ISLAMIC REPUBLIC OF AFGHANISTAN

Information and Communication Technologies (ICT) Sector Development Project

Environmental and Social Management Plan
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1 PROJECT DESCRIPTION

The World Bank is supporting Afghanistan to develop its Information and Communications Technologies Sector through a project whose development objective is to expand connectivity, mainstream the use of mobile applications across the Government, and support the development of the local IT industry. This will help accelerate job creation in the ICT sector, and contribute to economic growth through wider access to and use of ICT.

The Project includes four components:

- **Expanding connectivity.** This will continue the development of Afghanistan’s backbone and broadband infrastructure through the creation of the enabling environment and strategic investments. This will address missing backbone connectivity across the central and northeastern provinces and supporting expansion of Internet use across Afghanistan;
- **Supporting the mainstreaming of mobile applications (m-apps) across Government.** Support an innovation grants program and creates cross cutting enablers for m-apps. Provides the necessary facilities for the Government to use the widespread mobile telephone networks for public service delivery and program management;
- **Developing the local IT industry.** Creates infrastructure and skills to grow the IT based services sector in Afghanistan that can support local demand and complete the ecosystem for Internet services and m-apps mainstreaming; and
- **Project management.** Provides required support and training to MCIT officials and staff to implement the Project.

1.1 APPLICABLE WORLD BANK SAFEGUARD POLICIES

The Project will finance the construction of strategic infrastructure that extends the national backbone network to central, northeast, and southern provinces of Afghanistan. The segments financed under this Project will add about 1000km of network to the ongoing Phase 1 deployment of 3100km network that is being financed by the core development budget. This backbone network will be constructed using optical fiber cables laid alongside roads. The planned segments of the network cover areas that lag in the coverage of telecommunications services that have reached other parts of the country. Extension of the backbone network to these areas will connect underserved provinces of the country with inexpensive and high quality backbone connectivity.\(^1\) This will support the expansion of telephony and Internet services in the central provinces, the northeast, and in the south. The link through the central provinces will also put in place the infrastructure that can be completed as road networks are built. This will allow redundancy for the national backbone network, while positioning Afghanistan as a strategic telecommunications hub in a Digital Silk Road that would connect South Asia, Central Asia, North East Asia, and the Middle East. The physical components of the project will mostly be limited to the rollout of approximately 1000km of the national backbone network. The network will connect Kabul (starting from Jabul Saraj) to Chagcharan and Daikundi via Bamiyan. It will also connect Mazar-e-Sharif in the north via Kunduz and Takhar to Fayzabad in the northeast province of Badakshan. The network will be developed alongside existing and ongoing roads. The Project thus plans to finance three segments:

- Kabul (Jabul Saraj) -Bamyan-Chagcharan (in Ghor province): Estimated at 660 km;
- Bamyan-Nili (Daikundi): Estimated at 100 km;
- Kunduz-Faizabad (Badakshan): Estimated at 270 km.

\(^1\) Surveys suggest that this region has the lowest mobile phone ownership in the country (30 percent compared with a 52 percent national average). See [http://asiafoundation.org/resources/pdfs/Afghanistanin2009.pdf](http://asiafoundation.org/resources/pdfs/Afghanistanin2009.pdf) (page 138). And as is evident from one service provider’s coverage map, there is little coverage in the central region. See [http://www.roshan.af/web/coverage-maps/index.htm](http://www.roshan.af/web/coverage-maps/index.htm)
The risks associated with this kind of infrastructure are generally low, and the project therefore rates as **environmental category B under OP 4.01**. Land acquisition will not take place as the fiber optic will be buried alongside existing roads. No towers will be built and no land acquired. The MCIT has implemented 2400 km of a fiber optic network and has always coordinated with the Ministry of Public Works, and with the urban authorities (Municipality Corporations). All fiber is buried. The backbone will be developed as a turnkey project. Existing MCIT and Afghan Telecom buildings will be used for any Point of Presence terminations. Therefore, no involuntary resettlement will take place.

Based on the foreseen set of activities under the project, the triggering of OP 4.04 - Natural Habitats and OP 4.11 - Physical Cultural Resources is not expected.

The main World Bank safeguard policy triggered is the **OP 4.01 for Environmental Assessment** as explained below. Other safeguards might be triggered if the project design does not take into consideration the recommendations outlined in this Environmental and Social Management Plan.

<table>
<thead>
<tr>
<th>Yes</th>
<th>If applicable, how might it apply?</th>
</tr>
</thead>
<tbody>
<tr>
<td>[x ]</td>
<td><strong>Environmental Assessment (OP/BP/GP 4.01)</strong>&lt;br&gt;The project aims to finance the expansion and extension of the fiber optic backbone. The backbone will be buried along the existing roads and those being built out in the next 2 years, along the Kabul (Jabul Saraj) - Bamiyan - Chagcharan route; Bamiyan – Nili (Daikundi) and along the Kunduz - Fayzabad routes. Financing of towers is not foreseen. The risks associated with this kind of infrastructure are generally low, so the project is assigned to environmental category B under OP 4.01. An ESMP (this document) was prepared. This document was reviewed by the World Bank and will be publicly disclosed in Afghanistan and InfoShop prior to appraisal.</td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Natural Habitats (OP/BP 4.04)</strong>&lt;br&gt;It is not anticipated that natural habitats and/or protected areas could be affected by the proposed activities.</td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Pest Management (OP 4.09)</strong></td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Cultural Property (OP 4.11)</strong>&lt;br&gt;The project is not anticipated to result in impacts to cultural property in Afghanistan and therefore does not trigger the policy. Mitigation clauses for avoiding potential impacts will be inserted into the fiber optic backbone contracts to ensure that the necessary measures are in place during the construction and operational phase of the projects.</td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Involuntary Resettlement (OP/BP 4.12)</strong>&lt;br&gt;Land acquisition will not take place. Over 2400km of Phase 1 of the fiber optic backbone has already been developed without the need for any land acquisition. Terrestrial facilities (if any) will be installed in existing telecom-related buildings and therefore will not require involuntary settlements.</td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Indigenous Peoples (OP 4.10)</strong>&lt;br&gt;This policy is not triggered.</td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Forests (OP/BP 4.36)</strong></td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Safety of Dams (OP/BP 4.37)</strong></td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Projects in Disputed Areas (OP/BP/GP 7.60)</strong></td>
</tr>
<tr>
<td>[ ]</td>
<td><strong>Projects on International Waterways (OP/BP/GP 7.50)</strong></td>
</tr>
</tbody>
</table>

### 1.2 OBJECTIVE OF THE ESMP

The objective of this ESMP is to ensure that the implementation of the project is carried in an environmentally and socially sustainable manner. The ESMP aims to provide clear guidelines and mitigation measures, so, as to avoid, manage or minimize potentially negative environmental and social impacts associated with project activities, specifically to:
• Identify and assess the potential social and environmental impact of the proposed Project on
different livelihood sources;
• Specify appropriate roles and responsibilities and outline the necessary reporting procedures for
managing and monitoring environmental and social concerns, and
• Establish clear directives and methodologies for the environmental and social screening of the fiber
optic backbone subcomponent.

The frameworks will include criteria for the selection of sites for the construction activities of the project
and for the design of environmental and social impact mitigation measures.
2 PROJECT IMPLEMENTATION ARRANGEMENTS

The Project will be set up, managed and implemented by the Government of Afghanistan through the Ministry of Communications and IT (MCIT).

High-level management of the project and strategic policy guidance in its implementation will be provided by a Project Steering Committee (PSC), chaired by the Minister of Communications and IT, with right of veto, and with representation of several key agencies including Ministry of Finance, Ministry of Economy, and Ministry of Law and Justice.

MCIT is implementing a number of projects in the ICT sector funded by the government and by other development partners. To manage its portfolio of investment projects better, MCIT has established a Program Implementation and Coordination Unit (PICU) chaired by the Deputy Minister (Technical). The Directors of the Policy and Planning Department and ICT Department are core members of the PICU, and the Finance and Procurement Directorates of MCIT support the PICU. This is to ensure further strengthening and sustainability of program management capacity that has been developed over the last few years within MCIT.

The Policy and Planning Department will be responsible for implementing the fiber optic connectivity component of the project. ATRA will implement specific subcomponents under Component 1. The ICT Department will implement Components 2 and 3 of the project. Each agency will be responsible for the technical aspects of their respective sub-components and activities. A Project Management Office (PMO) will support the implementation of the various project components.

A Project Management Office (PMO) dedicated to this Project has already been established within MCIT to manage and support MCIT with project implementation. The PMO will report to PICU. The PMO will employ a few international and national consultants. The PMO is already staffed with a project management specialist, financial management specialist, translator, logistics and administrative assistants, and will also include procurement support, support for Monitoring and Evaluation (M&E), communications and safeguards.

Core financial management and procurement functions for the project will be handled by the respective departments within MCIT with support from the PMO. The PMO shall be responsible for the fiduciary aspects of the Project, which will be conducted in a timely manner in accordance with World Bank guidelines. On overall project financial management and procurement issues the PMO will report directly to the PICU. The PMO will also support the Finance Department of the Ministry. The PMO will support the Procurement Department of the MCIT. The PMO will be responsible for all procurement activities under the project and will help develop capacity of the Procurement Department.
3 APPLICABLE INTERNATIONAL BEST PRACTICE FOR ENVIRONMENTAL MANAGEMENT IN THE TELECOMMUNICATIONS SECTOR

This inventory of international best practice for managing potential environmental and social impacts in the telecommunications sector is designed to serve as a guideline for sustainable solutions that the contractor can implement to avoid, minimize, and mitigate potential environmental and social impacts caused by the construction of the fiber optic backbone, operation, and maintenance. The inventory covers the following areas:

- Management measures for preventing, minimizing, and mitigating potential environmental, health, and safety impacts associated with the telecommunications sector (i.e., impacts to natural habitat, migratory birds, and landscape aesthetics);
- Management of the telecommunications facilities and their potential effects on the environment (i.e., air emissions, hazardous materials management, and waste); and
- An overview of the potential risks of electromagnetic waves to human health.

3.1 TELECOMMUNICATIONS INFRASTRUCTURE

Site Selection for Burying Fiber
The site selection process for burying the fiber provides the greatest opportunity to prevent or minimize potential environmental impacts. Consideration should be given to ensure that fiber is laid alongside existing roads and roads under construction. The site selection process should endeavor to avoid sites that are important and/or protected natural areas or habitats (e.g., wetlands, nature reserves, national parks). In advance of burying the fiber, MCIT and Ministry of Public Works will reach agreement on the fiber route.

Co-location/ Sharing and Siting
The first principle to be applied by the MCIT when considering the sites of new points of presence along the fiber optic backbone is to locate the new equipment in existing MCIT or Afghan Telecom owned buildings or facilities.

3.2 ENVIRONMENTAL IMPACTS

Protected Areas
Telecommunications infrastructure installation must be avoided in natural protected areas. In cases where construction of infrastructure in protected areas is necessary, it is recommended that a payment for environmental services be required. This payment should be used to strengthen the management and protection of natural protected areas or protect an area with similar environmental characteristics in another location. The revenues for this type of project must be administered by the entity in charge of protected areas and involve academic and research entities.

Renovation of Roads
In the event that existing road infrastructure is damaged during the construction of the fiber optic backbone, such roads will be renovated to their original condition. Adequate backfilling and asphaltalting will be carried out as per existing road construction standards in Afghanistan.

3.3 SOCIAL IMPACTS

Occupational Health and Safety
Occupational health and safety hazards may occur during construction, of the backbone network and must be carefully managed. The occupational health and safety hazards include the following:
• Optical fiber safety
• Elevated and overhead work
• Fall protection
• Confined space entry
• Motor vehicle safety

In particular, prevention and control measures must ensure that only trained and certified workers access the facilities or any area that could present occupational health and safety hazards, with the necessary safety devices and respect for minimum setback distances. Injuries related to electric shock should also be prevented, minimized, and controlled.

3.4 **ENVIRONMENTAL AND SOCIAL MONITORING**

Environmental and social monitoring should address all possible effects that the telecommunications sector could have on the environment. Environmental and social monitoring should encompass vegetation loss, effects on natural terrestrial, erosion, as well as social surveys, impacts on local peoples, traffic safety and health, and other occupational safety issues.

3.5 **PUBLIC CONSULTATION AND COMMUNICATION**

It is recommended that MCIT and local authorities hold discussions before rolling out plans and specific development proposals. In residential areas, it is also best practice for the contractor to openly communicate about projected plans and impacts by means of public meetings or publication of impacts (particularly visual ones). A system for communicating and presenting concerns and issues will be established and maintained during the operation of the project.

3.6 **INSTITUTIONAL ARRANGEMENTS FOR THE ENVIRONMENTAL SECTOR IN AFGHANISTAN**

Article 13 of the Environmental law enacted by the Government of Afghanistan in 2007 prohibits any person from undertaking an activity or implementing a project, plan or policy that is likely to have a significant adverse effect on the environment. Article 16 presents the approval procedure while article 14 provides details of submitting information to National Environmental Protection Agency to decide on the type of environmental assessment required for approval. Depending on the nature of the adverse impact either an environmental impact statement or a comprehensive mitigation plan has to be prepared.

The proposed project does not envisage significant and irreversible adverse impacts on the environment and community, both. The identified adverse impacts are localized in spatial extent and short in duration and are manageable by implementing mitigation measures detailed in the Environmental and Social Management Plan (ESMP). Further, it is expected that the beneficial impacts of the project are significant. Therefore, a comprehensive mitigation plan, as specified in Article 15 of the Law, has been prepared and incorporated in the ESMP. Considering the environmental assessment requirements in World Bank Operational Policies (OP 4.01) the project would be classified as Category B in which the environmental assessment requirement for many projects would be a management plan.

3.7 **POSITIVE ENVIRONMENTAL IMPACTS AND SOCIOECONOMIC BENEFITS**

Telecommunications plays a major role in economic, social, and cultural growth and development. The main socioeconomic benefits of improved telecommunications services include:

• Shared infrastructure such as a national backbone network allow for affordable and reliable connectivity;
• Greatly extended geographic and socioeconomic range of users/consumers;
Greatly extended geographic and socioeconomic range of non-voice or data services, including broadband.

3.8 **Potential Negative Environmental and Social Impacts**

**Impact categories**

The potential negative impact associated with the fiber optic backbone could include impacts associated with the installation/laying of the backbone.

**Types of potential issues related to the Project**

Environmental issues in the development of the backbone primarily include visual impact, and noise/disturbance during construction.

The project is not expected to have any significant negative social impacts. There is no land acquisition or involuntary resettlement. Most of the proposed backbone is expected to be constructed alongside existing roads.

The environmental impacts expected from this project are moderate to minimal. The backbone subcomponent is likely to have some environmental impact, either due to temporary disruption during the construction of ducts for laying the fiber optic.

3.9 **Environmental and Social Monitoring**

Environmental monitoring programs for the fiber optic backbone component should be implemented to address all activities that have potentially significant impacts on the environment during normal operations and upset conditions. Monitoring should be conducted by trained individuals following monitoring and record-keeping. Monitoring data should be analyzed and reviewed at regular intervals and compared with the operating standards so that any necessary corrective actions can be taken:
4 ENVIRONMENTAL AND SOCIAL MONITORING PLAN (ESMP)

Assessment and classification of impact
Based on the nature of the fiber optic backbone subcomponent, the project will only require only an ESMP, since the impacts are not significant and can be easily addressed through the implementation of a mitigation and management plan during construction of the subcomponent.

The Proponent awarded the contract to install and commission the fiber optic backbone will prepare an ESMP to cater to the environmental and social needs of the project in a simple, responsive, and cost-effective manner that will not unnecessarily overload or impede the project cycle.

Annex 1 is a checklist that should be followed in preparing the ESMP.

The MCIT is required to include environmental contract clauses in the technical specifications and account for these measures in the sub-project implementation budget. Annex 2 provides a set of recommended contract clauses to include in contractor agreements.

Disclosure of Information
In compliance with World Bank guidelines before the contract award is approved, the ESMP must be made available for public review at a place accessible to local people (e.g., at a district council offices, relevant environmental authority, university, relevant provincial ICT offices) in a form, manner, and language (Dari or Pashto) they can understand.

Annual Monitoring Reports
Compliance monitoring comprises of a site-inspection of construction activities to verify that measures identified in the ESMP are included in the clauses for contractors. This type of monitoring is similar to the normal tasks of a supervising engineer whose task is to ensure that the contractor achieves the required standards and quality of work.

Once implementation of the sub-component has started, regular supervisory missions should be carried out (by the Environmental Specialist or contracted out to a Consultant) and an annual monitoring report submitted to MCIT and to the World Bank for review.

The purpose of these reports is to provide:

- A record of experience and issues running from year to year throughout the Project that can be used to identify difficulties and improve performance; and
- Practical information for undertaking an annual review.
5 ACTION PLAN FOR IMPLEMENTATION OF ESMP

The following section provides detailed guidelines for preparation and implementation of the ESMP for the fiber optic backbone subcomponent.

5.1 IMPLEMENTATION GUIDELINES FOR AN ESMP

The ESMP for the fiber optic backbone subcomponent will need to be approved and disclosed prior to implementation of the subcomponent.

The impacts associated with digging a trench along an existing road to install cable lines can be easily addressed through mitigation and monitoring measures applied in the civil works and supervision contracts without much if any site-specific environmental analysis.

Institutional/third party roles and responsibilities

The ESMP should be prepared by the Contractor either through a consultant or Environmental Specialist with sufficient knowledge of the environmental and social issues related to the telecommunications sector. Ideally, the consultant should have a strong understanding of the legislative structure of Afghanistan.

Implementation and monitoring schedule

The MCIT should agree with the Contractor on supervision of the ESMP within the overall plan for the project. Accordingly, the supervision arrangements for the ESMP should summarize key areas on which supervision will focus: critical risks to implementation of the ESMP, how such risks will be monitored during implementation, and agreements reached with the Contractor.

Supervision of the ESMP, along with other aspects of the project, covers monitoring, evaluative review, and reporting and is designed to:

- Determine whether the Proponent is carrying out the project in conformity with environmental safeguards and legal agreements;
- Identify problems as they arise during implementation and recommend to the Proponent means to resolve them;
- Recommend changes in project concept/design, as appropriate, as the project evolves or circumstances change; and
- Identify the key risks to project sustainability and recommend appropriate risk management strategies to the Proponent.

It is vital that an appropriate environmental supervision plan be developed with clear objectives to ensure the successful implementation of an ESMP.

Budget

The ESMP will outline the appropriate budget required to implement measures for mitigation and monitoring. It will also indicate the costs of required training and capacity building.

Costs should be calculated based on estimates provided by contractors for any mitigation measures required during the installation and commissioning of the fiber optic backbone. For example:

- Costs of ensuring that appropriate dust suppression mechanisms are in place during excavation works must be calculated and included in the tender documents;
- Costs of installing erosion control measures should be estimated as part of the engineering costs;
Cost of rehabilitating roads to their original condition prior to fiber laying should be estimated as part of the cost;

Training of staff on environmental and OHS issues should be outlined in detail; and

Costs of monitoring noise during construction should be calculated based on the frequency of monitoring and cost of equipment.

**Capacity building and technical assistance requirements**

As part of best practice, and to comply with the ESMP, contractors and MCIT staff should be provided with awareness-raising, environmental, and training on site. These should focus on the construction phase of the subcomponent. A proposed format for a two-day training workshop is provided in the following Table.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Awareness raising</strong></td>
<td>1 day</td>
</tr>
<tr>
<td>Environmental awareness and the importance of effective mitigation</td>
<td></td>
</tr>
<tr>
<td>Mitigation measures and environmentally sound construction techniques</td>
<td></td>
</tr>
<tr>
<td><strong>Technical training</strong></td>
<td>1 day</td>
</tr>
<tr>
<td>Implementation of the ESMP (contract clauses)</td>
<td></td>
</tr>
<tr>
<td>Monitoring of ESMPs</td>
<td></td>
</tr>
</tbody>
</table>

**Total** 2 days
PUBLIC CONSULTATION AND DISCLOSURE PROCESS

6.1 PROCESS FOR PUBLIC CONSULTATION IN THE ESMP

During the course of the Project, consultations should be carried out with all significant stakeholder groups (see table below).

Key stakeholder groups

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Government and regulatory agencies</td>
<td>MCIT, ATRA, Afghan Telecom, Ministry of Public Works and Municipal Corporations affected by the project.</td>
</tr>
<tr>
<td>Non-government organizations</td>
<td>International and local stakeholder groups, including environmental NGOs.</td>
</tr>
<tr>
<td>Local stakeholders</td>
<td>Community-based organizations (CBOs), Municipal and district-level committees, unions, and other local groups.</td>
</tr>
</tbody>
</table>

6.2 PROPOSED DISCLOSURE PLAN

The ESMP prepared for the fiber optic backbone component will need to be disclosed to the public. Copies of the ESMP should be made available to communities and interested parties in accessible locations through local government authorities, (e.g., local councils, district offices). Copies of the ESMP should also be provided to the MCIT and submitted to the World Bank. This will ensure record keeping and ensure that third-party audits have adequate information when undertaking annual environmental audits.
**PROPOSED BUDGET**

The proposed budget for implementation of the measures and recommendations outlined in the ESMP is US$62,000.

**Proposed budget for implementation of the ESMP**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget for implementation and monitoring of the ESMP</td>
<td>Lump sum</td>
<td>$50,000</td>
</tr>
<tr>
<td>Two-day trainings for contractors per training</td>
<td>x 2 = $6,000</td>
<td></td>
</tr>
<tr>
<td>Two workshops in Afghanistan every year for 2 years</td>
<td>per workshop</td>
<td>x 2 = $6,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$62,000</strong></td>
</tr>
</tbody>
</table>
## Environmental and Social Management Plan

### Mitigation and Monitoring Plan

### Checklist for Activities

### 1: INSTITUTIONAL & ADMINISTRATIVE

<table>
<thead>
<tr>
<th>Country</th>
<th>Afghanistan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project title</strong></td>
<td>ICT Sector Development Project</td>
</tr>
</tbody>
</table>

The Project Development Objective is to expand connectivity, mainstream use of mobile applications across the Government, and develop the capacity of the IT sector to facilitate improved delivery of public services across Afghanistan. This will help accelerate job creation in the ICT sector, and contribute to economic growth through wider access to and use of ICT.

The Project takes an integrated approach to the development of the ICT sector in Afghanistan. It has three substantive components to expand connectivity and the reach of broadband Internet services, support mainstreaming of mobile Government services, and accelerate the growth of the private IT sector. These components are inter-related. Creating the enabling environment and making strategic investments to support the expansion of connectivity will create the infrastructure to position Afghanistan as a strategic hub on a ‘digital silk road’ that connects South, North, and Central Asia with the Middle East. Improved connectivity will also support growth in the reach of mobile telephony in traditionally underserved communities. This will enable wider access to mobile applications that connect Afghans to financial services, information, and markets. The proliferation of mobile applications creates opportunities for the Government to expand the reach of public services and creates a focus area for private sector led applications development, which can serve as a starting point to develop the local private IT sector. The fourth component provides for project management services.

### Component 1: Expanding Connectivity

The project will support the expansion of connectivity through three activities. First, the project will provide technical assistance to MCIT and ATRA to support policy and regulatory reforms that create an enabling environment for rapid broadband network deployment and for even wider access to high quality mobile telephone services. Included are consultancies focused on:

- Creating regulations for open and non-discriminatory access to the national backbone network for all telecommunications firms;
- Developing a national broadband plan, supporting the creation of regulations to implement the national broadband plan, and developing related ICT policies and regulations to create a secure environment for Internet users;
- Developing regulations to help improve competition in and quality of mobile
telephone services and creating the enabling environment for the rapid deployment of m-apps across Afghanistan.

Second, the Project will finance the construction of strategic infrastructure that extends the national backbone network to central, northeast, and southern provinces of Afghanistan. The segments financed under this Project will add about 1000km of network to the ongoing Phase 1 deployment of 3100km network that is being financed by the core development budget. This backbone network will be constructed using optical fiber cables laid alongside roads. The planned segments of the network cover areas that lag in the coverage of telecommunications services that have reached other parts of the country. Extension of the backbone network to these areas will connect underserved provinces of the country with inexpensive and high quality backbone connectivity. This will support the expansion of telephony and Internet services in the central provinces, the northeast, and in the south. The link through the central provinces will also put in place the infrastructure that can be completed as road networks are built. This will allow redundancy for the national backbone network, while positioning Afghanistan as a strategic telecommunications hub in a Digital Silk Road that would connect South Asia, Central Asia, North East Asia, and the Middle East.

Third, the project will support twinning and peering arrangements and the acquisition of library resources for ATRA. It will also support training of MCIT staff focused on specific and immediate capacity building needs include ICT policy, broadband strategy and policy development, and telecommunications policy.

Component 2: Mainstreaming mobile applications in Government

The wide reach and use of mobile telephones in Afghanistan creates an opportunity for the Government to mainstream the use of mobile telephone-based applications (mobile applications or m-apps) across its ministries, agencies, and programs. These applications offer an opportunity for “anytime, anywhere” service delivery in social sectors in support of the range of programs implemented by various ministries (e.g. in health, education, agriculture, rural development). These applications also support management of geographically distributed staff and resources across the country, improving monitoring and evaluation, and strengthening delivery systems. Such efforts are referred to as mobile Government or mGovernment programs.

This component will support a coordinated approach to mGovernment through four activities. First, it will create an enabling environment for mGovernment through appropriate strategic, policy, and regulatory measures. As a way to coordinate the mainstreaming of m-apps, the component will first support the creation of an mGovernment strategy and roadmap that will link with the eGovernment Strategic Master Plan that MCIT is preparing. This activity will also include the development of any required policy or regulatory instruments to enable the m-apps ecosystem.

Second, it will create shared resources that enable less expensive and faster design, testing, deploying, and operation of mGovernment services. Shared resources also simplify the citizen’s interactions with the Government. In order to facilitate the rapid deployment of mGovernment applications at a low cost, this subcomponent will finance the creation of shared services and infrastructure for use by various ministries, agencies, and programs. This includes the creation of a service delivery platform (SDP) for mGovernment. The SDP is a technical architecture that permits

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(2) Surveys suggest that this region has the lowest mobile phone ownership in the country (30 percent compared with a 52 percent national average). See http://asiafoundation.org/resources/pdfs/Afghanistanin2009.pdf (page 138). And as is evident from one service provider’s coverage map, there is little coverage in the central region. See http://www.roshan.af/web/coverage-maps/index.htm
rapid and low-cost development, testing, deployment, provisioning, and maintenance of various mGovernment applications. The SDP will support the delivery of voice and data services and content in a network- and device-independent manner, reaching the largest number of potential users across Afghanistan. The SDP will reduce duplication of systems in various ministries or agencies that might otherwise develop stand-alone systems. In a related benefit, the Platform will create opportunities for the nascent local IT industry to grow through the development of mGovernment applications over the SDP and, possibly, use the SDP to provide non-commercial or public-service applications.

Third, this component will finance an innovation challenge program to develop the m-apps ecosystem and the IT sector in Afghanistan, while supporting the mainstreaming of mGovernment. This subcomponent will create an innovation grants program as a mechanism to quickly identify, test, and deploy simple mobile applications in support of specific government objectives in priority sectors. The program will take the form of a grants competition that will fund the most innovative tools that address specific development ‘innovation challenges’ in priority areas identified by various ministries and agencies of the Government. The program will fund the best ideas that address these innovation challenges. The program will also support the growth of the local IT industry through competitive processes that encourage participation of competent local IT firms, individuals, or non-government organizations that respond to the innovation challenges and to scale mGovernment applications. The program will also encourage cooperation among partners across disciplines to develop effective and comprehensive solutions to the innovation challenges.

Finally, the Project will support activities to increase the capacity of the public sector in identifying opportunities and developing programs to use mGovernment strategically. It will make a group of strategic advisors that will be available on-demand for MCIT and other state agencies to support their plans to deploy mGovernment services. This subcomponent will also fund capacity building and training activities focused on mGovernment for MCIT and across the Government, aimed at both the technologists (e.g. CIOs) and key policy- and decision-makers.

Component 3: IT industry development

This component will support the development of the local IT industry. The use of IT across the Government and in the private sector has grown significantly since 2002. However, there are few local IT firms and organizations and even these firms have limited capacity to respond to the growing local demand for IT based services and the potential increase in use of IT by the Government. A more dynamic IT industry will respond to the growing demand for mobile applications and IT based services from the private, public, and non-government organizations in Afghanistan. This will lead to job creation. The project will support four activities including: the creation of a sector development strategy; support for IT skills development; supporting the IT park being built by MCIT; and setting up an incubator for ICT firms.

There are opportunities for Afghanistan to grow its local IT sector. However, the enabling environment for growth of the local IT sector is missing important elements. The project will support the creation of an IT sector development strategy for Afghanistan to identify growth opportunities and the missing elements, and the programs and tools needed to address these missing elements and support sector growth. It will also support the creation of specific policy, legal, regulatory, and investment instruments to implement the sector strategy. This will also include training for MCIT officials to build their capacity to support the development of the local IT industry.
The second activity under this component will focus on developing a pool of skilled and qualified IT professionals, a pre-requisite for the success and sustainability of IT sector development in Afghanistan. The potential growth expected in the use of mobile applications also creates an opportunity to create a talent pool that can address that demand. This activity will focus on improving the skills of graduates from Afghanistan’s universities and technical institutes through a ‘finishing school’ that will help make students industry-ready. These finishing schools will train students in the technical and soft skills that are in-demand among Afghan ICT firms. A pilot program will test this approach and following evaluation, the program will be scaled up to increase the output of industry-ready graduates.

As a third activity in this component, the project will finance specific shared facilities and services within the ICT Village, an IT park. The ICT Village responds to strong demands from local ICT firms who seek affordable and high quality space that also has reliable electricity, security, and communications facilities. MCIT will build the ICT Village using its own funds. MCIT has already identified and allocated land for the ICT Village near Kabul city. MCIT plans to contract a professional private construction and development company to build, develop, and manage the ICT Village. The ICT Village will include shared facilities and services, plug-and-play office infrastructure for ICT companies, and an ICT incubator. The Project will finance a consultancy to develop the business plan for the ICT Village, and will finance specific shared services and facilities such as high-capacity telecommunications connectivity and backup power supply that will help make the ICT Village an attractive location for Afghan ICT firms.

The Project will also finance the setting up of an incubator for ICT firms, which will be located within the ICT Village. This incubator will focus on providing low-cost space and mentorship and training services to start-up firms working in the ICT sector. The Project will finance the rental charges for the incubator space to be paid to the ICT Village manager, the acquisition of furniture and some communications facilities for the incubator, and the hiring of an incubator manager. The manager will be responsible for pre-incubation activities prior to the setting up of the incubator, and following its set up, will provide required facilities and services for incubation, attract early-stage firms to the incubator, and facilitate collaborations among incubated firms and tenants within the ICT Village.

Component 4: Project management

This component will finance the creation and functioning of the Project Management Office (PMO) that will become part of the MCIT’s PICU and support MCIT in Project implementation.

Responding to the need to build capacity within MCIT’s finance, procurement, and administration departments, this component will also finance training and capacity building activities as well as incentives for high-performing MCIT staff.
government and by other development partners. To manage its portfolio of investment projects better, MCIT has established a Program Implementation and Coordination Unit (PICU) chaired by the Deputy Minister (Technical). The Directors of the Policy and Planning Department and ICT Department are core members of the PICU, and the Finance and Procurement Directorates of MCIT support the PICU. This is to ensure further strengthening and sustainability of program management capacity that has been developed over the last few years within MCIT.

The Policy and Planning Department will be responsible for implementing the fiber optic connectivity component of the project. ATRA will implement specific subcomponents under Component 1. The ICT Department will implement Components 2 and 3 of the project. Each agency will be responsible for the technical aspects of their respective sub-components and activities. A Project Management Office (PMO) will support the implementation of the various project components.

A Project Management Office (PMO) dedicated to this Project has already been established within MCIT to manage and support MCIT with project implementation. The PMO will report to PICU. The PMO will employ a few international and national consultants. The PMO is already staffed with a project management specialist, financial management specialist, translator, logistics and administrative assistants, and will also include procurement support, support for Monitoring and Evaluation (M&E), communications and safeguards.

Core financial management and procurement functions for the project will be handled by the respective departments within MCIT with support from the PMO. The PMO shall be responsible for the fiduciary aspects of the Project, which will be conducted in a timely manner in accordance with World Bank guidelines. On overall project financial management and procurement issues the PMO will report directly to the PICU. The PMO will also support the Finance Department of the Ministry. The PMO will support the Procurement Department of the MCIT. The PMO will be responsible for all procurement activities under the project and will help develop capacity of the Procurement Department.

### Institutional arrangements

<table>
<thead>
<tr>
<th>(Project Team Leader)</th>
<th>Project Management Specialist</th>
<th>Local Counterpart and/or Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mrs. Tenzin Dolma Norbhu</td>
<td>Mr. Mohammad Ismail Bhat</td>
<td>Ministry of Communications and IT</td>
</tr>
<tr>
<td>Senior ICT Policy Specialist</td>
<td>Project Management Specialist</td>
<td></td>
</tr>
<tr>
<td>Tel: +91 41479435</td>
<td>Tel: 0+93 99-30-1945; Email: <a href="mailto:mi.bhat@mcit.gov.af">mi.bhat@mcit.gov.af</a>; <a href="mailto:mib1946@yahoo.com">mib1946@yahoo.com</a></td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:norbhu@worldbank.org">norbhu@worldbank.org</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ministry of Communications and IT (MCIT)  
Government of Afghanistan  
Eng. Baryalai Hassam  
Deputy Minister Technical  
Mohammad Jan Khan  
Watt, Kabul  
Afghanistan  
Tel: +93 20 210 11 03
<table>
<thead>
<tr>
<th>Implementation arrangements</th>
<th>Safeguard Supervision</th>
<th>Local Counterpart Supervision</th>
<th>Local Inspectorate Supervision</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and contacts:</td>
<td>Safeguard Supervision</td>
<td>Local Counterpart Supervision</td>
<td>Local Inspectorate Supervision</td>
<td>Contractor</td>
</tr>
<tr>
<td>Same as above</td>
<td>Engr. M. Arif Rasuli and Abdul Mohammad Durani</td>
<td>Mr. Mohammad Ismail Bhat</td>
<td></td>
<td>To be decided after completion of bidding</td>
</tr>
<tr>
<td>World Bank</td>
<td>Project Management Specialist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tel: 0+93 99-30-1945; Email: <a href="mailto:mi.bhat@mcit.gov.af">mi.bhat@mcit.gov.af</a>; <a href="mailto:mib1946@yahoo.com">mib1946@yahoo.com</a></td>
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</tbody>
</table>

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Name of site</th>
<th>Afghanistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe site location</td>
<td>The site for the installation and commissioning of the fiber optic backbone is along side the existing road between the following places: (i) Jabu Saraj, Shinwari, Siyagard, Shikh Ali, Shibar, Bamyan, Yakolang, Panjab, Lal Sarjangal, Dowlat Yar, Chagcharan; (ii) Panjab to Daikundi; and (iii) Kunduz, Takhar, Kishm and Faizabad.</td>
</tr>
<tr>
<td>Who owns the land?</td>
<td>Government of Afghanistan</td>
</tr>
<tr>
<td>Geographical description</td>
<td>The fiber will be laid alongside the existing roads connecting the main towns identified above.</td>
</tr>
</tbody>
</table>

**LEGISLATION**

<table>
<thead>
<tr>
<th>Identify national &amp; local legislation, building safety codes and permits that apply to project activity</th>
</tr>
</thead>
</table>

**PUBLIC CONSULTATION**

<table>
<thead>
<tr>
<th>Identify when / where the public consultation process took place</th>
</tr>
</thead>
</table>

**INSTITUTIONAL ARRANGEMENT FOR SUPERVISION AND CAPACITY BUILDING**
Please describe the arrangements and if there be any capacity building?

Attachment an implementation arrangement chart

[ ] N or [ ] Y if Yes, Attachment 2 includes the capacity building program
### 2: ENVIRONMENTAL /SOCIAL SCREENING

<table>
<thead>
<tr>
<th>Activity and examples of potential issues and/or impacts</th>
<th>Status</th>
<th>Additional references</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building rehabilitation</td>
<td>[ ] Yes</td>
<td>[ X ] No</td>
</tr>
<tr>
<td>Site specific vehicular traffic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in dust and noise from demolition and/or construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New construction</td>
<td>[X ] Yes</td>
<td>[ ] No</td>
</tr>
<tr>
<td>Excavation impacts and soil erosion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase sediment loads in receiving waters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site specific vehicular traffic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in dust and noise from demolition and/or construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual wastewater treatment system</td>
<td>[ ] Yes</td>
<td>[ X] No</td>
</tr>
<tr>
<td>Effluent and / or discharges into receiving waters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic building(s) and districts</td>
<td>[ ] Yes</td>
<td>[ X] No</td>
</tr>
<tr>
<td>Risk of damage to known/unknown historical or archaeological sites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition of land</td>
<td>[ ] Yes</td>
<td>[ X] No</td>
</tr>
<tr>
<td>Encroachment on private property</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relocation of project affected persons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involuntary resettlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts on livelihood incomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous or toxic materials</td>
<td>[ ] Yes</td>
<td>[ X] No</td>
</tr>
</tbody>
</table>

(3) ^3^ Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/ transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Response Options</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removal and disposal of toxic and/or hazardous demolition and/or construction waste</td>
<td>[ ] Yes [X] No</td>
<td></td>
</tr>
<tr>
<td>Storage of machine oils and lubricants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts on forests and/or protected areas</td>
<td>[ ] Yes [X] No</td>
<td></td>
</tr>
<tr>
<td>Encroachment on designated forests, buffer and/or protected areas</td>
<td>See Section G below</td>
<td></td>
</tr>
<tr>
<td>Disturbance of locally protected animal habitat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling / management of medical waste</td>
<td>[ ] Yes [X] No</td>
<td></td>
</tr>
<tr>
<td>Clinical waste, sharps, pharmaceutical products (cytopic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste</td>
<td>See Section H below</td>
<td></td>
</tr>
<tr>
<td>On site or off-site disposal of medical waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic and Pedestrian Safety</td>
<td>[ ] Yes [X] No</td>
<td></td>
</tr>
<tr>
<td>Site specific vehicular traffic</td>
<td>See Section I below</td>
<td></td>
</tr>
<tr>
<td>Site is in a populated area</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(4) Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>GOOD PRACTICES MITIGATION MEASURES CHECKLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. General Conditions</td>
<td>Notification and Worker Safety</td>
<td>The local construction and environment inspectorates and communities have been notified of upcoming activities. The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works). All legally required permits (to include not limited to land use, resource use, dumping, sanitary inspection permit) have been acquired for construction and/or rehabilitation. All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. Workers’ PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots). Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</td>
</tr>
<tr>
<td>B. General Rehabilitation and/or New Construction Activities</td>
<td>Air Quality</td>
<td>During interior demolition use debris-chutes above the first floor. Keep demolition debris in controlled area and spray with water mist to reduce debris dust. Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site. Keep surrounding environment (side walks, roads) free of debris to minimize dust. There will be no open burning of construction / waste material at the site. There will be no excessive idling of construction vehicles at sites.</td>
</tr>
<tr>
<td></td>
<td>Noise</td>
<td>Construction noise will be limited to restricted times agreed to in the permit. During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible.</td>
</tr>
<tr>
<td></td>
<td>Water Quality</td>
<td>The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and/or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.</td>
</tr>
<tr>
<td></td>
<td>Waste management</td>
<td>(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td>PARAMETER</td>
<td>GOOD PRACTICES MITIGATION MEASURES CHECKLIST</td>
</tr>
<tr>
<td>----------</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) Construction waste will be collected and disposed properly by licensed collectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) The records of waste disposal will be maintained as proof for proper management as designed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)</td>
</tr>
<tr>
<td>C. Individual wastewater treatment system</td>
<td>Water Quality</td>
<td>(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) Monitoring of new wastewater systems (before/after) will be carried out</td>
</tr>
<tr>
<td>D. Historic building(s)</td>
<td>Cultural Heritage</td>
<td>(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and address all construction activities in line with local and national legislation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Ensure that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds.</td>
</tr>
<tr>
<td>E. Acquisition of land</td>
<td>Land Acquisition Plan/Framework</td>
<td>(a) If expropriation of land was not expected and is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the bank task Team Leader is consulted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented</td>
</tr>
<tr>
<td>F. Toxic Materials</td>
<td>Asbestos management</td>
<td>(a) If asbestos is located on the project site, mark clearly as hazardous material</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) Asbestos will be handled and disposed by skilled &amp; experienced professionals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f) The removed asbestos will not be reused</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td>PARAMETER</td>
<td>GOOD PRACTICES MITIGATION MEASURES CHECKLIST</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>-----------------------------------</td>
</tr>
</tbody>
</table>
| Toxic / hazardous waste management | (a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information  
(b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching  
(c) The wastes are transported by specially licensed carriers and disposed in a licensed facility.  
(d) Paints with toxic ingredients or solvents or lead-based paints will not be used |
| G. Affects forests and/or protected areas | Protection | (a) All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.  
(b) For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees  
(c) Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences  
(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. |
| H. Disposal of medical waste | Infrastructure for medical waste management | (a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:  
- Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal:  
  a. Clinical waste: yellow bags and containers  
  b. Sharps – Special puncture resistant containers/boxes  
  c. Domestic waste (non-organic): black bags and containers  
- Appropriate storage facilities for medical waste are in place; and  
- If the activity includes facility-based treatment, appropriate disposal options are in place and operational |
| I Traffic and Pedestrian Safety | Direct or indirect hazards to public traffic and pedestrians | (b) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to |
## MITIGATION PLAN

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>GOOD PRACTICES MITIGATION MEASURES CHECKLIST</th>
</tr>
</thead>
</table>
| by construction activities | • Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards  
• Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.  
• Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement  
• Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public.  
• Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. |
## MONITORING PLAN

<table>
<thead>
<tr>
<th>Phase</th>
<th>What (Is the parameter to be monitored?)</th>
<th>Where (Is the parameter to be monitored?)</th>
<th>How (Is the parameter to be monitored?)</th>
<th>When (Define the frequency or continuous?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>During activity preparation</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>During activity implementation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>During activity supervision</td>
<td></td>
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</tbody>
</table>
ANNEX 2: EXAMPLE OF ENVIRONMENTAL CONTRACT CLAUSES

Proper environmental management of construction projects can be achieved only with adequate site selection and project design.

Site selection

In selecting the site, the following criteria need to be addressed. The site selection process involves site visits and studies to analyze:
- The site’s urban, suburban, or rural characteristics;
- National, state, or municipal regulations affecting the fiber route;
- Accessibility and distance from inhabited areas; Determination of site vulnerability to natural hazards (i.e., intensity and frequency of floods, earthquakes, landslides, hurricanes, volcanic eruptions);
- Suitability of soils and subsoils for construction;
- Site contamination by lead or other pollutants;
- Flora and fauna characteristics; and
- Historic and community characteristics.

Construction activities and environmental rules for contractors

The following information is intended solely as broad guidance to be used in conjunction with local and national regulations. Based on this information, environmental rules for contractors should be developed.

After choosing an appropriate site and design, construction activities can proceed. As these construction activities could cause significant impacts on and nuisances to surrounding areas, careful planning of construction activities is critical. The following rules (including specific prohibitions and construction management measures) should be incorporated into all relevant bidding documents, contracts, and work orders.

Prohibitions

The following activities are prohibited on or near the project site:
- Cutting of trees for any reason outside the approved construction area;
- Hunting, fishing, wildlife capture, or plant collection;
- Use of unapproved toxic materials, including lead-based paints and asbestos;
- Disturbance to anything with architectural or historical value;
- Building of fires;
- Use of firearms (except authorized security guards); and
- Use of alcohol by workers.

Construction Management Measures

Waste Management and Erosion:
Solid, sanitation, and hazardous wastes must be properly controlled through the implementation of the following measures:

Waste Management:
- Minimize the production of waste that must be treated or eliminated.
- Identify and classify the type of waste generated. If hazardous wastes (including healthcare wastes) are generated, proper procedures must be taken regarding their storage, collection, transportation, and disposal.
- Identify and demarcate disposal areas, clearly indicating the specific materials that can be deposited in each.
- Control placement of all construction waste (including earth cuts) to approved disposal sites (>300 m from rivers, streams, lakes, or wetlands). Dispose of all garbage, metals, used oils,
and excess material generated during construction in authorized areas, incorporating recycling systems and material separation.

**Maintenance:**
- Identify and demarcate equipment maintenance areas (>15m from rivers, streams, lakes, or wetlands).
- Ensure that all equipment maintenance activities, including oil changes, are conducted within demarcated maintenance areas. Never dispose of spent oils on the ground, in watercourses, drainage canals, or sewer systems.
- Identify, demarcate, and enforce the use of within-site access routes to limit impacts to site vegetation.
- Install and maintain an adequate drainage system to prevent erosion on the site during and after construction.

**Erosion Control**
- Erect erosion control barriers around the perimeter of cuts, disposal pits, and roadways.
- Spray water on dirt roads, cuts, fill material, and stockpiled soil to reduce wind-induced erosion, as needed.
- Maintain vehicle speeds at or below 10 mph within work areas at all times.

**Stockpiles and Borrow Pits**
- Identify and demarcate locations for stockpiles and borrow pits, ensuring that they are 15 meters away from critical areas such as steep slopes, erosion-prone soils, and areas that drain directly into sensitive water bodies.
- Limit extraction of material to approved and demarcate borrow pits.

**Site Cleanup**
- Establish and enforce daily site clean-up procedures, including maintenance of adequate disposal facilities for construction debris.

**Safety during Construction**
The contractor’s responsibilities include the protection of every person and nearby property from construction accidents. The contractor shall be responsible for complying with all national and local safety requirements and any other measures necessary to avoid accidents, including the following:
- Carefully and clearly mark pedestrian-safe access routes.
- If schoolchildren are in the vicinity, include traffic safety personnel to direct traffic during school hours.
- Maintain supply of supplies for traffic signs (e.g., paint, easel, sign material), road marking, and guard rails to maintain pedestrian safety during construction.
- Conduct safety training for construction workers prior to beginning work.
- Provide personal protective equipment and clothing (e.g., goggles, gloves, respirators, dust masks, hard hats, steel-toed and -shanked boots) for construction workers and enforce their use.
- Post Material Safety Data Sheets for each chemical present on the work site.
- Require that all workers read, or are read, all Material Safety Data Sheets. Clearly explain the risks to them and their partners, especially when pregnant or planning to start a family. Encourage workers to share the information with their physicians, when relevant.
- Ensure that the removal of asbestos-containing materials or other toxic substances be performed and disposed of by specially trained workers.
- During heavy rains or emergencies of any kind, suspend all work.
- Brace electrical and mechanical equipment to withstand seismic events during construction.

**Nuisance and dust control**
To control nuisance and dust the contractor should:
- Maintain all construction-related traffic at or below 15 mph on streets within 200 m of the site.
- Maintain all on-site vehicle speeds at or below 10 mph.
To the extent possible, maintain noise levels associated with all machinery and equipment at or below 90 db.

- In sensitive areas (e.g., residential neighborhoods, hospitals, rest homes) stricter measures may need to be implemented to prevent undesirable noise levels.
- Minimize production of dust and particulate materials at all times to avoid impacts on surrounding families and businesses, especially to vulnerable people (i.e., children, elders).
- Phase removal of vegetation to prevent large areas from becoming exposed to wind.
- Place dust screens around construction areas, paying particular attention to areas close to housing, commercial areas, and recreational areas.
- Spray water as needed on dirt roads, cut areas and soil stockpiles or fill material.
- Apply proper measures to minimize disruptions from vibration or noise from construction activities.

**Community Relations**

To enhance adequate community relations, the Contractor should:

- Following the country and EA requirements, inform the population about construction and work schedules, interruption of services, traffic detour routes, and provisional bus routes, as appropriate.
- Limit construction activities at night. When necessary, ensure that night work is carefully scheduled and the community is properly informed so they can take necessary measures.
- At least five days in advance of any service interruption (e.g., water, electricity, telephone, bus routes) the community must be advised through postings at the project site, at bus stops, and in affected homes/businesses.

**Chance Find Procedures for Culturally Significant Artifacts**

The contractor is responsible for familiarizing themselves with the following “Chance Finds Procedures” in case culturally valuable materials are uncovered during excavation:

- Stop work immediately following the discovery of any materials with possible archeological, historical, paleontological, or other cultural value; announce findings to project manager; and notify relevant authorities;
- Protect artifacts as well as possible using plastic covers; implement measures to stabilize the area, if necessary, to properly protect artifacts;
- Prevent and penalize any unauthorized access to the artifacts; and
- Restart construction works only upon the authorization of the relevant authorities.

**Environmental Supervision during Construction**

The bidding documents should indicate how compliance with environmental rules and design specifications would be supervised, along with penalties for non-compliance by contractors or workers. Construction supervision requires oversight of compliance with the manual and environmental specifications by the contractor or his designated environmental supervisor. Contractors are also required to comply with national and municipal regulations governing the environment, public health, and safety.