional manner to best of its ability and resources.</li> </ul> <p><b><u>(a) Road Assessment Study</u></b></p> <ul style="list-style-type: none"> <li>Provide details about existing structures, damages, assessment, development necessity with respect to engineering parameters.</li> </ul> <p><b><u>(b) Detail design of RAP</u></b></p> <ul style="list-style-type: none"> <li>Detailed design of structural elements of road components on basis of traffic surveys and analysis for different traffic module and forecast methodology.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>• Design of new structures, retaining works, intersections, flood, and erosion protections works, training works, interchanges, under passes etc. on basis geotechnical investigations as well as on basis on basis of relevant engineering data on required standard and detailing construction specification.</li> <li>• Structural design including electrical design of lightening for bridges etc.</li> <li>• Any other task that may assigned to perform the task under the consultancy assignment.</li> </ul>
4	Procurement & Contract Specialist	<b>Experience:</b>	10 years' experience as Procurement and Contract Specialist on major road projects based on FIDIC form / conditions of contract, Experience, and knowledge of World Bank procurement procedures is essential. Proven credentials in contract administration, evaluating contractor's claims and dispute resolution, preferable experience/track record of an arbitrator, mediator, adjudicator and/or dispute resolution adviser.
		<b>Qualification:</b>	Bachelor's degree with a major in Civil Engineering, Law, Contracts, Purchasing, or Management - preferably MSc in Civil Engineering, Law, or Contracts / Procurement, or equivalent.
		<b>Responsibilities:</b>	The responsibility shall include but not limited to <ul style="list-style-type: none"> <li>• He/she will be responsible for assisting TL in all the activities pertaining to procurement.</li> <li>• Assist in preparation of procurement and contract documents.</li> <li>• Responsible for preparation of bidding documents.</li> <li>• Shall update and improve PC-I for the project on prescribed proforma by planning commission.</li> <li>• To assist in preparation of separate PC-I for land acquisition (if any).</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>Support TL in drafting, for submittal to World Bank through employer.</li> <li>Shall also prepare documents for acquiring any additional or removal of structures and utilities particularly in built up areas;</li> </ul>
5.	Supervision Team Leader / Chief Resident Engineer	Qualification	<p>Qualified Civil Engineer with at least 15 years' experience of managing roads, and other similar construction works in Pakistan or abroad. He/she will have overall responsibility for the consulting firm, conduct and delivery of consultancy services and contract/construction contracts, and reporting mechanisms. S/he will head the Consultant and will work directly to manage relations with the client. S/he will be responsible for: (i) all liaisons with and reporting to the client; (ii) financial and technical management of the consultancy; (iii) provide overall guidance and advise to construction supervision/contract administration team; (iv) amicably resolve any disputes during the construction and provide decisions whenever required, and (v) overall responsibility for progress and completion with assistance from team members.</p>
<b>Non-Key Experts</b>			
1	Pavement Design Engineer	<b>Experience:</b>	10 years as Payment Design Engineer for major road projects with proven credential in geometric design of highways
		<b>Qualification:</b>	Bachelor's in civil engineering Preferably Master in Civil Engineering/Highway Engineering or equivalent with specialization in pavement design.
		<b>Responsibilities:</b>	<p>Responsibilities of Pavement Design Engineer will include but not limited to</p> <ul style="list-style-type: none"> <li>He/she will assist Senior Payment Design Engineer.</li> <li>He/she will be responsible for design and design review of highway payment design,</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>detailed geometric design with detailed highway safety report and pavement design with surface and subsurface drainage on basis of detailed soil investigation, axle load study and traffic surveys (Traffic count for 10 years design life).</p> <ul style="list-style-type: none"> <li>• He/she will be responsible for designing road furniture design including traffic signs and geometrics, traffic control features, drainage designs, rehabilitation and repair plans, traffic plans and amenities with detailed specifications and cost effective multi hazard resistant design following four lane carriageways on NHA standard. AASHTO, ASTM, ACI codes will be adopted. Final pavement design shall be done using empirical-mechanistic material. Asphalt institute and shell model shall be used.</li> <li>• Geometric design of highway safety report of up-gradation of existing road.</li> <li>• Pavement design with surface and subsurface drainage. <ul style="list-style-type: none"> <li>• Provision of ducts/crossing of future utilities like OFC, pipelines etc.</li> <li>• To evaluate for flexible, rigid and composite pavement along with cost comparison.</li> </ul> </li> </ul>
2	Geometric Highway Design Engineer	<b>Experience:</b>	10 years as Geometric Pavement Design Engineer for major road projects with proven credential in geometric design of highways
		<b>Qualification:</b>	Master's in civil engineering or equivalent with specialization in Transportation/Traffic Engineering.
		<b>Responsibilities:</b>	<p>Responsibilities of Geometric Pavement Design Engineer will include but not limited to</p> <ul style="list-style-type: none"> <li>• He/she will be responsible for design and design review of highway payment design, detailed geometric design with detailed highway safety report and pavement design with surface and subsurface drainage on</li> </ul>



S/No	Title	Experience, Qualification & Responsibilities	
			<p>basis of detailed soil investigation, axle load study and traffic surveys.</p> <ul style="list-style-type: none"> <li>• He/she will be responsible for designing road furniture design including traffic signs and geometrics, traffic control features, drainage designs, rehabilitation and repair plans, traffic plans and amenities with detailed specifications and cost effective multi hazard resistant design following four lane carriageways on NHA standard. AASHTO, ASTM, ACI codes will be adopted. Final pavement design shall be done using empirical-mechanistic method. Asphalt institute and shell model shall be used.</li> <li>• Geometric design with detailed highway safety report of up-gradation of existing road.</li> <li>• Pavement design with surface and subsurface drainage. <ul style="list-style-type: none"> <li>• Provision of ducts/crossing of future utilities like OFC, pipelines etc.</li> <li>• To evaluate for flexible, rigid and composite pavement along with cost comparison.</li> </ul> </li> </ul>
3	Structure / Bridge Design Engineer	<b>Experience:</b>	10 years' experience as Designer and/or Design reviewer of Structures with proven credentials in Bridge Designing.
		<b>Qualification:</b>	Master's in civil engineering / Structural Engineering / Highway Engineering or equivalent, preferably PhD in Structural Engineering or equivalent.
		<b>Responsibilities:</b>	<p>Responsibilities of Structure/Bridge Design Engineer will include but not limited to.</p> <p>He/she will assist Senior Structure/Bridge Design Engineer in connection with design of structural elements of road components i.e., bridges, culverts interchanges, under passes retaining walls.</p>

S/No	Title	Experience, Qualification & Responsibilities	
			<p><b><u>(a) For Road Assessment Study</u></b></p> <p>Provide details about existing structures, damages, assessment, development necessity with respect to engineering parameters.</p> <p><b><u>(b) Detail Design</u></b></p> <ul style="list-style-type: none"> <li>• Detailed design of structural elements of road components on basis of traffic surveys and analysis for different traffic module and forecast methodology.</li> <li>• Design of new structures, retaining works, intersections, flood, and erosion protections works, training works, interchanges, under passes etc. on basis geotechnical investigations as well as on basis on basis of relevant engineer data, adopting four lane carriageways on NHA standard.</li> <li>• Structural design including electrical design of lightening for bridges etc.</li> <li>• Prepare separate drawings for bridges and culverts and other related structure as mentioned in 4.3.16.3 and 4.3.16.4 of TOR.</li> <li>• AASHTO (LRFD), ASTM, ACI standard and loads will be adopted.</li> </ul>
4	Hydrologist / Drainage Engineer	<b>Experience:</b>	10 years' experience as Hydrology/Drainage/Water Resources Engineer on major road project of same magnitude.
		<b>Qualification:</b>	Bachelor's in civil engineering, Masters in Hydraulic/Drainage/ Water Resources Engineer, with sound knowledge of hydrology.
		<b>Responsibilities:</b>	<p>The responsibility shall include but not limited to</p> <ul style="list-style-type: none"> <li>• Field visits to access site condition with regard to hydrology study.</li> <li>• He/she will be responsible to access hydrological data of the area of road alignment and comprehensive report shall be prepared which shall depend upon the nature</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>of the valley, or flood plain to be traversed, the cost of proposed drainage structures and class of highway with help of topographic maps showing drainage characters, satellite imagery to be used for upstream and downstream to identify the land use and drainage characteristic.</p> <ul style="list-style-type: none"> <li>• Evaluate the topography and gradients, water formation of the area. Analyze existing side/cross drainage conditions along the road alignment.</li> <li>• He/she will be responsible for vetting the condition of drainage crossing structures keeping in view the past available data of floods and rains.</li> <li>• To provide expert technical advice in respect of drainage proposals, undertaking flood risk assessments.</li> <li>• Using topographic map, satellite imagery and site visit, the hydrology/drainage engineer required to comment nature of land use in affected water sheds nature of vegetation and soil characteristic of the basin, water within affected drainage basins along with operational procedures of these reservoirs.</li> <li>• To collect rainfall data for the project area from metrological department with brief description.</li> <li>• To collect river discharge data of river Indus from relevant department.</li> <li>• A brief history is required to be prepared in connection with dates of occurrence of the flooding and elevation of high-water marks as well as rain fall intensity.</li> </ul>
5	<b>Geotechnical Engineer / Geologist</b>	<b>Experience:</b>	10 years international experience as Geotechnical Engineer on Major Road Projects, knowledge of soil bio engineering / biotechnical application for slope stabilization.

S/No	Title	Experience, Qualification & Responsibilities	
		<b>Qualification:</b>	Bachelor's degree in Geotechnical Engineering, Civil Engineering – preferably M.Sc. or PhD in Geotechnical Engineering.
		<b>Responsibilities:</b>	Responsibilities of Structure/Bridge Design Engineer will include but not limited to <ul style="list-style-type: none"> <li>• To perform geotechnical investigation including field and laboratory testing, for canal, road and river bridges.</li> <li>• To carry out sub-surface investigations consisting of boreholes / drill holes / test pits of required depth, supplemented by field and laboratory testing to accurately assess the engineering properties of the underlying soil strata for detailed design of foundations, substructures and roads shall be undertaken under strict quality control and adherence to relevant ASTM procedures / standards.</li> <li>• Identify risks of natural disasters such as mud slides, earthquakes, and provide advice on ways in which potential damage can be mitigated.</li> <li>• Measure characteristics of the earth such as gravity and magnetic fields using equipment such as seismographs gravimeters, torsion balances, and magnetometers.</li> <li>• Develop applied software for the analysis and interpretation of geological data.</li> <li>• Identify deposits of construction materials and assess the materials' characteristics and suitability for use as concrete aggregates, road fill, or in other applications.</li> <li>• Prepare Geological maps cross-sectional diagrams, charts and reports, land use, and resource managements using result of field work and laboratory research.</li> <li>• To evaluate causes of movement and tagging mechanism along the physical route and propose remedial measures required to stabilize the slope.</li> <li>• Identification of problematic area as regards deposition of sand dunes and to address</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>shifting of sand dunes along with remedial measures.</p> <ul style="list-style-type: none"> <li>• Geotechnical investigation survey for bridges and structures.</li> <li>• Soil and material investigation shall be done to ascertain the index and engineer properties of soil and rock encountered and evaluate result for final design.</li> </ul>
6	Transport Economist	<b>Experience:</b>	At least 10 years relevant professional experience in transport sector including preparation and implementation of transport policies in Highways projects of same magnitude.
		<b>Qualification:</b>	Master's degree or equivalent in Transport/Transport Economics with specialize experience in transport sector.
		<b>Responsibilities:</b>	<p>The responsibility shall include but not limited to</p> <ul style="list-style-type: none"> <li>• Evaluate cost benefits of the project in terms of Transport Economy.</li> <li>• To develop an understanding of traffic pattern, he/she is required to carry out classified traffic count at required location along the project and on connected network for economic analysis.</li> <li>• To calculate delays of vehicle to be used in economic analysis.</li> <li>• To carryout study for diversion and general traffic as traffic count forms the basis for capacity analysis, pavement design and economic analysis.</li> <li>• To collect any relevant traffic data from concerned agencies.</li> <li>• Calculate average time taken by different sort of vehicles while passing through the candidate roads to up or down country.</li> <li>• Calculate delays of vehicles to be used in economic analysis.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>• Traffic volume at count station to be forecast for 10 years design period. Various alternative growth rates (if available) from agencies or based on historical increases in fuel consumptions, vehicle registration etc., shall be utilized. After review of the various growth rates and resulting traffic volume, the transport economist will recommend the growth rate to be adopted as basis for design and coordinate.</li> <li>• The traffic forecast will be made individually for each vehicle category including cars, buses, wagons, dual axle and multi axle trucks and trailers according to NTRC format. Generated traffic if any shall also be assessed and included in the traffic economy.</li> <li>• Access the existing level of service with the proposed solution.</li> </ul>
7	Traffic / Road Safety Expert	<b>Experience:</b>	12 years relevant experience with proven credential as traffic engineer / road safety specialist on major road projects
		<b>Qualifications:</b>	Bachelor's degree preferably master's in civil engineering / Transportation Engineering / Highway Engineering / Traffic Engineering and certification as safety auditor or equivalent.
		<b>Responsibilities:</b>	<p>The Traffic /Road Safety Specialist is part of the services team and will be providing all necessary assistance to the construction supervision team with respect to work zone safety, and implementation of safety audit recommendations. He/she will assist to the TL + other team members in review and approve the safety plans of the contractor and he will monitor the safety of the works and the safety of the traffic diversions and ensure compliance with the regulations.</p> <p>He/she will review hazardous location(s) and conditions, evaluate audit results, and safety and operational deficiencies, identify potential safety and operational improvement and recommend</p>

S/No	Title	Experience, Qualification & Responsibilities	
			appropriate improvements. The Road safety specialist will train the national staff on the team.
8	Financial Analyst	<b>Experience:</b>	Experience in financial and economic analysis and regulation of road infrastructure and services is required. Knowledge of Financial Management Systems (FMS). Preferably more than 10 years' working experience in program/project finance, accounting and financial reporting under projects financed by international financial institutions including WB.
		<b>Qualification:</b>	Master's degree with a major in Finance/Accounting/Economics/Management or equivalent – preferably advanced degree in Finance / Accounting / Economics / Management or equivalent or accounting qualification such as Certified Public Accountant/Chartered Certified Accountant.
		<b>Responsibilities:</b>	<ul style="list-style-type: none"> <li>• Assistance to the team and work closely with team to assess current financial practices of C&amp;W Department and identify gaps for rectification.</li> <li>• Assistance to team to assess financial management system (FMS), including Project Performance Monitoring System (PPMS), project financial information and accounting system used by C&amp;W Department.</li> <li>• Elaborate and propose procedures for setting-up and maintaining consolidated accounts.</li> <li>• Lead the periodical review of the work plan and budget of the C&amp;W Department.</li> <li>• Assist the C&amp;W Department in preparing the Project financial progress reports provide required inputs and information necessary for the preparation of periodical progress reports and completion report.</li> <li>• Review the OSR at the city level, identify measures and steps for improving OSR, develop a time bound action plan for OSR</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>improvement and monitor and guide their implementation.</p> <ul style="list-style-type: none"> <li>• Design measures for targeted subsidies for poor household where affordability of services is an issue, including cross subsidies to ensure funds are available within OSR or tariff streams to pay the subsidies, rather than dependence on provincial or federal transfers.</li> <li>• Elaborate and propose procedures for setting-up and maintaining consolidated accounts.</li> <li>• Assist in the periodical review of the work plan and budget of the C&amp;W Department.</li> <li>• Coordinate efforts with Financial Specialist in C&amp;W Department in undertaking financial and economic analysis, as required, of C&amp;W Department.</li> </ul> <p>Assist in providing advice on capacity building needs of WSSCs staff, review financial management capacity building programs, FMS software, and provide assistance during the delivery of training sessions.</p>
9	Resident Engineer	<p><b>Qualification:</b></p>	<p>Qualified Civil Engineers with at least 10 years' experience as a Resident Engineer in construction supervision of Road and other similar infrastructure in Pakistan whereas experience in Sindh terrain would be preferable. S/He will supervise the work directly with Assistant Resident Engineers (AREs) and rest of construction supervision teams and will manage the construction milestones and quality control of works. They will provide assistance to the Team Leader in overall management, monitoring and reporting and will be responsible for day-to-day management of works.</p> <p>In addition to above, the REs will also be responsible for following additional assignments;</p> <ul style="list-style-type: none"> <li>• Regular report to the client.</li> </ul>



S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>• Assumes overall responsibility for management and supervision of the field team.</li> <li>• Undertakes responsibility for satisfactory completion of projects as per design, specifications and as per agreed cost and timeframe.</li> <li>• Work as per Client's agreement for the assigned engineering and supervision activities with the best professional and consulting standards to ensure that the assignment is completed satisfactorily.</li> <li>• Carry out proper and continuous monitoring, supervision for implementation at site of work of the designing plans and maintain liaison with all staff/other stakeholders.</li> <li>• Assist in reviewing and modifying the designs for cost effectiveness and technical suitability.</li> </ul>
10	Quantity Surveyor	<b>Experience:</b>	12 years relevant experience on preferably three major road projects
		<b>Qualification:</b>	Bachelor's degree in Civil Engineering – preferably master's in civil engineering / Highway Engineering / Structure Engineering / Transportation Engineering / Construction Management / Project Management or equivalent
		<b>Responsibilities:</b>	<ul style="list-style-type: none"> <li>• Prepare and maintain sketches, maps, reports, and legal descriptions of surveys.</li> <li>• Verify the accuracy of survey data, including measurements and calculations conducted at survey sites.</li> <li>• Direct or conduct surveys in order to establish legal boundaries for properties, based on legal deeds and titles.</li> <li>• Record the results of surveys, including the shape, contour, location, elevation, and dimensions of land or land features.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities
		<ul style="list-style-type: none"> <li>• Calculate heights, depths, relative positions, property lines, and other characteristics of terrain.</li> <li>• Prepare or supervise preparation of all data, charts, plots, maps, records, and documents related to surveys.</li> <li>• Write descriptions of property boundary surveys for use in deeds, leases, or other legal documents.</li> <li>• Plan and conduct ground surveys designed to establish baselines, elevations, and other geodetic measurements.</li> <li>• Search legal records, survey records, and land titles in order to obtain information about property boundaries in areas to be surveyed.</li> <li>• Adjust surveying instruments in order to maintain their accuracy.</li> <li>• Establish fixed points for use in making maps, using geodetic and engineering instruments.</li> <li>• Determine longitudes and latitudes of important features and boundaries in survey areas, using theodolites, transits, levels, and satellite-based global positioning systems (GPS).</li> <li>• Train assistants and helpers and direct their work in such activities as performing surveys or drafting maps.</li> <li>• Analyze survey objectives and specifications in order to prepare survey proposals or to direct others in survey proposal preparation.</li> <li>• Compute geodetic measurements and interpret survey data in order to determine positions, shapes, and elevations of geomorphic and topographic features.</li> <li>• Develop criteria for survey methods and procedures.</li> <li>• Develop criteria for the design and modification of survey instruments.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>• Conduct research in surveying and mapping methods, using knowledge of techniques of photogrammetric map compilation and electronic data processing.</li> <li>• Locate and mark sites selected for geophysical prospecting activities, such as efforts to locate petroleum or other mineral products.</li> <li>• Survey bodies of water in order to determine navigable channels and to secure data for construction of breakwaters, piers, and other marine structures.</li> <li>• Direct aerial surveys of specified geographical areas; and</li> </ul> <p>Determine specifications for photographic equipment to be used for aerial photography, as well as altitudes from which to photograph terrain</p>
11	<b>GIS Specialist</b>	<b>Experience:</b>	Preferably 10 years' of demonstrated relevant professional experience at the national or international level in GIS applications. Preference will be given to those who possess relevant experience with Donors (ADB and WB) or their funded projects and overseas relevant experience / relevant experience with international organization and Government Institutions.
		<b>Qualification:</b>	Preferably a master's degree in GIS and Remote Sensing or equivalent qualification
		<b>Responsibilities:</b>	<p>GIS Specialist will perform the following functions, including but not limited to:</p> <ul style="list-style-type: none"> <li>• Review assessment studies of all C&amp;W Road network digital data, reports, maps and other multi source data including satellite imagery and digital elevation models (imagery of past events where possible and fresh imagery for baseline mapping, satellite record of roads, bridges, and settlements along with health and education facilities access etc through multiple criteria GIS analysis identify roads at feasibility level.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>Perform any other tasks / assignment that may be assigned by PIU and/or WB etc.</li> </ul>
12	Material Engineer	<b>Experience:</b>	10 years as Material Engineer on five Highways Projects / Expressways of same magnitude projects, preferably with experience of asphalt concrete mix design in countries having similar climate and/or truck overloading problems like Pakistan.
		<b>Qualification:</b>	Bachelor's degree in (Civil Engineering) or master's in engineering Geology or equivalent.
		<b>Responsibilities:</b>	<p>Responsibilities of Material Engineer will include but not limited to</p> <p>He/she is required to seek, interpret, and evaluate subsurface and surface data in order to predict the behavior of soil and materials along the route and adjacent to the alignment.</p> <p>He/she will assist and will be responsible for quality of materials used in construction by performing field and laboratory tests and certifying their acceptance based on recommended specifications for the material, will also identify the sources of material and query sites.</p> <ul style="list-style-type: none"> <li>Stipulate Material Testing Procedures and Specifications.</li> <li>Identify sources of materials, quarry sites and borrow areas.</li> <li>Confirm the suitability and availability of material in the borrow pits and quarries for pavement.</li> <li>Identify and evaluate additional sources of materials.</li> <li>Undertake field and laboratory testing of the materials to determine their suitability for various components of the work; and to ascertain the index and engineering properties of soil and rock encountered.</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities	
			<ul style="list-style-type: none"> <li>• Prepare mass haul diagram for haulage purposes giving quarry charts indicating the location of selected borrow areas, quarries.</li> <li>• Make suitable recommendations regarding making good the borrow and quarry areas after the exploitation of materials for construction of works.</li> <li>• Be responsible for Material Testing and specification &amp; certification of material quality.</li> <li>• Preparation and testing of concrete mixes of different design mix grades using suitable materials (binders, aggregates, sand filler etc.) as identified during Material Investigation to conform to specification applicable in Pakistan.</li> </ul> <p>Survey of material with topmost quality complying with material testing ASTM (American Society for Testing and Materials) and AASHTO (American Association of State Highways &amp; Transportation Officials) latest edition.</p>
13	<b>Environment Specialist</b>	<b>Qualification</b>	<p>The specialists will have: (i) Master’s Degree or higher in environmental sciences/management or related field; (ii) at least 10 years of experience in environmental management, monitoring, and/or impact assessment; (iii) familiarity with the World Bank environmental safeguards requirements and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; (vi) ability to regularly visit the sub-project sites; and (vii) proficiency in spoken and written English. Working closely with the PIU and other relevant personnel and agencies, the specialist will assist in all aspects of the implementation of the project ESMF and subproject ESMPs. The specialist will: (i) Ensure that the steps of the ESMF covering environmental screening and impact assessment are followed by PIUs and contractors; (ii) Deliver training, and assist in the preparation of the ESMF procedures for screening and assessing environmental impact, and assist in the preparation of the Environment and Social Management Plans (ESMPs); and (iii) Assist the PIU in the public consultations, (iv) to establish and publicize the grievance redress mechanism (GRM) for sub-</p>

S/No	Title	Experience, Qualification & Responsibilities	
			<p>projects, ensuring that the GRM publicity is appropriate to the scale and complexity of the sub-project and includes, as a minimum, the disclosure of all contact persons for lodging complaints; (v) supervision of ESMP implementation, (vi) Assist the PIU to prepare quarterly (during construction) and semi-annual project monitoring progress reports (otherwise) for submission to the World Bank within stipulated period after each reporting period, and (vii) contribute to the PPMS for monitoring and reporting on environmental safeguards actions.</p>
14	<b>Social Safeguards Expert</b>	<b>Qualification</b>	<p>The specialists will have Master's degree in social sciences with at least 10 years of relevant work experience working with national / international consultants, preferably in donor funded projects and government institutes. He/she will have experience of working on the Bank financed projects and fully familiar with the Bank's Safeguard Policy &amp; Frameworks. He/she will have demonstrated ability to work in a multidisciplinary team and excellent communication skills in spoken and written English. Tasks include: (i) screen subprojects for involuntary resettlement impacts to determine eligibility of the subproject for financing under the project; (ii) for subprojects with involuntary resettlement impacts, prepare Resettlement Plans in accordance with the Resettlement Framework; (iii) assist and supervise detailed design of subprojects to ensure involuntary resettlement impacts are minimized, if not avoided; (iv) based on detailed design, conduct detailed measurement survey and update the Resettlement Plan in accordance with the Resettlement Framework; (v) assist in organizing and conducting consultations with affected people to ensure that the Resettlement Plan have been fully discussed and agreed; (vi) assist PIU and field staff in the implementation of Resettlement Plans in the subproject areas; (vii) develop and conduct training modules to ensure proper understanding and implementation of Resettlement Plans; (viii) monitor implementation of Resettlement Plans; and (ix) contribute to the PPMS for monitoring and reporting on resettlement by developing monitoring and evaluation indicators for involuntary resettlement and assisting in the preparation of monitoring reports for involuntary resettlement, (ix) Assist the PIU in the public consultations, (x) to establish and</p>

S/No	Title	Experience, Qualification & Responsibilities	
			publicize the grievance redress mechanism (GRM) for sub-projects, ensuring that the GRM publicity is appropriate to the scale and complexity of the sub-project and includes, as a minimum, the disclosure of all contact persons for lodging complaints; (xi) supervision of ESMP implementation, (xii) Assist the PIU to prepare quarterly (during construction) and semi-annual project monitoring progress reports (otherwise) for submission to the World Bank within stipulated period after each reporting period.

## 6 IMPLEMENTATION ARRANGEMENTS

### 6.1 COMMENCEMENT AND DURATION

The Consultant shall commence its services within 2 weeks of the contract signing. Commencement of the services is expected **in X 2023**.

The consulting assignment is divided into two phases lasting a total of 32 months. Duration of the first phase (design) is estimated at 8 months (SoP-1), while the second one would last up to 24 months, based on the project's scope developed for SoP-1, and will also include a 12-months DNP.

### 6.2 LOCATION

The Consultant shall establish the main office in Quetta in proximity (walking distance) from the PIU office. Similarly, the Consultant shall have to establish field offices near construction sites, at a suitable location near the project roads or at the Contractor's compounds.

### 6.3 PIU INPUT

The PIU will facilitate the Consultant to obtain all reports, maps, data, or any other information relevant to the project and available with provincial Irrigation Department or other line departments. The PIU will also provide the Consultant with all permissions and approvals needed by the Consultant to obtain (if available) maps, aerial photographs, remote sensing data and images, or to import into Pakistan equipment and supplies needed to enable the consultants to carry out the tasks relevant to the assignment. The PIU will assist the Consultant and each of its personnel with work permits and such other documents as shall be necessary to enable them to perform their services, and assist in issuance of entry and exit visas, residence permits, and other necessary documents for the expatriate employees of the Consultant and their eligible dependents, required for their stay in Pakistan. Any duties, fees or other port charges on staff or equipment shall not be reimbursed PIU.

### 6.4 CONSULTANT'S INPUT

The Consultant shall allocate sufficient resources and budget to support its team in performing the services, including rental of vehicles, main office and site offices, office equipment, utilities, stationary, computer hardware and software, communication, printing and copying facilities, local and international transport, housing/accommodation, etc. Main office will be fully furnished office space and include a conference room with at least 25 seating places, communication and presentation equipment. The Consultant shall also establish clear procedures for the management, maintenance, and return of the rented vehicles, properties, and equipment.

## 6.5 PAYMENT

Phase I of the services will be lump sum based. The following Table 6 details a schedule of payments against the deliverables of Phase I.

**Table 6 Schedule of payment for the Phase I**

No.	Report	Payment schedule
1	Feasibility Assessment Report	15% of the contract amount for the Phase I after completion and acceptance of the report
2	Site specific ESMPs	20% of the contract amount for the Phase I after completion and acceptance of all ESMPs
3	Detailed Engineering Design Documents	50% of the contract amount for the Phase I after completion and acceptance of all design documents
4	Bidding Documents	15% of the contract amount for the Phase I after completion and acceptance of all bidding documents

Phase II will be paid based on the actual time consumed during supervision and contract management phase, including all reimbursables mentioned in 6.4 above.

## 7. Qualification of Consultants:

The selection criteria and requirements are:

1. Corporate Capacity (Core business and years of experience in same business for at least 10 years).
2. at least five (5) similar assignments completed in the last five years indicating the nature and scope of these assignments in areas of design, supervision, procurement, contract administration, quality assurance, environment, management planning, implementation of resettlement action plan.
3. The firm should provide details including documentary evidences regarding contract awards, reference letters, completion certificates from the clients along with postal address and client contact numbers, stating the scope of services and deliverables of all projects.
4. In the case of a Joint Venture (JV), the details of such projects will be provided separately for the primary or associated consultant,
5. Details of the logistic capacity of the firm including general availability of technically qualified staff.

## 8. Selection Process:

A consulting firm will be selected in accordance with Quality and Cost Based Selection (QCBS) method set out in the World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers January 2011 revised (Nov 2020) [www.worldbank.org/procure](http://www.worldbank.org/procure).



**APPENDIX I: LIST OF FLOOD DAMAGED ROADS**

No.	Road	Length
<b>District: AWARAN</b>		
1	Awaran Mashkay road	up to 20 km
2	Labach road	3 km
3	Chamago Culvert Awaran	30 km
4	Metago road Jahoo	10 km
5	Koto road Jahoo	30 km
<b>District: BARKAN</b>		
1	College Mor to Dada Jund	5.70 km
2	Nahar Kot to Dada Shah Mehmood	18 km
3	Mianji Mastana road	5.50 km
4	Nahar Kot road Basti Lohma Zareen road	2.42 km
5	Dada Jund road to Dubla road	6.92 km
6	Daman to Bastio Shero Shah Baghao road	1.95 km
7	Hakimani road	1.22 km
8	N-70 Rakhani City to Duba Wadera Khan Roter road	1.5 km
9	N-70 Sarati to Mirriwah road	10 km
10	N-70 to Chapper Muhammad Samad Khan Gullu Daman road	8.30 km
11	Neharkot Top Vitkri road	7.0 km
12	Tomani Baghao Rest House road	0.52 km
13	Wanga to Haji Dad Ali Baghao road	5.88 km
14	Barkhan Rakni road Khata Chowki to Takhra Road via Lenjani	2.88 km
15	Dr. Ghafar Khan Qasmani road Rakhni	1.22 km
16	Session Court Office & Residence road	0.96 km
17	Takhra road to Basti Haliyani road	2.43 km
18	Vetakri to Dada Shah Mehmood	7.0 km
19	Viatkari to Kachi	1.55 km
20	Viatkari to Kachi Siddiquani road	1.95 km
21	Zoori to Basti Sadrani Baghao raod	4.16 km
<b>District : DUKI</b>		
1	Bypass road from Duki Mains Area to Loralai District Duki	7.25 km
2	Cutting ballasting of road from Nana Sahib Zirat to Shapozai N-70 d.g. Khan Road via Salazai Ponga Loralai	47.00 km
<b>District: GWADAR</b>		
1	Coastal highway to Saeed Abad Ormara	11 km
2	Pasni to Churbandar	16 km
3	Pishukan to Ganz District Gwadar	17.4 km
<b>District: KILLA ABDULLAH</b>		
1	B/T Road from Gulistan to Killa Abdullah	1.5 km
2	Bukarzai Chowk to Bukarzai	6.00 km
3	Killi Shershah	6.50 km
4	Main Gulistan road near Abdul Rehmanzaibazar	0.50 km
5	Main Habibzai road	0.10 km
6	Main Habibzai road	0.50 km
7	Wal To Toth road	0.10 km
8	Maizai Adda to Kulazai Bridge Approach	x km
9	Lajwer Saidan road	0.50 km

No.	Road	Length
10	Railway Station Gulistan road	0.10 km
11	Lamaran road	2.00 km
12	Abdullah Khan Bypass road	3.0 km
13	JorangaMachika road	2.0 km
14	Main Machika road	0.50 km
15	B/T road from Salad Thana To Toba Chinar	7.00 km
16	B/T road Killi Mangalzai	3.0 km
17	B/T road Killi Momin Piralizai Road	0.50 km
18	B/T road Killi Paizai Saidan	0.30 km
19	B/T road Killi Inam Cheena Segi	0.25 m
20	Bridge and protection work Main Toba Achackzai	x km
<b>District: KILLA SAIFULLAH</b>		
1	FROM N-50 TO MURGHA FAQEERZAI VIA TOR AKHTAR NAKA	52.0_ km
2	FROM N-50 TO MURGHA FAQEERZAI VIA TOR TANGI	40.0_ km
3	KILL KANCHOGHAI ROAD	60.0_ km
4	kill AghbargaiWacha Zama Oblana	20.0_ km
5	RaghaBakalzai	7.0_ km
6	Station Road Muslim Bagh	27.00 km
7	RODH JOGIZAI ROAD	45.00_ km
<b>District: MASTUNG</b>		
1	B/T Road Dasht e Baba	7.00 Km
2	N-25 To N-40 Via KandaveKoshakak Road.	7.00 Km
3	Kanak babkani to GarhRustum Zai.	3.00 Km
4	N-40 Kanak cross to Umar abad Road	25.00 Km
5	Killi Yar Muhammad to ChashmaDulai Road	5.50 Km
6	Kanak Aghberg Road to Killi Abdul Qadir Muhammad Shahi Old & New to ChashmaDulai Road	6.00 Km
7	Aghberg road to killiShahdeeni Road	3.00 Km
8	Shah Pushta Link Road From	8.00 Km
9	Baqi Ziarat to Shadeeni Road	6.00 Km
10	Talera to Ghafar Abad to N-40	18.00 Km
11	Malikan to GharhRustum Zai Road	3.00 Km
12	Construction Flood Jadid Abad Protection wall at Jadeed Abad Killi Jadeed Abad	x km
13	Killi Nawab Raisani Road via Girls College Kanak to Shaeed Akmal Road	6.00 Km
14	Basham to Killi Haji Khair Bakhsh Road	1.5 Km
15	N-40 Via Killi Babri , Khali Kanak to Malikan to Killi Yar Muhammad	16 Km
16	N-40 Kohan abad to Talera Road	5 Km
17	Form to Cement Factory to Khand Masori.	20.00 KM
18	Marove to pul village	20 Km
19	Killi Shah nawaz Tehsil Dasht District Mastung.	2.5 Km
20	Isplenji Road Tehsil Dasht District Mastung.	10.00 km
21	Siapusht Road District Mastung.	9.00 Km
22	Killi Damb Tehsil Dasht District Mastung.	1.74 Km
23	Umar Dhor Tehsil Dasht District Mastung.	2.02 Km
24	Degari Road Tehsil Dasht District Mastung.	10 .00 Km
25	Killi Kamal Zai Tehsil Dasht District Mastung.	10.00 Km

No.	Road	Length
26	B/T Road Killi KarezNoth	4.00 Km
27	B/T.R Shaik Wasil Road.	23 Km
28	B/T.RSheereenab Road.	36 Km
29	B/T.R N-25 Mastung Road Wali Khan	02 Km
30	B/T.RPring Abad to KandMassori.	13 Km
31	B/T.R Killi RinducKhadkocha.	06 Km
32	B/T.RKarezAhisha to Rodress P/Abad	02 Km
33	B/T.R Liddy DashtKirdgap.	13 Km
34	B/T.RKirdgap to Killi MangiPassand Khan.	08 Km
35	B/T.R Killi Pataki Kirdgap	12 Km
36	B/T.R Killi Sardari Sher Kirdgap	05 Km
37	B/T.R Killi Passand Khan Kirdgap	07 Km
38	B/T.R N-25 Via FC Camp Faiz Abad to Teree Road	08 Km
39	B/T Road Killi Ghulam Sarwar GhullKhadkocha	1.50 Km
40	B/T Road Killi Haji ShahozaiKhadkocha	02 Km
41	B/T Road Killi DashtanboKhadkocha.	03 Km
42	B/T Road AshkhanRodaniPirkaniKirdgap Road.	12 Km
43	B/T Road Kund Umarni Road.	35 Km
44	B/T Road Khadkocha to Killi Anjeeri	7.00 Km
45	B/T Road KotalKirdgap	34 Km
<b>District: ZIARAT</b>		
1	NATIONAL BANK ROAD TOWN AREA	1 KM
2	TEHSEEL ROAD ZIARAT IN TOWN AREA	1 KM
3	KILLI ZARGI ROAD FROM MANA CROSS TO SPEZANDI	1 KM
4	ROAD FROM ZANDRA TO KILLI MANA	20 KM
5	KILLI SARDARAN TO MURDAR KUCH ROAD	17 KM
6	FROM ZIARAT QUETTA ROAD TO AHMADOON ROAD	15 KM
7	FROM ZIARAT BANO	15 KM
8	FROM PROSPECT POINT TO KHARWARI BABA	8 KM
9	KHARWARI BABA ROAD	12 KM
10	FROM AHMADOON TO KILLI TANGYAN SARMKHSI ROAD	15 KM
11	KAWAS TO KILLI POSHI ROAD	8 KM
12	KILLI SPEZANDI TO SPERARAGHA ROAD	15 KM
13	FROM PROSPECT POINT TO KOSHKI ZIARAT	7 KM
14	FROM PROSPECT POINT TO KOSHKI ZIARAT	2 KM
15	ZIARAT SINJAWI ROAD TO KILLI SHEREEN ROAD	13 KM
16	REGURA CHOCK TO POI ROAD	22 KM
17	PASRA ROAD SINJAWI BAZAR	4 KM
18	MANA ROAD TO SASANA MANA ROAD	6 KM
19	ROAD FROM MAIN ZIARAT ROAD TO BACK SIDE OF DC REST HOUSE	2 KM
20	FROM SHALEMAR TO PROSPECT POINT	2 KM
21	KILLI SASANAK ROAD	6 KM
22	FROM BABE ZIARAT TO CHAWATRA	7 KM
23	SPORTS COMPLEX TO KILLI SARDARAN	1 KM
24	KILLI SAKHOBI ROAD FROM MAIN SINJAWI ZIARAT ROAD	6 KM
25	FROM CHAWATRA TO BANO ROAD	5 KM
<b>District: ZHOB</b>		

No.	Road	Length
1	Black Top Road Zhob to Sambaza District Zhob.	56-km
2	Gravel/Shingle Road Sambaza to Gul Kach District Zhob.	25-km
3	Black Top Road Zhob Wana Road to Takarai District Zhob.	26-km
4	Gravel/Shingle Road Zhob Wana Road to Lrohaq Ahmed Khail District Zhob.	5.5-km
5	Gravel/Shingle Road Zhob Wana Road to Killi SangyGharOrmaNishpaKhail District Zhob.	6.5-km
6	Gravel/Shingle Road FromRakhpor Road to Killi Huramazai link Road District Zhob.	6.5-km
7	Black Top Road From N-50 Deara Ismail Khan Road to Killi Landiyan Babar link Road District Zhob.	9.5-km
8	Gravel/Shingle Road FromSabakzai Dam Road to Dana Abdullazai District Zhob.	52-km
9	Black Top Road From N-50 Queatta to Lwarga District Zhob.	46-km
10	Black Top Road From Zhob Wana Road to Gustai District Zhob.	26-km
11	Gravel/Shingle Road From N-50 D-I Road to Sheakhan Road District Zhob.	3.00-km
12	Black Top Road From Zhob Wana Road to Qamardeen District Zhob.	156-km
13	Black Top Road From N-50 D-I Road to Murgha Kibzai District Zhob.	88-km
<b>District: NOSHKI</b>		
1	Kharan Ahmad Wall Road (Nushki to Albat)	31.00 km
2	KHAISAR BRIDGE	5.K.M.
3	Killi Sharif Khan Sahibzada Road	4.00 Kms
4	Killi Jamal Abad Link Road	2.75 Kms
5	KILLI ZANGHI ABAD LINK ROAD	4.500 K.M
6	KILLI AHMED WALL (OLD) LINK ROAD	1.00 K.M.
7	KILLI NOBAHAR LINK ROAD MALL	2.00 Kms
8	KILLI REHMAN ZAI ( KHUDA E RAHEEM ) MALL LINK ROADS	2.00 Kms
9	KILLI BATTO LINK ROADS	3.00 Kms
10	KILLI DOSTAIN ABAD DEDAR ROAD	2.00 Kms
11	KILLI MENGAL ABAD MALL ROAD	4.00 Kms
12	KILLI BAKHRA LANDHI MALL ROAD	1.00 Kms
13	KILLI HAJI MOHAMMAD MALL	00+500 K. M.
14	killiNosherwan Mall Road	2.00 Kms
15	KILLI BARAM KHAN MALL ROAD	2.00 Kms
16	KILLI MUSTAFA MALL LINK ROADS	1+500Kms
17	KILLI BATTO LANDI ROAD	3.00 Kms
18	KILLI QADIR ABAD MAIN ROAD	5.00 Kms
19	KILLI SULTAN SHAH MAIN ANAM BOSTAN	1.00 Kms
20	KILLI HAJI MEHRULLAH ANAM BOSTAN ROAD	3.00 Kms
21	KILLI LANDHI MEHMOOD ZAI ANAM BOSTAN LINK ROAD	1.00 Kms
22	KILLI JANGHI KHAN ANAM BOSTAN LINK ROAD	1.00 Kms
23	KILLI SADAR JANU KHAN ANAM BOSTAN ROAD	3.00 Kms
24	KILLI ATTAH MOHAMMAD ANAM BOSTAN ROAD	1.00 Kms
25	KILLI SALEH MOHAMMAD ANAM BOSTAN ROAD	1.00 Kms
26	KILLI KHAIR BAKSH ANAM BOSTAN ROAD	1.00 Kms

No.	Road	Length
27	KILLI NOKJO TO QABOOL ROAD ROAD	40.00 Kms
28	KILLI BADINI TO FAIZ MOHAMMAD NAWAR ROAD	10. K.M.
<b>District: KHARAN</b>		
1	Kharan Ahmad Wall Road (Kharan to Albat)	83.00 km
2	Kharan Jungle Road	10.00 Kms
3	Kharan Dalbandin Road	10.00 Kms
4	Chibbi to Mohaap Road	4.00 Kms
5	UC Miskan E Kalat Link Road	11.00 Kms
6	UC Meerain Kalat Link Road	6.00 Kms
7	Naroo to Sopak Link Road	8.00 Kms
8	KharanBasima road (Kharan to Dali Post)	60.00 Kms
9	Killi Darich Link Road	4.00 Kms
10	Bedi to Kohuk Link Road	6.00 Kms
11	Gowash to Kharan City Road	10.00 Kms
12	KharanNamak Pass Road	6.300 Kms
13	Bhun band to Killi Kareem Bakhsh Road	10.00 Kms
14	Jalalzai to Boop E Raik road	4.00 Kms
15	Gazzi to Jamak Road	11.00 Kms
16	ErriKalag Road	15.00 Kms
17	KharanNorozabad Road	9.00 Kms
18	Kandora Road	5.00 Kms
19	Noroz Kalat Road	1.00 Kms
20	ZayanZorabad Road	5.00 Kms
21	Other UC Internal Roads	20.00 Kms
<b>District: KHUZDAR</b>		
1	BT ROAD KARKH LINK ROADS	23 KM
2	B/T ROAD FROM N-25 TO FEROUZ ABAD DISTRICT KHUZDAR	18 KM
3	BT ROAD FROM KARKH TO PIR IBRAHIM KARKH	4 KM
4	B/T ROAD FROM LIEVIES CHOWKI TO WAROOM CROSS KARKH KHUZDAR	8 KM
5	BT ROAD FROM KOTORO TO SANJAVI KARKH	2.3 KM
6	B/T ROAD FROM NAAL CITY TO DHAL CHANNAL DISTRICT KHUZDAR	7 KM
7	B/T ROAD FROM FLLOD TOBADO TO HAZARGANJI NALL KHUZDAR	7 KM
8	B/T ROAD FROM GAREE TO JANGAL NAAL DISTRICT KHUZDAR	10 KM
9	B/T ROAD FROM HARAMBOO TO DAMB AJAB NAAL DISTRICT KHUZDAR	5 KM
10	B/T ROAD FROM SHADEENZAI TO MOHAMMADI MASJID NAAL DISTRICT KHUZDAR	3 KM
11	IMPROVEMENT OF ROAD FROM DRAKAL TO ARINJI TEHSIL WADH KHUZDAR	70 KM
12	IMPROVEMENT OF ROAD FROM CHORI KAND TO LOHENDAVE TEHSIL WADH KHUZDAR	30
13	B/T ROAD FROM MAHABTH FAFEER TO SHANOORANI DISTRICT KHUZDAR	4 KM
14	B/T ROAD FROM N-25 TO AIRPORT ROAD	4 KM
15	B/T ROAD FROM KHUZDAR AIRPORT TO M-8 KHUZDAR	10 KM
16	ROAD FROM KHUZDAR TO SAROONA	250.00 km

No.	Road	Length
<b>District: QUETTA</b>		
1	Hanna Urak Road (CM Annexe to Hanna Urak)	12 KM
2	Aghberg to Panjpai Road (old)	5 KM
3	Qambrani Road (Dual carriageway)	8.75 KM
4	Gahi Khan Chowk to Hazar Ganji	5 KM
5	Nawa Killi Bypass to Kach more	7 KM
6	Nawa Killi Bypass to CM Annexe	6.5 KM
7	Old Kuchlak Road	5.4 KM
8	Soranj Coal mines Degari Road	65 KM
9	Eastern Bypass Road Quetta	12 KM
10	CONSTRUCTION OF BRIDGE, ROADS AND TOUGH TILES AT KAKAR TOWN, PASHTOONBAGH, QUETTA	0.48 Km
11	Const / Restoration of flood DamegsAulasyar Road EastrenbyPass District Quetta -	1.52 Km
12	Const / Restoration of flood Damegs Sangar Afghan Road EastrenbyPass District Quetta	1.00km
13	Const / Restoration of flood Damegs Khushal Road EastrenbyPass District Quetta	1.37 KM
14	Const / Restoration of flood Damegs ALLAH Abad RoadEastrenbyPass District Quetta	0.73 KM
15	Const Of ShaingleRaod PPHI Ware House At Hazar Ganji Quetta	0.15 Km
16	Const / Restoration of flood DamegsKakozaiTown RoadEastrenbyPass District Quetta	1.21Km
17	Const / Restoration of flood Damegs Muhammad Shahi Town Road EastrenbyPass District Quetta	0.91 Km
18	Const / Restoration of flood Damegs Killi Wall Shaheed RoadEastrenbyPass District Quetta	x km
19	Const / Restoration of flood DamegsKhaliji Town EastrenbyPass District Quetta	0.91 Km
20	Const/ Restoration of Flood DamagesNaseebullah Marri Eastren Bypass District Quetta	0.85 Km
21	Const/ Restoration of Flood DamagesGarah Killi Link Saryab Road District Quetta	1.15 Km
22	Const/ Restoration of Flood Damages Abdali Road Eastren Bypass District Quetta	0.67Km
23	Const/ Restoration of Flood DamagesGali No.5 Ganj Eastren Bypass District Quetta	1.52 Km
24	Rehabilitation of Killi Almas Road	0.18 Km
25	Const/ Restoration of Flood DamagesTakari Ghulam Rasool Mengal Road Eastren Bypass District Quetta	1.52 Km
26	Const/ Restoration of Flood Damages Galli No.1 Ganj Eastren Bypass District Quetta	1.82 Km
27	Const/ Restoration of Flood Damages of Hazara Town Area District Quetta	2.41 Km
28	Const/ of Flood Damages B/T Road At Jattak Hazar Ganji District Quetta	1.00 Km
29	Const/ Restoration of Flood Damages At Hazar Gnaji District Quetta	1.19Km
30	Const/ Restoration of Flood Damages At Killi shamozai District Quetta	1.00 Km
31	CONST OF B/T ROAD & DRAIN ATKILLI HAJI BASIT LEHRI QUETTA.	0.24 Km
32	CONSTRUCTION OF BT ROAD URAK KILLI KAKARAN, KILLI KHAN THAMA KHAN DISTRICT QUETTA	1.26 Km
33	CONS/RESORATION OF FLOOD DAMAGES BURAQ SCHEME NO.2 RAOD EASTREN BYPASS DISTRICT QUETTA	1.21Km
34	CONS/RESORATION OF FLOOD DAMAGES QASIM STREET MUHAMMAD SHAHI TOWN LINK BADINI BYPASS DISTRICT QUETTA	0.76 KM

No.	Road	Length
35	CONS/RESORATION OF FLOOD DAMAGES WATAN JAR ROAD EASTREN BYPASS DISTRICT QUETTA	1.00KM
36	CONS/RESORATION OF FLOOD DAMAGES HOSPITAL RAOD ITTEHAD COLONY EASTREN BYPASS DISTRICT QUETTA	
37	CONS/RESORATION OF FLOOD DAMAGES GOUSABAD LINK ROAD EASTREN BYPASS DISTRICT QUETTA	1.52 KM
38	CONS/RESORATION OF FLOOD DAMAGES BALOCH KHAN BADIZAI COLONY ROAD EASTREN BYPASS DISTRICT QUETTA	1.20 KM
39	Const/ Restoration of Flood Damages at Balile Link Brideg District Quetta	x km
40	Const/ Restoration of Flood Damages at KarakBrideg District Quetta	x km
41	Const/ Restoration of Flood Damages at PanjphaiBrideg District Quetta	x km
<b>District: HARNAI</b>		
1	HarnaiSibi Road District Harnai	35-Km.
2	Killi Sama Shahrag Road District Harnai	2-Km.
3	Killi Khidrani Road Shahrag District Harnai	4-Km.
4	Killi Gochina Road District Harnai	8-Km.
5	Tukka Cross to Tukka Babu Spintangi Road District Harnai	5-Km.
<b>District: KALAT</b>		
1	Rehabilitation Of Road khaliqabad to Johan Road (42.00 Km) District Kalat.	6.00 Km
2	Rehabilitation Of Road Johan To Takht District Kalat	20.00 Km
3	Rehabilitation Of Takht ToGazg District Kalat	30.00 Km
4	Rehabilitation Of Road NeemurghToKamond Road	42.00 Km
5	Rehabilitation Of FromChahti to neemurgh Road	12.00 Km
6	Rehabilitation Of Chahti t Kumbi Road District Kalat	8.00 Km
7	Rehabilitation Of GadazaiToParod Road	15.00 Km
8	Rehabilitation Of Nichera to Ameeri District Kalat	18.00 Km
9	Rehabilitation Of Iskalkoo Cross to Shekhari Road District Kalat	15.00 Km
10	Rehabilitation Of Road Ahmed abad ,Purdozai to yousfzai at District Kalat	18.00 Km
11	Rehabilitation Of GolikHalent to Langari Road District Kalat	13.00 Km
12	Rehabilitation Of RoafKapotoToGolik Kund Umrani District Kalat	13.00 Km
13	Rehabilitation Of Road malik Cross to Chapper Road District Kalat	7.00 Km
14	Rehabilitation Of B/T Roafchapper to Muchai District kalat	15.00 Km
15	Rehabilitation Of B/T RoadZard Ghulam Jan To Jagsoor Road District Kalat	15.0 Km
16	Rehabilitation Of B/T RoadShapch To SarbundNushki Road at District Kalat	12.00Km
17	Rehabilitation Of B/T RoadBarenchena to sardar kot Mir Mnazoor District kalat	17.00 Km
18	Rehabilitation of B/T Road Johan Cross to Morgand via Shekhari at District Kalat	12.00 Km
19	Construction Of Bridge at Ghareebabad District Kalat	150.00 Rft
20	Rehabilitation Of B/T RoadBarenchena to killikhudaBuxzai at District kalat	8.00 Km
21	Rehabilitation and Cutting OfGolikUmraniKhund at District Kalat	1.00 Km
22	Rehabilitation of kooshitokh to kalat Via kapoto Road at District kalat	12.00 Km
23	Rehabilitation Of B/T RoadKorki To Adam zai a District Kalat	7.00 Km
<b>District: KECH</b>		
1	Constt: of M-8 to Kiken Road	3 km
2	Constt: of M-8 to Sangai Road Dasht	6 km
3	Improvement of Beericha to Zarin Bug Road Dasht	65 km
4	Construction of Mirani Dam to Balnigore Road Dasht	47 km

No.	Road	Length
<b>District: LORALAI</b>		
1	<i>Rehabilitation/Const. of B/T Road from Loralai to Sinjavi District Loralai.</i>	12.50 km
<b>District: PUNJGUR</b>		
1	50 BEDDED HOSPITAL ROAD	0.8km
2	Muhallah Akbar Abad to Khudabadan Road	2km
3	N85 TO PAROME	10km
4	PANCHI TO KALLAG	3km
<b>District: PISHIN</b>		
1	AlizaiHurazmai Main Road	26 Km
2	Sur Tal Box Culvert	20 Km
3	Saimzai Karbala Link Road	7 Km
4	Manzaki Bridge	600 Rft
5	Tor Murgh Bridge at Main Barshore Road	480 Rft
6	AlizaiMalizai Bridge at Malizai	8 Km
7	Sharghalai Bridge at Main Barshore Road	528 Rft
8	Karbala Huramazai Main Road	25 Km
<b>District: SHERANI</b>		
1	<i>Contt. for flood Damages of AhmediDarga Road District Sherani</i>	14+000 Km
2	<i>Contt. for flood Damages of Haiderzai to Dual Ghad Road District Sherani</i>	06+000 km
3	<i>Constt. for flood Damages for InzerKhezai Zara Kalla Road District Sherani</i>	6+550 Km
<b>District: SIBI</b>		
1	Construction of Black top road Lehri to khairwah road	12km
2	Construction of Black top road Lehri to Sangsila Dera Bugti road	20km
3	Construction of Black top road Village Wazir Machi road	3km
4	Construction of Black top Road Mall	20km
5	Construction of Black top Road Mall Bujeri	10km
6	Construction of Black top Road Talli to Chandia via Chachar village	8km
7	Construction of Black top Road Sultan Kot to Race Mor Road	60km
8	Construction of Black top Road Sibi to Bakhra Ghulam Bolak Road	5KM
<b>District: SURAB</b>		
1	B/T Road from N-25 to Dashtegoraan	20 km
2	B/T road from N-25 to JeewakhalgaliSurab	20 km
3	B/T Road From n-25 to lakhorianarcheno District Surab	16 km
4	B/T Road from Gidder to MoliSurab	25 km
5	B/T Road FromSurab Bazar To Gidder	20 km
<b>District: WASHUK</b>		
1	Const; of B/T Road from Dali to Basima	50 km
2	Const; of B/T Road from Dali to Washuk	115 km
3	Const; of B/T Road from Dali to KHARAN	07 km
4	Const; of B/T Road from washuk to plantak	70 km
5	Const; of B/T Road Jhalwarsaichang Road	42 km
<b>District: DERA BUGTI</b>		
1	Dera Bugti to Pirkoh Road	20 km
2	Dera Bugti to Lope Road	25 km
3	Dera Bugti to Habib Rahi Road	20 km
4	Sui to Saghari Road	25 km
5	Sui to Lunja Gunja Road	13 km



No.	Road	Length
6	Jani Berri to RD 238 Road	16 km
7	Dera Bugti to Sui Main Road	50 km
8	Sui to RD 238 Road.	30 km
9	Sui to Kashmore Road	50 km
<b>District: MUSAKHAIL</b>		
1	Kingri to Musakhail Road	60.00 Km
2	Mughal Kot To Zimri Plaseen Road	29.50 Km
3	Mughal kot to Zimri Plaseen Road	29.50 Km
4	Speen Sherani To Tareen Kaza Parwara Road	25.00 Km
5	Speen Sherani to Tareen Kaza Parwara Road	25.00 Km
6	Ander Pur To Patra Road	22.00 Km
7	Ander Pur to Patra Road	22.00 Km
8	Landa Bakati Road Drug	0.52 Km
9	Landa Bakati Road Drug	2.00 Km
10	Kewan Essote Road	25.00 Km
11	Kewan Esote Road	25.00 Km
12	Gharwandi To Khajoori Road	25.00 Km
13	Gharwandi to Khajoori Road	25.00 Km
14	Gargoji To Mokland Road Drug	16.00 Km
15	Gargoji To Mokland Road Drug	16.00 Km
<b>District: CHAMAN</b>		
1	Main Roghni Road	3.5 km
2	Bughra road	x km
3	F.C Check post Bughra Karez to Top of Toba Achakzai	1.8 Km
4	F.C Check post Bughra Karez to Sui karez	x km
5	Sui karez to Porana Chaman (Sina Road)	0.5 Km
6	Porana Chaman Via Sanzala Via Baghaka Via Nida Bostan Via abbatookarez	2.2 Km
7	Pado Karez Road	___3.2___ km
8	Bostan Road	1.4 Km
9	Nida Road	1.6 Km
10	Jalal Hassanzai Road	0.7 Km
11	Badin aka raod	2.6 Km
12	Killi tekadar Different Streets	1.4 Km
13	Mahmood abad Different Streets	x km
14	Guldarabaghicha road	0.7 Km
15	Rahman Kahol Road	1.7 Km
16	Gawaza road	16 km
17	Shah Muhammad ada Kaholraod	___400 Meter
18	indosoaz choak bypass area road drain.	x km
19	Qanadari bazar road	x km
20	Abbatoo to Hazarganji road	8.00 Km
21	Bypass Area \Streets Bilalzai Streets	x km
22	Zara Band Road	0.32 Km
23	Shaka ShIngle road	___4.00___ km
24	Zaranjshalla road	___13___ km
25	Spina taza to Haji Zafranshamshozai road	___15___ km
<b>District: KOHLU</b>		

No.	Road	Length
1	Construction Of Black Top Roads In District Kohlu	7 Km
2	Constt: Of BT Road to Killi Malik Paind Khan Kalkani	6 Km
3	Constt: Of B/T Road Triman Cross, Mir Jahanzeb To Bareli	7.42 Km
4	Constt: Of Triman Causeway (250 Rft)	76.21 km
5	Extension Of B/T Road MakoriToMistri Khan To WaderaMera Khan	6.50 Km
<b>District: LASBELA</b>		
1	RCD WattaChamasra Road 33.6 Km	33.60 km
2	Maraj Hotel to GhabMandra Road (10 Km)	10 km.
3	RCD to SaddiqBohar Road 8.5 Km	8.5 km
4	Sadiq Bohar Road to Sobhan Goth 1.5 Km	1.5 km
5	Sadiq Bohar Road to Ali Muhammad Soor Goth 1.5 Km	1.5 Km
6	Coastal Highway to Raza Muhammad Road 2 Km	2 Km
7	RCD to Shafi Muhammad Angaria Goth Road 1.5-Km	1.5 Km
8	Shafi Muhammad to Amin Burfat Goth Road 2-Km	2 Km
9	RCD to Allah Rakhya Goth Road 2-Km	2 Km
10	RCD Dubbi Masjid to Driga 1.5 Km	1.5 Km
11	RCD to TajjuBandija Road 2.15 Km	2.15 Km
12	RCD to QaltooBaloch Road 2.15 Km	2.15 Km
13	RCD to Peer Sawai Road 8 Km	8 Km
14	MuccaKandyaro Road Uthal 9.5 Km	9.5 Km
15	RCD to SheruMandra Road 2.10 Km	2.10 Km
16	RCD to ChakKharrari Road 12 Km	12 Km
17	RCD to Kanghar Road Uthal 2 Km	2 Km
18	RCD to SulamanShahook Road 5 Km	5 Km
19	RCD to Marri Abad Road 1.4 km	1.4 Km
20	RCD to Jar Goth Road 10.5 Km	10.5 Km
21	RCD to Wali Muhammad Shahook Road 10 Km	10 Km
22	RCD Sajjan Hotel to Ibrahim Deeria Road 10-Km	10 Km
23	Sukkan to Mulla Ramzan Goth Road 12 Km	12 Km
24	Sukkan Mulla Ramzan Goth Chana Hotel to orki Road 13.5 Km	13.5 Km
25	orki via Nadeem Shenshai, Aslam Baloch, M. Bakhsh etc 12.50 km Road	12.5 Km
26	Zamindar Hotel Wayaro Road	3.5 Km
27	Hanif Sabra Goth Wayaro Road	3.5 Km
28	RCD Chillenwari Haji Saddique Jamot Road 2-Km	2 Km
29	RCD to Shaheed Nawaz Goth Road 2.8 Km	2 Km
30	Fuzallulah Burra Goth Road 7 Km	7 Km
31	Uthal Lakhra Road 20 Km	20 Km
32	RCD to Jam Muhammad Youf Stadium Uthal 2 Km	2 Km
33	Lakhra City to Machandani 5.25 Km	5.25 Km
34	RCD to Balochi Goth 1 Km	1 Km
35	Liari to Lakhra Road 21 Km	21 Km
36	Lakhra to QaduMoshani Goth Road 3 Km	3 Km
37	QaduMoshani to HraSethar Pir Bambool Goth Road 3 Km	23 Km
38	QaduMoshani to Alla Bakhsh Goth 7 Km	7 Km
39	QaduMoshani to Sardar Alam Khan Goth Road 3.5 Km	3.5 Km
40	Lakhra to Mulla Ramzan Goth Road 9 Km	9 Km
41	Lakhra to Qambar Road Baloch Goth Road 1 Km	9 Km

No.	Road	Length
42	Liarito Obba Road 6-Km	6 Km
43	Lakhra Liari Road to Ali Muhammad angria Goth Road 9-Km	9 Km
44	Lakhra Liari Road to IllyasGothh Road 16.5-Km	16.5 Km
45	Coastal Highway to LiariCity road 2 Km	2 Km
46	Hinglaj Mata Road Hanjlaj 15 km	15 Km
47	Coastal Highway Hassan road Pohrai 4 Km	4 Km
48	Coastal Highway Railoon road 3.5 km	3.5 Km
49	Coastal Highway to Dubba Road 5.25 km	5.25 Km
50	Dubba road to Cukk Road 10.5 Km	10.5 Km
51	Coastal Highway to Rahim Nakhati Road 3.0 Km	3 Km
52	Coastal Highway to Allah BuxGoth Road 2.0 Km	2 Km
53	Coastal Highway to Haji Amin Goth Road 1.5 Km	1.5 Km
54	Coastal Highway to Amin Goth,Umar Goth Mir & other Road 6.5 Km	6.5 Km
55	Coastal Highway to Rasmaln Road 8 Km	8 Km
56	Lakhra City to Alla Bakhsh Goth 1 Km	1 Km
57	Lakhra Road to Hamal Birdi Goth Road 2.8-Km	1 Km
58	Construction of 4 X 12 Span P.C.C Culvert/Cutting on Ayan Dhora Adam Shahook Goth MozaKhararriUthal	x km
59	RCD to Mitha Sheikh Goth Road 2-Km	2 Km
60	From RCD Road To Gongga Mohalla and Ghulam Mohammad goth Winder.	1.5 Km
61	Hassan Hotel toMiyaniDaam Road Winder	1.5 Km
62	From RCD Road to Kurkhrera Road Winder (Protection Work)	2 Km
63	From RCD Road to Jehrai Goth& Hassan Goth Winder	9.80 Km
64	From daam Road to Haji Goth Gulsheri Winder	7 Km
65	From RCD to Haroon Goth Kurkhera Winder	1.5 Km
66	Hassan Hotel to Sheikh Hotel Baandica Winder	1.6 Km
67	Mir Abdul Qayoum Goth Kathore Winder	10 Km
68	From RCD to Miran Pir Road Winder	1 Km
69	From Khurkhera Road to Googan Goth Winder	3 Km
70	From Shahidi Road to Morai Goth Winder	1 Km
71	from khurkhera road to Ramzan goth MozaChoorh Winder	1 Km
72	from khurkhera road to Pir Mohammad Goth MozaChoorh Winder	1 Km
73	from Duder road To Saina Goth Winder	1.5 Km
74	Sain Goth Mozah Dam Winder	1.5 Km
75	Dudder Road at KoradNadi	x km
76	Dudder Road to Phei Point	x km
77	Dudder Road to Mithri Point	x km
78	Flood Damage Road Abdullah DagarzaiGadani .	7-Km
79	Hub Bypass Road	36 KM
80	Hubco Road to Wali Muhammad Goth	5.5-Km
81	Peerkas Road to Hub Co Power	1.5-Km
82	Hubco Road to Wali Muhammad Goth	8.5-Km
83	Main DurejiRoad Leendani Portion	11.177-Km
84	Main Dureji RoadTalanga Portion	x km
85	Soreh Road Dureji	x km
86	Behloor RoadDureji	x km
87	Main DurejiRoad Dewana Shah Portion	x km
88	Lak Musafri Road Dureji	x km

No.	Road	Length
89	Aari pir Road Dureji	x km
90	VerrabBridge(Bridge No-1 & 2)Shah Noorani Road Dureji.	x km
91	Black Topped Road From City Khantra Bridge to Balochi Goth Via Sandeman Park Bela	x km
92	Black Topped Road From City Khantra Bridge to Balochi Goth Via Sandeman Park Bela	5-Km
93	Black Topped Road From Mai Peer Road To Sardar Dad Rehman Siyan Kathore Bela	1.5 Km
94	Black Topped Road from RCD to Doulat Bagh Bela	12 Km
95	Black Topped Road FromDoulat Bagh To Ahmed Miarka Bela	7.15 Km
96	Black Topped Road FromRawani To NimaniBela	8.5 Km
97	Black Topped Road from Ali Pankha to Halid Goth (Via Irrigation Colony) Bela	1.2 Km
98	Black Topped Road BypassBela City Road Connecting withMainRCDBela	2 Km
99	Black Topped Road From Bara Bagh To Loyani Goth Bela	1.88 Km
100	Black Topped Road Bela City To Bara BaghBela	7-Km
101	Black Topped Road Bara Bagh ToGhuli Goth Bela	3.5 Km
102	Black Topped Road From RCD To Karoo Jumani Goth Bela	2.29 Km
103	Black Topped Road From RCD To Mureedani Goth Bela	5.25 Km
104	Black Topped Road FromCarvan Pump To Haji YaqoobMiyarka Goth Bela	6.15 Km
105	Black Topped Road FromIshaqani To RajalBela	1-Km
106	Black Topped Road Bara Bagh Road To Charkha Goth	1.5-Km
107	Black Topped Road FromCarvan Pump To SardarJiandKhan Goth Bela	4-Km
108	Black Topped Road RCD to Latif Shah Goth	3.20-Km
109	Black Topped Road RCD Highway to ZainulAbdeenOrki Connecting Other Villages	3.0-Km
110	Black Topped Road Bela to Ishaqani Goth	4.5-Km
111	Black Topped Road RawaniNimani road to Syed Zanul Shah Goth	14.5-Km
112	Black Topped Road FromRawaniNimani Road to GhozaniMondra Goth	8-Km
113	Black Topped Road Younas Goth to Channal Goth	6.5-Km
114	Black Topped Road From RCD to Arifwala Goth	6-Km
115	Black Topped Road Rawani to Notani	1.3-Km
116	Black Topped Road From RCD to Mullah Siddique &MoosaKhaskheli Goth Tyaro	2-Km
117	Black Topped Road Tyaro to Usman Goth	6.5-Km
118	Black Topped Road Reck Goth to Sardar Aslam Mangia Goth	6.-Km
119	Black Topped Road From RCD to Gador Road	2.2.-Km
120	Black Topped Road From RCD to Zor Goth	2.-Km
121	Black Topped Road From RCD to Sardar Dhani Bakhsh Goth	2.-Km
122	Clearace of Shingle Road from Rajal Goth to Ghulam Rasool Siapad Peer Kunaro	3.-Km
123	Black Topped Road From RCD to Sardar Dhani Bakhsh Goth	4.-Km
124	Clearace of Shingle Road from Rajal Goth to Ghulam Rasool Siapad Peer Kunaro	3.-Km
125	Black Topped Road From RCD to Sardar Dhani Bakhsh Goth	2.-Km
126	Clearace of Shingle Road from Rajal Goth to Ghulam Rasool Siapad Peer Kunaro	18.-Km
<b>District: KACHHI</b>		
1	Black top road N-65 to sunni shoran.	85 KM
2	Black top road N-65 village Kolachi	2.00 KM
3	Black top road N-65 /Dingrato HajiShehar	10.00 KM
4	Black top road N-65 to goth dosa Lashari	1.50 KM

No.	Road	Length
5	BT ROAD FROM LINDSAY/N-65 TO MUD SHARBAT VIA WALI ABAD, GAMOO RAISANI, CHANDAR, GOTH SHADI KHAN, BADDA, GHAZI AND BASHKIA TESHIL BALANARI DISTRICT KACHHI	22.00 KM
6	Black top road N-65 to goth Mian Nabi BuxBangulzaiBalanari	1.50 KM
7	Black top road N-65 to goth Mian Rasool Bux Tehsil Balanari	1.80 KM
8	B/T ROAD FROM MEHSAR CROSS TO MUD SHARBAT, VIA MEHSAR, KHATTAN SACHOO.	26.00 KM
9	Black top road N-65/Bakhtiarabad to Bhag Tehsil Bhag.	20.00 KM
10	Black top road Mithri to Haji Shehar Tehsil Balanari	15.00 KM
11	Black top road Mehsar to Bolan dam via arifabad.	28.00 KM
12	Black top road Mehsar to Salarabad tehsil bhag.	13.00 KM
13	Black top road Bhag to Jalal Khan tehsil Bhag.	10.00 KM
14	Black top road shoran to Bhag Phase-1 tehsil sunni	16.50 KM
15	Black top road N-65 to Kirta tehsil mach	4.00 KM
16	CONST./ REHABILITATION OF BLACK TOP ROAD SHORAN TO BHAG VIA JALAL KHAN (REMAINING PORTION), DISTT:KACHI (PSDP No.367 Z2020.1427)	13.50 KM
17	CONST. OF B/T ROAD FROM INDUS TO MARGET TEHSIL MACH. (PSDP No 335.Z2020.1107)	30.00 KM
18	CONSTRUCTION / REHABILITATION OF B/T ROAD FROM MARGAT TO DIGARI CROSS (N-65).(PSDP No 334.Z2020.1088)	35.00 KM
19	CONSTRUCTION/REHABILITATION OF DHADAR TO GHANDAWA (PHASE-1, 30 KM).(PSDP No 332.Z2020.1074)	28.240 KM
20	CONST. OF BLACK TOP FROM MACH TO MARGAT DISTRICT KACHHI.(PSDP No 270.Z2019.1933)	35.00 KM
21	CONSTRUCTION OF REHABILITATION ROAD FROM BASTI MUSA TO MEHASAR SHAHWANI (25 KM).(PSDP No 225.Z2019.0721)	18.00 KM
22	CONST. OF B/T ROAD & CULVERTS IN VILLAGES OF TEHSIL BHAG DIST: KACHI (PSDP No 198.Z2016.0350)	8.00 KM
23	REHABILATION / CONSTRUCTION OF BT ROAD BHAG TO MUD SHARBAI VIA PIR TUR GHAZI ROAD BHAG DISTRICT KACHI 13.370 KM. (PSDP No 606.Z2021.1707)	7.70 KM
<b>District: JHAL MAGSI</b>		
1	Black Top Road Nautal to Gandawah District JhalMagsi	77-Km.
2	Black Top Road RD-265 Kheerthar Canal to Saifabad (M8) Road.	21.50-Km.
3	Black Top Road JhalMagsi to Naushera Road.	38.00-Km.
4	Black Top Road Nigor to Sunth Road.	7.50-Km.
5	Black Top Road Saifabadto M-8 Road.	20.00-Km.
6	Black Top Road JhalMagsi - KotMagsi Road (Band Mehmood to Bareeja)	13.00-Km.
7	Black Top Road Tariqabad Road to JhalMagsi Road.	7.50-Km.
8	Black Top Road M-8 to Khichi Road.	7.00-Km.
9	Black Tp Road Akberabad to JhalMagsi Road.	7.00-Km.
10	Black Top Road M-8 to Mithow Road.	8.00-Km.
11	Black Top Road Panjuk to Gandawah Road.	18.00-Km.
12	Black Top Road JhalMagsi to KotMagsi Road.	45.00-Km.
13	Black Top Road Gandawah to Gajan - Shoran Road.	12.00-Km.
14	Black Top Road Gandawa to Kotra, Peer chatalNoorani Road.	25.00-Km.
<b>District: SOHBATPUR</b>		
1	REHABILITATION/BLACK TOP ROAD CHANDINI CHOWK TO KHALANI	5.00 KM

<b>No.</b>	<b>Road</b>	<b>Length</b>
2	REHABILITATION /BLACK TOP ROAD HAIRDEEN TO SARDAR KHAN LASHRAI	<u>2.00 KM</u>
3	REHABILITATION/BLACK TOP ROAD HAIRDEEN ROAD TO LASHKAR KHAN KANRANI	<u>2.00 KM</u>
4	REHABILITATION/BLACK TOP ROAD SYEDABAD TO ALAM KHAN	<u>2.00 KM</u>
5	REHABILITATION/BLACK TOP ROAD TO RAZA MOHAMMAD	<u>2.00 KM</u>
6	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO BALOO PUR	<u>6.00 KM</u>
7	REHABILITATION/BLACK TOP ROAD AHMEDAN BRIDGE TO BALOO KHAN	<u>1.75 KM</u>
8	REHABILITATION/BLACK TOP ROAD HAMEED TO MEER HASSAN	<u>4.50 KM</u>
9	REHABILITATION/BLACK TOP ROAD TO GHULAM MOHAMMAD	<u>6.00 KM</u>
10	REHABILITATION/BLACK TOP ROAD TO MOHAMMAD AMIN	<u>1.50 KM</u>
11	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO ABDUL RASHID	<u>2.50 KM</u>
12	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO MUNJHI SHAKH VIA UMAR KHAN	<u>12.00 KM</u>
13	REHABILITATION/BLACK TOP ROAD 1.50 TO MASOOD ABAD	<u>1.50 KM</u>
14	REHABILITATION/BLACK TOP ROAD CHATTAN PETTI TO JIA KHAN	<u>20.00 KM</u>
15	REHABILITATION/BLACK TOP ROAD DIRGI TO DOLAT GHARI	<u>25.00 KM</u>
16	REHABILITATION/BLACK TOP ROAD JHANDA TALAB	<u>8.00 KM</u>
17	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO SAKHI DUR MOHAMMAD	<u>2.50KM</u>
18	REHABILITATION/BLACK TOP ROAD BHAND TO NASEER KHAN	<u>6.00 KM</u>
19	REHABILITATION/BLACK TOP ROAD NOOR TO JIANI ROAD	<u>2.50 KM</u>
20	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD DERA ALLA YAR TO HAIRDEEN VIA SOHBAT PW	<u>38.00 KM</u>
21	REHABILITATION/BLACK TOP ROAD KUNDA LARRA TO BALOO PUR	<u>1.00 KM</u>
22	REHABILITATION/BLACK TOP ROAD MUNJHI TO SKHAK TO MUNJHI PUR VIA HAJI HAZAR KHAN KHOSA	<u>15.00 KM</u>
23	REHABILITATION/BLACK TOP ROAD DC ROAD TO IZAHER KHAN KHOSA	<u>1.50 KM</u>
24	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO AZAM KHAN DC OFFICE	<u>5.00 KM</u>
25	REHABILITATION/BLACK TOP ROAD BHAND TO MANJHI PU R	<u>25.00 KM</u>
26	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO BASHEER KHAN	<u>1.50 KM</u>
27	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO DAMBRAI	<u>4.00 KM</u>
28	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO HAJI YAR MOHAMMAD	<u>6.00 KM</u>
29	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO MANJHI PW VIA MOLVI QADIR BAKSH	<u>20.00 KM</u>
30	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR TO UCH SHAKH TO VIA ADAM PUR	<u>6.00 KM</u>
31	REHABILITATION/BLACK TOP ROAD MUNJHI PUR ROAD TO SHAH GAZI	<u>2.50 KM</u>
32	REHABILITATION/BLACK TOP ROAD MUNJHUI PU RROAD TO MURAD ALI	<u>1.50 KM</u>
33	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO DURANI KHOSO	<u>1.00 KM</u>

No.	Road	Length
34	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD TO DIRGI CITY	<u>1.00 KM</u>
35	REHABILITATION/BLACK TOP ROAD CHATAN PATTI TO MURAD ALI PSDP NO.328 Z2020. (ON GOING)	<u>8.00 KM</u>
36	REHABILITATION/BLACK TOP ROAD MUNJHI ROAD TO ZULFIQAR KHAN KHOSA	<u>1.00 KM</u>
37	REHABILITATION/BLACK TOP ROAD MURAD ALI TO GHOT DAMBRARI	<u>2.00 KM</u>
38	REHABILITATION/BLACK TOP ROAD MAIN SOHBAT PUR ROAD CHATTAN PATTI TOWARDS JUDAIR SHAKH	<u>3.00 KM</u>
<b>District: JAFFARABAD</b>		
1	SohbatPur Chowk to A-I City Housing Scheme	1.00 km
2	Usta Mohammad Chowk to Jamali By Pass	2.50 km
3	From DC Chowk to Bahrani Chowk	0.50 km
4	Goth Bana Khan Hajwani Marri Farm	0.50 km
5	Moulana Abdul Majeed Jattak Balan Shakh	1.25 km
6	Jamali By Pass to GothSardar Khan Lashari	1.50 km
7	Nazar Mohammad Mengal MohbatShakh	4.00 km
8	Main Usta Mohammad road to village Imdad Mengal MohbatShakh	1.00 km
9	Main Usta Mohammad road to Balan Shakh	16.50 km
10	Main Usta Mohammad road to MohbatShakh	15.50 km
11	Umar Khan Dip to Ali Mardan Jamali MohbatShakh	3.00 km
12	Gahnwar Khan Dip to village Taoque Ali Jamali MohbatShakh	4.00 km
13	Mir Mohammad Bugti Yet Garh.	1.50 km
14	Mini By Pass from Manzoor Khan Petrol Pump to village Chutta Khan Gola.	4.50 km
15	Abdul Sattar HajwaniRojhan Jamali	2.00 km
16	Khan pur Bridge ToErriLaro	5.00 km
17	ErriLaro to Dumb Sakh	6.50 km
18	Usta Mohammad road via Jaffarabad to Head Bagh	36.40 km
19	Mubarak Kaprani Brothers MohbatShakh	1.00 km
20	Village Noor Mohammad Zehri Balan Shakh	2.00 km
21	Goth Hafiz Ghous Bakhsh Khosa	1.00 km
22	GhousPur via Gandakha to village Ghulam Mohammad Jamali	25.00 km
23	Faiz Abad to BangulDaro	23.00 km
24	Khirthar Canal to KhankiPul Old Rojhan Kashmir Kot	10.00 km
<b>District: NASEERABAD</b>		
1	FLOOD DAMAGES ON BLACK TOP ROAD FROM N-65 MANJHO SHORI ,GHAFOORABAD MIR WAH,SHAHI CHOWKI FAIZABAD AT DISTRICT NASEERABAD.PSDP NO-338 (Z2019.1892)	51.286 KM
2	DAMAGES BY FLOOD ON CONSTRUCTION OF BLACK TOP ROAD FROM N-65 TO PHULEJI,ZARINA,BALINA,VIA SYED HASSAN ,TAHIR KOT KORAR BANRI AT DISTRICT NASEERABAD.PSDP NO-262 Z2019.1898)	49.50 KM
3	FLOOD DAMAGES ON BLACK TOP ROAD FROM TEHSIL BABA KOT RD TO VILLAGE BAKHTIAR LEHRI VIA VILLAGE ALLAH DITA ,SABZ ALI AND AHMED KHAN DISTRICT NASEERABAD. PSDP NO-366Z2020.1404	9.30 KM
4	FLOOD DAMAGES ON BLACK TOP ROAD FROM N-65 TO KOT SARDAR RIND AT DISTRICT NASEERABAD. PSDP NO-372(Z2020.1464)	4.50 KM

No.	Road	Length
5	FLOOD DAMAGES ON BLACK TOP ROAD LAI DIP TO KHAN MOHAMMAD VIA RAIS NOHAN ,ALI HASSAN ABDUL SATTAR ,GHULAM ABBAS,DR: SHABAN UMRANI NAZIR JAKHRANI DISTRICT NASEERABAD. PSDP NO-509z2021.1291	6.97 KM
6	FLOOD DAMAGES ON BLACK TOP ROAD SARDAR SHAHZADA KHAN UMRANI TO GOTH ALI SHER UMRANI VIA LAL BAKHSH ,IMAM BAKHSH, IKHTIAR HUSSAIN, RATA KHAN, JAN MOHAMMAD GUL SHAH DISTRICT NASEERABAD.(PSDP NO-511Z2021.1303)	6.00 KM
7	FLOOD DAMAGES ON BLACK TOP ROAD JATTAK ROAD TO GOLLA CHWOK ,KHAN MOHAMMAD MANGRIO STREET DERA MURAD JAMALI DISTRICT NASEERABAD. PSDP NO-433 Z2021.0407	1.31 KM
8	FLOOD DAMAGES ON BLACK TOP ROAD FROM N-65 TOLL PLAZA TO ,BARI SHAKH VIA QAIDY ,MOHBAT SHAKH (PHASE-I) AT DISTRICT NASEERABAD. PSDP NO-524 Z2021.1423	25.00 KM
9	FLOOD DAMAGES ON BLACK TOP ROAD TOP ROAD ALONG PATFEEDER CANAL VILLAGE YAR MOHAMMAD HARA BALOCH DISTRICT NASEERABAD. PSDP NO-540 Z 2021.1463)	8.00 KM
10	FLOOD DAMAGES CONSTRUCTION/ OF BLACK TOP ROAD FROM SADIQ ALI LEHRI TO VILLAGE BAKHTIAR ,SABZ ALI LEHRI DISTRICT NASEERABAD. PSDP NO-411 Z2021.0199	5.00 KM
11	FLOOD DAMAGES ON BLACK TOP ROAD TAMBOO TOWARD FAIZABAD AT DISTRICT NASEERABAD. PSDP NO-640 Z2021.1999	4.00 KM