Islamic Republic of Afghanistan
Ministry of Communications and Information Technology

CONSULTANCY SERVICES TO PREPARE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF) AND TO CARRY OUT RELEVANT CAPACITY BUILDING FOR DIGITAL CASA AFGHANISTAN PROJECT

Environmental and Social Management Framework for Digital CASA Afghanistan Project

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ANNEXES

ACRONYMS AND ABBREVIATIONS

AFTEL	Afghan Telecom
AIDS	Acquired Immunodeficiency Syndrome
ARP	Abbreviated Resettlement Plan
ARTF	Afghanistan Reconstruction Trust Fund
ATRA	Afghanistan Telecom Regulatory Authority
CASA	Central Asia South Asia
CDC	Community Development Council
cm	centimeter
DABS	Da Afghanistan Breshna Sherkat
DDF	Digital Distribution Frame
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ES	Environmental and Social
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSMIP	Environmental and Social Safeguards Management and Implementation Plans
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GI	Galvanized Iron
GIS	Geographic Information System
GovNet	Government Networks
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HDPE	High-Density Polyethylene
HIV	Human Immunodeficiency Virus
HSMP	Health and Safety Management Plan
ICT	Information and Communications Technology
IT	Information Technology
ICTDP	ICT Sector Development Project
IDA	International Development Association
ITES	Information Technology Enabled Services
IUCN	International Union for Conservation of Nature
Km	Kilometer
LAC	Land Acquisition Committee
LH	Long-Haul
m	Meter
MCIT	Ministry of Communications and Information Technology
MEW	Ministry of Energy and Water
mm	millimeter
MOPW	Ministry of Public Works
MT	Metric Ton

NEPA	National Environmental Protection Agency
NGO	Non-Governmental Organization
OFC	Optical Fiber Cable
OP	Operational Policy
OPGW	Optical Ground Wire
OSP	Outside Services Plant
PAP	Project-Affected Person
PID/ISDS	Project Information Documents/Integrated Safeguards Data Sheet
PMO	Project Management Office
PPE	Personal Protective Equipment
PPG	Project Preparation Grant
PPP	Public-Private Partnership
PVC	Polyvinyl Chloride
ROW	Right of Way
RPF	Resettlement Policy Framework
SOP	Series of Projects
STI	Sexually Transmitted Infection
TAPI	Turkmenistan, Afghanistan, Pakistan and India
TOR	Terms of Reference
UNDP	United Nations Development Program
USEPA	United States Environmental Protection Agency
UXO	Unidentified Explosive Object
WB	World Bank
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

I. DESCRIPTION OF DIGITAL CASA AFGHANISTAN PROJECT

Proposed Development Objective

"The proposed Development Objective is to increase access to digital services throughout Afghanistan, via a regionally integrated, secure and affordable digital infrastructure, including the expansion of e-Government services and digital job opportunities".

Cost and Components

"Digital CASA Afghanistan is estimated at around $90 million, and will consist of a mix of regional and national IDA funds. Since this is a regional program with significant spillover benefits across countries, supplementary regional IDA funding is expected to complement national IDA allocations for up to two-thirds of the total IDA financing of the regional activities. The components will build on the successful implementation of the ongoing ICT Sector Development Project and are expected to be structured as follows:

Component 1: Supply-side (digital connectivity), $60million. Under PPP frameworks, this component will finance domestic and cross-border infrastructure that is needed to ensure greater access to affordable high speed Internet services, both within Afghanistan and in neighboring countries. Activities may include but are not limited to: (a) financing and operation of regional backhaul optical fiber networks; this may include connecting Afghanistan with China through the Wakhan Border, and strengthening links with other neighboring countries such as Tajikistan, Uzbekistan and Turkmenistan (b) deployment of high capacity, domestic fiber-optic networks, including the 9 provincial capitals that remain to be connected and select rural areas of the country; (c) financing of the pre-purchase of Internet bandwidth for the Government usage; (d) financing of the establishment of a Government Network (GovNet) for providing broadband connectivity to government institutions, including schools, universities, government offices at central and provincial levels; and (e) financing of investments in Internet exchange point that may be facilitated at the regional level, and for upgrading of the National Internet Exchange of Afghanistan.

Component 2: Demand-side (digital society and economy), $20 million, will encourage greater and more productive use of enhanced Internet connectivity by government, businesses and citizens. Activities may include but are not limited to: (a) development of shared platform and services to enable automation of central and provincial e-services delivery. This includes leveraging postal networks across the country for ensuring end-to-end delivery of services and citizen feedback; (b) deployment of a government shared e-Procurement platform, and pilot implementation in targeted ministries; (c) enhancement of the National Data Center located within MCIT for enabling a shared digital platform across government (e.g. leveraging cloud computing technologies), including options for backup disaster recovery; (d) targeted interventions aimed at the development of the IT/ITES industry; (e) GIS mapping and development of database to improve national ICT infrastructure monitoring and asset

management; (f) and digital jobs and skills development, including for youth and women outside of Kabul.

Component 3: Enabling environment, $5 million, will provide technical assistance to MCIT and Afghanistan Telecom Regulatory Authority to support institutional development and capacity building activities, to enhance the effectiveness of the institutional framework for the project, both at the regional and national levels. This may include a combination of support for harmonized regional and domestic enabling environment that are conducive to: (a) promoting a competitive ICT market; (b) private sector investment and digital jobs facilitation; (c) facilitating cross-sector infrastructure sharing; (d) facilitating e-Government standards and interoperability frameworks; (e) developing and implementing robust cyber security frameworks; and (f) developing digital leadership within the government.

Component 4: Project Management, $5 million, will finance the provision of technical assistance, equipment, training, and operating costs needed to establish, operate, and strengthen project management functions within MCIT".

II. LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN AFGHANISTAN

The key legislation and policies influencing the development of the ESMF are: i) the Environment Law of Afghanistan (2007); ii) Environmental Impact Assessment (EIA) Regulations (2008), and Environmental and Social Impact Assessment (ESIA) Regulations (2017); iii) Administrative Guidelines for the Preparation of Environmental Impact Assessments (2008); iv) National Environmental Impact Assessment Policy (2007); v) Law on Land Expropriation (2009); vi) Labor Law (2007); and vii) Law on the Preservation of Afghanistan's Historical and Cultural Heritages (2004). The next paragraphs summarize the implications for the implementation of the Project of these legal and policy instruments.

Implications of the Environment Law (2007) for the Project

1. Based on the analysis of potential environmental and social impacts and risks conducted in Chapter 6.0, it is not anticipated that the Project will have any significant adverse impact or risk. In addition, the implementation of subprojects will not take place in any environmentally sensitive area. The analysis also concludes that only activities involving physical works included in Component 1 of the Project (i.e., financing and operation of regional backhaul optical fiber networks, and deployment of high capacity, domestic fiber-optic networks) are likely to produce minor to moderate negative impacts and risks. Further, the World Bank has classified the Project as a Category B operation, signifying that it is likely to generate minor to moderate adverse impacts and risks. Therefore, it is not anticipated that NEPA will require the preparation of an Environmental and Social Impact Assessment or a comprehensive Mitigation Plan for any of the subprojects involving physical works.
2. For the subprojects included in the regional backhaul optical fiber networks and the domestic optical fiber networks under Component 1, MCIT must submit to NEPA a separate Brief on each of these subprojects with their descriptions, and potential environmental and social impacts and risks. Chapter 7.0, dealing with the ESMF, proposes an outline for the Brief.

3. Based on the preceding, it is expected that NEPA will authorize without conditions the proposed subprojects involving the development of both the regional and the domestic optical fiber networks. The ESMF specifies environmental and social requirements for these subprojects that Contractors must fulfill, including the preparation of a Site-Specific Environmental and Social Management Plan, and a Site-Specific Health and Safety Management Plan (please refer to Chapter 7.0). Both Plans for each subproject will be shared with NEPA for its review and comment.
4. As discussed and agreed with the Acting Director for Environmental and Social Assessment at NEPA during a meeting held on February 19, 2017 with participation of a staff member of MCIT's PMO and the ESMF Consultant, provincial NEPA Inspectors will take part in conjunction with respective provincial MCIT Field Supervisors in joint environmental and social inspections of construction works in each of the provinces where the subprojects identified in Numeral 1 are undergoing implementation.

Implications of the Environmental Impact Assessment (EIA) Regulations (2008) for the Project

1. Given that none of the subprojects involving physical works included under Component 1 of Digital CASA (i.e., regional backhaul optical fiber networks and domestic optical fiber networks) appear on the list of activities classified as either Category 1 or Category 2 of Schedule I of the Regulations, none of the Digital CASA subprojects need to submit either an Application or a Screening Report to NEPA.
2. Digital CASA subprojects will only need to submit a Brief before NEPA, as established under Article 14 of the Environment Law.

Implications of the Administrative Guidelines for Preparation of Environmental Impact Assessments (2008) for the Project

The review of the Administrative Guidelines for the Preparation of Environmental Impact Assessments confirms the conclusions reached above regarding the environmental and social regulatory requirements for the Digital CASA Afghanistan Project.

Implications of the Law on Land Expropriation (2009) for the Project

It is not anticipated that the Project will generate the displacement of people, physical structures or productive activities. Rather, it is foreseen that the Project may have a very limited impact on some productive assets, in particular agricultural crops and fruit trees, as well as some ornamental assets, such as plants and trees. In addition, the Project may temporarily impede access to commercial and institutional establishments, and to residential buildings.

In this sense, since expropriations will not be necessary, the applicability of the Law to the Project will be very narrow, circumscribed to the payment of compensation for the impact on productive and ornamental assets, as stipulated in Article 8. Further, the Environmental and Social Management Framework (ESMF) for the Project (see Chapter 7.0) includes a Resettlement Policy Framework (see Annex XI) to address all issues dealing with compensation.

Implications of the Labor Law (2007) for the Project

The ESMF (see Chapter 7.0) requires that each of the Contractors responsible for the implementation of subprojects included under Component 1 of the Project prepares a Site-Specific Health and Safety Management Plan that incorporates the relevant requirements of the Labor Law (i.e., provision of a safe workplace and training on adequate work practices and on safety in the workplace, supply of adequate work tools and personal protective equipment, provision of medical first aid services, investigation of work-related accidents, etc.).

Implications of the Law on the Preservation of Afghanistan's Historical and Cultural Heritages (2004) for the Project

Although it is not anticipated that the Project will affect physical, cultural or historical sites, resources, structures, remnants or artifacts, in case that physical works take place in the proximity of physical cultural resources, the respective Contractor will have to stop the works and report the finding to the Archaeology Institute, as established in Article 10. Annex XVI includes a Chance Find Procedure to guide MCIT and Contractors on the steps to take in case of discovery of physical cultural resources.

Institutional Framework

The Ministry of Communications and Information Technology (MCIT) is the Implementing Agency of the Digital CASA Afghanistan Project. It will create a Project Management Office (PMO) specifically for the purpose of managing the Project, including coordinating the implementation of the ESMF.

Of particular relevance to the Digital CASA Afghanistan Project is the role of NEPA as the National Environmental Authority in relation to the Environmental and Social Impact Assessment process, since it has the "function and power" to "provide environmental management services in the areas of environmental impact assessment, air and water quality management, waste management, pollution control, and permitting of related activities".

The installation of most of the fiber optic cable for the Project will take place within the right of way of existing roads administered by the Ministry of Public Works.

The use of the existing infrastructure of the Ministry of Energy and Water for the implementation of Digital CASA may be a possibility in some areas.

III. APPLICABLE WORLD BANK SAFEGUARD POLICIES

The Digital CASA Afghanistan Project was classified as Category B by the World Bank, "indicating that moderate and minor negative environmental and social impacts and risks are anticipated. The table identifies the World Bank safeguard policies triggered by the Project and explains why.

Applicable World Bank Safeguards Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	**Yes**	Two-thirds of the Digital CASA budget (i.e., USD 60 million) will go towards financing the implementation of Component 1 (Supply Side, Digital Connectivity). Of all of the activities included in this Component, only those involving physical works are likely to generate negative environmental and social impacts and risks of note. Specifically, these activities are: i) financing and operation of regional backhaul optical fiber networks; and ii) deployment of high capacity, domestic fiber-optic networks. It is anticipated that the adverse environmental and social impacts and risks of the subprojects included in the two activities mentioned above, involving the development of Optical Fiber Cable (OFC) Networks, are likely to be of minor to moderate magnitude, with predominance of the former; localized; temporary; reversible; and easily avoided, managed or mitigated with commonly available measures. Chapter 6.0 conducts an analysis of the potential environmental and social impacts and risks of the Project. The Environmental and Social management Framework (ESMF) included in Chapter 7.0 contains a detailed procedure and corresponding instruments to asses and manage anticipated impacts and risks.
Natural Habitats OP/BP 4.04	**No**	All Project activities will take place within the right of way of existing or planned roads, and existing building structures and offices. In case the construction of new telecommunications complexes is necessary, these structures will be built on public land plots belonging to the Ministry of Communications and Information Technology (MCIT) or the Afghanistan Telecom Regulatory Authority (ATRA) in consolidated urban or rural areas. Therefore, the Project will not intervene natural habitats.
Forests OP/BP 4.36	**No**	Based on the explanation provided in the previous row, the Project will not be implemented in forested areas.
Pest Management OP 4.09	**No**	The Project does not require the use of pesticides.
Physical Cultural Resources OP/BP 4.11	**No**	The excavations required to open trenches for the laying of optical fiber cables will take place within the right of way of existing or planned roads. This approach avoids the need to excavate relatively undisturbed areas where physical, cultural or historical sites, resources, structures, remnants or artifacts may be present. However, in order to ensure that appropriate measures are taken in case physical works take place in the proximity of physical cultural resources, Annex XVI includes a Chance Find Procedure.
Indigenous Peoples OP/BP 4.10	**No**	There are no indigenous peoples settled in the area of implementation of the Project.
Involuntary Resettlement OP/BP 4.12	**Yes**	The excavation and backfilling operations required to install underground optical fiber cables may lead to the partial loss of productive assets (agricultural crops and fruit trees), partial loss of ornamental vegetation, and temporary limitation of access to commercial and institutional establishments, and to residential properties. The separate Resettlement Policy Framework (RPF) for the Project addresses these impacts, and provides guidelines and procedures for the preparation of Abbreviated Resettlement Plans (ARPs) that will be required for Optical Fiber Network subprojects. As explained in the RPF, the anticipated resettlement impacts of these subprojects are likely to be minor according to the definition set forth in the World Bank Operational Policy on Resettlement (OP 4.12), since "…the affected people are not physically displaced and less than 10 percent of their productive assets are lost (OP 4.12, p. 7). In these instances, an ARP is applicable.
Safety of Dams OP/BP 4.37	**No**	The Project does not involve the construction, rehabilitation or upgrade of dams.
Projects on International Waterways	**No**	The Project will not be implemented on international waterways.

Safeguard Policies	Triggered?	Explanation
OP/BP 7.50		
Projects in Disputed Areas OP/BP 7.60	**No**	The Project will not be implemented in disputed areas.

IV. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS OF DIGITAL CASA

Two-thirds of the Digital CASA budget (i.e., USD 60 million) will go towards financing the implementation of Component 1 (Supply Side, Digital Connectivity). Of all of the activities included in this Component, only those involving physical works are likely to generate negative environmental and social impacts and risks of note. Specifically, these activities are:

1. Financing and operation of regional backhaul optical fiber networks, which may include connecting Afghanistan with China through the Wakhan Border, and strengthening links with other neighboring countries such as Tajikistan, Uzbekistan and Turkmenistan.
2. Deployment of high capacity, domestic fiber-optic networks, including the nine provincial capitals that remain to be connected and select rural areas of the country.

The overall Project impacts are anticipated to be mostly positive. The positive impacts are expected to be significant and widespread. Several Project features, as well as the approach to the implementation of civil works, will greatly reduce the potential to generate significant and moderate negative impacts and risks. In specific terms:

1. The World Bank has classified the Project as Category B from the environmental and social point of view, indicating that only minor to moderate negative impacts and risks are anticipated. The Project will not finance activities likely to generate significant negative environmental or social impacts and risks such as, among others, the intervention of natural, protected or environmentally sensitive areas, or major dislocations of people, economic activities, productive assets or physical structures.
2. The installation of optical fiber cable will take place exclusively within the right of way of existing and future roads. This means that there will be no need to intervene undeveloped areas, thus avoiding some of the potential impacts associated with infrastructure projects such as, among others, removal of vegetation; interruption of hydrological regimes; loss, fragmentation or degradation of terrestrial habitats and species, and severance of animal migration routes and pathways; induced impacts associated with the construction of access roads; and displacement of or damage to physical, cultural and historical sites, resources, structures, remnants and artifacts.
3. The Project does not include the erection of poles or towers, which avoids the likely impacts associated with these structures such as, among others, vegetation removal, erosion and sedimentation, visual landscape degradation, bird collisions and exposure to electromagnetic fields.
4. With the exception of new provincial telecommunications compounds, the Project does not involve the construction of new building structures, since the operations required to expand, upgrade, rehabilitate or update ICT equipment, software, peripherals, systems, etc. in order to extend and increase the efficiency of ICT networks will take place in already existing buildings. The construction of new telecommunications compounds will take place on

available public lands, thus avoiding the need to expropriate private lands and displace residents.

5. The civil works necessary for the laying of optical fiber cable consist of, in general, very simple operations from the technical point of view, comprising the excavation, backfilling and compaction of trenches, and the installation of cables in conduits. In addition, these works require very basic machines and tools, such as backhoes, shovels, picks, etc. Further, the trenches are modest in dimension (1.6 m deep and 60 cm wide), thus greatly reducing the community and workplace health and safety risks associated with excavations.
6. There will be no construction camps or construction plants (i.e., concrete batching, stone crushing, cement mixing or asphalt plants). This is so because of, on the one hand and as explained above, the relatively small magnitude of the civil works, workforce and demand for construction materials[1] and, on the other, the approach to cable laying consisting of completing all the required work in about three days for a one-kilometer stretch and then moving to the next one-kilometer stretch for the same period of time. This will result in the avoidance of the environmental and social impacts and risks associated with site selection, construction, operation and closeout of construction camps, as well as site selection, installation, operation, maintenance and dismantling of construction plants. Some of these impacts and risks may be moderate to significant if not managed adequately (e.g., development of construction camps in natural areas or close to watercourses that may impact flora and fauna species of high ecological value, inadequate handling of hazardous wastes that may lead to spills and contamination of soils and water bodies, operation of construction plants not well maintained that may generate excessive levels of noise and gas emissions, etc.).

Based on the above, it is anticipated that the adverse environmental and social impacts and risks of Digital CASA are likely to be of minor to moderate magnitude, with predominance of the former; localized; temporary; reversible; and easily avoided, managed or mitigated with commonly available measures.

The tables below summarize, respectively, the potential positive impacts of each of the Components of the Project, and the potential adverse environmental and social impacts and risks of the Project, as well as suitable mitigation measures to address them.

Potential Positive Environmental and Social Impacts of Digital CASA

PROJECT COMPONENT	POSITIVE IMPACTS
Component 1: Supply Side (Digital Connectivity)	• Creation of temporary jobs during the laying of optical fiber cable, and the installation and upgrade of ICT equipment and services. To enhance this positive impact, unskilled labor will be recruited exclusively from local communities, and semi-skilled labor will be recruited preferentially from such communities, provided that they have the requisite qualification, competence and desired experience.

[1] Food and lodging for workers will be obtained from the communities where the works are underway. Construction vehicles and trucks will be serviced and repaired at local shops. Construction materials will be purchased locally when available.

PROJECT COMPONENT	POSITIVE IMPACTS
	• Temporary enhancement of local economic activity along the routes where the optical fiber will be laid, and ICT equipment and services will be installed, as a result of increased demand of materials, supplies and goods from Contractors (e.g., aggregates, fuel, etc.) and workers (e.g., food, clothing, etc.). To enhance this positive impact, the Project will promote local procurement where technically and commercially reasonable and feasible. In addition, Contractors shall procure aggregates (sand, gravel, crushed stone, etc.) from licensed sources to avoid environmental degradation. • Significant increase in the utilization of the national optical fiber backbone currently underutilized due to the lack of or limited links within provinces and to some neighboring countries. • Improved connectivity in provincial and central public entities will result in increased efficiency in intra- and inter-information sharing in public offices, enhanced information dissemination to the public, facilitation of decision making and more transparency in government decisions, streamlined procurement processes and lower expenditures in government offices (due to reduced purchase of paper, stationery, etc.). • New and strengthened connectivity with neighboring countries will improve trade and regional security. • Enhanced broadband connectivity to businesses, schools, hospitals, universities, research institutions and NGOs will: ✓ Increase business opportunities by expanding the geographical reach of companies and reducing the cost of doing business (e.g., travel and communications costs, stationary, etc.). ✓ Improve healthcare services delivery. ✓ Enhance university education and research. ✓ Enable NGOs to have a stronger scope and wider spatial coverage of developmental undertakings in communities. ✓ Increase significantly in the utilization of the national optical fiber backbone.
Component 2: Demand Side (Digital Society and Economy)	• Transformation and enhancement of public service delivery through the use of ICT-based platforms will reduce the cost, improve information sharing and flow, and increase the speed of doing government business. • Expansion of technical capacity and business opportunities in the ICT sector, thanks to interventions aimed at the development of the information technology industry and the increase in ICT training activities (this will include youth and women outside Kabul).
Component 3: Enabling Environment	The institutional development and capacity strengthening of MCIT and ATRA will help create an enabling environment conducive to: • Creation of job opportunities. • More efficient government service delivery. • Improved productivity in all sectors. • Enhanced governance.

PROJECT COMPONENT	POSITIVE IMPACTS
	• National economic development.
Component 4: Project Management	• Short- to medium-term job opportunities for skilled professionals in areas of procurement, monitoring and evaluation, and environmental and social safeguards.

Potential Adverse Environmental and Social Impacts and Risks of Digital Casa, and Mitigation Measures

IMPACTS AND RISKS	MITIGATION MEASURES
Soil Erosion: Loss, damage or disruption of soil, with possible introduction of sediments to watercourses, as a result of trenching and vegetation clearing.	• Early installation and regular maintenance of drainage and diversion structures, silt traps, etc; drainage outlets to discharge into vegetated areas if possible; vegetation along watercourses and drainage lines to be retained if possible. • Retention of topsoil for restoration (including tilling and revegetation) as soon as practicable. • Removed soil from trenching operations shall be used for backfilling. • Careful planning of timing of works (overall duration and seasonality, specially avoiding works during the rainy season if possible). • Clear demarcation on project drawings of vegetation to be affected. • Minimization of cleared areas and soil disturbance, with revegetation as soon as feasible with species adapted to local conditions when applicable. • If the surface to be intervened is small, protection of erodible areas with mulch, and planting with protective vegetation once works are finished; preferably, execution of works during the dry season. • If the surface to be intervened is large, presentation of an adequate erosion and sedimentation control plan, specifying type of device to be applied, installation sequence and location; preferably, execution of works during the dry season.
Water and Soil Pollution, and Landscape Degradation: • Trenching and vegetation clearing may create exposed sites. Sediment-laden runoff from cleared areas could impact water quality of downstream watercourses. • Release of hazardous substances associated with construction and maintenance activities or with transport of materials (e.g., accidental spills and leaks), may lead to soil, surface or groundwater contamination. • Inefficient waste management during construction and maintenance activities may lead to inadequate disposal of solid (domestic and construction) and liquid wastes that may pollute soils and watercourses, and visually degrade natural and man-made landscapes.	• Train personnel on waste handling and segregation. • Segregated waste storage containers with appropriate signs (hazardous or non hazardous) shall be provided at construction sites. • No garbage, refuse, oily waste, fuel, waste oil or removed/excess materials (e.g., asphalt, sidewalks, metal scrap, etc.) shall be discharged into drains, onto site grounds, natural areas or watercourses. • If feasible, reuse of removed/demolished materials (e.g., asphalt, sidewalks, metal scrap, etc.) or donation to local community. In addition, careful selection of adequate sites for final disposal of removed/excess materials not reused or donated. • Implementation of appropriate storage and containment areas (e.g., "bunded" area with impervious "polyliner" or similar) for both new and waste fuel, oil and hazardous materials to prevent and contain any spillage and leaks. • Prompt removal and safe disposal of soil contaminated with hydrocarbons. • Hazardous and oil waste shall be collected and disposed by NEPA licensed waste handlers. • Implementation of hazardous materials handling and control procedures (e.g., identify chemical products and store in storage area with restricted access, keep track of movement of each chemical, etc.). • Keep records of waste generation (i.e. type of waste; hazardous or non hazardous; weight or volume; properties; destination; date; etc.).

IMPACTS AND RISKS	MITIGATION MEASURES
	• Maintenance and cleaning of vehicles, trucks and equipment should take place offsite, and prohibition of vehicle washing in watercourses. • Toilet facilities shall be provided for construction workers to avoid indiscriminate defecation in nearby bush. See soil erosion above for control of water pollution due to released sediments from disturbed construction sites.
Air Pollution: Dust and exhaust emissions from small-scale construction activities, and movement of construction vehicles and trucks may affect human health.	• Whenever dust generation at construction sites becomes a problem, water spraying to suppress dust shall be undertaken. • Truck drivers shall be sensitized on and ensure they observe speed limits on earth roads to reduce dust generation. • Contractors shall operate only well-maintained construction machinery, vehicles and trucks, and implement a routine maintenance program for all vehicles and trucks. • Engines of vehicles, trucks and earth-moving machinery shall be switched off when not in use.
Noise and Vibration: • Use of earth-moving equipment and heavy vehicles may generate noise and vibration. • Excessive noise can be a nuisance to local communities and businesses. In addition, noise may affect wildlife when optical fiber cable is laid in close proximity to natural areas. • Vibration from compacting trenches may crack walls of structures adjoining work sites.	• Contractors shall implement best driving practices when approaching and leaving construction sites to minimize noise generation created through activities such as unnecessary acceleration and breaking. • Strict control of timing of activities within authorized working hours, including banning work at night. • Minimize noise levels and vibrations (e.g., sound insulation, select equipment with lower sound power levels, install acoustic enclosures for equipment, install suitable mufflers on engine exhausts and compressors components). See also air pollution above.
Traffic Congestion, Creation of Hazardous Driving Conditions and Obstruction of Access: Potential traffic congestion, creation of hazardous driving conditions and obstruction of access to homes, businesses and community services during trenching and cable laying operations.	• Trenching across roads, and construction vehicles and trucks movement shall be scheduled during general traffic off-peak hours to avoid traffic congestion and hazards. • Employ safe traffic control measures, including temporary road signs and flag persons to warn of dangerous conditions, and traffic diversions. • Only experienced and trained drivers/operators shall drive/operate construction vehicles, trucks and machinery.
Interruption of Water, Telephone or Internet Services: Excavation and removal of materials (pavement, sidewalks, soil, etc.) required for the laying of optical fiber cable may accidentally rupture pipes, lines and cables, which will result in the interruption of services until affected infrastructure is repaired.	• Consultation and coordination between Contractors, MCIT and utility companies to plan execution of works, including review of maps/drawings with location of pipes and lines to avoid accidental rupture of service infrastructure. MCIT, the Ministry of Public Works, the Ministry of Energy and Water, and the power transmission company, Da Afghanistan Breshna Sherkat (DABS), created an inter-ministerial commission to coordinate the rollout of different infrastructures in order to avoid duplication of efforts, budgetary waste and public nuisances due to the construction of different infrastructures along the same alignment at different times. This commission offers an ideal forum for the coordination of the Digital CASA OFC backbone network rollout with existing roads, roads under construction and power transmission lines. • Adoption of previsions in case of accidents, to assure prompt restitution of service.

IMPACTS AND RISKS	MITIGATION MEASURES
Partial Loss of Productive Assets; and Temporary Limitation of Access to Commercial and Institutional Establishments, and to Residential Properties: Excavation and backfilling operations required to install underground optical fiber cable may: • Impact partially agricultural crops and fruit trees, as well as ornamental vegetation. • Temporarily impede access to commercial and institutional establishments, and to residential buildings.	• For the partial impact on agricultural fields and areas with ornamental vegetation and fruit trees, implementation of compensation measures for affected parties in accordance with the Resettlement Policy Framework enclosed as Annex XI. • For the temporary limitation of access to commercial and institutional establishments, and to residential buildings, careful planning of construction activities to minimize duration of impact.
Occupational Health and Safety Hazards: Occupational health and safety hazards during: • Trenching operations for laying of optical fiber cable. • Installation of equipment at existing ICT sites to expand capacity and improve efficiency. • Installation of equipment on some overhead power transmission lines to create backup routes for Digital CASA optical cables using existing Optical Ground Wires on transmission lines. • Construction of telecommunications compounds and other physical structures.	• Conduct a risk assessment of site safety hazards, and design and implement measures specific to identified hazards. • Train workers on safe work practices, and conduct toolbox talks. • Provide and enforce use of adequate Personal Protective Equipment (PPE) on site including, as applicable, hard hats, overalls, high-visibility vests, safety boots, gloves etc**.** • Put a system in place to track and respond to accidents, incidents, near misses and fatalities. • Except for areas secured by fencing, all active construction areas shall be marked with high-visibility tape, in particular open trenches, to reduce the risk of accidents involving workers, pedestrians and vehicles. • All open trenches and excavated areas shall be backfilled as soon as possible after cable laying and construction has been completed. • Implement good construction site "housekeeping" and control access to active construction sites. • Clear signage shall be used at construction sites. • For risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities: – Train workers on specific hazards associated with laser lights. – Prepare and implement laser light safety management procedures. • For risk of microscopic glass fiber shards penetrating human tissue through skin or eyes, or by ingestion or inhalation: – Train workers on optical fiber management. – Prepare and implement optical fiber management procedures. – Avoid exposure to optical fibers through use of protective clothing and separation of work and eating areas. • For risk of fire due to the presence of flammable materials in high-powered laser installation areas: – Same as above. • For risks associated with contact with live power lines: – Allow only trained and certified workers to install electrical equipment. – Deactivate and properly ground live power distribution lines before work is performed on or in close proximity to the lines. – Ensure that live-wire work is performed by trained workers with strict adherence to specific safety and

IMPACTS AND RISKS	MITIGATION MEASURES
	insulation standards – Workers not directly associated with power transmission and distribution activities that are operating around power lines shall adhere to recognized standards and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning and other activities. – Measures to prevent, minimize and control injuries related to electric shock must also be developed and implemented. • For physical hazards due to falling objects when performing elevated and overhead work: – The area around which elevated work takes place shall be barricaded to prevent unauthorized access. Working under other personnel shall be avoided. – Hoisting and lifting equipment shall be rated and maintained, and operators shall be trained in their use. – Equipment and fall protection measures shall be used and implemented by individuals. – Ladders shall be used according to pre-established safety procedures (proper placement, climbing, standing, use of extensions). • For risk of fall when working at elevation: – Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance and replacement of fall protection equipment; and rescue of fall-arrested workers, among others. – Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters (m) above the working surface). The fall protection system should be appropriate for the tower structure and necessary movements, including ascent, descent and moving from point to point. – Installation of fixtures on tower components to facilitate the use of fall protection systems. – Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached. – Safety belts shall be of not less than 16 millimeters (mm). – Ropes should be 5/8 inch (1.6 cm) in diameter, two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident. – When operating power tools at height, workers shall use a second (backup) safety strap. • For risks associated with confined spaces when performing manual boring operations: • Develop and implement confined space entry procedures, including: require work permits for all confined space entries; install appropriate access controls for non-permitting personnel; use ventilation and oxygen/explosive level detection and alarm equipment prior to access. See also traffic congestion, creation of hazardous driving conditions and obstruction of access above.

IMPACTS AND RISKS	MITIGATION MEASURES
Community Health and Safety: • Community health and safety hazards during the execution of works (laying of optical fiber cable, transportation of materials, etc.). • Influx of workers to communities where works will take place may increase the incidence of Sexually Transmitted Infections (STIs), including Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS), as well as communicable diseases.	• Except for areas secured by fencing, all active construction areas shall be marked with high-visibility tape, in particular open trenches, to reduce the risk of accidents involving pedestrians, workers and vehicles. • All open trenches and excavated areas shall be backfilled as soon as possible after cable laying and construction has been completed. • Clear signage shall be used at construction sites. • Control of access to active construction sites shall be implemented. • Training and awareness raising for communities and workforce on HIV/AIDS and other STDs, and communicable diseases. • Design and implementation of a Code of Appropriate Conduct for all workers, including acceptable behavior with respect to community interactions. See also traffic congestion, creation of hazardous driving conditions and obstruction of access above.
Health and Safety Hazards for Field Personnel Created by Possible Accidental Encounter of Mines or Unidentified Explosive Objects (UXOs): Some areas along which the proposed optical fiber cable alignments will pass have witnessed armed confrontations or are close to military installations, which creates a risk of accidental encounter of mines or unidentified explosive objects during excavations. This raises very serious health and safety concerns for field personnel associated with the Project.	• In areas where there has been or there is fighting, and/or where there was or there is a military installation and/or where there is evidence of past or present existence of mines or UXOs, the Contractor with support from the PMO Environmental and Social Officer will complete the Procedures for Mine and Unidentified Explosive Object Risk Management, attached as Annex XV. This Annex contains procedures to assess the risk of presence of explosive devices and to clear the risk. • In case the assessment of the potential presence of mines or UXOs in a given area finds that there are risks in relation to explosive devices, work will not start until the area is cleared of explosive risks in accordance with the procedure specified in Annex XV.

V. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

The ESMF for the Digital CASA Afghanistan Project comprises the following four steps:
1. Environmental and Social Screening.
2. Environmental and Social Scoping.
3. Incorporation of Environmental and Social Sustainability into the Procurement Process.
4. Environmental and Social Compliance Oversight.

The table below provides an overview of the ESMF process. It indicates when each step of the ESMF should be implemented in relation to each phase of the PMO generic project cycle, points out the tools to use in the application of each step and indicates the available instruments and/or documents to support the implementation of each step.

Overview of ESMF Process

Phases of PMO Project Cycle	ESMF Steps	Tools to Implement Each ESMF Step	Documents/Tools to Support PMO in Implementation of ESMF Step
Prequalification	Environmental and Social Screening	• Environmental and Social Screening Tools Form (Annex IV)	• Potential Positive Environmental and Social Impacts, and Potential Negative Environmental and Social Impacts Risks of Digital CASA, and Mitigation Measures (Annex III). • Procedure for Mine and Unidentified Explosive Object Risk Management (Annex XV).
Selection	Environmental and Social Scoping	• Environmental and Social Scoping Form (Annex V)	• TOR for Contractor's Site-Specific ESMP and Site-Specific HSMP (Annex VI). • Potential Positive Environmental and Social Impacts, and Potential Negative Environmental and Social Impacts Risks of Digital CASA, and Mitigation Measures (Annex III). • Resettlement Policy Framework (Annex XI) • ESHS Technical Specifications for Construction (Annex IX).
Bidding and Contract Negotiation	Incorporation of Environmental and Social Sustainability into Procurement Process	• ESHS Criteria for Evaluation of Bid Proposals (Annex VII). • ESHS Conditions of Particular Application (Annex VIII). • ESHS Technical Specifications for Construction (Annex IX).	
Subproject Implementation	Environmental and Social Compliance Oversight	• Environmental and Social Compliance Report (Annex X).	

KEY: **ESHS**: Environmental, Social, Health and Safety. **ESMP**: Environmental and Social Management Plan. **HSMP**: Health and Safety Management Plan. **TOR**: Terms of Reference.

The next table details the institutional arrangements for the implementation of the ESMF process, specifying institutional responsibilities in relation to each step of the ESMF.

Institutional Arrangement for ESMF Implementation

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
Prequalification	Environmental and Social Screening	• PMO Environmental and Social Officer completes Environmental and Social Screening Tools Form for all subprojects. • PMO Head approves Environmental and Social Screening Tools Form. • PMO notifies MCIT when a particular subproject is ineligible for funding from the environmental and social point of view after completing Exclusion List included in Screening Tools Form.	• MCIT technical staff prepare subproject documents. • MCIT drops from further funding consideration all subprojects classified as ineligible for funding from the environmental and social point of view by PMO. • MCIT attaches to each subproject document the corresponding completed Social Screening Tools Form.			
Selection	Environmental and Social Scoping	• PMO Environmental and Social Officer completes Environmental and Social Scoping Form for each subproject. • PMO Head approves Environmental and Social Scoping Form. • For Medium Risk subprojects, PMO prepares TORs for Contractor's Site-Specific ESMP and Site-				

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
		Specific HSMP. • For Low-Risk subprojects, PMO prepares list of applicable mitigation measures. • PMO notifies MCIT of environmental and social analysis required for each subproject, attaching completed Environmental and Social Scoping Form and, as applicable, TORs for studies required. In addition, for Low Risk subprojects, PMO includes a list of pertinent mitigation measures.	• MCIT attaches to each subproject document the corresponding completed Environmental and Social Scoping Form. • MCIT sends to NEPA, for each subproject, completed Environmental and Social Scoping Form, together with completed Environmental and Social Screening Tools Form, as the Brief specified in Article 14 of Environment Law, and requests NEPA authorization for subproject implementation. • For Medium Risk subprojects, MCIT includes TORs for Site-Specific ESMPs and Site-Specific HSMPs as contract clauses in model contracts that Contractors must fulfill. • For Low Risk subprojects, MCIT	• NEPA reviews completed Environmental and Social Scoping Form, together with completed Environmental and Social Screening Tools Form, for each subproject and makes a determination to authorize it with or without conditions. It is anticipated that NEPA will authorize all subprojects, and that it will consider that requirements of Site-Specific ESMPs and Site-Specific HSMPs for Medium Risk subprojects are adequate.		

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
			includes list of pertinent mitigation measures as contract clauses in model contracts that Contractors must fulfill.			
Bidding and Contract Negotiation	Incorporation of Environmental and Social Sustainability into Subproject Procurement Process	• PMO provides MCIT with ESHS Criteria for Evaluation of Bid Proposals for inclusion in bid evaluation documents for each subproject. • PMO Environmental and Social Officer participates in technical committees set up by MCIT to evaluate bid proposals. • PMO provides MCIT with ESHS Conditions of Particular Application and ESHS Technical Specifications for Construction for inclusion in works contracts.	• MCIT incorporates ESHS Criteria for Evaluation of Bid Proposals into its bid evaluation documents for each subproject. • MCIT incorporates ESHS Conditions of Particular Application and ESHS Technical Specifications for Construction into its works contracts for each subproject.			
Subproject Implementation	Environmental and Social Compliance Oversight	• PMO Environmental and Social Officer reviews and comments on Contractors' Site-Specific ESMPs and Site-Specific HSMPs, and sends them to MCIT for approval. • PMO Environmental and Social Officer will support from time to time Field	• For reviewed Site-Specific ESMPs and Site- Specific HSMPs, MCIT sends approval letter to respective Contractors.	• To the extent possible, NEPA Inspectors in provinces where subprojects are under	• Contractors must submit, for their respective subprojects, Site-Specific HSMPs and Site- Specific HSMPs to MCIT within 45 days of Letter of Acceptance for approval of MCIT. • Contractors are responsible for implementing works	• Field Supervisors in MCIT regional offices are

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
		Supervisors in MCIT regional offices in their field oversight activities. This is particularly recommendable in instances of serious and pervasive noncompliances with environmental and social requirements. • PMO sends a copy of completed Environmental and Social Compliance Reports to pertinent Contractor and MCIT.		implementation will participate in joint field oversight activities with Field Supervisors in corresponding MCIT regional offices. This approach is recommended in particular in instances of serious and pervasive noncompliances with environmental and social requirements.	for their assigned subprojects in accordance with, as applicable, Site Specific ESMPs, Site-Specific HSMPs, or list of pertinent mitigation measures.	responsible for ensuring, on behalf of MCIT, that Contractors in the respective provinces under their jurisdictions implement works in accordance with, as applicable, Site-Specific ESMPs, Site-Specific HSMPs, or list of pertinent mitigation measures. • Field Supervisors will use Environmental and Social Compliance Report in field oversight activities, and will send completed Reports to PMO Environmental and Social Officer.
		• PMO Environmental and Social Officer reviews and comments on ARPs and sends them to MCIT for approval. • PMO Environmental and Social Officer coordinates consultation, compensation and monitoring process associated with ARP	For reviewed ARPs, MCIT sends approval letter to respective Contractors.		• As applicable, Contractor prepares ARP and submits it to MCIT for review and approval. Construction works cannot start in the respective cable route segment until payment of compensation to	• Field Supervisors support consultation, compensation and monitoring process associated with ARP preparation and implementation.

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	MCIT	NEPA	Contractors	MCIT Regional Offices
		preparation and implementation.			affected PAPs is materialized.	

KEY: **ARP**: Abbreviated Resettlement Plan. **ESHS**: Environmental, Social, Health and Safety. **ESMF**: Environmental and Social Management Framework. **ESMP**: Environmental and Social Management Plan. **HSMP**: Health and Safety Management Plan. **MCIT**: Ministry of Communications and Information Technology. **NEPA**: National Environmental Protection Agency. **PAP**: Project-Affected Person. **PMO**: Project Management Office. **TOR**: Terms of Reference.

1.0 INTRODUCTION

This document develops the Environmental and Social Management Framework (ESMF) for the Digital Central Asia South Asia (CASA) Afghanistan Project. It consists of seven chapters, including this Introduction.

Chapter 2.0 provides a description of the Project. It presents an overview of the Digital CASA Regional Program, which provides the context for the development of the Project. It then describes the proposed Project development objective, and the Project cost and components.

Chapter 3.0 presents an overview of the geographic location of the Islamic Republic of Afghanistan, and describes the salient physical, ecological and socioeconomic characteristics of the country.

Chapter 4.0 discusses the Afghan legal, policy and institutional framework pertinent to the design and implementation of the ESMF.

Chapter 5.0 identifies the World Bank safeguard policies triggered by the Project and explains why.

Chapter 6.0 analyzes the potential environmental and social impacts and risks that the implementation of the Digital CASA Afghanistan Project poses. It identifies the Project components likely to generate impacts and risks, and pinpoints the activities within them that are the potential sources of those impacts and risks. In addition, this chapter describes the activities of concern from the environmental and social point of view. Further, it identifies the potential positive and negative impacts and risks of the Project, and establishes pertinent enhancement measures for the former and mitigation measures for the latter.

Chapter 7.0 contains the ESMF. It explores the level of environmental and social management expertise existing at the Ministry of Communications and Information Technology's (MCIT) Project Management Office (PMO) and the lessons learned in the implementation of safeguards requirements for the World Bank-funded Information and Communications Technology (ICT) Sector Development Project (ICTDP). In addition, this chapter explains the structure of the ESMF, identifies the steps involved in its application, indicates when each step of the ESMF should be implemented in relation to each of the phases of MCIT's PMO generic project cycle, and identifies the tools used in each step of the ESMF process. Further, this chapter describes the implementation tools, the timing of application of the tools, the institutional responsibilities and the supporting documentation associated with, respectively, each step of the ESMF. Finally, this chapter details the institutional arrangements, Grievance Redress Mechanism, Environmental and Social Training Plan, budget considerations, monitoring and reporting requirements, and plans for the public disclosure of the ESMF.

2.0 DESCRIPTION OF DIGITAL CASA AFGHANISTAN PROJECT

This chapter provides details on the Digital Central Asia South Asia (CASA) Afghanistan Project. Section 2.1 presents an overview of the Digital CASA Regional Program, which provides the context for the development of the Project.

Section 2.2 describes the proposed Project development objective, and the Project cost and components.[2]

2.1 Digital CASA Regional Program

"The proposed Digital CASA Regional Program aims to implement a regional, cross-border approach to develop a regional transit hub for Internet traffic, and improve broadband Internet connectivity in Central Asia and parts of South Asia. This will be done by catalyzing private sector investments and cross sector infrastructure sharing and by modernizing relevant policies and regulatory frameworks. The ultimate aim is to bring reliable and affordable Internet services to the citizens of the region, link SMEs and workers to the regional and global digital economy, and catalyze innovations in the delivery of public and private services. The approach is three-fold:

(a) Supply-side (connectivity) interventions under an appropriate public-private partnership (PPP) framework to deploy high capacity cross-border fiber-optic networks across the region (e.g. a purpose built regional wholesale network). The interventions will seek to capture synergies through cross-sector infrastructure sharing (e.g. energy, transport).

(b) Demand-side (digital society and economy) interventions to encourage greater and more productive use of the Internet and the widely spread mobile cellular connectivity by governments, businesses and citizens. Increased demand will facilitate economies of scale to significantly lower the unit costs of investment for both Internet providers and end-consumers, and will help to create new job opportunities, including the facilitation of digital entrepreneurship.

(c) Enabling environment (policy, regulatory, and capacity building) interventions to stimulate competition and private sector investment in the deployment of the ICT infrastructure and services at both regional and national levels.

The proposed project will take into account experiences from the implementation of regional connectivity projects including in East and West Africa, the Caribbean, and the Pacific region. It will focus on creating an enabling environment for investment by private sector and also develop cross-sector synergy between telecom, transport and energy sectors at national, regional and international levels. The project will aim to leverage as much private investment as possible into the regional fiber optic infrastructure, complemented with targeted catalytic public sector

[2] This chapter reproduces literally some paragraphs with the description of the Digital CASA Regional Program and the Digital CASA Afghanistan Project contained in the "Combined Project Information Documents/Integrated Safeguards Data Sheet (PID/ISDS). Concept Stage" for the Project, prepared by the World Bank, dated 21 June 2016 (pp. 6-9).

investments. Fiber optic infrastructure already in place in the focus countries or scheduled to be put in operation over the next decade or so will be the basis for the planning of domestic, regional and international routing, and will take advantage of optical fiber infrastructure available on power transmission networks (optical ground wire, OPGW) including that of currently installed domestic power networks or foreseen for CASA-1000 optical fiber cable to be laid along the Turkmenistan, Afghanistan, Pakistan and India (TAPI) gas pipe lines, as well as the optical fiber owned by railways and other infrastructure service providers.

On the supply-side, it will be important to continue to increase the availability, use and development impact of regional and national broadband communications infrastructure, including, as required, deployment of a regional backbone network made up of multiple crossborder fiber optic links, domestic backbone networks, government Intranets, and rural access networks. Cross-border transmission links will be coordinated among the CASA countries and with neighboring countries (such as China, Iran, Pakistan and Russia) to guarantee Internet connectivity to all destinations and services. Purchasing of long term international bandwidth for the Government will be funded under Digital CASA to provide access to high speed optical fiber connectivity at affordable rates, and to connect government offices via the development of appropriate Government Networks (GovNet)".

"Significant emphasis is also expected to be placed on facilitating collaboration and joint approaches for the development of demand-side initiatives to take advantage of this regional infrastructure. This will be done notably through and for the delivery of transformative digital government infrastructure, platforms and services (including data-driven innovations and solutions across sectors) and by improving policies and infrastructure for facilitating digital job opportunities via the development of the IT and information technology enabled services (ITES) industries, among others. The demand-side activities are based on strong interests signaled by the governments to include some of these activities as part of the Digital CASA Program, and to build on current relevant activities supported by the World Bank including e-government, open data initiatives, as well as sector-level ICT applications in agriculture, higher education, health, financial sector development, water management, etc.

The Digital CASA Regional Program will be implemented as a series of Projects (SOP) and each phase/project will be based primarily on country readiness. Eligibility criteria to participate in Digital CASA are as follows: (a) existence of a regulatory authority for the sector that is independent from the operators in the market (and/or relevant WTO commitment to establish such regulator), (b) adherence to open access principles; and (c) full liberalization of both domestic and international Internet connectivity, or a time-bound action plan to achieve such liberalization by the midterm review of the Project."

2.2 Digital CASA Afghanistan Project

2.2.1 Proposed Development Objective

"The proposed Development Objective is to increase access to digital services throughout Afghanistan, via a regionally integrated, secure and affordable digital infrastructure, including the expansion of e-Government services and digital job opportunities".

2.2.2 Cost and Components

"Digital CASA Afghanistan is estimated at around $90 million, and will consist of a mix of regional and national IDA funds. Since this is a regional program with significant spillover benefits across countries, supplementary regional IDA funding is expected to complement national IDA allocations for up to two-thirds of the total IDA financing of the regional activities. The components will build on the successful implementation of the ongoing ICT Sector Development Project and are expected to be structured as follows:

Component 1: Supply-side (digital connectivity), $60million. Under PPP frameworks, this component will finance domestic and cross-border infrastructure that is needed to ensure greater access to affordable high speed Internet services, both within Afghanistan and in neighboring countries. Activities may include but are not limited to: (a) financing and operation of regional backhaul optical fiber networks; this may include connecting Afghanistan with China through the Wakhan Border, and strengthening links with other neighboring countries such as Tajikistan, Uzbekistan and Turkmenistan (b) deployment of high capacity, domestic fiber-optic networks, including the 9 provincial capitals that remain to be connected and select rural areas of the country; (c) financing of the pre-purchase of Internet bandwidth for the Government usage; (d) financing of the establishment of a Government Network (GovNet) for providing broadband connectivity to government institutions, including schools, universities, government offices at central and provincial levels; and (e) financing of investments in Internet exchange point that may be facilitated at the regional level, and for upgrading of the National Internet Exchange of Afghanistan.[3]

Component 2: Demand-side (digital society and economy), $20 million, will encourage greater and more productive use of enhanced Internet connectivity by government, businesses and citizens. Activities may include but are not limited to: (a) development of shared platform and services to enable automation of central and provincial e-services delivery. This includes leveraging postal networks across the country for ensuring end-to-end delivery of services and citizen feedback; (b) deployment of a government shared e-Procurement platform, and pilot implementation in targeted ministries; (c) enhancement of the National Data Center located within MCIT for enabling a shared digital platform across government (e.g. leveraging cloud computing technologies), including options for backup disaster recovery; (d) targeted interventions aimed at the development of the IT/ITES industry; (e) GIS mapping and development of database to improve national ICT infrastructure monitoring and asset management; (f) and digital jobs and skills development, including for youth and women outside of Kabul.

Component 3: Enabling environment, $5 million, will provide technical assistance to MCIT and Afghanistan Telecom Regulatory Authority to support institutional development and capacity

[3] Sections 6.1 and 6.2, Chapter 6.0 (Potential Environmental and Social Impacts and Risks of Digital CASA), provide details on Component 1, in particular the activities dealing with the financing and operation of regional backhaul optical fiber networks, and the deployment of high capacity, domestic fiber-optic networks since, of all Project activities, these two have the potential to generate adverse environmental and social impacts and risks of note.

building activities, to enhance the effectiveness of the institutional framework for the project, both at the regional and national levels. This may include a combination of support for harmonized regional and domestic enabling environment that are conducive to: (a) promoting a competitive ICT market; (b) private sector investment and digital jobs facilitation; (c) facilitating cross-sector infrastructure sharing; (d) facilitating e-Government standards and interoperability frameworks; (e) developing and implementing robust cyber security frameworks; and (f) developing digital leadership within the government.

Component 4: Project Management, $5 million, will finance the provision of technical assistance, equipment, training, and operating costs needed to establish, operate, and strengthen project management functions within MCIT".

3.0 ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF AFGHANISTAN

This chapter provides an overview of the geographic location of the Islamic Republic of Afghanistan, and describes the salient physical, ecological and socioeconomic characteristics of the country.[4]

3.1 Geographic Location

The Islamic Republic of Afghanistan is a landlocked country located within South Asia and Central Asia. It is bordered by Pakistan in the south and east; Iran in the west; Turkmenistan, Uzbekistan and Tajikistan in the north; and China in the far northeast. It lies between latitude 33° 00′ N and longitude 65° 00′ E, and its territory covers 652,000 km^2. Figure 3.1 shows the geographic location of the country.

Source: University of Texas at Austin, Perry-Castañeda Library Map Collection, 2009.

[4] This chapter is based on the following sources, with some paragraphs reproduced literally: DABS, 2014b; World Bank, 2016b; US CIA World Factbook: Afghanistan; and US Library of Congress 2008.

3.2 Physical Characteristics

The next sections summarize, respectively, the following relevant physical characteristics of Afghanistan: i) climate; ii) topography; iii) geology and soils; iv) hydrology; and v) air quality.

3.2.1 Climate

The remarkable feature of Afghan climate is its extreme range of temperatures within limited periods. The smallest daily range in the north is when the weather is cold; the greatest is when it is hot. For seven months of the year (from May to November) this range exceeds 17 °C daily. Waves of intense cold occur, lasting for several days, and low temperatures may reach −24 °C, rising to a maximum of −8 °C. On the other hand, the summer temperature is exceedingly high, especially in the Oxus regions, where a shade maximum of 45–50 °C is not uncommon.

Rainfall in Afghanistan is very scarce, and mainly only affects the northern highlands, arriving in March and April. Rainfall in the more arid lowlands is rare, and can be very unpredictable.

3.2.2 Topography

The Hindu Kush mountains, running northeast to southwest across the country, divide Afghanistan into three major regions: i) the Central Highlands, which form part of the Himalayas and account for roughly two-thirds of the country's area; ii) the Southwestern Plateau, which accounts for one-fourth of the land; and iii) the smaller Northern Plains area, which contains the country's most fertile soil.

Land elevations generally slope from northeast to southwest, following the general shape of the Hindu Kush massif, from its highest point in the Pamir Mountains near the Chinese border to the lower elevations near the border with Iran. To the north, west and southwest there are no mountain barriers to neighboring countries. The northern plains pass almost imperceptibly into the plains of Turkmenistan. In the west and southwest, the plateaus and deserts merge into those of Iran.

3.2.3 Geology and Soils

Afghanistan, from a geologic perspective, is a complex amalgamation of small tectono-stratigraphic terrains, each with its own unique geologic history. None of these terrains, save may be the northwestern one, can be said to presently be in the place that it originated. Instead, most of Afghanistan was assembled bit-by-bit out of pieces that came from someplace else. Deciphering what constitutes a contiguous terrain or how many there actually are has proven difficult and no consistent pattern has emerged. Leven (1997) presented the most thorough picture to date and his conclusions are summarized. In his view, the only stable terrain in Afghanistan is the one called the Turan plate, which always was part of the Asian continental landmass. All the other terrains have been somehow thrust onto, slid by, or collided with the Southern margin of Asia during a complex series of events that took place since the middle Mesozoic as the Paleo-Tethyan and Tethyan oceans slowly closed up, culminating in the

collision of India and Asia. The timing of these events as well as the points of origin and travel-path histories of the various Afghan terrains are all very poorly understood.

Afghanistan is located on the Eurasian Tectonic Plate. The Wakhan Corridor and the rest of northeastern Afghanistan, including Kabul, are situated in a geologically active area where earthquakes may occur almost every year. They can be deadly and destructive sometimes, causing landslides in some parts or avalanches during the winter. Over a dozen earthquakes occurred in this region during the twentieth century.

In general, the soils are formed under arid and semi-arid climatic conditions. Textural classes are mostly clay loam to sandy loam. Soil pH and calcium carbonate contents are high. Soil organic matter content ranges from 0.2 to 2.5%. Water holding capacity is low, permeability and infiltration rates are high. Soil salinity is generally not a problem. Soil fertility tests have shown low levels of nitrogen, variable levels of phosphorus and adequate levels of potassium. Micronutrients deficiencies for iron, zinc, copper and boron are common.

3.2.4 Hydrology

Afghanistan’s water resources are divided into five major river basins, which comprise 41 watersheds. The major river basins are i) the Amu Darya River Basin, which contributes about 57 percent of the total river flow in Afghanistan; ii) the Northern River Basin; iii) the Harirud- Murghab River Basin; iv) the Hilmund River Basin; and v) the Kabul (Indus) River Basin.

In general, the mountains of Afghanistan have always served as a natural storage facility and source of water. In fact, more than 80% of Afghanistan's water resources originate in the Hindu Kush Mountains. The snow accumulates in the winter and melts in the spring. This, along with the melting of the glaciers in the summer feed important rivers like the Amu Darya. The Amu Darya Basin alone holds more than 55% of Afghanistan's water resources.

Unfortunately, drought and warming of air temperatures have reduced the size of the glaciers in Afghanistan. Major glaciers in the Pamir and Hindu Kush have considerably shrunk, while smaller ones have been reported to have completely vanished. A severe drought in 2001 further prevented the feeding of the Sistan Wetlands by the Helmand River, and by 2003 satellite images showed that 99% of the Sistan Wetlands were dried up. As a result, much of the Sistan Basin's natural vegetation has died and an increase in soil erosion has occurred, as well as the spread of sand on to roads, fields and settlements. Waterfowl were also severely affected as the Sistan Wetlands were very important to the birds. In the mid-1970s, there were close to different species of waterfowl that were identified in the area, few to none remain today.

The hydrographic network of Afghanistan, rather dense in mountains, is rare on the plains. All rivers come to an end in closed basins or are lost in sand. Water intake for irrigation and strong evaporation lead to even the large rivers becoming dry in the second half of summer. In general, shortage of water constrains agricultural development to a larger area in the country.

The primary threat to Afghanistan's water supply is the droughts, which created food shortages for millions in the recent past. The resulting agricultural crises between 1995 and 2001 have driven major migrations from rural to urban areas. In response to drought, deep wells for irrigation have been drilled which decreased the under ground water level, further draining groundwater resources, which rely on rain for replenishment.

3.2.5 Air Quality

Air pollution does not constitute a major problem in most of Afghanistan, but its reliance on inexpensive energy has created some issues. Most vehicles run on diesel fuel and household energy often relies on burning wood and other materials. As a result, air pollution in urban areas is visible and may pose health issues.

Kabul ranks near the top in terms of worldwide rankings of hazardous airborne contaminants. Measured levels in Kabul were worse than in Beijing and even in Lahore, Pakistan, considered by atmospheric scientists to have some of the worst pollution in the world. Kabul sits in a valley at high altitude and pollutants can't disperse quickly. Levels of individual hazardous compounds, such as carbon monoxide, lead, nitrogen oxide and ozone are all significantly above the United States Environmental Protection Agency's (USEPA) primary and secondary standards, and levels of particulate matter are more than 100 percent higher than World Health Organization (WHO) recommended levels.

3.3 Ecological Characteristics

The next sections summarize, respectively, the following salient ecological characteristics of the country: i) flora; ii) fauna; iii) fisheries; and iv) protected areas.

3.3.1 Flora

Northern Afghanistan forms part of the center of plant diversity for the mountains of middle Asia. The northern highlands, between 1,000 and 1,500 meters (m) have steppe grass lands and low shrubs. Small areas of coniferous forest grow at high altitude. The woody plants in the mountainous areas comprise sparse wild pistachio (*Pistachia*), almond (*Amygdalis*) and juniper wood land with tree heights of 4- 10 m. Above 3,500 m, only low Alpine flora exists.

Over grazing, combined with an increasing population and the corresponding demands for fuel wood over recent decades, have resulted in extensive decline of these woodlands. The grasses, sparse shrubs and trees that form the natural vegetation of the region dry out in summer. The traditional Poplar and Willow hedges are cultivated by farmers in the river plains for subsistence. Herb and grasses are scarce in range land areas where invasive plants like thistles dominate.

In the last several decades, 90% of forests in Afghanistan have been destroyed and much of the timber has been exported to neighboring Pakistan. As a result, a large percentage of Afghanistan's land could be subject to soil erosion and desertification. To counter this problem, in recent years millions of saplings have been planted.

3.3.2 Fauna

Afghanistan has many species of wild animals. It is estimated that there are 119 species of mammals, 389 species of birds, 2 species of reptiles, and hundreds of species of insects and fish. Some of the endangered species, such as the Markhor (*Caprafalconeri*), Marco Polo Sheep (*Ovisammonpoli*), Musk Deer (*Moschusmoschiferus*), Snow Leopard (*Unciauncia*) and Siberian Crane (*Grusleucogeranus*).

Animals found in Mountains of Hindu Kush are Leopard (*Pantherapardus*), Lynx (*Felislynx*), wolf (*Canislupus*) and Jackal (*Canisaureus*). Active hunting occurs in many regions of the country for fur and has caused declines in the numbers of indigenous fauna.

The avifauna of dry grass land includes lesser floricans, pipits, sparrows and weavers. Sand grouse and larks are found in most arid deserts, while the cultivated areas are home to drongons, Indian robins, pied bush chats mynas bulbuls tailorbirds, weavers etc.

Open deciduous forests are home to minivets, fantails, wood shrikes, bulbuls and sun bird sand white- eyes. The coniferous forest provides breeding ground to pheasants, tree creepers, tits, streaked laughing thrushes, with dippers and froktails along the mountain streams. Brandt's Mountain Finches survive at altitudes of around 6,000 m in the Hindu Kush.

Afghanistan is part of Central- Asian Flyway for migratory birds. Many migratory birds from Siberia and Central Asia reach the wetlands of India, Iran or Pakistan via Afghanistan. Numerous species of migratory water fowl and waders seasonally use Afghanistan's wetlands of Hamun- i- Puzak and Hamun- i- Helmand on the Iranian border; in addition, these species use Ab- i- Estada and Dashte Nawar for feeding, breeding and rearing their young. These sanctuaries are in south Afghanistan.

With very little government capacity to discourage hunting and habitat disappearing because of conflict and drought, much of the country's wildlife is at risk. In 2006, Afghanistan and the Wildlife Conservation Society began a three-year project to protect wildlife and habitats along the Wakhan Corridor and Central Plateau regions.

The list of endangered animal species are: Snow Leopard (Uncia uncia), Wild Goat (Capra aegagrus), Markhor (Capra falconeri), Marco Polo Sheep (Ovis ammon polii). Urial (Ovis orientalis), Asiatic Black Bear (Ursus thibetanus), Siberian Crane (Grus leucogeranus).

The critically endangered species are: White-Headed Duck (Oxyura leucocephala), Marbled Teal (Marmaronetta angustirostris), Pallas's Sea Eagle (Haliaeetus leucoryphus), Greater Spotted Eagle (Aquilla clanga), Imperial Eagle (Aquilla heliaca), Lesser Kestrel (Falco naumanni), Corncrake (Crex crex), Sociable Lapwing (Vanellus gregaria), Pale-Backed Pigeon (Columba hodgsonii).

Little is known about the status of the salamander Batrachuperus mustersi, which is found only in the Hindu Kush.

3.3.3 Fisheries

Fish does not contribute much to the economy of the country and therefore not much attention is paid to them as aquatic resources. No fish species in Afghanistan are classified as endangered.

In mountain rivers, available fish species are Brown Trout and Milk Fish, which are basically carp from the family Cyprinidae. Some of the fresh water fishes in Afghanistan are Barbel, Carp, Mahi- e- Saqan Qul and Mahi Laqa, which is mainly found in the Kunduz River.

3.3.4 Protected Areas

The Protected Areas in the country are:

1. National Park: Band-e-Amir (IUCN category-II, 41,000 ha, established in 1973).

2. Waterfowl Sanctuaries: i) Ab-i-Estada (IUCN category IV, 27,000 ha, established in 1977); ii) Dasht-Nawer (IUCN category IV, 7,500 ha, established in 1977); and iii) Hamun-i-Puzak (IUCN category IV, 35,000 ha, established in 1973).

3. Wildlife Reserves: i) Ajar Valley (IUCN category IV, 40,000 ha, established in 1978); ii) and Pamir-i-Buzurg Wildlife Reserve (IUCN category IV, 67,938 ha, established in 1978).

4. Other sites under protection in the country are: i) Bamiyan National Heritage Park, Band-e-Amir National Park; ii) Darqad-Nawar Waterfowl Sanctuary; iii) Darqad (Takhar) Wildlife Managed Reserve; iv) Hamun-i- Puzak Waterfowl Sanctuary; v) Imam Sahib (Kunduz) Wildlife Managed Reserve; vi) Khulm Landmark Protected Area; vii) Kole Hashmat Waterfowl Sanctuary; viii) Northwest Afghanistan Game Managed Reserve; ix) Nuristan Nature Reserve; x) Registan Desert Wildlife Managed Reserve; and xi) Zadran National Reserve.

3.4 Socioeconomic Characteristics

The next sections summarize, respectively, the following relevant socioeconomic characteristics of Afghanistan: i) demographics and culture; ii) economy; iii) agriculture and livestock; and iv) forestry.

3.4.1 Demographics and Culture

As of 2015, the population of Afghanistan is around 32,564,342, including the roughly 2.7 million Afghan refugees still living in Pakistan and Iran. As of 2013, 46% of the population is under 15 years of age. 74% of the population lived in rural areas in 2014 and is involved in agricultural activities. The country remains one of the world's least urban societies. The only city with over a million residents is its capital, Kabul.

The nation is composed of a multi-ethnic and multilingual society, reflecting its location astride historic trade and invasion routes between Central Asia, Southern Asia and Western Asia. The

largest ethnic group is the Pashtuns, followed by Tajiks, Hazaras, Uzbeks, Aimaks, Turkmen, Baloch and others.

Pashto and Dari (Afghan Persian) are both the official languages of the country. Dari is mostly spoken in the Tajik- and Hazara-dominated areas, while Pashto is spoken mainly in the Pashtun tribal areas south of the Hindu Kush Mountains. Multilingualism is common throughout the country, especially in the major cities. Dari is the predominate language spoken in urban areas but language is not necessarily an indicator of an individuals ethnic or group identity, since Pashto and Dari are both spoken by nearly all of the country's ethnic groups (Turkmen and Uzbeks generally constituting an exception to this rule).

Islam is the religion of more than 99% of Afghanistan's citizens. An estimated 80–90% of the population practices Sunni Islam and belongs to the Hanafi Islamic law school, while 7–19% are Shia. Excluding urban populations in the principal cities, most people are organized into tribal and other kinship-based groups, who follow their own traditional customs.

Relevant demographic data for the country are as follows:

- Life expectancy (2013): 60 years.
- Literacy rate (i.e., people over the age of 15 that can read and write) (2005): 31%, with 43% for males and 20% for females.
- School life expectancy (primary to tertiary education) (2004): 8 years, with 11 years for males and 4 years for females.

4.4.2 Economy

Afghanistan has made significant progress in areas including primary education and basic health services, but continues to struggle to overcome almost three decades of war and civil strife. Afghanistan’s political context remains complex and dominated by the Taliban insurgency, narcotics production, and weak governance and rule of law. Nearly 36 percent of the Afghan population continues to live below the national poverty line, and the country ranks 171 out of 188 countries in the UNDP Human Development Report 2015, suffering from shortages of housing, clean drinking water, and electricity. Mountainous terrains and sparsely scattered population have also made the expansion of basic infrastructure and services difficult. As a result, regions in the Northeast, East, and West Central regions in the country appear to have fallen behind due to their remoteness, as well as climatic shocks, and limited reach of aid.

Despite steady growth between 2002 and 2012, Afghanistan’s economy has stagnated due to protracted political and security transitions and slow pace of reforms. Gross Domestic Product (GDP) growth averaged around 9 percent during 2003 to 2012, but sharply declined to 3.7 percent in 2013 and 1.5 to 2 percent in 2014 and 2015. This is mostly the result of protracted political and security transitions, slow pace of reforms, and delays in the elections process and cabinet formation which have continued to fuel uncertainty and affected investor confidence. Unfavorable weather conditions for agriculture production and a fiscal crisis that unfolded in 2014 is continuing to undermine economic recovery.

With a 35 percent unemployment rate in 2008, there are significant challenges related to jobs within Afghanistan, particularly for youth, women, and refugees returning from Pakistan and elsewhere. Over the next decade there are not enough jobs to absorb the labor force that is expected to expand by about 400,000 workers per year. In particular, participation of the female labor force in Afghanistan is below 20 percent. Improving the status of women is central to improving economic well-being and to reducing fragility and conflict. A new president and unity government were elected in 2013. The unity government is committed to addressing the country's political, social, and economic challenges.

4.4.3 Agriculture and Livestock

The Afghan economy has always been agricultural, despite the fact that only 12% of its total land is arable and about 6% is currently cultivated. Agriculture production is constrained by an almost total dependence on erratic winter snows and spring rains for water. As of 2007, the country's fruit and nut exports were at $113 million per year, but according to an estimate could grow to more than $800 million per year in 10 years given sufficient investment. Afghanistan is known for producing some of the finest fruits and vegetables, especially pomegranates, apricots, grapes, melons, and mulberries.

Wheat and cereal production is Afghanistan's traditional agricultural mainstay. National wheat production in 2010 was 4,532 metric tonnes (MT). The overall agricultural production dramatically declined following four years of drought as well as the sustained fighting and instability in rural areas. Soviet efforts to disrupt production in resistance-dominated areas also contributed to this decline. Furthermore, since 2002 more than 4 million refugees returned to Afghanistan. Many of these former refugees are now involved in the farming industry. Some studies indicate that agricultural production and livestock numbers may only be sufficient to feed about half of the country's population. Shortages are exacerbated by the country's limited transportation network, which is currently being rebuilt. A report by the Food and Agriculture Organization (FAO) states that Afghanistan was nearing self-sufficiency in grain production.

The availability of land suitable for grazing has traditionally made animal husbandry an important part of the economy. There are two main types of animal husbandry: sedentary, practiced by farmers who raise both animals and crops, and nomadic, practiced by animal herders known as Kuchis. Natural pastures cover some 7,500,000 acres (30,000 km^2) but are being overgrazed. Oxen are the primary draft power and farmers often share animals for plowing. Poultry are traditionally kept in many houses, mostly in rural households.

4.4.4 Forestry

Afghanistan's timber has been greatly depleted. Since the mid-1980s, only about 3% of the land area has been forested, mainly in the east. Significant stands of trees have been destroyed by the ravages of the war. Exploitation has been hampered by lack of power and access roads. Moreover, the distribution of the forest is uneven, and most of the remaining woodland is only found in the Kunar, Nuristan and the Paktia regions in the east of the country.

4.0 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN AFGHANISTAN

This chapter discusses the Afghan legal, policy and institutional framework pertinent to the design and implementation of the Environmental and Social Management Framework (ESMF) for the Digital CASA Afghanistan Project.

The first section details the relevant environmental and social laws and policies, and explains how they apply to the Project. The second section describes the relevant institutional framework for environmental and social management in the country.

4.1 Legal and Policy Framework

The key legislation and policies influencing the development of the ESMF are: i) the Environment Law of Afghanistan (2007); ii) Environmental Impact Assessment (EIA) Regulations (2008), and Environmental and Social Impact Assessment (ESIA) Regulations (2017); iii) Administrative Guidelines for the Preparation of Environmental Impact Assessments (2008); iv) National Environmental Impact Assessment Policy (2007); v) Law on Land Expropriation (2009); vi) Labor Law (2007); and vii) Law on the Preservation of Afghanistan's Historical and Cultural Heritages (2004). The next seven subsections summarize, respectively, the relevant content of these legal and policy instruments, and explain their implications for the implementation of the Project.

4.1.1 Environment Law (2007)

Chapter 3 of the Environment Law, dealing with the management of activities affecting the environment, in particular Articles 13 to 22, sets out the requirements for the Environmental and Social Impact Assessment (ESIA) process in the country.

Article 14 establishes a procedure for the Preliminary Assessment by the National Environmental Protection Agency (NEPA), created under Article 3, of the potential impacts of proposed projects, plans, policies or activities. The basis for this determination is the review of a Brief presented by the proponent with "accurate information" about the project, plan, policy or activity. Article 14 does not specify the format or content of the Brief. In making the determination of potential impacts, NEPA follows the advice of the Environmental Impact Assessment (EIA) Board of Experts established under Article 20 of the Law. In case NEPA considers that the proposed project, plan, policy or activity is not likely to produce significant adverse impacts, it may authorize the proposed project, plan, policy or activity with or without conditions.

If NEPA determines that the proposed project, plan, policy or activity has the potential to generate significant negative impacts, it may require the proponent to submit an Environmental

Impact Statement (EIS)[5] or a comprehensive Mitigation Plan. Article 15 specifies the required content of the comprehensive Mitigation Plan, but the Law does not stipulate requirements about the structure or content of the EIS. The Law only requires under Article 21 the use of best international practices in the preparation of EISs.

Article 16 establishes that, if after reviewing the EIS, and acting on the advice of the EIA Board of Experts, NEPA concludes that the EIS adequately addresses all environmental impacts and concerns, then it shall grant a permit for the corresponding project, plan, policy or activity. The Environment Law does not specify a procedure for approval of comprehensive Mitigation Plans.

When a proposed project, plan, policy or activity is likely to have significant adverse environmental impacts, Article 19 requires the participation and consultation of potentially affected persons regarding the proposed project, plan, policy or activity, the preliminary assessment, the EIS, the final record of opinion and the comprehensive Mitigation Plan.

Chapter 8 deals with compliance and enforcement of the Law. It establishes the appointment of Inspectors to ensure compliance with this legal instrument and its regulations, and grants NEPA the authority to issue Abatement Orders and Compliance Orders in instances of violations and non compliance. In addition, Article 70 stipulates trial in a court of law for serious offenses and, depending of the outcome of the trial, the imposition of penalties of imprisonment and/or fines.

4.1.1.1 Implications of the Law for the Project

The implications of the Environment Law for the Digital CASA Afghanistan Project are as follows:

1. Based on the analysis of potential environmental and social impacts and risks conducted in Chapter 6.0, it is not anticipated that the Project will have any significant adverse impact or risk. In addition, the implementation of subprojects will not take place in any environmentally sensitive area. The analysis also concludes that only activities involving physical works included in Component 1 of the Project (i.e., financing and operation of regional backhaul optical fiber networks, and deployment of high capacity, domestic fiber-optic networks) are likely to produce minor to moderate negative impacts and risks. Further, the World Bank has classified the Project as a Category B operation, signifying that it is likely to generate minor to moderate adverse impacts and risks. Therefore, it is not anticipated that NEPA will require the preparation of an Environmental and Social Impact Assessment or a comprehensive Mitigation Plan for any of the subprojects involving physical works.

2. For the subprojects included in the regional backhaul optical fiber networks and the domestic optical fiber networks under Component 1, MCIT must submit to NEPA a separate Brief on each of these subprojects with their descriptions, and potential environmental and social impacts and risks. Chapter 7.0, dealing with the ESMF, proposes an outline for the Brief.

[5] This report uses the more common and widely accepted term in the international arena of "Environmental and Social Impact Assessment" instead of "Environmental Impact Statement".

3. Based on the preceding, it is expected that NEPA will authorize without conditions the proposed subprojects involving the development of both the regional and the domestic optical fiber networks. The ESMF specifies environmental and social requirements for these subprojects that Contractors must fulfill, including the preparation of a Site-Specific Environmental and Social Management Plan, and a Site-Specific Health and Safety Management Plan (please refer to Chapter 7.0). Both Plans for each subproject will be shared with NEPA for its review and comment.

4. As discussed and agreed with the Acting Director for Environmental and Social Assessment at NEPA during a meeting held on February 19, 2017 with participation of a staff member of MCIT's PMO and the ESMF Consultant, provincial NEPA Inspectors will take part in conjunction with respective provincial MCIT Field Supervisors in joint environmental and social inspections of construction works in each of the provinces where the subprojects identified in Numeral 1 are undergoing implementation.

The first three conclusions above will be the subject of discussion with NEPA managers in order to seek concurrence from the national environmental authority before the start of Digital CASA implementation.

4.1.2 Environmental Impact Assessment (EIA) Regulations (2008), and Environmental and Social Impact Assessment (ESIA) Regulations (2017)

In May 2017, the Cabinet approved the Environmental and Social Impact Assessment (ESIA) Regulations (2017). However, at the time of preparation of the final version of this ESMF (May 2017), only the Dari version of the Regulations was available and, therefore, it was not possible to review it. As a result, this subsection refers exclusively to the EIA Regulations (2008).

Regulation 1 explains the rationale for this regulatory instrument as follows: "These Regulations are issued in accordance with Article 22 of the Environment Law in order to govern the process for environmental impact assessment".

Regulation 2 indicates that the Regulations apply to the following activities:

1. Category 1 activities, which are "… activities likely to have significant adverse effects that are sensitive, diverse or unprecedented, and affect an area broader than the sites or facilities subject to the physical works of the activity" (Regulations, p. 7). Schedule I identifies Category 1 activities.

2. Category 2 activities, which are "… activities that have potentially significant adverse effects on human environments or environmentally sensitive areas that are less adverse than those in Category 1 and are site specific and in most instances not irreversible (Ibid, p. 8). Schedule I specifies Category 2 activities.

3. Any activity that is likely to have a significant adverse impact on an environmentally sensitive area.

4. Any other activity that is likely to have a significant adverse effect on the environment, as determined by NEPA.

Regulation 3 stipulates the requirement of the issuance by NEPA of a Certificate of Compliance for any of the activities identified above.

Regulations 4 and 5 require, respectively, the submission to NEPA of an Application for any of the activities indicated in Regulation 2, using the Application Form attached in Schedule II of the Regulations, and the presentation to NEPA of a Screening Report following the technical guideline for the screening process included in Schedule III. The Screening Report should be completed prior to the Application.

Regulation 6 establishes the following requirements after receipt by NEPA of an Application and the supporting Screening Report for a proposed activity:

1. Within fourteen days, distribution by NEPA of a notice of public disclosure to the population potentially affected by the proposed activity.

2. Within twenty one days, NEPA shall make a decision regarding whether:
   - the information contained in the Screening Report is sufficient to issue a Certificate of Compliance, with or without conditions;
   - to advise the applicant that additional information or investigation is necessary in order to reach a decision on the application; or
   - to prepare an EIS according to the content specified in Regulation 7.

Regulation 8 stipulates that upon receipt of an EIS, NEPA shall:

1. Issue a Certificate of Compliance, with or without conditions; or

2. Advise the applicant in writing to review the technical reports and information submitted, or the assessment processes adopted, if either is not in accordance with international best practice. The reviewed report shall indicate how it addresses the Neap's comments.

With respect to the reviewed report, the above-mentioned Regulation indicates that, within thirty days of its submission, NEPA shall:

1. Issue a Certificate of Compliance, with or without conditions; or

2. Refuse to issue a Certificate of Compliance, and provide written reasons for the refusal.

4.1.2.1 Implications of the Regulations for the Project

The implications of the EIA Regulations for the Digital CASA Afghanistan Project are as follows:

1. Given that none of the subprojects involving physical works included under Component 1 of Digital CASA (i.e., regional backhaul optical fiber networks and domestic optical fiber networks) appear on the list of activities classified as either Category 1 or Category 2 of Schedule I of the Regulations, none of the Digital CASA subprojects need to submit either an Application or a Screening Report to NEPA.

2. Digital CASA subprojects will only need to submit a Brief before NEPA, as established under Article 14 of the Environment Law and as explained in Subsection 4.1.1.1 above.

As indicated in Subsection 4.1.1.1, the above statements will need concurrence from NEPA authorities prior to Project implementation.

4.1.3 Administrative Guidelines for Preparation of Environmental Impact Assessments (2008)

The Guidelines, published in June 2008, shortly after the EIA Regulations (March 2008), are a companion to the Regulations. Their objectives are to: i) assist project proponents on how to meet the regulatory requirements in relation to the ESIA process, including stakeholder consultation and participation; ii) guide project proponents in dealing with NEPA through the various steps of the ESIA process; and iii) explain the roles and responsibilities of the various stakeholders in the process.

Regarding the definitions of Category 1 and Category 2, the Guidelines change some of the terms used in the Regulations. In particular, they use the more common term of "impact" rather than "effect" and refer to "project" instead of "activity".

Further, the Guidelines provide a more precise definition of Category 2, while maintaining essentially the same definition of Category 1 as the Regulations. In specific terms, following international best practices, the Guidelines reserve the characterization of "significant" to impacts in Category 1 projects, classifying a project as Category 2 "…if its potential adverse environmental impacts on human populations or environmentally sensitive areas (eg wetlands, forests, grasslands and other natural habitats) are less adverse than those of Category 1 projects. These impacts are site specific, and few are irreversible". As noted in Subsection 4.1.2 above, the Regulations defined both Category 1 and Category 2 as "likely to have significant adverse effects" (Category 1) and "have potentially significant adverse effects", which makes it operationally difficult to differentiate between the two categories of projects.

In providing guidance as to whether a proposed project should submit a Screening Report to NEPA, the Guidelines indicate that "The suitability of providing a screening report will depend on the type of project to be undertaken" (Guidelines, 2008, p. 6), that is, whether the project is Category 1 or Category 2, and refer to the Regulations for a the list of projects in each category.

Annex 1 to the Guidelines includes an outline and suggested contents of the Screening Report, which are identical to the technical guideline for the screening process attached as Schedule III to the Regulations, except that the former does not include a section on public participation.

The Guidelines includes a flowchart with the interim ESIA process in Afghanistan, which is attached as Annex I.

4.1.3.1 Implications of the Guidelines for the Project

The review of the Administrative Guidelines for the Preparation of Environmental Impact Assessments confirms the conclusions reached in Subsections 4.1.1.1 and 4.1.2.1 regarding the environmental and social regulatory requirements for the Digital CASA Afghanistan Project.

4.1.4 National Environmental Impact Assessment Policy (2007)

The Policy seeks to provide guidance on the implementation of Chapter 3 (Management of Activities Affecting the Environment) of the Environment Law (2007), specifying "… how the administration of EIA procedures should be undertaken" (Policy, 2007, p. 4).

The Policy explains what an ESIA is (objectives, operating principles and operating stages); describes its policy vision, principles, strategy and process; and sets out the next steps in implementing the Environment Law.

4.1.5 Law on Land Expropriation (2009)[6]

The Law on Land Expropriation stipulates the provisions governing the expropriation or acquisition of land for public interest purposes. The Law contains, inter alia, the following key provisions:

1. Acquisition of land or a part of such land for public use requires approval by the Council of Ministers, with provision of prior and adequate compensation based on the market price of the land (Article 2).

2. The council of ministers shall be empowered to expropriate a piece of land totally or partly for the purpose of, among others, construction of manufacturing facilities, and public buildings and infrastructure, including the extension of communication lines, power transmission cables (Article 3).

3. The right to own or use the land shall be terminated three months prior to the actual start of the project, provided that the rights of the owner or the damages incurred by the user of such land are compensated, Further, termination of ownership right shall not deprive the owner or the user of the land from collecting the agricultural products of or the fruits of the trees in the land, except where urgent use of the land shall require rapid evacuation of the land (Article 6).

4. The following compensations shall be provided for land expropriation: i) the price of the land; ii) the price of any residential houses, buildings and other constructions located on the

[6] The separate report containing the Resettlement Policy Framework for the Project analyzes other relevant regulations and policies dealing with resettlement and compensation issues (i.e., Law on Managing Land Affairs, 2008; Afghan Land Policy, 2007; and Constitution of Afghanistan, 2004).

land; and iii) the price of any fruit bearing or ornamental trees, or other saplings set on the land (Article 8).

5. The price of lands subject to expropriation shall be determined by the Council of Ministers. The grade [quality] and location of the land shall be considered for determining the price of the land (Article 10).

4.1.5.1 Implications of the Law for the Project

As explained in Section 6.3, Chapter 6.0, it is not anticipated that the Project will generate the displacement of people, physical structures or productive activities. Rather, it is foreseen that the Project may have a very limited impact on some productive assets, in particular agricultural crops and fruit trees, as well as some ornamental assets, such as plants and trees. In addition, the Project may temporarily impede access to commercial and institutional establishments, and to residential buildings.

In this sense, since expropriations will not be necessary, the applicability of the Law to the Project will be very narrow, circumscribed to the payment of compensation for the impact on productive and ornamental assets, as stipulated in Article 8. Further, the Environmental and Social Management Framework (ESMF) for the Project (see Chapter 7.0) includes a Resettlement Policy Framework (see Annex XI) to address all issues dealing with compensation.

4.1.6 Labor Law (2007)

Key provisions of the Law are as follows:

1. Employees shall have the right to be provided with occupational safety and health of work and production, professional training, skills development, improvement of professional knowledge, and the right to benefit from Social Security (Article 10).

2. The Islamic Republic of Afghanistan shall observe international conventions to which Afghanistan is or will be a party and other treaties and standards of international organizations concerning labor and management, subject to the special conditions of the country (Article 11).

3. Companies shall be obliged to ensure preservation of health and labor safety, application of safety techniques to prevent work and production related accidents, and to provide healthy conditions in order to prevent occupational diseases of employees (Article 107).

4. While designing, building or using industrial or production facilities, installations and equipment, companies shall be obliged to comply with all technical safety and environmental protection standards to protect employees from adverse and harmful effects of work. Companies shall build and equip work and production related rooms, facilities, and places for work and residence of employees in accordance with safety and environmental protection standards and rules (Article 108).

5. Companies shall be obliged to give continuous training to employees about safety, environmental health, fire-fighting, and provision of medical first aid services and other rules of protection. Employees shall be obliged to observe the rules and standards of work protection and the safety techniques, rules for utilization of equipment as well as protection instructions, and to use individual protective devices while working (Article 111).

6. In those types of work which are carried out under conditions harmful to health, where there is a special low or high temperature, or where there is the risk of contamination of employees, special clothes and footwear, masks, eye glasses, gloves and other protective devices as well as preventive and curative food materials shall be put at the disposal of employees, free of charge, in accordance with the established standards and rules. Companies shall be responsible for supplying, maintenance, cleaning, sterilization, drying and repair of special working clothes and other protective devices as well as for monitoring that these clothes and devices have been always used (Article 112).

7. Provision of medical First Aid Services (Article 114).

8. The person in charge of the Administration shall be obliged to investigate and assess unforeseen accidents in work and production in a timely and comprehensive manner, and to analyze and evaluate the causes thereof. He/she shall prepare a written attestation about it within three days and present a copy to both the Ministry of Labor and Social Affairs and to the Employee (Article 118).

4.1.6.1 Implications of the Law for the Project

The ESMF (see Chapter 7.0) requires that each of the Contractors responsible for the implementation of subprojects included under Component 1 of the Project prepares a Site-Specific Health and Safety Management Plan that incorporates the above relevant requirements of the Labor Law (i.e., provision of a safe workplace and training on adequate work practices and on safety in the workplace, supply of adequate work tools and personal protective equipment, provision of medical first aid services, investigation of work-related accidents, etc.).

4.1.7 Law on the Preservation of Afghanistan's Historical and Cultural Heritages (2004)

Relevant provisions of the Law are as follows:

1. All historical and cultural artifacts belong to the Afghanistan public (Article 2). All moveable and immovable historical and cultural artifacts and heritage items that are discovered or remain buried and not discovered/excavated in the country are the property of the Islamic Republic of Afghanistan and any kind of trafficking of such items is considered theft and is illegal (Article 8).

2. No one can build or perform construction on recorded historical and cultural sites, unless approval, permission or agreement is issued from the Archaeology Institute (Article 7).

3. Whenever municipalities, construction, irrigation or other companies (whether they are governmental or private) find or discover valuable historical and cultural artifacts during the conduct of their projects, they are responsible to stop their project and report any findings to the Archaeology Institute about the discovery (Article 10).

4. Digging wells, ditches, rock blasting, driving over and any other operations which causes destructions of the recorded historical and cultural sites is prohibited without coordination and permission of Archaeology Institute (Article 16).

4.1.7.1 Implications of the Law for the Project

Although it is not anticipated that the Project will affect physical, cultural or historical sites, resources, structures, remnants or artifacts, in case that physical works take place in the proximity of physical cultural resources, the respective Contractor will have to stop the works and report the finding to the Archaeology Institute, as established in Article 10. Annex XVI includes a Chance Find Procedure to guide MCIT and Contractors on the steps to take in case of discovery of physical cultural resources.

4.2 Institutional Framework

4.2.1 Ministry of Communications and Information Technology

The Ministry of Communications and Information Technology (MCIT) is the Implementing Agency of the Digital CASA Afghanistan Project. It will create a Project Management Office (PMO) specifically for the purpose of managing the Project, including coordinating the implementation of the ESMF.

MCIT is the policymaker for the Communications and Information Technology (ICT) sector and oversees the development of the sector.

4.2.2 National Environmental Protection Agency (NEPA)

Article 3 of the Environment Law of Afghanistan (2007) designates the National Environmental Protection Agency (NEPA) as the "Implementing Agency" of the Law, characterizes it administratively and functionally as "an independent institutional entity" and establishes that it is responsible "for coordinating and monitoring conservation and rehabilitation of the environment, and for implementing this Act".

Article 9 of the Environment Law defines the "functions and powers" of NEPA. Of particular relevance to the Digital CASA Afghanistan Project is the role of NEPA as the National Environmental Authority in relation to the Environmental and Social Impact Assessment process, since it has the "function and power" to "provide environmental management services in the areas of environmental impact assessment, air and water quality management, waste management, pollution control, and permitting of related activities".

4.2.3 Ministry of Public Works

The installation of most of the fiber optic cable for the Project will take place within the right of way of existing roads administered by the Ministry of Public Works.

The Ministry is responsible for the management of the construction and maintenance of roads, bridges, dams, canals and airports, and the supervision of civil works.

4.2.4 Ministry of Energy and Water

The use of the existing infrastructure of the Ministry of Energy and Water for the implementation of Digital CASA may be a possibility in some areas.

In relation to the energy sector, the Ministry formulates energy policy, regulates electricity and sets taxes on energy use.

5.0 APPLICABLE WORLD BANK SAFEGUARD POLICIES

The Digital CASA Afghanistan Project is classified as Category B in the World Bank "Combined Project Information Documents/Integrated Safeguards Data Sheet (PID/ISDS). Concept Stage", indicating that moderate and minor negative environmental and social impacts and risks are anticipated.

Table 5.0 identifies the World Bank safeguard policies triggered by the Project and explains why.

Table 5.0
Applicable World Bank Safeguards Policies

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	**Yes**	Two-thirds of the Digital CASA budget (i.e., USD 60 million) will go towards financing the implementation of Component 1 (Supply Side, Digital Connectivity). Of all of the activities included in this Component, only those involving physical works are likely to generate negative environmental and social impacts and risks of note. Specifically, these activities are: i) financing and operation of regional backhaul optical fiber networks; and ii) deployment of high capacity, domestic fiber-optic networks. It is anticipated that the adverse environmental and social impacts and risks of the subprojects included in the two activities mentioned above, involving the development of Optical Fiber Cable (OFC) Networks, are likely to be of minor to moderate magnitude, with predominance of the former; localized; temporary; reversible; and easily avoided, managed or mitigated with commonly available measures. Chapter 6.0 conducts an analysis of the potential environmental and social impacts and risks of the Project. The Environmental and Social management Framework (ESMF) included in Chapter 7.0 contains a detailed procedure and corresponding instruments to asses and manage anticipated impacts and risks.
Natural Habitats OP/BP 4.04	**No**	All Project activities will take place within the right of way of existing or planned roads, and existing building structures and offices. In case the construction of new telecommunications complexes is necessary, these structures will be built on public land plots belonging to the Ministry of Communications and Information Technology (MCIT) or the Afghanistan Telecom Regulatory Authority (ATRA) in consolidated urban or rural areas. Therefore, the Project will not intervene natural habitats.
Forests OP/BP 4.36	**No**	Based on the explanation provided in the previous row, the Project will not be implemented in forested areas.
Pest Management OP 4.09	**No**	The Project does not require the use of pesticides.
Physical Cultural Resources OP/BP 4.11	**No**	The excavations required to open trenches for the laying of optical fiber cables will take place within the right of way of existing or planned roads. This approach avoids the need to excavate relatively undisturbed areas where physical, cultural or historical sites, resources, structures, remnants or artifacts may be present. However, in order to ensure that appropriate measures are taken in case physical works take place in the proximity of physical cultural resources, Annex XVI includes a Chance Find Procedure.
Indigenous Peoples OP/BP 4.10	**No**	There are no indigenous peoples settled in the area of implementation of the Project.
Involuntary Resettlement OP/BP 4.12	**Yes**	The excavation and backfilling operations required to install underground optical fiber cables may lead to the partial loss of productive assets (agricultural crops and fruit trees), partial loss of ornamental vegetation, and temporary limitation of access to commercial and

Safeguard Policies	Triggered?	Explanation
		institutional establishments, and to residential properties. The separate Resettlement Policy Framework (RPF) for the Project addresses these impacts, and provides guidelines and procedures for the preparation of Abbreviated Resettlement Plans (ARPs) that will be required for Optical Fiber Network subprojects. As explained in the RPF, the anticipated resettlement impacts of these subprojects are likely to be minor according to the definition set forth in the World Bank Operational Policy on Resettlement (OP 4.12), since "…the affected people are not physically displaced and less than 10 percent of their productive assets are lost (OP 4.12, p. 7). In these instances, an ARP is applicable.
Safety of Dams OP/BP 4.37	**No**	The Project does not involve the construction, rehabilitation or upgrade of dams.
Projects on International Waterways OP/BP 7.50	**No**	The Project will not be implemented on international waterways.
Projects in Disputed Areas OP/BP 7.60	**No**	The Project will not be implemented in disputed areas.

6.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS OF DIGITAL CASA

This chapter analyzes the potential environmental and social impacts and risks that the implementation of the Digital CASA Afghanistan Project poses. The first section identifies the Project components likely to generate impacts and risks, and pinpoints the activities within them that are the potential sources of those impacts and risks.

The second section describes the activities of concern from the environmental and social point of view. The third section identifies the potential positive and negative impacts and risks of the Project, and establishes pertinent enhancement measures for the former and mitigation measures for the latter.

6.1 Project Components and Activities that Raise Environmental and Social Concerns

Two-thirds of the Digital CASA budget (i.e., USD 60 million) will go towards financing the implementation of Component 1 (Supply Side, Digital Connectivity). Of all of the activities included in this Component, only those involving physical works are likely to generate negative environmental and social impacts and risks of note. Specifically, these activities are:

1. Financing and operation of regional backhaul optical fiber networks, which may include connecting Afghanistan with China through the Wakhan Border, and strengthening links with other neighboring countries such as Tajikistan, Uzbekistan and Turkmenistan.

2. Deployment of high capacity, domestic fiber-optic networks, including the nine provincial capitals that remain to be connected and select rural areas of the country.

The next section of this chapter describes the Optical Fiber Cable (OFC) Networks initially proposed under Component 1 and the civil works associated with their implementation.

The remaining activities comprising Component 1 involve financing the creation, expansion and strengthening of internet services, such as the pre-purchase of internet bandwidth for Government usage, the establishment of a Government Network (GovNet) and investments in national and regional internet exchange points. Since all of these activities will take place in already existing building structures, no new building construction is necessary. These activities consist of technically simple operations of very modest scale, such as the installation, upgrade and connection of equipment, software, peripherals, cabling, electricity supply, etc.

The activities included in Component 2 (Demand Side, Digital Society and Economy), which aims to encourage greater and more productive use of enhanced internet connectivity by government, businesses and citizens, will not require the construction of new physical structures and also involve technically simple operations of very modest scale, such as the installation, upgrade and connection of equipment, software, peripherals, cabling, electricity supply, etc.

From the environmental and social point of view, the implementation of the activities of Component 1 that do not comprise civil works, as well as the activities included in Component 2, raises some concern regarding work site safety. In order to prevent work accidents and injuries to workers, the implementation of these activities requires technically capable and trained personnel to perform the assigned tasks, according to safe work procedures with the appropriate equipment in a safe working environment. These measures are part of the mitigation approaches and techniques contained in Annex III.

Components 3 (Enabling Environment) and 4 (Project Management) comprise activities such as technical assistance, capacity building and provision of equipment and software, among others, that do not raise environmental or social concerns.

6.2 Description of Component 1 Activities Involving Physical Works

As indicated in the previous section, only the activities included in Component 1 whose execution require the implementation of civil works have the potential to produce adverse environmental and social impacts and risks. This section explains the OFC Networks initially proposed under this Component and the civil works involved in their development.

6.2.1 Proposed Optical Fiber Cable (OFC) Networks

In order for Afghanistan to fulfill its objective to become a data hub for the CASA Region, it needs to strengthen the country's regional and domestic backbone connectivity through Optical Fiber Cable (OFC) Networks. The Backbone Networks of Afghanistan are already connected to networks in Tajikistan, Uzbekistan, Turkmenistan, Iran and Pakistan. Under the Digital CASA Afghanistan Project, it is planned to establish regional connectivity between Afghanistan and China via the Wakhan Border. For Afghanistan to become a data hub, capacities of systems and networks of the country and the CASA Region have to be improved, and many other redundancy routes need to be constructed in Afghanistan. Moreover, within Afghanistan, provinces that are not connected to the backbone need to be connected. Under the OFC projects undertaken in the country from 2006 to 2017, 25 out of 34 provincial capitals have been connected to the backbone. Under Digital CASA, the remaining 9 provincial capitals will also be connected.

Overall, the OFC Networks initially proposed as part of the Digital CASA Afghanistan Project cover a total of 3,132 km of cable, consisting of 1,401 km to provide provincial connectivity and redundancy to the domestic network, and 1,731 km to provide network redundancy, specially for regional connectivity. Annex II provides details on the OFC Networks initially planned. It includes a map showing the existing OFC Network in operation, including the networks already operational under the ongoing World Bank-funded ICTDP, as well as the networks under development funded under the ICTDP and anticipated to be functional in July 2017, and the planned networks to be developed under Digital CASA. Further, Annex II contains a table specific to Digital CASA, indicating the initially proposed cable routes and their lengths, the provinces and districts within them to be connected, and the type of roads along which the cables will be laid and whether the roads are built or under construction.

6.2.2 Scope of Work

Based on the experience with the Information and Communications Technology (ICT) Sector Development Project (ICTDP), slated for completion in Afghanistan in July 2017 under funding from the World Bank, as well as on standard international technical specifications for the development of ICT projects, the implementation of projects in the ICT sector usually requires two different types of contract, one covering the supply, installation and commissioning of ICT equipment, and the other concerning the Outside Services Plant (OSP).

This section focuses on the second type of contract, since the construction works associated with the OSP are the most likely to generate negative impacts and risks under Digital CASA. The negative impacts and risks related to the supply, installation and commissioning of ICT equipment consist mostly of worksite health and safety issues, which are considered in Annex III. This Annex deals with the anticipated impacts and risks of the Project, as well as their mitigation.

The typical scope of work related to an OSP contract comprises in general the supply, installation, testing, commissioning and maintenance of the OSP and other related goods and equipment. It usually includes the supply, laying, jointing, testing and termination of optical fiber cables from the areas to be serviced to the Digital Distribution Frame (DDF), in order to connect these areas to an existing optical fiber cable backbone.

More specifically, the above scope of work consists of the following activities, among others, all of which must be implemented in accordance with established technical specifications:

- Performance of a comprehensive engineering survey along each route assigned to the Contractor.
- Execution of civil works for trenching, provision of conduits and laying of cable in conduits. Backfilling of trenches, and supply and installation of marker posts for identification of routes.
- In addition to the above, civil works may include the construction of a separate new telecommunications compound, which may involve the construction of an access road from the main road to the compound, in addition to physical structures to house telecommunication equipment, perimeter security, etc.
- Supply of fiber cable, jointing and installation materials.
- Supply and installation of the following materials: warning tapes, manholes, hand holes, fiber glass covers, pipes (High-Density Polyethylene – HDPE, Polyvinyl Chloride – PVC and/or Galvanized Iron – GI), spacers, couplers, etc.
- Splicing/jointing of optical fiber cable along each route.
- Testing and commissioning of each optical fiber link between districts nodes and provincial nodes.

Based on discussions with technical staff at the PMO, it is likely that the technical specifications for the laying of optical fiber cable for Digital CASA will be essentially the same as those used for the ICTDP. A summary of the method statement for the laying of the duct buried optical fiber cable is as follows:

1. Preparation for the excavation of trenches. After studying the route plan and the route, the following steps shall be taken before the actual excavation work commences:
   - Local authorities shall be informed.
   - All the required materials shall be on site.
   - Diversion of traffic shall be organized where necessary.
   - A line shall be marked on the ground, with a string or marking compound, where the excavation is to be carried out. The trench shall be 1 meter (m) inside from the extreme edge of Right of Way (ROW).
   - All existing services shall be located.

2. Excavation of trenches in normal soil:
   - In normal soil, the trench shall be excavated to a depth of 1.6 m; the trench shall be graded to enable the cable to be laid on an even plain. The width of the trench shall be 60 centimeters (cm) at the top and 55-60 cm at the bed. The depth reference for the trench shall be taken from the road surface or the normal earth surface level, whichever is lower.
   - For metro networks, install 2 x 40 millimeters (mm) HDPE conduits (one for the long haul cable, one for future use) with proper spacer to keep both pipes separated or, in place of the HDPE, install Vikimatic Maxcell Fiber flow 4" 3 cell inner-ducting material into the 4" Schedule 40.
   - For Long-Haul (LH) networks, 2xHDPE pipe shall be directly placed in the trench.
   - The Schedule 40 inner-ducts must conform to standard C.I.S. 4-86, which is a standard specification for corrugated inner-ducts produced to I.P.S. dimensions.
   - A bed of soft soil of 15 cm deep shall be laid along the bottom of the trench and HDPE pipe shall be placed at the center of the trench and shall be compacted.
   - A soft soil bed 15 cm deep shall be provided above the cable and shall be compacted.

3. There will be locations along the route where soil has been heaped or removed in the line of excavation. In such affected areas, the following procedure shall be applied:
   - Where soil is heaped for a distance less than 10 meters, it shall be graded to normal ground level (road surface) of the trench mound to achieve 1.6 meters depth measured from the normal ground level (road surface).

The method statement for the laying of optical fiber cable synthesized above contains procedures for the more general tasks and field conditions, but it logically also includes procedures for specific situations not reproduced above. Among the latter are procedures for the following: i) excavations in sandy soils and water logged areas; ii) when the soil has been heaped or removed in the line of excavation beyond 10 meters and when there is a trough instead of a heap; iii) laying of cable in standing water areas; iv) reinstatement of eroded areas after excavation; v) river crossings; vi) rainwashable areas; and vii) slope crossing.

During the implementation of the ICTDP, a technique not mentioned in the method statement summarized above called "boring" in Afghanistan is used in some instances for the installation of optical fiber cable, and it also might be used in the execution of Digital CASA. Although in the implementation of the ICTDP a horizontal drilling machine is usually used in this trenchless method of cable installation when trenching is not practical, such as in built-up urban areas with high density land uses or when there is a need to bury the cable to cross a heavily-used road,

sometimes boring is performed manually with very basic tools such as picks and shovels. The latter form of horizontal directional boring poses serious safety and health hazards associated with working in confined spaces. Annex III, which deals with anticipated impacts and risks of the Project and their mitigation, includes measures to address the safety and health hazards of manual boring.

According to PMO's technical staff, and as described in the documentation about Digital CASA cited in Chapter 2.0 containing a description of the Project, the laying of the fiber optic cable will take place within the ROW of existing roads, as well as roads under construction. In addition, when there is an overhead power transmission line running in parallel with the Digital CASA optical fiber cable, or the add and drop point is the same for both networks, then the existing Optical Ground Wire (OPGW)[7] on top of the power line will be used as a backup route for the Digital CASA OFC network. For instance, if there is a single OFC route, the OPGW will be the second route; if there are two OFC routes, the OPGW will be the third redundant or backup path. However, the ROW of the electrical transmission lines will not be used for laying the Digital CASA OFC, only the ROW of roads will be utilized for this purpose.

6.3 Potential Environmental and Social Impacts and Risks of Digital CASA

The overall Project impacts are anticipated to be mostly positive. The positive impacts are expected to be significant and widespread. Annex III summarizes the potential positive impacts of each of the Components of the Project.

Several Project features, as well as the approach to the implementation of civil works,[8] will greatly reduce the potential to generate significant and moderate negative impacts and risks. In specific terms:

1. The World Bank has classified the Project as Category B from the environmental and social point of view, indicating that only minor to moderate negative impacts and risks are anticipated. The Project will not finance activities likely to generate significant negative environmental or social impacts and risks such as, among others, the intervention of natural, protected or environmentally sensitive areas, or major dislocations of people, economic activities, productive assets or physical structures.

2. The installation of optical fiber cable will take place exclusively within the right of way of existing and future roads.[9] This means that there will be no need to intervene undeveloped areas, thus avoiding some of the potential impacts associated with infrastructure projects

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[7] "OPGW is primarily used by the electric utility industry, placed in the secure topmost position of the transmission line where it 'shields' the all-important conductors from lightning while providing a telecommunications path for internal as well as third party communications. Optical Ground Wire is a dual functioning cable, meaning it serves two purposes. It is designed to replace traditional static / shield / earth wires on overhead transmission lines with the added benefit of containing optical fibers which can be used for telecommunications purposes" (www.aflglobal.com/Products/Fiber-Optic-Cable/OPGW.aspx).

[8] Based on discussions with PMO technical staff, MCIT plans to follow in the implementation of construction activities for Digital CASA the approach used in the development of the ICTDP.

[9] The rights of way of other infrastructures such as electricity transmission lines, or service or utility pipelines (gas, oil, water, etc.) will not be used for cable laying purposes.

such as, among others, removal of vegetation; interruption of hydrological regimes; loss, fragmentation or degradation of terrestrial habitats and species, and severance of animal migration routes and pathways; induced impacts associated with the construction of access roads; and displacement of or damage to physical, cultural and historical sites, resources, structures, remnants and artifacts.

3. The Project does not include the erection of poles or towers, which avoids the likely impacts associated with these structures such as, among others, vegetation removal, erosion and sedimentation, visual landscape degradation, bird collisions and exposure to electromagnetic fields.

4. With the exception of new provincial telecommunications compounds, the Project does not involve the construction of new building structures, since the operations required to expand, upgrade, rehabilitate or update ICT equipment, software, peripherals, systems, etc. in order to extend and increase the efficiency of ICT networks will take place in already existing buildings. The construction of new telecommunications compounds will take place on available public lands, thus avoiding the need to expropriate private lands and displace residents.

5. The civil works necessary for the laying of optical fiber cable consist of, in general, very simple operations from the technical point of view, comprising the excavation, backfilling and compaction of trenches, and the installation of cables in conduits. In addition, these works require very basic machines and tools, such as backhoes, shovels, picks, etc. Further, the trenches are modest in dimension (1.6 m deep and 60 cm wide), thus greatly reducing the community and workplace health and safety risks associated with excavations.

6. There will be no construction camps or construction plants (i.e., concrete batching, stone crushing, cement mixing or asphalt plants). This is so because of, on the one hand and as explained above, the relatively small magnitude of the civil works, workforce and demand for construction materials[10] and, on the other, the approach to cable laying consisting of completing all the required work in about three days for a one-kilometer stretch and then moving to the next one-kilometer stretch for the same period of time. This will result in the avoidance of the environmental and social impacts and risks associated with site selection, construction, operation and closeout of construction camps, as well as site selection, installation, operation, maintenance and dismantling of construction plants. Some of these impacts and risks may be moderate to significant if not managed adequately (e.g., development of construction camps in natural areas or close to watercourses that may impact flora and fauna species of high ecological value, inadequate handling of hazardous wastes that may lead to spills and contamination of soils and water bodies, operation of construction plants not well maintained that may generate excessive levels of noise and gas emissions, etc.).

[10] Food and lodging for workers will be obtained from the communities where the works are underway. Construction vehicles and trucks will be serviced and repaired at local shops. Construction materials will be purchased locally when available.

Based on the above, it is anticipated that the adverse environmental and social impacts and risks of Digital CASA are likely to be of minor to moderate magnitude, with predominance of the former; localized; temporary; reversible; and easily avoided, managed or mitigated with commonly available measures.

The potential negative impacts and risks of the Project are:

- Soil erosion.
- Water and soil pollution, and landscape degradation.
- Air pollution.
- Noise and vibration.
- Traffic congestion, creation of hazardous driving conditions and obstruction of access.
- Interruption of water, telephone or internet services.
- Occupational health and safety hazards.
- Community health and safety.
- Partial loss of productive assets; and temporary limitation of access to commercial and institutional establishments, and to residential properties.
- Accidental encounter of mines or unidentified explosive objects.

Annex III provides a brief description of each of the above impacts and risks, and identifies suitable mitigation measures to address them.

7.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

The Environmental and Social Management Framework (ESMF) is "… an instrument that examines the risks and impacts when a project consists of a program and/or series of subprojects, and the risks and impacts cannot be determined until the program or subproject details have been identified. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts. It contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts" (WB, 2016a, p. 39).

This chapter develops the ESMF for the Digital CASA Afghanistan Project. It builds upon previous content presented throughout this report, in particular the chapters on: i) the description of the Project (Chapter 2.0); ii) the legal, policy and institutional framework for environmental and social management in Afghanistan (Chapter 4.0); iii) the World Bank safeguard policies applicable to the Project (Chapter 5.0); and iv) the analysis of the potential environmental and social impacts and risks of the Project (Chapter 6.0).

Further, the design of the ESMF takes into account the environmental and social management capacity present at the PMO, as well as the PMO's experience in implementing the environmental and social management measures established for the World Bank-funded Information and Communications Technology (ICT) Sector Development Project (ICTDP), currently under execution and slated for completion in July 2017. Section 7.1 below analyzes the environmental and social capacity at the PMO and the PMO's experience in managing environmental and social requirements.

The consideration of the aspects mentioned in the two previous paragraphs ensures that the ESMF is tailor-made to the characteristics of the Project, the specific regulatory and institutional framework of the country, the environmental and social requirements of the World Bank, the Project's anticipated environmental and social impacts and risks, and the PMO's capacity and experience in environmental and social management. Further, the analysis conducted in Chapter 6.0 facilitates the structuring of the ESMF in terms of potential impacts and risks, as well as their management measures and strategies.

This chapter consists of twelve sections. Section 7.1 explores the level of environmental and social management expertise existing at the PMO and the lessons learned in the implementation of safeguards requirements for the ICTDP.

Section 7.2 explains the structure of the ESMF, identifies the steps involved in its application, indicates when each step of the ESMF should be implemented in relation to each of the phases of MCIT's PMO generic project cycle, and identifies the tools used in each step of the ESMF process.

Sections 7.3 to 7.6 describe the implementation tools, the timing of application of the tools, the institutional responsibilities and the supporting documentation associated with, respectively, each of the following ESMF steps: (i) Environmental and Social Screening; (ii) Environmental and Social Scoping; (iii) Incorporation of Environmental and Social Sustainability into the Procurement Process; and (iv) Environmental and Social Compliance Oversight.

Section 7.7 details the institutional arrangements for the implementation of the ESMF.

Section 7.8 explains the Grievance Redress Mechanism to address concerns or unaddressed impacts regarding the environmental and social performance of the Project.

Section 7.9 describes the Environmental and Social Training Plan aimed to develop PMO's capacity in order to effectively implement the ESMF.

Section 7.10 presents budget considerations for the management of the ESMF.

Section 7.11 sets out the monitoring and reporting requirements about the environmental and social performance of the Project.

Section 7.12 indicates the plans for the public disclosure of the ESMF.

7.1 PMO's Environmental and Social Capacity and Experience

The PMO does not have a dedicated, trained professional to serve as the focal point for environmental and social management issues related to the ICTDP. Instead, the Monitoring and Evaluation Supervisor has been assigned the role of lead person for environmental and social concerns, but as an additional responsibility to his already busy schedule, to which dedicates approximately 30% of his working time.

In the case of MCIT Field Supervisors, their responsibilities include overseeing compliance by Contractors with Environmental, Social, Health and Safety (ESHS) requirements. This is also an additional task to their technical field inspection responsibilities. None of the Field Supervisors have specific degrees, training or experience in the environmental and social fields.

Regarding training on ESHS issues, MCIT Field Supervisors and Contractors' personnel attended a talk by the Senior Environmental Specialist at the World Bank office in Kabul at the beginning of Project implementation on environmental and social impacts of infrastructure projects and their mitigation. By contrast, MCIT Field Supervisors received specific training in China and Afghanistan provided by Contractors on the inspection of the technical aspects involved in their work, such as cable laying, installation of electrical equipment, etc.

With respect to field instruments to conduct ESHS inspections, the ESHS content of the checklists used by MCIT Field Supervisors is very limited, with health and safety issues virtually absent from the checklists.

In the above context, the implementation of environmental and social requirements associated with the ICTDP experienced delays, some of a serious nature, and the execution of some mitigation measures, in particular the compensation for loss of productive assets, was not completely satisfactory.

Based on the experience and lessons learned with the environmental and social management of the ICTDP, this ESMF includes the following measures, among others, discussed and agreed with PMO management, aimed at ensuring that there is sufficient preparation and capacity to effectively manage environmental and social issues during Digital CASA implementation:

1. The PMO will designate a dedicated professional with a degree in an environmental or social field as Environmental and Social Officer, who will be a full-time member of the PMO staff. Annex XVII includes the Terms of Reference (TOR) for this professional.

2. Preparation of an Action Plan for the implementation of the ESMF and the RPF, which is attached as Annex XVIII.

3. Design of an Environmental and Social Training Plan for the PMO Environmental and Social Officer and technical staff, as well as MCIT's Field Supervisors and technical staff, which is described in Section 7.9 below. Key technical staff at the PMO, MCIT's Field Supervisors, MCIT's Planning and Policy Department and Afghan Telecom already received an initial training session on the ESMF provided by the ESMF Consultant on May 24, 2017 during his last mission to Kabul.

4. Design of specific implementation tools and supporting documentation for each step of the ESMF, which are explained in this Chapter.

7.2 Structure of ESMF

The examination of the potential environmental and social impacts and risks of the Digital CASA Afghanistan Project carried out in Chapter 6.0 concluded that only the activities included in Component 1 (Supply Side, Digital Connectivity) that involved physical works are likely to generate adverse impacts and risks of concern. In particular, these activities are: i) financing and operation of regional backhaul optical fiber networks; and ii) deployment of high capacity, domestic fiber-optic networks. Therefore, the ESMF applies specifically to subprojects included in these two activities, all of which consist of the development of Optical Fiber Cable (OFC) Networks.

The initial list of proposed OFC Network subprojects consists of the following fifteen subprojects totaling 3,132 km:[11]

1. Proposed routes for network redundancy, specially for regional connectivity: i) Chaghcharan to Heraat (353.5 Km); ii) Badakshan to Wakhan (Afghanistan-China Border) (480.7 Km); iii) Tarinkot to Nilli (178.8 Km); iv) Badakshan to Panjshir (319 Km); v) Mazar-e-Sharif to Kunduz (via old route) (126.5 Km); and vi) Badakshan to Nuristan (272.5 Km).

[11] Section 6.2, Chapter 6.0 and Annex II to the same chapter describe in detail these subprojects.

2. Proposed routes for connecting unserviced provinces to OFC Ring of Afghanistan, including redundancy: i) Sar-e-Pol to Shebergan (60 Km); ii) Panjshir to Jabal Saraj (45 Km); iii) Farah to Farah Road (85 Km); iv) Qala-e-naw to Ghormach and Karukh (255 Km); v) Zaranj to Delaram (220 Km); vi) Tarinkot to Kandahar (140.3 Km); vii) Nuristan to Kunar (96.5 Km); viii) Bamian to Ghor (294.4 Km); and ix) Bamian to Nilli (205 Km).

The ESMF for the Digital CASA Afghanistan Project comprises the following four steps:

1. Environmental and Social Screening.

2. Environmental and Social Scoping.

3. Incorporation of Environmental and Social Sustainability into the Procurement Process.

4. Environmental and Social Compliance Oversight.

Each ESMF step: i) contains particular tools that serve as practical mechanisms to implement the respective step; ii) specifies institutional responsibilities for the application of each implementation tool; and iii) includes instruments and/or documents to assist in the application of the tools.

Table 7.2 provides an overview of the ESMF process. It indicates when each step of the ESMF should be implemented in relation to each phase of the PMO generic project cycle, points out the tools to use in the application of each step and indicates the available instruments and/or documents to support the implementation of each step.

Table 7.2
Overview of ESMF Process

Phases of PMO Project Cycle	ESMF Steps	Tools to Implement Each ESMF Step	Documents/Tools to Support PMO in Implementation of ESMF Step
Prequalification	Environmental and Social Screening	• Environmental and Social Screening Tools Form (Annex IV)	• Potential Positive Environmental and Social Impacts, and Potential Negative Environmental and Social Impacts Risks of Digital CASA, and Mitigation Measures (Annex III). • Procedure for Mine and Unidentified Explosive Object Risk Management (Annex XV).
Selection	Environmental and Social Scoping	• Environmental and Social Scoping Form (Annex V)	• TOR for Contractor's Site-Specific ESMP and Site-Specific HSMP (Annex VI). • Potential Positive Environmental and Social Impacts, and Potential Negative Environmental and Social Impacts Risks of Digital CASA, and

Phases of PMO Project Cycle	ESMF Steps	Tools to Implement Each ESMF Step	Documents/Tools to Support PMO in Implementation of ESMF Step
			Mitigation Measures (Annex III). • Resettlement Policy Framework (Annex XI) • ESHS Technical Specifications for Construction (Annex IX).
Bidding and Contract Negotiation	Incorporation of Environmental and Social Sustainability into Procurement Process	• ESHS Criteria for Evaluation of Bid Proposals (Annex VII). • ESHS Conditions of Particular Application (Annex VIII). • ESHS Technical Specifications for Construction (Annex IX).	
Subproject Implementation	Environmental and Social Compliance Oversight	• Environmental and Social Compliance Report (Annex X).	

KEY: **ESHS**: Environmental, Social, Health and Safety. **ESMP**: Environmental and Social Management Plan. **HSMP**: Health and Safety Management Plan. **TOR**: Terms of Reference.

7.3 Environmental and Social Screening

The proposed subprojects included in Component 1 that involve the implementation of OFC Networks will undergo Environmental and Social Screening. This step will take place during the Prequalification Phase of the PMO generic project cycle. Based on the analysis of the potential environmental and social impacts and risks of the Project conducted in Chapter 6.0, the remaining activities included in Component 1, as well as all of the activities that comprise Components 2, 3 and 4, will not be subject to further environmental and social screening because they pose negligible or null environmental and social risks.

The Environmental and Social Screening Tools Form (see Annex IV) will serve to implement this step. The tools consist of the Exclusion List and the Screening Checklist. The Form includes, in addition, an introduction with instructions for its completion and a brief description of the corresponding subproject.

The Exclusion List will identify subprojects that are not eligible to receive funding under the Digital CASA Afghanistan Project because they involve unauthorized activities or pose significant negative environmental or social impacts and risks such as, among others, significant socioeconomic impacts involving involuntary resettlement and significant conversion or degradation of critical natural habitats. The World Bank classified the Project as Category B from the environmental and social point of view, indicating that only minor to moderate adverse impacts and risks are anticipated. Therefore, these subprojects will be excluded from further funding consideration under the Project.

The information collected through the Screening Checklist will serve as the basis for the initial identification of potential environmental and social impacts and risks of eligible subprojects, which will become in turn an essential input for the Environmental and Social Scoping of subprojects, which constitutes the next step of the ESMF.

The Environmental and Social Officer at the PMO will complete the Environmental and Social Screening Tools Form. The PMO Head will give final approval to the completed Form. Once completed, the Environmental and Social Screening Tools Form will be an attachment to the subproject document.

7.4 Environmental and Social Scoping

Subprojects found eligible for funding from the socio-environmental standpoint after undergoing screening will be subjected to Environmental and Social Scoping. This step involves the environmental and social categorization of proposed subprojects and, based on the assigned category, the determination of the type of environmental and social analysis applicable to each subproject. This step will take place during the Selection Phase of the PMO generic project cycle.

The Environmental and Social Officer at the PMO will be responsible for implementing this step, including proposing a category, conducting the scoping and, when applicable, preparing the Terms of Reference (TOR) for the necessary environmental and social analysis for each subproject. The PMO Head must approve all the documentation associated with the application of this step.

The Environmental and Social Scoping Form (see Annex V) is the tool to apply in the implementation of this step. It contains procedures to determine the significance of the risks identified in the Environmental and Social Screening step for each subproject, categorize the subproject based on its overall risk significance, and identify the environmental and social analysis required according to the particular risk category of the subproject.

In completing this form, the PMO Environmental and Social Officer may need to consult secondary information sources or other specialists at MCIT, ATRA or other agencies. Further, it may be necessary to conduct site visits if the environmental and social information available is insufficient or if the subproject is likely to cause significant negative risks.

The completed Environmental and Social Scoping Form, as is the case with the completed Environmental and Social Screening Tools Form, will be an attachment to the subproject document. MCIT will send both completed Forms to the National Environmental Protection Agency (NEPA) in order to comply with the requirement specified in Article 14 of the Environment Law (2007) that project proponents must submit a Brief[12] to NEPA in order for it to conduct a Preliminary Assessment of the potential impacts of proposed projects. MCIT will submit to NEPA separate completed Forms for each proposed subproject. The suitability of the two completed Forms as the legally-required Brief will be subject to discussion and agreement with NEPA authorities.

In addition to the above, the outcomes of the Scoping step for each subproject, as reflected in the corresponding Environmental and Social Scoping Form (i.e., significance of risks, subproject

[12] As indicated in Chapter 4.0, dealing with the legal, policy and institutional framework for environmental and social management in Afghanistan, Article 14 of the Environment Law (2007) does not specify the format or content of the Brief.

category, and environmental and social requirements) will undergo consultation with the Environmental and Social Assessment Division at the National Environmental Protection Agency (NEPA).

The categorization of subprojects is as follows:[13, 14]

- "**Low Risk:** Projects that include activities with minimal or no risks of adverse social or environmental impacts.

- **Moderate Risk:** Projects that include activities with potential adverse social and environmental risks and impacts, that are limited in scale, can be identified with a reasonable degree of certainty, and can be addressed through application of standard best practice, mitigation measures and stakeholder engagement during Project implementation. […]

- **High Risk:** Projects that include activities… with potential significant and/or irreversible adverse social and environmental risks and impacts, or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder

[13] These categories are equivalent to those used by the World Bank to classify projects from the environmental and social standpoint. A Category C project, equivalent to the Low Risk Category, "…is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA [environmental assessment] action is required for a Category C project" (World Bank, 2013b, p. 2). A Category B project, equivalent to the Moderate Risk Category, has "… potential adverse environmental impacts on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats--are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA" (Ibid). A Category A project, equivalent to the High Risk Category, "…is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance" (Ibid).
Beginning in early 2018, when the Bank's new Environmental and Social Framework comes into force, this institution will move to the following environmental and social risk classification for projects: High Risk, Substantial Risk, Moderate Risk or Low Risk (World Bank, 2016a, p. 14).

[14] As explained in Chapter 4.0, the regulatory framework of the country refers to Category 1 and Category 2 activities. The Environmental Impact Assessment (EIA) Regulations (2008) define both Category 1 and Category 2 as "likely to have significant adverse effects" (Category 1) and "have potentially significant adverse effects", which makes it operationally difficult to differentiate between the two categories of projects. The Administrative Guidelines for the Preparation of Environmental Impact Assessments (2008) change some of the terms used in the Regulations; in particular, they use the more common term of "impact" rather than "effect" and refer to "project" instead of "activity". Further, the Guidelines provide a more precise definition of Category 2, while maintaining essentially the same definition of Category 1 as the Regulations. In specific terms, following international best practices, the Guidelines reserve the characterization of "significant" to impacts in Category 1 projects, classifying a project as Category 2 "…if its potential adverse environmental impacts on human populations or environmentally sensitive areas (eg wetlands, forests, grasslands and other natural habitats) are less adverse than those of Category 1 projects. These impacts are site specific, and few are irreversible". None of the subprojects involving physical works included under Component 1 of Digital CASA (i.e., regional backhaul optical fiber networks and domestic optical fiber networks) appear on the list of activities classified as either Category 1 or Category 2 of Schedule I of the Regulations.

engagement process. High Risk activities may involve significant impacts on physical, biological, ecosystem, socioeconomic, or cultural resources" (UNDP, 2016, p. 18).

In case a subproject falls under the high Risk Category, it will be dropped from further funding consideration.

The environmental and social analyses required for each subproject category are the following:

Project Category	Required Environmental and Social Analysis
Moderate Risk	• Site-Specific Environmental and Social Management Plan (see Annex VI for TOR). • Site-Specific Health and Safety Management Plan (see Annex VI for TOR). • If applicable, Abbreviated Resettlement Plan following guidelines in the Resettlement Policy Framework (see Annex XI).
Low Risk	• List of mitigation measures (see Annex III).

7.5 Incorporation of Environmental and Social Sustainability into Subproject Procurement Process

Within the Bidding and Contract Negotiation Phase of the PMO generic project cycle, the ESMF introduces a series of tools aimed at including environmental and social sustainability measures into the subproject procurement process. In specific terms, these instruments will ensure that selected Contractors have experience and expertise in environmental and social management, and that works contracts contain specific socio-environmental provisions of mandatory implementation.

The tools are the following:

- Environmental, Social, Health and Safety (ESHS) Criteria for Evaluation of Bid Proposals (see Annex VII), which will be part of the criteria used by MCIT in evaluating and selecting Contractors for the execution of the civil works associated with OFC Network subprojects.

- ESHS Conditions of Particular Application (see Annex VIII), which will be part of works contracts as contractual clauses.

- ESHS Technical Specifications for Construction (see Annex IX), from which MCIT may draw, if necessary, contractual clauses to include in the works contracts to ensure that the performance of certain tasks (e.g., protection of watercourses, traffic safety, waste management, topsoil protection, etc.) follows best international practices.

The PMO Environmental and Social Officer will be a member of the technical committee that will evaluate Bid Proposals in order to ensure that the above tools are effectively applied during the Bidding and Contract Negotiation Phase.

The ESHS Conditions of Particular Application mentioned above include the requirement of preparation and implementation of the Site-Specific ESMPs and Site-Specific HSMPs mandatory for subprojects classified as Moderate Risk from the socio-environmental point of view and, therefore, this requirement will be part of the clauses of the respective works contracts. The Contractor selected in the Bidding and Contract Negotiation Phase to implement a particular subproject will be responsible for preparing both Plans for the assigned subproject. Both Plans must be prepared after contract signing, within 45 days of the Letter of Acceptance. Both Plans must be approved by MCIT before the start of subproject implementation.

7.6 Environmental and Social Compliance Oversight

The last step of the ESMP consists of the verification of compliance with the environmental and social requirements established in works and supervision contracts, as well as in Site-Specific ESMPs and Site-Specific HSMPs, for the execution of civil works associated with Moderate Risk subprojects. It will take place during the Project Implementation Phase of the PMO generic project cycle.

The instrument to apply in this step is the Environmental and Social Compliance Report (see Annex X). The MCIT Field Supervisors, who are based in each province of the country, will have main responsibility in the application of this instrument in the respective province under their jurisdiction where a subproject is under implementation. The PMO Environmental and Social Officer will provide support in the performance of field compliance oversight activities from time to time, focusing on subprojects with environmental and social conformity gaps. To the extent possible, as agreed with the Acting Director for Environmental and Social Assessment at NEPA during a meeting held on February 19, 2017 with participation of a staff member of MCIT's PMO and the ESMF Consultant, provincial NEPA Inspectors will take part with the corresponding provincial MCIT Field Supervisors in joint Environmental and Social Compliance Oversight inspections. The recommended periodicity of field inspections is weekly, which may be increased or decreased based on the level of socio-environmental performance of each subproject.

The Environmental and Social Compliance Report contains: i) the non-compliances identified and impacts detected during the field visit (based on a predetermined series of questions); ii) a brief description of each non-compliance and impact, including the locations where impacts occur; iii) a summary of recommended actions to address each non-compliance and impact; and iv) the status of implementation of previously suggested actions to address non-compliances or impacts. In addition, the report includes, as applicable, supporting documentation and photographs as evidence of the non-compliances or impacts found. Further, the report allows the prioritization of remedial actions to follow-up in future oversight visits, based on the seriousness of the non-compliances and impacts detected.

7.7 Institutional Arrangements for ESMF Implementation

MCIT will be the implementing agency for the Digital CASA Afghanistan. Within the Ministry, the PMO will be responsible for the day-to-day management of the Project, including

environmental and social issues. A full-time Environmental and Social Officer will be appointed and will depend administratively of the PMO.

Table 7.7 details the institutional arrangements for the implementation of the ESMF process, specifying institutional responsibilities in relation to each step of the ESMF.

Table 7.7
Institutional Arrangement for ESMF Implementation

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
Prequalification	Environmental and Social Screening	• PMO Environmental and Social Officer completes Environmental and Social Screening Tools Form for all subprojects. • PMO Head approves Environmental and Social Screening Tools Form. • PMO notifies MCIT when a particular subproject is ineligible for funding from the environmental and social point of view after completing Exclusion List included in Screening Tools Form.	• MCIT technical staff prepare subproject documents. • MCIT drops from further funding consideration all subprojects classified as ineligible for funding from the environmental and social point of view by PMO. • MCIT attaches to each subproject document the corresponding completed Social Screening Tools Form.			
Selection	Environmental and Social Scoping	• PMO Environmental and Social Officer completes Environmental and Social Scoping Form for each subproject. • PMO Head approves Environmental and Social Scoping Form. • For Medium Risk subprojects, PMO prepares TORs for Contractor's Site-Specific ESMP and Site-Specific HSMP. • For Low-Risk subprojects,				

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
		PMO prepares list of applicable mitigation measures. • PMO notifies MCIT of environmental and social analysis required for each subproject, attaching completed Environmental and Social Scoping Form and, as applicable, TORs for studies required. In addition, for Low Risk subprojects, PMO includes a list of pertinent mitigation measures.	• MCIT attaches to each subproject document the corresponding completed Environmental and Social Scoping Form. • MCIT sends to NEPA, for each subproject, completed Environmental and Social Scoping Form, together with completed Environmental and Social Screening Tools Form, as the Brief specified in Article 14 of Environment Law, and requests NEPA authorization for subproject implementation. • For Medium Risk subprojects, MCIT includes TORs for Site-Specific ESMPs and Site-Specific HSMPs as contract clauses in model contracts that Contractors must fulfill. • For Low Risk subprojects, MCIT includes list of pertinent mitigation measures as contract clauses in model contracts that Contractors must fulfill.	• NEPA reviews completed Environmental and Social Scoping Form, together with completed Environmental and Social Screening Tools Form, for each subproject and makes a determination to authorize it with or without conditions. It is anticipated that NEPA will authorize all subprojects, and that it will consider that requirements of Site-Specific ESMPs and Site-Specific HSMPs for Medium Risk subprojects are adequate.		

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
Bidding and Contract Negotiation	Incorporation of Environmental and Social Sustainability into Subproject Procurement Process	• PMO provides MCIT with ESHS Criteria for Evaluation of Bid Proposals for inclusion in bid evaluation documents for each subproject. • PMO Environmental and Social Officer participates in technical committees set up by MCIT to evaluate bid proposals. • PMO provides MCIT with ESHS Conditions of Particular Application and ESHS Technical Specifications for Construction for inclusion in works contracts.	• MCIT incorporates ESHS Criteria for Evaluation of Bid Proposals into its bid evaluation documents for each subproject. • MCIT incorporates ESHS Conditions of Particular Application and ESHS Technical Specifications for Construction into its works contracts for each subproject.			
Subproject Implementation	Environmental and Social Compliance Oversight	• PMO Environmental and Social Officer reviews and comments on Contractors' Site-Specific ESMPs and Site-Specific HSMPs, and sends them to MCIT for approval. • PMO Environmental and Social Officer will support from time to time Field Supervisors in MCIT regional offices in their field oversight activities. This is particularly recommendable in instances of serious and pervasive noncompliances with environmental and social requirements.	• For reviewed Site-Specific ESMPs and Site- Specific HSMPs, MCIT sends approval letter to respective Contractors.	• To the extent possible, NEPA Inspectors in provinces where subprojects are under implementation will participate in joint field oversight activities with Field Supervisors in corresponding MCIT regional offices. This approach is recommended in particular in instances of serious and pervasive	• Contractors must submit, for their respective subprojects, Site-Specific HSMPs and Site- Specific HSMPs to MCIT within 45 days of Letter of Acceptance for approval of MCIT. • Contractors are responsible for implementing works for their assigned subprojects in accordance with, as applicable, Site Specific ESMPs, Site-Specific HSMPs, or list of pertinent mitigation measures.	• Field Supervisors in MCIT regional offices are responsible for ensuring, on behalf of MCIT, that Contractors in the respective provinces under their jurisdictions implement works

Phases of PMO Project Cycle	ESMF Steps	Institutional Responsibilities				
		PMO	**MCIT**	**NEPA**	**Contractors**	**MCIT Regional Offices**
		• PMO sends a copy of completed Environmental and Social Compliance Reports to pertinent Contractor and MCIT.		noncompliances with environmental and social requirements.		in accordance with, as applicable, Site-Specific ESMPs, Site-Specific HSMPs, or list of pertinent mitigation measures. • Field Supervisors will use Environmental and Social Compliance Report in field oversight activities, and will send completed Reports to PMO Environmental and Social Officer.
		• PMO Environmental and Social Officer reviews and comments on ARPs and sends them to MCIT for approval. • PMO Environmental and Social Officer coordinates consultation, compensation and monitoring process associated with ARP preparation and implementation.	• For reviewed ARPs, MCIT sends approval letter to respective Contractors.		• As applicable, Contractor prepares ARP and submits it to MCIT for review and approval. Construction works cannot start in the respective cable route segment until payment of compensation to affected PAPs is materialized.	• Field Supervisors support consultation, compensation and monitoring process associated with ARP preparation and implementation.

KEY: **ARP**: Abbreviated Resettlement Plan. **ESHS**: Environmental, Social, Health and Safety. **ESMF**: Environmental and Social Management Framework. **ESMP**: Environmental and Social Management Plan. **HSMP**: Health and Safety Management Plan. **MCIT**: Ministry of Communications and Information Technology. **NEPA**: National Environmental Protection Agency. **PAP**: Project-Affected Person. **PMO**: Project Management Office. **TOR**: Terms of Reference.

7.8 Grievance Redress Mechanism (GRM)

The Grievance Redress Mechanism (GRM) provides a formal avenue for affected individuals or groups to engage with the Project implementers or sponsors on issues of concern or unaddressed impacts.[15] It aims to manage and satisfactorily respond to the complaints of individuals or groups of people regarding the environmental and social performance of the Project.

Complaints and concerns may take the form of specific complaints for damages/injury, concerns about routine project activities, or perceived incidents or impacts. The Mechanism ensures that: i) the basic rights and interests of every affected person or group by poor environmental performance or social management of the project are protected; and ii) the concerns of impacted people arising from the poor performance of the Project during the phases of design, construction and operation activities are effectively and timely addressed.

Complaints and concerns should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, at no cost and without retribution. Mechanisms should be appropriate to the scale of impacts posed by a project.

The GRM for Digital CASA will be managed by a Grievance Redress Committee (GRC) formed by, at a minimum, PMO's Head and Environmental and Social Officer, and the MCIT Regional Supervisor and a representative of the local government of the province where the complaint originates. None of the members of the Committee should have a conflict of interest involving any complaint lodged. The Committee should have female representation.

Requirements for the GRM are as follows: i) the grievance redress process must not impose any cost to those raising the complaint (i.e., the complainants); ii) concerns arising from Project implementation must be adequately addressed in a timely manner; and iii) participation in the grievance redress process must not preclude the pursuit of legal remedies under the laws of the Islamic Republic of Afghanistan.

The GRM comprises the following four stages: i) reception; ii) investigation and inquiry; iii) response; and iv) follow up and close out. Table 7.8 details the stages and corresponding steps and timeframes of the GRM for Digital CASA, as well as the forms to use in the GRM process.

[15] The separate report with the Resettlement Policy Framework for the Project includes a Grievance Redress Mechanism to deal with issues and complaints related specifically to resettlement compensation and rehabilitation.

Table 7.8
GRM Stages, Steps, Timeframes and Forms

Stage	Step	Description	Time Frame
Reception	Identification of complaint or concern	Complaint or concern lodged face to face or by phone; letter or email, or recorded during public/community interaction or consultation. Annex XI includes the Grievance Registration Form, which will be used to formally lodge a complaint by the affected party before the Grievance Redress Committee.	1 Day
Investigation and Inquiry	Complaint or concern assessed and logged	Significance assessed and grievance recorded in the Grievance Logbook, whose format is attached as Annex XII. Significance criteria are as follows: • Level 1: one off event. • Level 2: complaint is widespread or repeated. • Level 3: any complaint (one off or repeated) that indicates breach of Afghan law or provision of the ESMF or the RPF.	4-7 Days
	Complaint or concern is acknowledged	Acknowledgement of complaint or concern through appropriate medium.	7-14 Days
Response	Development of response	• Complaint or concern assigned to appropriate party for resolution. • Response development with input from Grievance Redress Committee and affected person or group.	4-7 Days 10-14 Days
	Response signed off	Redress action approved by Grievance Redress Committee. The Grievance Decision Form, attached as Annex XIII, will be used to formally record the decision of the Committee.	4-7 Days
	Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant.	10-14 Days
Follow Up and Close Out	Complaints response	Redress action recorded in Grievance Logbook (see Annex XII). Confirmation with complainant that complaint can be closed or determination of what follow up is necessary.	4-7 Days
	Close grievance	Recording of final sign off of grievance. If grievance cannot be closed, return to second step (Complaint or concern assessed and logged) or refer to recommend third-party arbitration or resort to court of law.	4-7 Days

The GRM will produce monthly and quarterly reports on the status of processing of all complaints and concerns received using the format provided in Annex XIV.

7.9 Environmental and Social Training Plan

The effective implementation of the ESMF requires that the PMO Environmental and Social Officer and technical staff, as well as the Field Supervisors at MCIT regional offices, are knowledgeable about the ESMF process and how to adequately apply the tools under their responsibility associated with each step of the ESMF.

The Training Plan presented in this section aims to develop the capacity of MCIT staff in environmental and social management to ensure that it has the understanding and practical preparation to satisfactorily implement the ESMF. It consists of practical, hands-on modules delivered in a workshop format, tailor-made to different target audiences comprising mainly technical staff at MCIT. In addition, it is recommended that staff at the Environmental and Social Assessment Division of the National Environmental Protection Agency participate in some of the modules, as shown in Table 7.9.

The training modules will be ideally taught by a qualified team composed of an international Environmental Consultant and an international Social Consultant with practical experience in environmental and social assessment and management, field mitigation and capacity building in the telecommunications and information technology sector. Alternatively, the training modules could be delivered by a qualified international Consultant with expertise and experience in both environmental and social assessment and management in the telecommunications and information technology sector. It is recommended that MCIT and NEPA co-sponsor the Training Plan and provide a certificate to participants in the different target audiences who complete the corresponding modules. Table 7.8 contains the suggested Training Plan.

Table 7.9
Suggested Training Plan

MODULE	TARGET AUDIENCE	DURATION
Assessment and management of environmental and social impacts and risks in the telecommunications and information technology sector: • Potential environmental and social impacts and risks. • Mitigation of environmental and social impacts and risks. • Field oversight of environmental and social impacts and risks (practical module with site visit).	PMO Environmental and Social Officer. Field Supervisors at MCIT regional offices. Technical staff at Environmental and Social Assessment Division of the National Environmental Protection Agency.	1.5 days.
Afghan and World Bank environmental and social safeguard requirements applicable to Digital CASA Project: • Afghan regulatory requirements. • World Bank safeguard policies.	PMO and MCIT technical staff. PMO Environmental and Social Officer. Field Supervisors at MCIT regional offices. Technical staff at Environmental and Social Assessment Division of the National Environmental Protection Agency.	0.5 days.
Overview of ESMF process for Digital CASA Project: • Steps. • Implementation tools. • Supporting documentation. • Institutional responsibilities.	PMO and MCIT technical staff. PMO Environmental and Social Officer. Field Supervisors at MCIT regional offices.	0.5 days.
Completion of ESMF implementation tools and implementation support documents/tools:	PMO Environmental and Social Officer. Field Supervisors at MCIT regional	1 day.

MODULE	TARGET AUDIENCE	DURATION
• Environmental and Social Screening Tools Form. • Environmental and Social Scoping Form. • Environmental and Social Compliance Report. • Procedure for Mine and Unidentified Explosive Object Risk Management.	offices.	
Resettlement Policy Framework (RPF) for Digital CASA Project: • Overview of RPF process. • Design, stakeholder consultation, grievance redress and monitoring of implementation of Abbreviated Resettlement Plans.	PMO Environmental and Social Officer. Field Supervisors at MCIT regional offices.	1.5 days.

7.10 Budget Considerations for ESMF Implementation

The estimated cost for the preparation and delivery of the Environmental and Social Training Plan is USD 12,000.

The budget for the payment of salaries and expenses of the Environmental and Social Officer will be included in the regular operating budget of the Project Management Office.

The budget for the implementation of environmental and social mitigation and monitoring measures, as well as the design and implementation of Abbreviated Resettlement Plans will be included in the corresponding Bills of Quantities of each respective Contractor.

7.11 Monitoring and Reporting

Within three months after appointment, the PMO Environmental and Social Officer will develop specific indicators to help assess the environmental and social performance of the Project. The indicators will be part of the overall Monitoring and Evaluation System for the Project. They will be collected on a monthly basis and reported to MCIT every month. Further, the monthly monitoring reports will be consolidated into quarterly reports and submitted to the World Bank as part of standard Project Supervision Reports.

7.12 Public Disclosure

The World Bank's Policy on Access to Information (2015) requires the disclosure of any information in the Bank's possession that is not on its list of exceptions, such as environmental and social safeguard documents related to the operations that the Bank is considering to finance, such as the Digital CASA Afghanistan Project, or operations that the Bank is currently financing or has financed in the past.

This ESMF will be disclosed before Project Appraisal at the World Bank InfoShop, as well as in-country at MCIT's website in English, Dari and Pashto.

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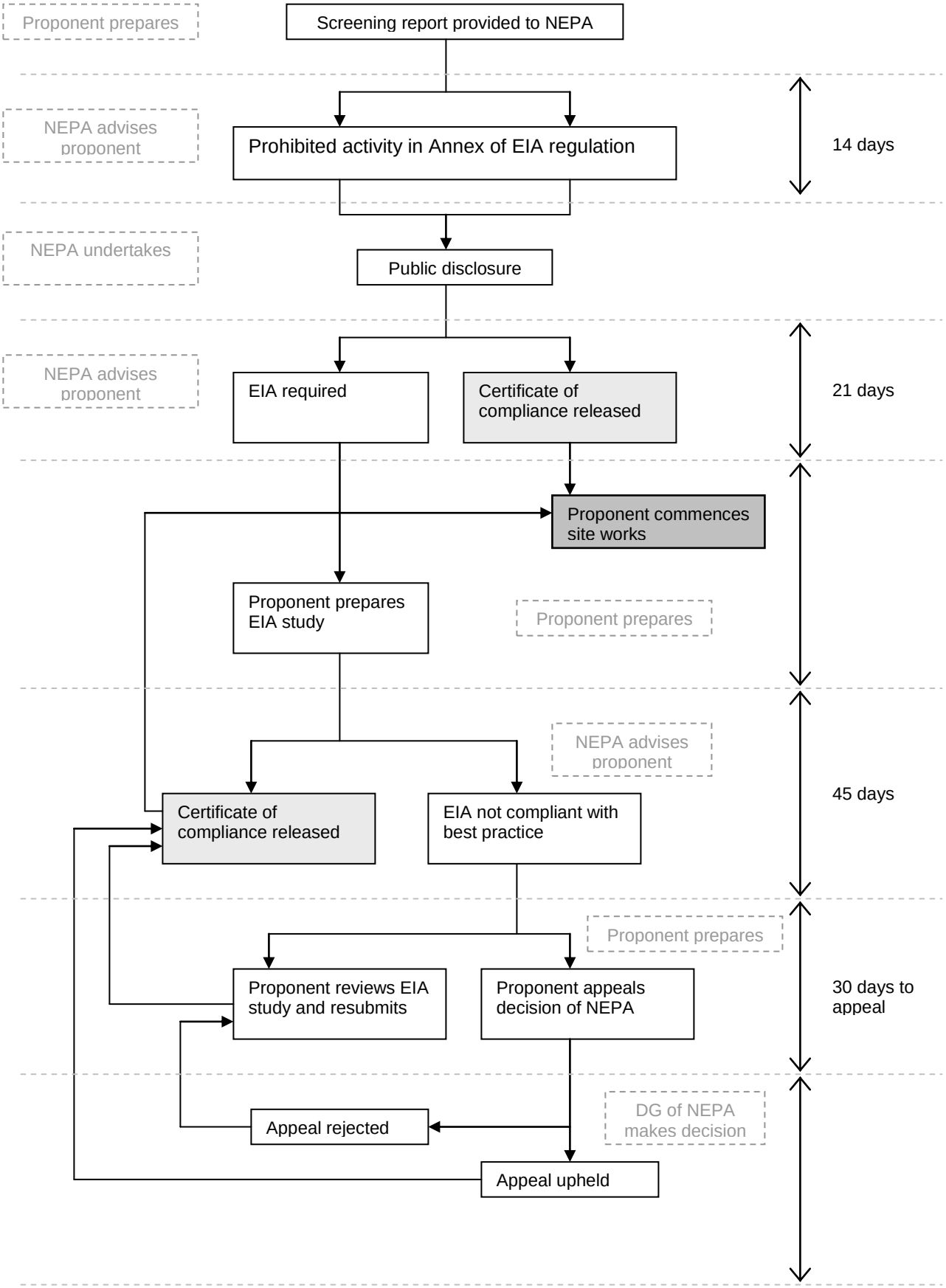
LIST OF ANNEXES

ANNEX I

Interim ESIA Process in Afghanistan

Interim Environmental and Social Impact Assessment Process in Afghanistan



Source: NEPA, 2008, p. 5.

ANNEX II

Digital CASA Proposed OFC Networks

Existing and Proposed Optical Fiber Cable Networks in Afghanistan

Source: MCIT, undated.

Proposed Plan for Connecting Remaining Provinces (1401.2 Km) with OFC Ring of Afghanistan and Establishing Redundancy for the Ring (in 2017 - 2022)						
S. No.	**Route Description**	**Length in Km (Approximate)**	**Provinces to be connected**	**Road Condition**	**Districts to be connected**	**Remarks**
1	Sar-e-Pol to Shebergan	60	Sar-e-Pol	Asphalted	No District on Route	Sar-e-Pol Province will be connected with the OFC Ring at Shebergan; Shebergan has already been connected under OFC Ring Project of Afghanistan
2	Panjshir to Jabal Saraj	45	Panjshir	Asphalted	No District on Route	Panjshir Province will be connected with the OFC Ring at Jabal Saraj; Jabal Saraj has already been connected under OFC Ring Project of Afghanistan
3	Farah to Farah Road	85	Farah	Asphalted	No District on Route	Farah Province will be connected with the OFC Ring at Farah Road; Farah Road has already been connected with Heraat under OFC Ring Project of Afghanistan
4	Qala-e-naw to Ghormach and Karukh	255	Qala-e-naw	Under construction	Ghormach, Murghab	Qala-e-naw Province will be connected with the OFC Ring at Ghormach; OFC Route has already been built from Maimana to Ghormach under OFC Ring Project of Afghanistan, which needs to be made operational by Afghan Telecom (AFTEL). Karokh District will be connected with the Ring at Qala-e-naw; OFC Route has already been built from Heraat to Karokh under OFC Ring Project of Afghanistan, which needs to be made operational by AFTEL. This connectivity is important to complete the OFC Ring of Afghanistan by reaching up to Heraat from Mazar side.
5	Zaranj to Delaram	220	Nimroz	Asphalted	Khash Rod	Zaranj Province along with one District enroute will be connected with Delaram District; Delaram District has already been connected under OFC Ring Project of Afghanistan
6	Tarinkot to Kandahar	140.3	Oruzgan	Asphalted	Shah Wali Kot	Tarinkot Province along with one District enroute will be connected with the OFC Ring at Kandahar
7	Nuristan to Kunar	96.5	Nuristan	50% Asphalted	Nooristan	Nuristan Province will be connected with the OFC Ring at Kunar Province; Kunar Province is also planned to get connected with OFC Ring of Afghanistan under this futuristic Plan
8	Bamian to Ghor	294.4	Ghor	Gravel	Dawlatyar and Lal-wa-Sarjungal	
9	Bamian to Nilli	205	Daikundi	Partially Asphalted	Panjab, Waras and Sharistan	

Redundancy Routed to Improve the Reliability of the Network (Specially for Regional Connectivity) total 1731.2 Km						
S. No.	**Route Description**	**Length in Km (Approximate)**	**Provinces to be connected**	**Road Condition**	**Districts to be connected**	**Remarks**
1	Chaghcharan to Heraat	353.5		Gravel	Shahrak, Chisti Sharif, Awbeh, Pashtun Zarghun	Bamiyan is connected with the OFC Ring at Charikar under ICT Sector Development Project of Afghanistan; The aim of Chaghcharan to Heraat connectivity is to provide lateral redundancy to the OFC Ring of Afghanistan
2	Badakshan to Wakhan (Afghanistan-China Border)	480.7		60 km asphalted and 109 km is under design mountainous/ Gravel	Baharak, Ishkashim, Khondod, Broghil, Wakhan (China Border Point)	Badakshan Province will be connected with Wakhan; This important OFC Route will provide connectivity with China to achieve Regional Connectivity, From Faizabad to Bahrak is 60km asphalted road and From Barak to Ishkashem 109km is under design of MOPW
3	Tarinkot to Nilli	178.8		Gravel	Chora, Gizab	Tarinkot Province along with two Districts enroute will be connected with Nilli; Nilli is also planned to be connected under ICT Sector Development Project of Afghanistan; Hence, this is only a Redundancy Route
4	Badakshan to Panjshir	319		Gravel	Deh-e-Parian, Anjoman	Badakshan Province will be connected with Panjshir, which will provide lateral redundancy to the OFC Ring of Afghanistan
5	Mazar-e-Sharif to Kunduz (Via old Route)	126.5		Gravel	Angarak	Mazar-e-Sharif Province will be connected via. Angarak District to Kunduz Province; This connectivity will provide lateral redundancy to Mazar-e-Sharif - Kunduz OFC Ring Route, to provide more reliable connectivity with Uzbekistan & Tajikistan
6	Badakshan to Nuristan	272.5		Gravel	No District on Route	Badakshan Province will be connected with Nuristan, which will provide lateral redundancy to the OFC Ring of Afghanistan
Total Distance		3132.2				
TOTALS		**3132.2 Km [87.71 Mn USD]**			**22 DISTRICTS**	**Note: Average Estimated Cost per Km = 28,000 USD - all Inclusive**

Source: MCIT, undated.

ANNEX III

Potential Positive Environmental and Social Impacts, and Potential Negative Environmental and Social Impacts and Risks of Digital CASA, and Mitigation Measures

I. INTRODUCTION

This annex includes the following two tables: i) potential positive environmental and social impacts of Digital CASA; and ii) potential adverse environmental and social impacts and risks of Digital CASA; and mitigation measures.

II. POTENTIAL POSITIVE ENVIRONMENTAL AND SOCIAL IMPACTS OF DIGITAL CASA

PROJECT COMPONENT	POSITIVE IMPACTS
Component 1: Supply Side (Digital Connectivity)	• Creation of temporary jobs during the laying of optical fiber cable, and the installation and upgrade of ICT equipment and services. To enhance this positive impact, unskilled labor will be recruited exclusively from local communities, and semi-skilled labor will be recruited preferentially from such communities, provided that they have the requisite qualification, competence and desired experience. • Temporary enhancement of local economic activity along the routes where the optical fiber will be laid, and ICT equipment and services will be installed, as a result of increased demand of materials, supplies and goods from Contractors (e.g., aggregates, fuel, etc.) and workers (e.g., food, clothing, etc.). To enhance this positive impact, the Project will promote local procurement where technically and commercially reasonable and feasible. In addition, Contractors shall procure aggregates (sand, gravel, crushed stone, etc.) from licensed sources to avoid environmental degradation. • Significant increase in the utilization of the national optical fiber backbone currently underutilized due to the lack of or limited links within provinces and to some neighboring countries. • Improved connectivity in provincial and central public entities will result in increased efficiency in intra- and inter-information sharing in public offices, enhanced information dissemination to the public, facilitation of decision making and more transparency in government decisions, streamlined procurement processes and lower expenditures in government offices (due to reduced purchase of paper, stationery, etc.). • New and strengthened connectivity with neighboring countries will improve trade and regional security. • Enhanced broadband connectivity to businesses, schools, hospitals, universities, research institutions and NGOs will: ✓ Increase business opportunities by expanding the geographical reach of companies and reducing the cost of doing business (e.g., travel and communications costs, stationary, etc.). ✓ Improve healthcare services delivery. ✓ Enhance university education and research. ✓ Enable NGOs to have a stronger scope and wider spatial coverage of developmental undertakings in communities. ✓ Increase significantly in the utilization of the national optical fiber backbone.
Component 2: Demand Side (Digital Society and Economy)	• Transformation and enhancement of public service delivery through the use of ICT-based platforms will reduce the cost, improve information sharing and flow, and increase the speed of doing government business. • Expansion of technical capacity and business opportunities in the ICT

PROJECT COMPONENT	POSITIVE IMPACTS
	sector, thanks to interventions aimed at the development of the information technology industry and the increase in ICT training activities (this will include youth and women outside Kabul).
Component 3: Enabling Environment	The institutional development and capacity strengthening of MCIT and ATRA will help create an enabling environment conducive to: • Creation of job opportunities. • More efficient government service delivery. • Improved productivity in all sectors. • Enhanced governance. • National economic development.
Component 4: Project Management	• Short- to medium-term job opportunities for skilled professionals in areas of procurement, monitoring and evaluation, and environmental and social safeguards.

III. POTENTIAL ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS OF DIGITAL CASA, AND MITIGATION MEASURES

IMPACTS AND RISKS	MITIGATION MEASURES
Soil Erosion: Loss, damage or disruption of soil, with possible introduction of sediments to watercourses, as a result of trenching and vegetation clearing.	• Early installation and regular maintenance of drainage and diversion structures, silt traps, etc; drainage outlets to discharge into vegetated areas if possible; vegetation along watercourses and drainage lines to be retained if possible. • Retention of topsoil for restoration (including tilling and revegetation) as soon as practicable. • Removed soil from trenching operations shall be used for backfilling. • Careful planning of timing of works (overall duration and seasonality, specially avoiding works during the rainy season if possible). • Clear demarcation on project drawings of vegetation to be affected. • Minimization of cleared areas and soil disturbance, with revegetation as soon as feasible with species adapted to local conditions when applicable. • If the surface to be intervened is small, protection of erodible areas with mulch, and planting with protective vegetation once works are finished; preferably, execution of works during the dry season. • If the surface to be intervened is large, presentation of an adequate erosion and sedimentation control plan, specifying type of device to be applied, installation sequence and location; preferably, execution of works during the dry season.
Water and Soil Pollution, and Landscape Degradation: • Trenching and vegetation clearing may create exposed sites. Sediment-laden runoff from cleared areas could impact water quality of downstream watercourses. • Release of hazardous substances associated with construction and maintenance activities or with transport of materials (e.g., accidental spills and leaks), may lead to soil, surface or groundwater contamination. • Inefficient waste management during construction and maintenance activities may lead to inadequate disposal of solid (domestic and construction) and liquid wastes that may pollute soils and watercourses, and visually degrade natural and man-made landscapes.	• Train personnel on waste handling and segregation. • Segregated waste storage containers with appropriate signs (hazardous or non hazardous) shall be provided at construction sites. • No garbage, refuse, oily waste, fuel, waste oil or removed/excess materials (e.g., asphalt, sidewalks, metal scrap, etc.) shall be discharged into drains, onto site grounds, natural areas or watercourses. • If feasible, reuse of removed/demolished materials (e.g., asphalt, sidewalks, metal scrap, etc.) or donation to local community. In addition, careful selection of adequate sites for final disposal of removed/excess materials not reused or donated. • Implementation of appropriate storage and containment areas (e.g., "bunded" area with impervious "polyliner" or similar) for both new and waste fuel, oil and hazardous materials to prevent and contain any spillage and leaks. • Prompt removal and safe disposal of soil contaminated with hydrocarbons. • Hazardous and oil waste shall be collected and disposed by NEPA licensed waste handlers. • Implementation of hazardous materials handling and control procedures (e.g., identify chemical products and store in storage area with restricted access, keep track of movement of each chemical, etc.). • Keep records of waste generation (i.e. type of waste; hazardous or non hazardous; weight or volume; properties; destination; date; etc.).

IMPACTS AND RISKS	MITIGATION MEASURES
	• Maintenance and cleaning of vehicles, trucks and equipment should take place offsite, and prohibition of vehicle washing in watercourses. • Toilet facilities shall be provided for construction workers to avoid indiscriminate defecation in nearby bush. See soil erosion above for control of water pollution due to released sediments from disturbed construction sites.
Air Pollution: Dust and exhaust emissions from small-scale construction activities, and movement of construction vehicles and trucks may affect human health.	• Whenever dust generation at construction sites becomes a problem, water spraying to suppress dust shall be undertaken. • Truck drivers shall be sensitized on and ensure they observe speed limits on earth roads to reduce dust generation. • Contractors shall operate only well-maintained construction machinery, vehicles and trucks, and implement a routine maintenance program for all vehicles and trucks. • Engines of vehicles, trucks and earth-moving machinery shall be switched off when not in use.
Noise and Vibration: • Use of earth-moving equipment and heavy vehicles may generate noise and vibration. • Excessive noise can be a nuisance to local communities and businesses. In addition, noise may affect wildlife when optical fiber cable is laid in close proximity to natural areas. • Vibration from compacting trenches may crack walls of structures adjoining work sites.	• Contractors shall implement best driving practices when approaching and leaving construction sites to minimize noise generation created through activities such as unnecessary acceleration and breaking. • Strict control of timing of activities within authorized working hours, including banning work at night. • Minimize noise levels and vibrations (e.g., sound insulation, select equipment with lower sound power levels, install acoustic enclosures for equipment, install suitable mufflers on engine exhausts and compressors components). See also air pollution above.
Traffic Congestion, Creation of Hazardous Driving Conditions and Obstruction of Access: Potential traffic congestion, creation of hazardous driving conditions and obstruction of access to homes, businesses and community services during trenching and cable laying operations.	• Trenching across roads, and construction vehicles and trucks movement shall be scheduled during general traffic off-peak hours to avoid traffic congestion and hazards. • Employ safe traffic control measures, including temporary road signs and flag persons to warn of dangerous conditions, and traffic diversions. • Only experienced and trained drivers/operators shall drive/operate construction vehicles, trucks and machinery.
Interruption of Water, Telephone or Internet Services: Excavation and removal of materials (pavement, sidewalks, soil, etc.) required for the laying of optical fiber cable may accidentally rupture pipes, lines and cables, which will result in the interruption of services until affected infrastructure is repaired.	• Consultation and coordination between Contractors, MCIT and utility companies to plan execution of works, including review of maps/drawings with location of pipes and lines to avoid accidental rupture of service infrastructure. MCIT, the Ministry of Public Works, the Ministry of Energy and Water, and the power transmission company, Da Afghanistan Breshna Sherkat (DABS), created an inter-ministerial commission to coordinate the rollout of different infrastructures in order to avoid duplication of efforts, budgetary waste and public nuisances due to the construction of different infrastructures along the same alignment at different times. This commission offers an ideal forum for the coordination of the Digital CASA OFC backbone network rollout with existing roads, roads under construction and power transmission lines. • Adoption of previsions in case of accidents, to assure prompt restitution of service.

IMPACTS AND RISKS	MITIGATION MEASURES
Partial Loss of Productive Assets; and Temporary Limitation of Access to Commercial and Institutional Establishments, and to Residential Properties: Excavation and backfilling operations required to install underground optical fiber cable may: • Impact partially agricultural crops and fruit trees, as well as ornamental vegetation. • Temporarily impede access to commercial and institutional establishments, and to residential buildings.	• For the partial impact on agricultural fields and areas with ornamental vegetation and fruit trees, implementation of compensation measures for affected parties in accordance with the Resettlement Policy Framework enclosed as Annex XI. • For the temporary limitation of access to commercial and institutional establishments, and to residential buildings, careful planning of construction activities to minimize duration of impact.
Occupational Health and Safety Hazards: Occupational health and safety hazards during: • Trenching operations for laying of optical fiber cable. • Installation of equipment at existing ICT sites to expand capacity and improve efficiency. • Installation of equipment on some overhead power transmission lines to create backup routes for Digital CASA optical cables using existing Optical Ground Wires on transmission lines. • Construction of telecommunications compounds and other physical structures.	• Conduct a risk assessment of site safety hazards, and design and implement measures specific to identified hazards. • Train workers on safe work practices, and conduct toolbox talks. • Provide and enforce use of adequate Personal Protective Equipment (PPE) on site including, as applicable, hard hats, overalls, high-visibility vests, safety boots, gloves etc**.** • Put a system in place to track and respond to accidents, incidents, near misses and fatalities. • Except for areas secured by fencing, all active construction areas shall be marked with high-visibility tape, in particular open trenches, to reduce the risk of accidents involving workers, pedestrians and vehicles. • All open trenches and excavated areas shall be backfilled as soon as possible after cable laying and construction has been completed. • Implement good construction site "housekeeping" and control access to active construction sites. • Clear signage shall be used at construction sites. • For risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities: – Train workers on specific hazards associated with laser lights. – Prepare and implement laser light safety management procedures. • For risk of microscopic glass fiber shards penetrating human tissue through skin or eyes, or by ingestion or inhalation: – Train workers on optical fiber management. – Prepare and implement optical fiber management procedures. – Avoid exposure to optical fibers through use of protective clothing and separation of work and eating areas. • For risk of fire due to the presence of flammable materials in high-powered laser installation areas: – Same as above. • For risks associated with contact with live power lines: – Allow only trained and certified workers to install electrical equipment. – Deactivate and properly ground live power distribution lines before work is performed on or in close proximity to the lines. – Ensure that live-wire work is performed by trained workers with strict adherence to specific safety and

IMPACTS AND RISKS	MITIGATION MEASURES
	insulation standards – Workers not directly associated with power transmission and distribution activities that are operating around power lines shall adhere to recognized standards and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning and other activities. – Measures to prevent, minimize and control injuries related to electric shock must also be developed and implemented. • For physical hazards due to falling objects when performing elevated and overhead work: – The area around which elevated work takes place shall be barricaded to prevent unauthorized access. Working under other personnel shall be avoided. – Hoisting and lifting equipment shall be rated and maintained, and operators shall be trained in their use. – Equipment and fall protection measures shall be used and implemented by individuals. – Ladders shall be used according to pre-established safety procedures (proper placement, climbing, standing, use of extensions). • For risk of fall when working at elevation: – Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance and replacement of fall protection equipment; and rescue of fall-arrested workers, among others. – Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters (m) above the working surface). The fall protection system should be appropriate for the tower structure and necessary movements, including ascent, descent and moving from point to point. – Installation of fixtures on tower components to facilitate the use of fall protection systems. – Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached. – Safety belts shall be of not less than 16 millimeters (mm). – Ropes should be 5/8 inch (1.6 cm) in diameter, two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident. – When operating power tools at height, workers shall use a second (backup) safety strap. • For risks associated with confined spaces when performing manual boring operations: • Develop and implement confined space entry procedures, including: require work permits for all confined space entries; install appropriate access controls for non-permitting personnel; use ventilation and oxygen/explosive level detection and alarm equipment prior to access. See also traffic congestion, creation of hazardous driving conditions and obstruction of access above.

IMPACTS AND RISKS	MITIGATION MEASURES
Community Health and Safety: • Community health and safety hazards during the execution of works (laying of optical fiber cable, transportation of materials, etc.). • Influx of workers to communities where works will take place may increase the incidence of Sexually Transmitted Infections (STIs), including Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS), as well as communicable diseases.	• Except for areas secured by fencing, all active construction areas shall be marked with high-visibility tape, in particular open trenches, to reduce the risk of accidents involving pedestrians, workers and vehicles. • All open trenches and excavated areas shall be backfilled as soon as possible after cable laying and construction has been completed. • Clear signage shall be used at construction sites. • Control of access to active construction sites shall be implemented. • Training and awareness raising for communities and workforce on HIV/AIDS and other STDs, and communicable diseases. • Design and implementation of a Code of Appropriate Conduct for all workers, including acceptable behavior with respect to community interactions. See also traffic congestion, creation of hazardous driving conditions and obstruction of access above.
Health and Safety Hazards for Field Personnel Created by Possible Accidental Encounter of Mines or Unidentified Explosive Objects (UXOs): Some areas along which the proposed optical fiber cable alignments will pass have witnessed armed confrontations or are close to military installations, which creates a risk of accidental encounter of mines or unidentified explosive objects during excavations. This raises very serious health and safety concerns for field personnel associated with the Project.	• In areas where there has been or there is fighting, and/or where there was or there is a military installation and/or where there is evidence of past or present existence of mines or UXOs, the Contractor with support from the PMO Environmental and Social Officer will complete the Procedures for Mine and Unidentified Explosive Object Risk Management, attached as Annex XV. This Annex contains procedures to assess the risk of presence of explosive devices and to clear the risk. • In case the assessment of the potential presence of mines or UXOs in a given area finds that there are risks in relation to explosive devices, work will not start until the area is cleared of explosive risks in accordance with the procedure specified in Annex XV.

ANNEX IV

Environmental and Social Screening Tools Form

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Environmental and Social Screening Tools Form

I. INSTRUCTIONS

This Form applies exclusively to proposed subprojects included in Component 1 (Supply Side, Digital Connectivity) of the Digital CASA Afghanistan Project that involve the development of Optical Fiber Cable (OFC) Networks.[1] The remaining activities included in Component 1, as well as all of the activities that comprise Components 2, 3 and 4, will not be subject to further screening beyond the analysis of potential environmental and social impacts and risks of the Project carried out in Chapter 6.0 of the ESMF Report, because they pose negligible or null environmental and social risks.

The Environmental and Social Screening Tools comprise the Exclusion List and the Screening Checklist. The Environmental and Social Officer at the PMO will complete this Form. The PMO Head will give final approval to the completed Form. Once completed, the Environmental and Social Screening Tools Form will be an attachment to the subproject document.

The information on the project summary (Section I) will be extracted from the subproject document prepared by MCIT. If this information is insufficient, the PMO Environmental and Social Officer will contact the pertinent staff at MCIT or ATRA in order to obtain further details.

In responding to the questions on the Exclusion List (Section III) and the Screening Checklist (Section IV), the PMO Environmental and Social Officer may need to review secondary information sources or consult other professionals at MCIT or ATRA.

The answers to the questions on the Exclusion List and the Screening Checklists should be based on the inherent environmental and social risks of the subproject, in the absence of or previous to

[1] The initial list of fifteen proposed OFC Network subprojects is as follows:

- Proposed routes for network redundancy, specially for regional connectivity: i) Chaghcharan to Heraat (353.5 Km); ii) Badakshan to Wakhan (Afghanistan-China Border) (480.7 Km); iii) Tarinkot to Nilli (178.8 Km); iv) Badakshan to Panjshir (319 Km); v) Mazar-e-Sharif to Kunduz (via old route) (126.5 Km); and vi) Badakshan to Nuristan (272.5 Km).
- Proposed routes for connecting unserviced provinces to OFC Ring of Afghanistan, including redundancy: i) Sar-e-Pol to Shebergan (60 Km); ii) Panjshir to Jabal Saraj (45 Km); iii) Farah to Farah Road (85 Km); iv) Qala-e-naw to Ghormach and Karukh (255 Km); v) Zaranj to Delaram (220 Km); vi) Tarinkot to Kandahar (140.3 Km); vii) Nuristan to Kunar (96.5 Km); viii) Bamian to Ghor (294.4 Km); and ix) Bamian to Nilli (205 Km).

the application of mitigation and management measures, so as to form a clear picture of potential risks in case mitigation measures fail or are not implemented.

Regarding the Exclusion List, a positive response to any of the questions on the list will render the proposed subproject ineligible for funding under the Project because it poses significant negative environmental or social impacts and risks, or involves unauthorized activities. Therefore, the subproject will be excluded from further funding consideration under the Project.

If the proposed subproject is eligible, the responses to the Screening Checklist in Section IV will serve as the basis for the initial identification of potential environmental and social impacts and risks of the subproject and, further, will provide an essential input for the Environmental and Social Scoping of the subproject, which constitutes the next step of the Environmental and Social Management Framework.

For the two tools included in Sections III and IV, the PMO Environmental and Social Officer will place a check mark on the appropriate box in response to all **applicable** questions, leaving empty the boxes not relevant to the proposed subproject.

II. SUBPROJECT SUMMARY

Subproject Name:

Subproject Location:

Estimated Subproject Cost:

Subproject Objectives:

Brief Description of Proposed Subproject:

III. EXCLUSION LIST

Question	Answer	
	Yes	**No**
Is the subproject located within any of the following legally protected or ecologically sensitive areas? • Natural protected area (e.g., national park, forest reserve, bird sanctuary, etc.). • Sensitive ecosystem (e.g., wetland, primary forest, mangrove forest, etc.). • Area of high biodiversity, or with endogenous or endangered flora or fauna.		
Will the subproject cause significant conversion or degradation of critical natural habitats, such as pristine natural forests or wetlands?		
Will the subproject cause significant socioeconomic impacts involving involuntary resettlement (i.e., displacement of large number of houses or building structures; significant loss, denial or restriction of access to natural resources, land, crops and other economic assets; or significant loss of sources of income or means of subsistence)?[2]		
Will the subproject include activities involving harmful or exploitative forms of forced labor[3] or child labor[4]?		

NOTE: A **yes** answer to any of the above questions will indicate that the proposed subproject is ineligible for funding under the Digital CASA Afghanistan Project.

[2] The threshold for defining whether or not a subproject will cause significant socioeconomic impacts involving involuntary resettlement follows the criteria set in the World Bank Operational Policy on Involuntary Resettlement (OP 4.12) for establishing when a Resettlement Plan is required, instead of an Abbreviated Resettlement Plan. Therefore, socioeconomic impacts will be considered significant when more than 200 people are displaced by the subproject and/or over 10% of their productive assets are lost (WB, 2011c, p. 5 and p. 7).

[3] Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

[4] Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

IV. SCREENING CHECKLIST

Is the subproject likely to generate any of the following environmental or social risks:	**Answer**	
	Yes	**No**
Loss, damage or disruption of soil as a result of trenching and vegetation clearing?		
Water and soil pollution, and landscape degradation due to: • Sediment-laden runoff from exposed sites created during trenching and vegetation clearing, impacting water quality of downstream watercourses? • Release of hazardous substances associated with construction and maintenance activities or with transport of materials (e.g., accidental spills and leaks), leading to soil, surface or groundwater contamination? • Inefficient waste management during construction and maintenance activities, leading to inadequate disposal of solid (domestic and construction) and liquid wastes that may pollute soils and watercourses, and visually degrade natural and man-made landscapes?		
Air pollution caused by dust and exhaust emissions from small-scale construction activities, and movement of construction vehicles and trucks?		
Noise and vibration due to the use of earth-moving equipment and circulation of heavy vehicles?		
Traffic congestion, creation of hazardous driving conditions and obstruction of access to homes, businesses and community services during trenching and cable laying operations?		
Interruption of water, telephone or internet services due to the accidental rupture of pipes, lines and cables during the excavation and removal of materials (pavement, sidewalks, soil, etc.) required for the laying of optical fiber cable?		
Partial loss of productive assets (agricultural crops and fruit trees), partial loss of ornamental vegetation, and temporary limitation of access to commercial and institutional establishments, and to residential properties due to excavation and backfilling operations required to install underground optical fiber cable?		
Occupational health and safety hazards during: • Trenching operations for laying of optical fiber cable? • Installation of equipment at existing ICT sites to expand capacity and improve efficiency? • Installation of equipment on some overhead power transmission lines to create backup routes for Digital CASA optical cables using existing Optical Ground Wires on transmission lines? • Construction of telecommunications compounds and other physical structures?		

Is the subproject likely to generate any of the following environmental or social risks:	**Answer**	
	Yes	**No**
Community health and safety hazards due to: • Execution of works (laying of optical fiber cable, transportation of materials, etc.)? • Increased risk of incidence of Sexually Transmitted Infections (STIs), including Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS), as well as communicable diseases, because of the influx of workers to communities where works will take place?		
Health and safety hazards for field personnel created by possible accidental encounter of mines or unidentified explosive objects during excavations?[5]		

Form prepared by:

Signature: _____ Date:_____

Name (print): _____ Job Title: _____

Form approved by:

Signature: _____ Date:_____

Name (print): _____ Job Title: _____

[5] Complete the Procedure for Mine and Unidentified Explosive Object Risk Management, attached as Annex XII, to determine the likelihood of this risk.

ANNEX V

Environmental and Social Scoping Form

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Environmental and Social Scoping Form

I. INSTRUCTIONS

The Environmental and Social Officer at the PMO will complete this Form. The PMO Head will give final approval to the completed Form.

The proposed category for each subproject, as well as the terms of reference (TOR) for the necessary environmental and social analyses, will be subject to consultation with the Environmental and Social Assessment Division at the National Environmental Protection Agency (NEPA).

The initial information necessary to fill out this Form will come from the Screening Checklist included in Annex IV. In completing this form, the PMO Environmental and Social Officer may need to consult secondary information sources or other specialists at MCIT, ATRA or other agencies. Further, it may be necessary to conduct site visits if the environmental and social information available is insufficient or if the subproject is likely to cause significant negative risks.

This Form consists of three additional sections. Section II contains a synthesis of the subproject characteristics extracted from the subproject document. Section III provides an approach to determining the significance of the risks identified in the Environmental and Social Screening step of the ESMF. Risk significance is based on a combination of ratings of the impact and the probability of each risk identified. This section provides guidance on determining the impact, probability and significance of each risk. Based on the results of the risk significance determination exercise, Section IV categorizes each subproject from the environmental and social point of view and, if applicable, identifies the type of further environmental and social analysis required.

II. SUBPROJECT SUMMARY

Subproject Name:

Subproject Location:

Estimated Subproject Cost:

Subproject Objectives:

Brief Description of Proposed Subproject:

III. DETERMINATION OF SIGNIFICANCE OF ENVIRONMENTAL AND SOCIAL RISKS

POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS	**SIGNIFICANCE OF RISK**			**BRIEF DESCRIPTION OF RISK**
Use the Screening Checklist found in Section IV of Annex IV to complete this column by copying here all the potential risks for which the answer was YES to the question: Is the subproject likely to generate any of following environmental or social risks? As indicated in Annex IV, risks should be identified in the absence of or previous to the application of mitigation and management measures	Using Tables 1 and 2 below as guides, rate the impact and probability of each risk identified on a scale of 1 to 5. The text on the next page provides guidance on the definition of impact and risk, and how to estimate a potential impact. Using Table 3 below as a guide, rate the significance of each risk			
	Impact (1-5)	**Probability (1-5)**	**Significance (Low, Moderate, High)**	

Source: Adapted from UNDP, 2016, p. 27.

Definition of Impact and Risk, and Estimation of Potential Impact

In order to evaluate the significance of identified environmental and social risks, as required in the matrix on the previous page, it is necessary to estimate "… both the potential **impact** (e.g., consequences if the risk were to occur) and **probability** (e.g. the likelihood of the risk occurring) for each identified risk.

The following factors need to be considered when estimating the potential impact:

- Type and location: Is the Project in a high-risk sector or does it include high-risk components? Is it located in sensitive areas (e.g. in densely populated areas, near critical habitat, indigenous territories, protected areas, etc.)
- Magnitude or intensity: could an impact result in destruction or serious impairment of a social or environmental feature or system, or deterioration of the economic, social or cultural well-being of a large number of people?
- Manageability: will relatively uncomplicated, accepted measures suffice to avoid or mitigate the potential impacts, or is detailed study required to understand if the impacts can be managed and which management measures are needed?
- Duration: will the adverse impacts be short-term (e.g. exist only during construction), medium term (e.g. five years) or long-term?
- Reversibility: is an impact reversible or irreversible?
- Community Involvement: Absence of community involvement is an inherent risk for the success and sustainability of any project. Have project-affected communities been consulted in project planning and design? Will they have a substantive role to play in the Project going forward?" (UNDP, 2016, p. 17).

Table 1
Rating "Impact" of a Risk

Score	Rating	Social and environmental impacts
5	Critical	Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict
4	Severe	Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe.
3	Moderate	Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures
2	Minor	Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated
1	Negligible	Negligible or no adverse impacts on communities, individuals, and/or environment

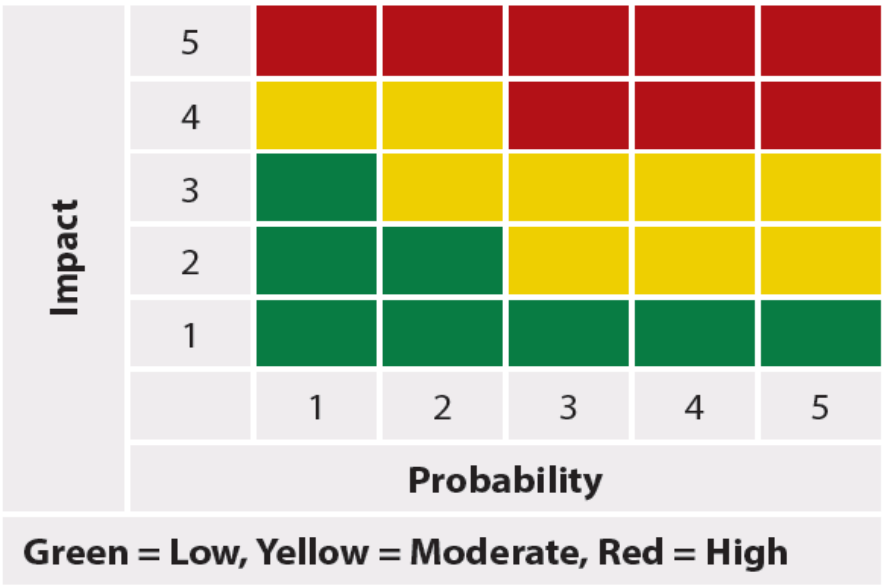
Source: UNDP, 2016, p. 17.

Table 2
Rating "Probability" of a Risk

Score	Rating
5	Expected
4	Highly Likely
3	Moderately likely
2	Not Likely
1	Slight

Source: adapted from UNDP, 2016, p. 17.

Table 3
Determining "Significance" of a Risk



Source: UNDP, 2016, p. 17

IV. ENVIRONMENTAL AND SOCIAL CATEGORIZATION OF SUBPROJECTS

The overall environmental and social category of a given subproject will be the same as that of the risk with the highest level of significance, as determined using the matrix provided in the previous section. In this sense, subprojects will be categorized as "High Risk", "Moderate Risk" or "Low Risk" as follows:

- "**Low Risk:** Projects that include activities with minimal or no risks of adverse social or environmental impacts.

- **Moderate Risk:** Projects that include activities with potential adverse social and environmental risks and impacts, that are limited in scale, can be identified with a reasonable degree of certainty, and can be addressed through application of standard best practice, mitigation measures and stakeholder engagement during Project implementation. […]

- **High Risk:** Projects that include activities… with potential significant and/or irreversible adverse social and environmental risks and impacts, or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process. High Risk activities may involve significant impacts on physical, biological, ecosystem, socioeconomic, or cultural resources" (UNDP, 2016, p. 18).

Please tick off the applicable subproject category below, based on the implementation of the procedure contained in this Form:

High Risk: _____
Moderate Risk: _____
Low Risk: _____

In case a subproject falls under the High Risk category, it will be dropped from further funding consideration. For Moderate Risk subprojects, attach the terms of reference for the pertinent required environmental and social studies specified in the last column of the table below. For low risk subprojects, attach a list of appropriate mitigation measures.

Project Category	Required Environmental and Social Analysis
Moderate Risk	• Site-Specific Environmental and Social Management Plan (see Annex VI for TOR). • Site-Specific Health and Safety Management Plan (see Annex VI for TOR). • If applicable, Abbreviated Resettlement Plan following guidelines in the Resettlement Policy Framework (see Annex XI).
Low Risk	• List of mitigation measures (see Annex III).

Form prepared by:

Signature: _____ Date:_____

Name (print): _____ Job Title: _____

Form approved by:

Signature: _____ Date:_____

Name (print): _____ Job Title: _____

ANNEX VI

TOR for Contractor's Site-Specific ESMP and Site-Specific HSMP

I. INTRODUCTION

This document spells out the requirements regarding the structure and content of the Site-Specific Environmental and Social Management Plan (ESMP), and the Site-Specific Health and Safety Management Plan (HSMP)[1] that must be prepared for Moderate Risk subprojects, as established in the ESMF for the Digital CASA Afghanistan Project.

Both Site-Specific Plans will be the Contractors' operative documents on how to mitigate, inspect and monitor potential environmental, social, and occupational health and safety impacts during mobilization, construction and demobilization of Moderate Risk subprojects. In this sense, they are eminently practical and concrete instruments.

The next two sections detail the outline and content requirements for, respective, the Site-Specific ESMP and the Site-Specific HSMP.

[1] The source for the TORs included in this annex is Cabral, 2013, Annex X.

II. REQUIREMENTS ON SITE-SPECIFIC ESMP

1. Introduction

2. Brief description of relevant environmental and social characteristics of project site.

3. Project Description
   - Focus on impact-generating activities (e.g., demand of water and materials, earth movement, etc.).
   - Environmental liabilities: identify and include a photographic registry of pre-existing environmental liabilities (e.g., gully erosion areas, abandoned borrow pits, unauthorized dumping sites, etc.) and, hence, not attributable to the implementation of the project.

4. Potential Impacts during Mobilization, Construction and Demobilization
   - Apply simple rating of significance.
   - Quantify/qualify impacts (e.g., surface and type of vegetation to be removed, amount and type of wastes to be generated, noise levels, etc.).
   - Describe impacts by chainage (linear infrastructure projects or linear components of infrastructure projects)[2] and/or identify places where specific impacts will manifest (non-linear infrastructure projects).

5. Mitigation Plan
   - Specify the detailed measures to mitigate the identified impacts (also by chainage and/or location).
   - Include designs for measures requiring structural solutions (e.g., gabions, etc.).
   - Include the schedule of implementation of mitigation measures in relation to the general construction schedule.
   - Health and Safety Management Plan (detailed, see below).
   - Waste Management Plan (detailed).
   - Traffic Management Plan (detailed).
   - Training Program (detailed).
   - HIV/AIDS Awareness and Prevention Program.
   - Community Relations Program.
   - If applicable, location and technical specifications for installation and operation of campsites, including workshops, garages, laboratories, offices, sanitary installations, etc.
   - If applicable, location and technical specifications for operation of quarries and borrow pits, and procedures for negotiation with and compensation of land owners where they are located.

[2] Examples of linear infrastructure projects are optical fiber cable networks for telecommunications, roads, oil and gas pipelines, and electrical transmission and distribution lines. Examples of linear components of infrastructure projects are the mains and pipes of water and sewage projects, and the access roads for hydroelectric projects.

- If applicable, location and technical specifications for installation and operation of concrete batching, stone crushing, cement mixing and asphalt plants.
- If applicable, location and technical specifications for installation and operation of temporary and permanent dump sites.

6. Inspection Plan
   - Inspection function: specify frequency, locations and instruments (e.g., checklists, site reports, photo registry, etc.) to conduct site inspections.
   - Permitting: required environmental permits and schedule to obtain them.

7. Monitoring Plan
   - Specify, for each variable: frequency of measurement, locations, methods/equipment, units/measures, quality standards, and reporting requirements and periodicity, including establishment of trends.

8. Organization and Management
   - Specify organizational structure, personnel, resource and equipment requirements, reporting requirements and periodicity, and inter-institutional communication and coordination mechanisms.

9. Annexes
   - If the Contractor wishes to incorporate information beyond the indicated above, such as the policy, institutional and regulatory framework for environmental management in Afghanistan, biophysical and socioeconomic characteristics of the area of influence of the Project, World Bank safeguards policies, etc., that information should be included as an annex and not in the body of the site-specific ESMP. Preferably, such information should not be attached.
   - Annexes should be used, if necessary, to include detailed information on the specific topics of the ESMP (e.g., inspection forms or checklists, design of structural mitigation measures, photographic registry of environmental liabilities, etc.).

III. REQUIREMENTS ON SITE-SPECIFIC HSMP

1. Introduction (including objectives of the HSMP).

2. Hazard Prevention and Control
   - Risk assessment (including description of risk assessment method used).
   - Prevention, protection and control measures (based on risk assessment performed):
     - ✓ Personal protective equipment and clothing: safety goggles, ear plugs, work boots, dust masks, protective clothing etc.
     - ✓ Health and safety, and sanitary facilities, equipment, materials and personnel: first-aid kits and stations, health personnel, safe drinking water, sanitary facilities, accommodations, washing facilities, domestic waste disposal, etc.
     - ✓ On-site safety measures and procedures to protect workers against accidents and health risks in the performance of construction-related activities:
       - ➢ Site security: access, safety of visitors, separation of work and rest areas, signage, etc.
       - ➢ Over-exertion, and ergonomic injuries and illnesses (repetitive motion, manual handling, etc.).
       - ➢ Slips and falls (due to poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground).
       - ➢ Work in heights (risk of falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures).
       - ➢ Struck by objects.
       - ➢ Confined spaces, excavations and trenches.
       - ➢ Electric shock and arc flash/arc blast.
       - ➢ Handling of raw materials (earthwork, gravel, crushed rock, sand, etc.), handling of other materials causing dust development (such as cement), handling of hydrated lime and other activators and additives, handling of asphalt.
       - ➢ Handling of flammable materials.
       - ➢ Hazardous materials management.
       - ➢ Maintenance of vehicles and machinery.
       - ➢ Emergency prevention, preparedness and response.

3. Health and Safety Training Program
   - Provide specifics of training and instruction: topics, frequency, modalities, target audiences, instructors, training materials, etc.
   - Potential topics:
     - ✓ Occupational safety risks and prevention.
     - ✓ Health risks and prevention.
     - ✓ Use of personal protective equipment.
     - ✓ Safe work procedures: general and specific.

4. Organization and Management

- Organizational structure, personnel, equipment, communication and reporting requirements, accident and incident reports, and procedures and tools to verify and ensure compliance with occupational health and safety requirements.

5. Annexes
   - Annexes should be used, if necessary, to include detailed information on the specific topics of the HSMP, such as (illustrative list):
     - ✓ Accident Report forms.
     - ✓ Dangerous Occurrence forms (near misses).
     - ✓ Safety Audit Forms.
     - ✓ Safety Check List.
     - ✓ Safety Rules.
     - ✓ List of hospitals, emergency evacuation strategy and other arrangements to treat seriously injured staff.
     - ✓ List of personnel trained in first aid and their places of deployment.
     - ✓ List of first aid kits and locations where these will be held.

ANNEX VII

ESHS Criteria for Evaluation of Bid Proposals

Environmental and Social Staffing and Methodology

The successful Bidder will be required to carry out the works in accordance with a Site-Specific Environmental and Social Management Plan (ESMP), to be prepared by the Contractor following Contract award, which shall be approved by MCIT. The Site-Specific ESMP shall be prepared following the Terms of Reference that will be provided to the successful Bidder.

The Bidder shall demonstrate in a narrative section of its Technical Offer that it can successfully manage the environmental and social risks associated with the implementation of the proposed works, as follows:

Describe the proposed environmental and social staffing, roles and responsibilities, and management structure; and describe the proposed approach to managing environmental and social impacts during implementation of this project, including a description of the mitigation measures that will be used and international environmental and social standards that may be applicable. The Bidder shall provide enough detail to demonstrate an understanding of the critical environmental and social issues related to the project.

Health and Safety Staffing and Methodology

The successful Bidder will be required to carry out the works in accordance with a Site-Specific Health and Safety Management Plan (HSMP), to be prepared by the Contractor following Contract award, which shall be approved by MCIT. The Site-Specific HSMP shall be prepared following the Terms of Reference that will be provided to the successful Bidder.

The Bidder shall demonstrate in a narrative section of its Technical Offer that it can successfully manage the health and safety risks related to the implementation of the works, as follows:

Describe the proposed health and safety staffing, roles and responsibilities, and management structure; and describe the proposed approach to managing health and safety impacts during implementation of the works, including a summary of mitigation measures that will be used and international health and safety standards that may be applicable. Provide enough detail to demonstrate an understanding of the critical health and safety issues related to the project.

ANNEX VIII

ESHS Conditions of Particular Application

I. Sub-Clause on Safety Procedures

The Contractor shall be responsible for the development and implementation of, and compliance with, a Site-Specific Health and Safety Management Plan (HSMP) based on the Terms of Reference provided. The Contractor shall submit the Site-Specific HSMP to MCIT within 45 days of the Letter of Acceptance for the approval of MCIT.

The Contractor shall also implement directives issued as a result of periodic inspections to be undertaken as part of the supervisory role of MCIT.

The Contractor shall notify MCIT within 48 hours or, as soon as reasonably possible, after the occurrence of any accident which has resulted in damage or loss of property, disability or loss of human life, or which has or which could reasonably be foreseen to have a material impact on the environment and shall submit to MCIT no later than 28 days after the occurrence of such an event, a summary report thereof.

II. Sub-Clause on Protection of the Environment

The Contractor shall develop and implement a Site-Specific Environmental and Social Management Plan (ESMP) based on the Terms of Reference provided. The Contractor shall submit the site specific ESMP to MCIT within 45 days of the letter of acceptance for the approval of MCIT.

The Contractor shall ensure that its activities under this Contract are not likely to cause a significant environmental, health, or safety hazard, understanding that the Contractor is not responsible for the environmental and social impacts of the Works, to the extent that such impacts result directly from completion of the Works as designed by the Employer.

The Contractor shall be responsible for ensuring that all Subcontractor's and Contractor's Personnel understand and operate in accordance with the principles and requirements of the environmental and social management provisions of this Sub-Clause and that similar standards apply to the Subcontractor's environmental and social management system, and environmental and social performance.

The Contractor's program shall demonstrate clearly the procedures and methods of working that the Contractor and its Subcontractors will adopt to comply with the environmental and social management requirements of this Sub-Clause.

The Contractor shall ensure the adequate disposal of construction and excavation wastes.

The Contractor shall restore the Site to original conditions or to a state as set out in the Specifications after the completion of the Works.

III. Sub-Clause on Health and Safety

The Contractor shall make its staff available to attend the HIV-AIDS awareness and prevention program for the project, and shall undertake such other measures as are specified in the Contract or instructed by MCIT to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

ANNEX IX

ESHS Technical Specifications for Construction

EP1 GENERAL

EP1.1 SCOPE

The general guidelines for construction set out general responsibilities to be followed for the duration of construction stage.

EP1.2 MANDATE

This section applies to the Contractor and their employees to ensure management of the following issues is ensured. Project personnel responsible for scheduling of construction activities also form part of this management process.

EP1.3 GENERAL CONSTRUCTION REQUIREMENTS

The following general requirements shall apply:

EP1.3.1 When night work is authorized by the Engineer or his Representative, the Contractor shall provide adequate lighting where work is being executed at night and shall provide and install any additional lighting that the Engineer may require in order to gain access to watch and supervise the Works and carry out any testing and examination of materials.

EP1.3.2 The Contractor shall minimize the pollution of and disturbance to lands, roads and other places on and around the Site. No trees or other vegetation shall be removed except to the extent necessary for the Works. Vegetation removal shall be limited to within 3 m from edge of shoulder.

EP1.3.3 The Contractor shall ensure that access is provided to all properties adjacent to the Site for the duration of the Contract.

EP1.3.4 The Contractor shall take all reasonable precautions:

- In connection with any rivers, streams, waterways, and drains, to prevent silting, flooding, erosion and pollution of the water so as to adversely affect the quality or appearance or cause injury or death to human, animal, fish or plant life.
- In connection with underground water resources (including percolating water) to prevent any interference with the supply to or abstraction from such sources and to prevent pollution, so as to adversely affect the quality or quantity of groundwater.

EP1.3.5 The Contractor shall provide, maintain and remove on completion of construction, facilities to minimize pollution due to the Contractor's operations including, but not limited to, aggregate washing, concrete mixing, grouting, etc.

EP1.3.6 The Contractor shall provide, maintain and remove on completion of construction, adequate fencing or barriers around active zones of construction and all equipment/material staging areas, but without prejudice to his obligations including maintenance of free access for the Employer, the Engineer, other contractors and any other persons entitled to such access.

EP1.3.7 The Contractor shall be responsible for acquainting himself with and observing all current, applicable laws and regulations.

EP1.3.8 The Contractor shall acquaint himself with the position of all existing services such as sewers, surface water drains, cables for electricity, internet and telephone, telephone and lighting poles, water mains, and the like before commencing any excavation or other work likely to affect the existing services.

EP1.3.9 The Contractor shall be held responsible for damage to existing works or services, and shall indemnify the Employer and the Engineer against any claims in this respect (including consequential damages). The Contractor shall be responsible for the reinstatement of the services so affected.

EP1.3.10 In all cases where such works or services are exposed, they shall be properly shored, hung up or otherwise protected. Special care must be exercised in filling and compacting the ground under mains, cables, etc., so to leave uncovered exposed water meters, stopcock boxes and similar items.

EP1.3.11 Notwithstanding the foregoing requirements and without reducing the Contractor's responsibility, the Contractor shall inform the Engineer immediately if any existing works or services are exposed, located or damaged.

EP1.3.12 All costs that may be incurred by the Contractor as a result of programming and coordinating work to enable any alterations to the services to be carried out and the cost of any safety precautions that shall be deemed necessary due to the proximity of the Works to the power lines shall be at the Contractor's expense.

EP1.3.13 If instructed, upon completion of the contract and, after receiving approval in writing from the Engineer, the Contractor shall take down and remove all structures forming part of his construction sites and/or equipment/materials staging areas and shall arrange for the disconnection of the water supply, remove all drains and culverts, backfill trenches, fill in all latrine pits, soakaways and other sewage disposal excavations, with the exception of items and services that are required to revert to the ownership of the Employer and shall restore the Site and all staging areas, as far as practicable, to its original condition and leave it in a neat and tidy condition. Develop strategy for waste reuse, recycling and disposal.

EP2 SPECIFICATIONS FOR MATERIALS MANAGEMENT

EP2.1 SCOPE

This specification covers requirements for the handling, use and storage of fuels, lubricants and chemicals. Fuels and lubricants have properties than can result in adverse environmental impacts if they are accidentally spilled or improperly handled. The strategies to minimize occurrences of accidentally spillage of these substances are detailed in this section.

EP2.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the transportation, handling, use and storage of fuels and lubricants and chemicals during construction of the project. It also applies to all personnel who are involved in the transportation, handling, use and clean up of potentially hazardous industrial compounds and reagents. In addition, these specifications also apply to all personnel who are involved in the transportation, handling, use and clean-up of potentially hazardous industrial compounds and reagents.

These specifications should be applied in concert with the following specifications:
EP2.2.1. Waste Management
EP2.2.2 Environmental Protection of Watercourses and Water bodies (including Erosion and Sediment Control Measures)
EP2.2.3 Spill Contingency Plan

EP2.3 MANAGEMENT OF FUELS AND LUBRICANTS

Construction vehicles and equipment will require the handling and use of significant quantities of fuels and lubricants over the course of the project. These can result in adverse environmental impacts (i.e., contamination) to soil, groundwater and surface water if improperly handled or accidentally spilled.

EP2.3.1 In the event that **refueling is to be carried out directly** from mobile tanker trucks or from a truck carrying a fuel tank. All transfer of fuel, including refueling, should be carried out in areas separated 30 m from residential dwellings, schools and health facilities and 10 m away from the nearest watercourse, including drains.

EP2.3.2 The following precautions will be implemented during refueling:

- all containers, hoses, and nozzles are free of leaks;
- all fuel nozzles have functional, automatic shutoff;
- the operator can see and have access to both ends of the hose, or operators are stationed at both ends; and
- fuel remaining in the hose is returned to the mobile tanker or fuel storage facility.

EP2.3.3 Spent oils, lubricants and filters, etc. shall be collected and disposed of at an approved location.

EP2.3.4 Oil changes on the right-of-way are prohibited.

EP2.3.5 In the event that **fuel storage areas** are used, all fuel storage areas must be bermed and lined with an impervious liner and, in accordance with applicable codes and regulations and shall have a volumetric capacity of not less than the sum of:

1. The capacity of the largest fuel tank located in the containment areas; and,

2. 10% of the greater of the following:
   a) the capacity of the largest fuel tank located in the containment area, or
   b) the aggregate capacity of all other fuel tanks located in the containment area.

EP2.3.6 In the event that **fuel transfer facilities** are used, all fuel transfer facilities must be lined with an impervious liner and bermed as necessary to contain accidental spillage in the transfer area.

EP2.3.7 In the event that fuel transfer facilities are used and if pipeline sections extend outside of the fuel storage area, they must be clearly marked to identify the contents.

EP2.3.8 In the event that fuel storage facilities and fuel transfer facilities are used, all fuel storage and transfer facilities shall be inspected and inventoried on a daily basis for potential leakage. Inspection reports shall be prepared and all records retained by the Contractor.

EP2.3.9 In the event that such facilities are used, all active fuel storage and fuel transfer sites shall be inspected each shift for the early detection of accidental spillage of hydrocarbon products.

EP2.3.10 A strategy for the reuse, recycling and/or disposal of hydrocarbon waste products shall be developed by the Contractor of the outset of construction.

EP2.3.11 All materials management personnel shall be trained in the proper handling of fuels and lubricants.

EP2.3.12 Current and up-to-date Material Safety Data Sheets (from suppliers) shall be readily accessible at on-site Office/Camp.

EP2.3.13 Adequate quantities and appropriate types of spill clean-up materials and equipment shall be maintained on site or on mobile fuel trucks, and shall be readily available.

EP2.3.14 Spill clean-up kits and supplies shall be maintained and inspected by the Engineer's Environmental Inspector on a monthly basis to ensure that all materials are present in sufficient quantities.

EP2.3.15 Mock spill response exercises shall be conducted at the initiation of construction and every 6 months thereafter, for the duration of construction.

EP2.3.16 Personnel shall be provided with periodic training for spill reporting, emergency response and spill clean-up procedures.

EP2.3.17 For each incident the specified spill contingency plan shall be implemented (see EP6).

EP2.3.18 All spills must be reported to the regulatory authorities in accordance with the requirements of the spill contingency plan (see EP6).

EP2.3.19 All spill sites shall be cleaned up using the most appropriate techniques for each specific situation. Remediation strategies shall be reviewed with the Engineer, the Employer and regulatory authorities.

EP2.3.20 The Engineer's Environmental Inspector shall randomly monitor fuel transfer and refueling activities to ensure that the procedures are being properly adhered to. In addition, he shall monitor for signs of an unreported spill and investigate the cause of the spill and take appropriate action.

EP2.4 MANAGEMENT OF CHEMICALS

Chemicals, reagents and industrial compounds that may be used during construction, include: liquid asphalt, including tar and bitumen, cement, solvent cleaning compounds, and calcium for dust control. These materials have properties that may result in adverse environmental impacts if they are spilled, improperly disposed of, or otherwise mishandled.

The following strategies shall be implemented to minimize the potential for accidental release of industrial compounds and reagents into the environment:

EP2.4.1 All personnel handling industrial compounds and reagents shall be properly trained.

EP2.4.2 All industrial compound and reagent storage facilities shall be inventoried and inspected by the Contractor on a weekly basis for spillage and loss.

EP2.4.3 Current and up-to-date Material Safety Data Sheets (from suppliers) for all chemicals used on site shall be located on site at various locations including staging areas.

EP2.4.4 All chemicals used during the construction phase shall be stored in approved containers in designated storage areas.

EP2.4.5 Adequate quantities and appropriate types of spill clean-up materials and equipment shall be kept on site and at each staging area at all times.

EP2.4.6 Spill clean-up kits and supplies (e.g., absorbent materials) shall be inspected by the Engineer Environmental Inspector on a periodic basis to ensure materials are present in sufficient quantities to deal with potential incidents involving the products described herein.

EP2.4.7 Personnel associated with the transportation, storage and use of the chemicals must be trained to respond to incidents involving these products.

EP2.4.8 Mock spill clean-up exercises shall be conducted at the initiation of construction and every 6 months thereafter for the duration of construction.

EP2.4.9 In the event of a spill, the specified spill contingency plan shall be implemented (refer to the Environmental Management Plan and EP5).

EP2.4.10 All spills shall be reported to the appropriate regulatory authorities as specified by the spill contingency plan.

EP2.4.11 All spills shall be properly contained and cleaned up in accordance with requirements of the specified spills contingency plan. Remediation strategies shall be reviewed with the regulatory authorities as specified.

EP2.4.12 The Engineer Environmental Inspector shall conduct regular inspections and inventories of all industrial compound and reagent storage facilities and observe industrial compound and reagent handling practices on a periodic basis. Operating procedures shall be adjusted to improve practices when improvements are required.

EP3 SPECIFICATIONS FOR WASTE MANAGEMENT

EP3.1 SCOPE

These specifications cover requirements for handling and disposal of wastes generated during construction.

EP3.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the removal of materials or, otherwise generation of waste as well as its disposal during construction. This includes: used pavement material removed as part of the project (3.4); waste petroleum products (3.5); used engine oil filters (3.6); spent batteries (3.7); domestic wastes (3.8); wastes generated during the disassembly of the staging areas (3.9) and other solid wastes (3.10).

These specifications should be applied together with other specifications, including the following:
EP3.2.1 Materials Management
EP3.2.2 Environmental Protection of Watercourses and Water bodies (including Erosion and Sediment Control Measures)
EP3.2.3 Spill Contingency Plan
EP3.2.4 Grading

EP3.3 WASTE MANAGEMENT GENERAL

The following specification applies to all waste materials including scrap metal, abandoned vehicles and vehicle parts:

EP3.3.1 All excess materials shall be managed so as to prevent their entry to water bodies and watercourses.

EP3.3.2 All stockpiles will be placed so as not to interfere with watercourses or surface drainage and shall not be placed within 10 m of a watercourse or drain.

EP3.3.3 All waste stockpiles shall be removed within one month of initial placement.

EP3.3.4 The Contractor shall develop a strategy for the reuse, recycling and/or disposal of all waste materials including waste hydrocarbon materials and scrap metal of all kinds at the outset of construction. The strategy shall identify the types of materials that can be reused or recycled and shall specify the manner in which these materials will be removed from the site. The strategy shall also specify those materials that are to be disposed of and shall identify specific approved facilities where these materials shall be sent, and the manner in which all such waste materials will be removed from the site.

EP3.4 USED BITUMINOUS PAVEMENT

Bituminous pavement may be removed for the laying of pipes, mains and sewer lines. Although widely used, asphalt contains bitumen and should not be treated as inert product.

EP3.4.1 Following removal, bituminous pavement used may be stockpiled within the project area or designated areas away from water bodies and watercourses.

EP3.4.2 Used bituminous pavement shall not be stockpiled or otherwise stored within or in proximity to the water table (i.e., 1 m above).

EP3.4.3 Stockpiled/used bituminous pavement should be disposed, re-used or (at the discretion of the Employer) donated to an appropriate user within one month.

EP3.4.4 Bituminous pavement that has been removed can be re-used within the project area, for example, for surfacing the shoulders to provide a hardened surface.

EP3.4.5 Where not required for the purposes of the project, used bituminous pavement should be properly disposed of, or (at the discretion of the Employer) donated to local government authorities, under the agreement that it will be used for surface uses and not be used for fill or otherwise exposed to the water table.

EP3.4.6 The Contractor shall store all used pavement materials in areas provided by him and approved by the Engineer, for a period not to exceed one month.

EP3.4.7 Storage areas shall have a berm around the perimeter of the stockpile, using material other than that being stored, to prevent erosion and sedimentation.

EP3.4.8 All stockpiles, waste material storage areas, etc. shall not be placed within 10 m of a river, watercourse or drain.

EP3.5 WASTE PETROLEUM PRODUCTS

Waste petroleum products, in the form of used engine oil, diesel fuel, lubricants and solvents, will be generated at the Project site. These wastes have properties that can result in adverse environmental impacts to terrestrial and aquatic habitat, soil and the quality of surface waters and groundwater if they are improperly managed or disposed. This section identifies the strategies for the recycling and disposal of waste petroleum products.

No formal arrangement exists at present for disposal or recycling of used engine oil and other lubricants, and oil filters. On the other hand, amounts to be generated are relatively small, probably not exceeding 700 liters per year (twice yearly oil change of 7 liters by 50 vehicles).

EP3.5.1 The Contractor shall develop a strategy for the reuse recycling and/or disposal of waste petroleum products at the outset of construction with the objective of minimizing disposal. The strategy shall apply to all personnel who are involved in servicing vehicles, handling fuel, using fuel and handling fuel, using fuel and handling waste materials.

EP3.5.2 To minimize the generation of waste petroleum products requiring disposal:

- Best practical pollution control principles and technologies should be employed in all areas of the project operations;
- Activities generating waste petroleum products should be reviewed on a regular basis to identify and implement further waste reduction strategies where possible; and
- Waste petroleum products should be reused or recycled on-site as appropriate or transported off-site for commercial recycling purposes or disposal.

EP3.5.3 To effectively manage the disposal of waste petroleum products:

- Sorting procedures should be communicated to all personnel;
- Personnel assigned to handle waste materials should be properly trained;
- Used engine oil, solvents and contaminated diesel should be stored in segregated, leakproof containers and tanks at a designated staging area in accordance with specification EP2.3.5;
- Waste engine oil, solvents and contaminated diesel containers should be fully and properly labeled in accordance with regulatory requirements;
- Waste petroleum products not suitable for reuse or recycling on-site should be disposed of at an approved facility; and
- The Contractor shall inspect all waste oil transfer and storage facilities regularly to ensure procedures are being followed and to recommend improvements as appropriate.

EP3.5.4 The Engineer Environmental Inspector shall inspect on-site waste petroleum products handling practices and the waste oil transfer and storage facility on a weekly basis. Operating procedures should be adjusted as opportunities are identified to further improve waste oil handling and disposal practices.

EP3.5.5 The Contractor is required to collect all used oil and lubricants and store these in a leakproof container(s). The Contractor will notify the Engineer of the storage location.

EP3.6 USED OIL FILTERS

A number of used engine oil filters will be generated along the Project Corridor. This section identifies the strategies for the management and recycling of waste engine oil filters.

These specifications apply to all personnel who are involved in servicing vehicles and handling waste materials on-site. It is recognized that servicing may be carried out at existing service stations and hence precludes the need for on-site storage, etc.

EP3.6.1 Sorting procedures should be communicated to all personnel. Personnel assigned to handling waste materials should be properly trained;

EP3.6.2 All oil filters should be collected and stored in segregated, leak-proof containers;

EP3.6.3 Full containers are to be stored at a designated staging area;

EP3.6.4 Any waste oil recovered on-site from used oil filters is to be managed in accordance with the strategies contained in the Specifications listed above for EP3.3 and EP3.5.

EP3.6.5 The Engineer Environmental Inspector will inspect used engine oil filter handling practices and storage facilities on a regular basis. Operating procedures should be adjusted to further improve used engine oil filter handling practices as appropriate.

EP3.7 WASTE BATTERIES

Although generated in small quantities, waste batteries present a concern in terms of leakage of acid and contaminants in the environment. Some waste batteries containing potentially hazardous components may be generated at the Project Site. These types of batteries include lead acid batteries, rechargeable, alkaline and button cells.

EP3.7.1 The management/storage/disposal of waste batteries shall be undertaken by all personnel consistent with the strategy required in EP 3.3 and EP 3.5.

EP3.7.2 To effectively manage waste batteries generated at the Project Site:

- Sorting procedures should be communicated to all personnel;
- Personnel assigned to handle waste materials should be properly trained;
- Lead acid and other batteries should be collected and stored at a designated staging area.
- Waste batteries should be disposed of at an approved recycling or disposal facility;

EP3.7.3 The waste battery management strategies apply to all personnel who are involved in servicing vehicles, equipment and handling waste batteries.

EP3.7.4 The Engineer Environmental Inspector shall inspect battery storage facilities and handling practices on a regular basis. Operating procedures should be adjusted to further improve waste battery handling practices as appropriate.

EP3.8 SOLID DOMESTIC WASTES

The effective management and disposal of solid, non-hazardous domestic wastes, including waste food, packaging, office wastes, paper, etc., is essential to reduce the volumes of materials to be landfilled / incinerated. This section

identifies strategies for the management and disposal of solid domestic wastes. The domestic waste management strategies apply to all personnel and visitors who are involved in the generation, storage, handling, transportation or disposal of domestic waste materials.

EP3.8.1 Solid waste reuse, recycling, sorting and disposal procedures shall apply to all personnel and shall be undertaken consistent with the waste management strategy to be developed by the contractor as required by EP3.3.

EP3.8.2 The Contractor shall provide sufficient numbers of waste collection receptacles to prevent littering of construction sites and staging areas.

EP3.8.3 All combustible, non-hazardous wastes including food wastes, packaging and paper products can be incinerated at a location approved by the Employer and the Engineer.

EP3.8.4 Measures shall be taken to ensure that hazardous wastes are segregated from, and not incinerated with, the more routine domestic wastes, and handled according to applicable procedures.

EP3.8.5 Ash residue from the incinerator shall be removed from the site for disposal at a designated landfills;

EP3.8.6 Non-combustible domestic waste shall be properly stored in designated containers and should be periodically removed for disposal at a designated landfill site.

EP3.8.7 The Engineer Environmental Inspector shall monitor domestic waste handling practices on a regular basis. Operating procedures should be adjusted to further improve waste minimization and waste handling practices as appropriate.

EP3.9 DISASSEMBLY OF CONSTRUCTION SITE

EP3.9.1 Upon completion of construction, the Contractor shall demolish wholly or in part, remove and dispose of all buildings, foundations, structures, pipe culverts, fences and any other obstructions that have not been approved by the Employer to remain on-site, consistent with the waste management strategy to be developed by the Contractor as required by EP3.3.

EP3.9.2 The Contractor's waste management strategy shall specify the manner in which buildings, structures, fences, etc. shall be demolished, and removed from the Site for reuse by the Contractor or other recipients approved by the Employer, or for disposal at a designated landfill site.

EP3.9.3 A specific plan for dismantling and re-using or disposing of demolition materials shall be prepared by the Contractor and submitted to the Engineer and the Employer for approval 60 days prior to initiation of demolition activities. This plan shall be consistent with the waste management strategy prescribed by EP3.3. In general, the plan should provide procedures to ensure: a) minimum disturbance is caused to the occupants of adjacent buildings and properties and the general public, due to noise, dust, water, projectiles, equipment or other causes; and b) no damage to vehicles or property.

The plan shall also include details of:

(a) The methods to be used in operating the following generic equipment or methods:

- Pneumatic concrete breaker
- Coring
- Electric saw
- Diamond wire sawing
- Diamond drilling
- Hydraulic bursting
- Concrete crushing
- Stitch drilling
- Blasting

- Cardhouse blasting
- Thermic lance
- "Others to be specified"

(b) The equipment to be used on site shall be listed together with any special precautions to be taken to minimize noise, dust, damage, personal injury or other nuisance including:
- The use of laminated saw blades
- The use of tents and sound absorbing hoods and/or blankets
- Protection against dust
- Protection against projectiles
- Protection against contamination and injury due to the use of chemicals, etc.
- Protection of the remaining structure, finishes and personnel against water and the collection and removal of water
- The support of the part of the structure being removed and the structure to remain to prevent premature collapse
- The removal of debris from the site

(c) All concrete faces should be carefully trimmed back so as to leave a face free from sharp projections, loose fragments or similar defects.

EP3.10 OTHER SOLID WASTES

The effective reuse, recycling and/or disposal of inert, non-hazardous solid wastes, including clean scrap steel, concrete, timber, glass and tires, is essential to reduce the potential for liability and environmental contamination.

Both temporary and permanent disposal of construction waste materials must be considered. Due to their value as fill or for construction, they will be in demand for these purposes, and individuals may come to construction sites to remove them.

3.10.1 The Contractor shall identify materials to be reused and recycled and the manner in which these materials shall be sorted and removed from the site, consistent with the waste management strategy to be developed in accordance with EP3.3.

3.10.2 The Contractor shall identify waste materials to be disposed and shall identify the approved facility where these materials will be sent and the manner in which they will be removed from the site, consistent with the waste management strategy to be developed, consistent with EP3.3.

3.10.3 The waste management strategy shall specify that:

- Waste sorting procedures should be communicated to all personnel.
- Personnel handling solid wastes should be properly trained.
- Hazardous wastes, if present, must be segregated from solid wastes;
- An inventory should be maintained of the nature (type and mass) of solid waste to be disposed at a landfill.

3.10.4 The Contractor shall consult with the Engineer and the Employer to identify suitable locations for waste material temporary storage areas.

EP3.10.5 Timber waste products that are untreated may be used as firewood.

EP3.10.6 Structural steel waste produced from demolition of existing structures may be sold to scrap metal merchants.

EP3.10.7 Concrete waste resulting from structural demolition may be recycled.

EP3.10.8 The Engineer Environment Inspector will monitor solid waste handling practices on a regular basis. Operating procedures should be adjusted to improve the efficiency of solid waste handling practices when improvements are required.

EP4 SPECIFICATIONS FOR PROTECTION OF WATERCOURSES AND WATER BODIES - INCLUDING EROSION AND SEDIMENT CONTROL MEASURES

EP4.1 SCOPE

These specifications cover the protection of watercourses during construction.

EP4.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the construction of the project, particularly in proximity to watercourses or drains.

These specifications include erosion and sediment control and should be applied together with the following specifications to provide protection of watercourses along the project corridor:

EP2 Materials Management
EP3 Waste Management
EP5 Dewatering
EP6 Spill Contingency Plan
EP8 Grading

EP4.3 PROTECTION OF WATERCOURSES AND WATERBODIES

EP4.3.1 The work shall be controlled to provide effective protection of watercourses and water bodies and associated fish habitat.

EP4.3.2 The Contractor shall at his own expense take all necessary precautions to prevent damage due to erosion and siltation during construction. Precautions will include temporary drainage berms, scour check dams, riprap and the like. Waste material or stockpile material shall be dumped so as not to interfere dams with streams, watercourses or any of the drainage works detailed by the Engineer, and shall not be planed within 10 m of a watercourse or drain.

EP4.3.3 Whenever such protection is found to be ineffective, the Contractor shall implement changes immediately to the procedures and work practices to provide such protection.

EP4.3.4 No work shall be carried out in watercourses or water bodies.

EP4.3.5 Construction vehicles and equipment are prohibited from entering into or crossing a watercourse or water body.

EP4.3.6 Debris shall not be stored or disposed of within 10m of a watercourse or drain.

EP4.3.7 Construction equipment and vehicles shall be maintained in good operating order to minimize leakage.

EP4.3.8 Vehicle maintenance and refueling shall be conducted a minimum of 10 m from any watercourse.

EP4.3.9 The following procedures should be implemented prior to construction and maintained during construction, where appropriate based on site conditions:

- Retain existing vegetation where feasible by limiting clearing and grubbing operations to the designated right-of-way and temporary workspace (not to exceed 3 m from the shoulder)
- Limit the size of the disturbed area.
- Limit duration of soil exposure.
- Grade disturbed soils to stable grades to prevent slumping and to reduce revegetation time.
- Retain existing vegetation, where feasible.
- Limit slope length and gradient of disturbed areas.

- Break and redirect flows to lower gradients.
- Install erosion control measures where site-specific characteristics (e.g., erodible slopes) or sensitivities (e.g., proximity to watercourses) indicate a need for such measures.
- Maintain erosion control measures until erodible areas have been stabilized.
- Bench slopes, as necessary, to reduce sheet erosion where benching is deemed beneficial.
- Construct barriers or temporary rock flows checks or install equivalent erosion control measures (e.g., sand bags, berms, silt fencing), where required, to prevent the entry of sediment laden runoff into watercourses or drains
- Where sandbag barriers are constructed they must consist of three layers. The bottom layer shall consist of three rows of bags; the middle layer shall consist of two rows of bags; and, the top row of one row of bags. The sandbags shall be tightly butted against one another to avoid gaps. Where installed on the ground, the bottom layer shall be placed within a 75-mm deep trench.
- Where constructed, rock flow checks dams shall consist of geotextile and two lifts of rock. A first lift of rock (approximately 450 mm in height) shall be piled across the ditch or channel. The upstream slope of the flow check shall be a 1.5:1 maximum and the downstream shall be 4:1 maximum. A trench (200 mm in width and 200 mm in dept) shall be excavated across the entire length of the upstream side of the flow check. The geotextile shall be placed 300 mm into the trench, over the first lift of rock and up the side-slopes of the ditch or channel to the fullest extent covered by the completed flow check. The trench shall be backfilled to existing grade to hold the geotextile firmly in place. A second lift of rock (minimum depth of 100 mm) shall be placed over the exposed geotextile and first lift of rock to form a spillway (150-mm minimum depth) and anchor the geotextile. Rock check dams shall be installed and maintained in place, without gaps and/or undermining.
- All waste storage piles shall have a toe berm consisting of clean fill.
- Silt fences, if deemed necessary, shall be installed to provide a high level of protection in environmentally sensitive areas and in instances where soils are exposed within 10m of a watercourse.
- Sediment accumulated by erosion control measures, shall be removed in a manner that avoids escape to the downstream side of the control measure and avoids damage to the control measure. Sediment shall be removed to the level of the grade prior to installation of the measure.
- Removed sediment shall be managed as excess earth material.
- Seeding, mulching, and/or hydro-seeding where conditions warrant.

EP4.3.10 Any damage to adjacent properties resulting from the Contractor's failure to take necessary precautions shall be at the Contractor's expense.

EP5 SPECIFICATIONS FOR DEWATERING

EP5.1 SCOPE

These specifications cover the management of dewatering.

EP5.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the dewatering of the construction area.

This specification should be applied together with the following specification:

EP5.2 Environmental Protection of Watercourses and Water bodies (including Erosion and Sediment Control Measures)

EP5.3 DEWATERING

The discharge of dewatering effluent can result in scouring and erosion at point of discharge as well as sediment loading to watercourses and drains.

EP5.3.1 The Contractor shall keep the whole of the works free from water and shall provide all dams, cofferdams, pumping, piling, shoring, temporary drains, sumps, etc., necessary for this purpose.

EP5.3.2 Significant volumes of dewatering effluent (i.e., greater than 50 gallons per minute) shall be discharged into a "filter" bag, that is a geotechnical bag designed to retain or filter out sediment while gradually releasing (e.g., leaking) the water.

EP5.3.3 If a dewatering bag is not available or practical, a dewatering trap shall be constructed of an excavated basin, surrounded by a sediment barrier (refer to Specification No. EP3) and, if necessary, energy dissipation at the outlet.

EP5.3.4 The dewatering trap shall have a minimum depth of 1 m below the existing ground surface and shall be located a minimum of 10 m from a watercourse.

EP5.3.5 Once the dewatering trap is installed, the rate of dewatering shall not exceed the capacity of the dewatering trap or, otherwise (i.e., less than 50 gallons per minute) create scour or erosion at point of discharge.

EP5.3.6 Dewatering of a minor nature should be conducted such that the outlet discharges behind sand bags or a rock check dam, no closer than 10m from a watercourse.

EP5.3.7 Any damage to the Works or to adjacent properties resulting from the Contractor's failure to take necessary precautions shall be at the Contractor's expense.

EP6 SPECIFICATIONS FOR SPILLS MANAGEMENT

EP6.1 SCOPE

These specifications provide procedures for management of spills that may occur during construction activities.

EP6.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the transportation, handling and use of materials that represent a concern if a spill occurs. Specific Spill Management Plans are provided for:
Diesel Fuel (EP6.3) and Gasoline (EP6.4). Each Spill Management Plan consists of Dangers, Initial Spill Response, Containment, Fire Response, Recovery and Disposal. Reporting requirements are also provided.

These specifications should be applied together with the following specifications:

EP2 Materials Management
EP3 Waste Management
EP4 Environmental Protection of Watercourses and Waterbodies (including Erosion and Sediment Control Measures)

These specifications shall be incorporated by the Contractor into an Emergency Response Plan to be submitted to the Engineer prior to construction.

EP6.3 ACTION PLAN FOR SPILL OF DIESEL FUEL

EP6.3.1 **Dangers**. Materials exhibiting one or more of the following characteristics are considered to represent a high level of concern or dangers:

- Flammable.
- Slightly toxic by ingestion, highly toxic if aspirated.
- Moderately toxic to fish and other aquatic organisms.
- Harmful to waterfowl.
- Float on Water

EP6.3.2 **Initial Spill Response.** The Contractor shall respond as follows:

- Upon detection of a spill that cannot immediately and safely be contained and removed, notify the police, the Fire Service, the Engineer and the Employer;
- The source of the spill and the direction of flow shall be identified;
- The type of material spilled shall be identified and actions specified to be safe for handling the material shall be taken in an effort to stop the spill at source; if the material cannot be identified, the material should be assumed to be dangerous and direct contact should not be made without prior consultation with appropriate authorities;
- Contain the spill with dyking, barricading or blocking flow by any means available, including the use of available earthmoving equipment.
- Use all available means to prevent the spill from reaching open water.
- Ensure that unauthorized persons do not contact the spilled material;
- Ensure that all sources of open flame and personal smoking materials are extinguished within a minimum of 100 feet of the spill;
- Ensure the health and safety of all personnel and animals in the immediate area; personnel not involved in containment or clean-up activities should be kept away from the area and the area should be kept clear of animals;

- Provide all materials and undertake any actions necessary to ensure that employees, residents, the traveling public, non-essential employees and animals are kept at a safe distance from the affected area, and are provided safe access away from/around the affected area until the area is declared safe by the appropriate authorities.

EP6.3.3 **Containment**. The Contractor shall consult with the Engineer to determine the most appropriate method of containment, recovery and/or disposal. The following general procedures should be applied to contain the spill:

When the spill is on land:

- Excavate a trench or construct a berm downhill of the spill;
- Line trench or berm with pvc/plastic if possible; alternately use absorbent pads;
- Once contained the spill can be pumped to drums or to a storage tank;
- Monitor for seepage and for spent absorbent;
- Where absorbents are used, apply fresh absorbent from the downhill portion of the spill and progress up to the source;
- Place spent absorbent material in drums and seal until suitable disposal arrangements can be made;
- Avoid continued work in the area until the site has been cleaned up;
- Collect samples for material characterization and identification of an appropriate disposal method (in consultation with the Engineer);
- Stockpile excavated soil (for a period not to exceed 30 days unless directed otherwise by regulatory authorities) and cover with a tarpaulin until a suitable disposal method has been prescribed.

When the spills in water:

- Immediately seal off the source of the leak with a berm or ditch, preferably lined with pvc/plastic, to minimize the volume of material that will enter the watercourse;
- If available, an absorbent boom should be placed downstream of the spill entry point;
- Once contained the spill can be pumped to drums or to a storage tank;
- In still or slow moving water, absorbent pads can possibly be used, when available;
- Avoid continued work in the area until the site has been cleaned up;
- Collect samples for material characterization and identification of an appropriate disposal method (in consultation with the Engineer,).

EP6.3.4 **Fire Response** includes the following measures:

- Notify Engineer
- Notify emergency response authorities (e.g., fire, police)
- Use $C0_2$, dry chemical, foam, or water spray (fog).
- Use fog streams to protect rescue team and trapped people.
- Use water to cool surface of tanks
- Divert the fuel to an open area and let it burn off under control.
- If the fire is put out before all fuel is consumed, beware of re-ignition.
- Contact with strong oxidizing agents (e.g., ammonium nitrate) may ignite the product, or cause it to explode.

EP6.3.5 **Recovery** shall include the following measures:

- Unburned fuel can be soaked up by sand, straw, peat moss, or by commercial absorbents (e.g., Graboil).
- Once contained, if quantities permit, pump to drums or tank;
- If necessary, contaminated soil shall be excavated.
- Fuel entering the ground can be recovered by digging sumps or trenches and pumping from below the water table.

- Diesel fuel on a water surface shall be collected and recovered by booms, absorbents such as Graboil, or collected by a liquid/solid vacuum cleaner.

EP6.3.6 **Disposal**:

- Incineration may be utilized under controlled conditions (obtain permission from the Engineer)
- Storage tanks and drums containing spilled material shall be stored by the Contractor in a safe and secure/restricted area;
- The Contractor is responsible for making all necessary arrangements and disposing of all stored materials with approval of the appropriate authorities.

EP6.4 ACTION PLAN FOR SPILL OF GASOLINE

EP6.4.1 **Dangers**. Materials exhibiting one or more of the following characteristics are considered to represent a high level of concern or danger:

- Strong oxidizing agent, very reactive with other substances. keep isolated from other substances – potential explosion hazard.
- Moderately toxic to fish and other aquatic organisms.
- Very soluble in water.
- Supports combustion readily and may detonate if heated under confinement or if subjected to strong shocks. It becomes more sensitive if mixed with or contaminated by organic matter.
- When burning produces very toxic oxides of nitrogen.

EP6.4.2 **Initial Spill Response.** The Contractor shall respond as follows:

- Upon detection of a spill that cannot immediately and safely be contained and removed, notify the police, the Fire Service, the Engineer and the Employer. The Engineer and the Employer will notify the authorities as appropriate;
- The source of the spill and the direction of flow shall be identified.
- The type of material spilled shall be identified and actions specified to be safe for handling the material shall be taken in an effort to stop the spill at source; if the material cannot be identified, the material should be assumed to be dangerous and direct contact should not be made without prior consultation with appropriate authorities.
- Contain the spill with dyking, barricading or blocking flow by any means available, including the use of available earthmoving equipment.
- Use all available means to prevent the spill from reaching open water.
- Ensure that unauthorized persons do not contact the spilled material.
- Ensure that all sources of open flame and personal smoking materials are extinguished within a minimum of 100 feet of the spill.
- Ensure the health and safety of all personnel and animals in the immediate area; personnel not involved in containment or clean-up activities should be kept away from the area and the area should be kept clear of animals.
- Provide all materials and undertake any actions necessary to ensure that employees, residents, the travelling public, non-essential employees and animals are kept at a safe distance from the affected area, and are provided safe access away from/around the affected area until the area is declared safe by the appropriate authorities.

EP6.4.3 **Containment**. The Contractor shall consult with the Engineer to determine the most appropriate method of containment, recovery and/or disposal. The following general procedures should be applied to contain the spill:

When the spill is on land:
Excavate a trench or construct a berm downhill of the spill;
Line trench or berm with pvc/plastic if possible; alternately use absorbent booms/pads;

Monitor for seepage and for spent absorbent;
Once contained, if quantities permit, pump to drums or tank;
Where absorbents are used, apply fresh absorbent from the downhill portion of the spill and progress up to the source;
Avoid continued work in the area until the site has been cleaned up;
Place spent absorbent material in drums and seal until suitable disposal arrangements can be made;
Collect samples for material characterization and identification of an appropriate disposal method (in consultation with the Engineer);
Stockpile excavated soil (for a period not to exceed 30 days unless directed otherwise by regulatory authorities) and cover with a tarpaulin until a suitable disposal method has been prescribed.

When the spill is in water:

- Immediately seal off the source of the leak with a berm or ditch, preferably lined with pvc/plastic, to minimize the volume of material that will enter the watercourse;
- If available, an absorbent boom should be placed downstream of the spill entry point;
- Once contained the spill can be pumped to drums or to a storage tank;
- In still or slow moving water, absorbent pads can possibly be used, when available;
- Avoid continued work in the area until the site has been cleaned up;
- Collect samples for material characterization and identification of an appropriate disposal method (in consultation with the Engineer).

EP6.4.4 **Fire Response** includes the following measures:

- Notify the Engineer
- Notify emergency response authorities (e.g., fire, police)
- For fires involving large quantities of ammonium nitrate, evacuate and do not attempt to fight fire.
- For fire involving small quantities of ammonium nitrate, use large amounts of water to cool ($C0_2$, etc., not effective as NH_4N0_3 contains oxygen in formula).
- Presence of organic impurities can lower the temperature at which detonation occurs.
- Use $C0_2$, dry chemical, foam, or water spray (fog).
- Use fog streams to protect rescue team and trapped people.
- Use water to cool surface of tanks.
- Divert the diesel duel to an open area and let it burn off under control.
- If the fire is put out before all diesel is consumed, beware of re-ignition.

EP6.4.5 **Recovery** shall include the following measures:

- Unburned gasoline can be soaked up by sand, straw, peat moss, or by commercial absorbents (e.g., Graboil).
- Once contained, if quantities permit, pump to drums or tank;
- If necessary, contaminated soil shall be excavated.
- Fuel entering the ground can be recovered by digging sumps or trenches and pumping from below the water table.
- Fuel on a water surface shall be collected and recovered by booms, absorbents such as Graboil, or collected by a liquid/solid vacuum cleaner.

EP6.4.6 **Disposal** may include:

- Storage tanks and drums containing spilled material shall be stored by the Contractor in a safe and secure/restricted area;
- The Contractor is responsible for making all necessary arrangements and disposing of all stored materials with approval of the appropriate authorities.
- Evaporation or incineration may be utilized under controlled circumstances (obtain permission from the Engineer), if aspirated.

EP6.5 REPORTING

The Contractor shall prepare a written report within 48 hours of a spill detailing the events leading up to the spill, as well as all actions taken to advise proper authorities, repair any damage, and recommend changes to construction procedures to avoid a similar problem at another location. The report will be submitted to the Engineer. At minimum, the report shall provide the following details:

- date and time of the spill;
- location of the spill and all affected areas;
- material spilled and estimated quantity;
- cause of the spill;
- actions taken to terminate and contain the spill;
- site clean-up measures taken;
- persons notified; and
- follow-up actions to be taken (e.g. samples sent for analysis, method of disposal, contractor hired, monitoring required, etc.).

EP6.7 TRAINING AND SPILL EXERCISE

EP6.7.1 All members of the Spill Response Team shall be trained and familiar with the spill response resources, including their location and access, the Spill Contingency Plan, the Emergency Response Plan and appropriate spill response methodologies.

EP6.7.2 All personnel at the site shall be familiar with spill reporting requirements.

EP6.7.3 Fuel handling crews shall be fully trained in the safe operation of these facilities, spill prevention techniques and initial spill response, and similarly the staff involved in process and wastewater systems shall be trained in their safe operation of these systems.

EP6.7.4 The Contractor shall conduct a mock spill exercise at the beginning of construction and once every 6 months for the duration of Construction, to test the response of the Spill Response Team to fuel and other spills.

EP6.7.5 A report shall be made by the Engineer Environmental Inspector noting the response time, personnel, and any problems or deficiencies encountered. This report shall be used to evaluate the ability to respond to spills and determine areas necessary for improvement.

EP7 SPECIFICATIONS FOR TOPSOIL PROTECTION

EP7.1 SCOPE

These specifications cover requirements for the stripping, stockpiling, placing and protection of topsoil.

EP7.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the construction of the project, including those individuals involved in soil removal, stockpiling of topsoil and restoration following construction.

These specifications should be applied in concert with the following specifications:

EP3 Waste Management
EP4 Environmental Protection of Watercourses and Waterbodies (including Erosion and Sediment Control Measures)
EP8 Grading

EP7.3 TOPSOIL PROTECTION

In addition to a valuable natural resource that should be maintained, topsoil is an essential component to the long-term active or passive restoration of disturbed areas. Proper handling methods are required to maintain topsoil that is removed during construction. In other areas, where topsoil is to be maintained in-place during construction, measures are recommended to avoid undue compaction or rutting of topsoil during construction.

EP7.3.1 Where shown on the Drawings or directed by the Engineer, the Contractor shall remove topsoil. The depth of the topsoil shall be as directed by the Engineer, but shall not exceed 200 mm.

EP7.3.2 Where directed by the Engineer, the Contractor shall, prior to removal of topsoil, excavate trial holes of a depth sufficient to enable the Engineer to measure the depth of topsoil. Where topsoil is found to depths greater than 200 mm, that portion below 200 mm shall, if required by the Engineer, be treated as fill or spoil in accordance with the requirements of EP3.

EP7.3.3 Should the Contractor strip to depths greater than those instructed by the Engineer, then the Contractor shall replace the material with fill material at the Contractor's expense.

EP7.3.4 In areas where soil removal is required, topsoil shall be stripped and stockpiled separately in suitable areas within the right-of-way or construction area.

EP7.3.5 Stockpiles shall be constructed neatly with uniform surfaces and, where required, the surface will be dished.

EP7.3.6 Where suitable areas are not available within the right-of-way or construction areas, the Contractor shall provide suitable areas elsewhere.

EP7.3.7 Areas where topsoil is to be placed shall be fine graded to a uniform surface. It shall be free of all vegetation and other debris, and free of stones, which would not be covered by the depth of topsoil of 50 mm.

EP7.3.8 Topsoil shall be spread to a uniform depth of 50 mm on designated areas.

EP7.3.9 Compaction and mixing of topsoil shall be minimized by working and moving soils only when they are in dry condition.

EP7.3.10 In areas where soils are not to be removed, the grassed vegetative layer shall be maintained, where possible, to protect the soils from compaction and erosion.

EP7.3.11 Where an excess of topsoil is generated, that is not required for restoration of the construction areas, this excess topsoil should at the discretion of the Employer, be donated to the local governmental authorities for their use or distribution to local landowners.

EP7.3.12 Removal of topsoil shall be measured by the cubic yard calculated as the product of the plan area measured from cross-sections taken prior to site clearance and the vertical depth of topsoil instructed to be removed.

EP8 SPECIFICATIONS FOR GRADING

EP8.1 SCOPE

These specifications cover requirements for grading, including earth and rock excavation and embankment, construction, ditching, and the management of surplus and unsuitable materials.

EP8.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the grading of the right-of-way and temporary work areas, including excavating, hauling, handling and placing, shaping compacting and trimming of earth and excess materials.

These specifications should be applied together with the following specifications:

EP2 Materials Management
EP3 Waste Management
EP4 Environmental Protection of Watercourses and Waterbodies (including Erosion and Sediment Control Measures)

EP5 Dewatering
EP7 Topsoil Protection

EP8.3 GRADING

In addition to providing erosion control, proper grading is required to provide short-term drainage during construction and long term drainage during operation of the project. The following measures shall be adhered to during construction.

EP8.3.1 Excess material shall be placed in piles from which it may be replaced into its original position. Such material shall be stored in designated locations not within 10m of a watercourse or drain, and shall not be placed in low areas such that it would impede drainage during construction.

EP8.3.2 Topsoil and subsoil shall be stripped and stockpiled separately to avoid mixing (See Specification EP7).

EP8.3.3 As much of the excavated materials as possible shall be used within the Contract limits, conforming to standard right-of-way offsets.

EP8.3.4 When excavated material and excess material cannot be accommodated within the Contract limits, this material shall be loaded and hauled to temporary storage areas identified and designed in consultation with the Engineer, consistent with specification EP3.

EP8.3.5 All earth and rock grade surfaces shall on completion be shaped to the specified grades and cross section within agreed upon tolerances.

EP8.3.6 Excavation operations shall be performed in such a manner as to avoid water saturation of foundation material, and to avoid leaving undrained pockets in rock excavation by providing effective drainage during all stages of the work.

EP8.3.7 In excavations below subgrade and in stripping operations where provision for surface drainage is impracticable, backfill materials shall be placed as soon as practical following the excavation work.

EP8.3.8 Ditching required to provide drainage shall be completed in advance of construction.

EP9 SPECIFICATION FOR VEGETATION MANAGEMENT AND TREE PROTECTION

EP9.1 SCOPE

These specifications describe measures for vegetation removal. It also provides measures for vegetation identified for protection.

EP9.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in the removal of vegetation, as required, during construction. It also applies to all Personnel and Contractors involved in the operation, maintenance or storage of construction machinery and vehicles, or in the movement and storage of materials in the near or in the vicinity of trees designated for protection.

EP9.3 VEGETATION REMOVAL AND DISPOSAL

Site clearance is defined as the clearing, grubbing, removal and disposal of all vegetation, grass, debris, bushes, scrub, dense bush, trees, hedges, undergrowth, stumps, roots, shrubs, plants and the backfilling of holes left by the removal of stumps and roots.

EP9.3.1 Where the Drawings and/or the Engineer instruct that site clearance is required, the entire area shall be cleared and all materials shall become the property of the Contractor. The width and length over which site clearance is to be carried out shall be as shown on the Drawings or as instructed by the Engineer.

EP9.3.2 The Contractor shall clear the area to the width necessary for construction purposes and to address existing operational concerns, including:

- passage of pedestrians and non-motorized vehicles;
- provision of sight lines for vehicular traffic;
- provision of a safe separation between the traveled section of the road and trees and larger vegetation; and
- maintenance of drainage and other road functions.

EP9.3.3 The Engineer may give instructions that specific vegetation shall not be removed during the site clearance operation.

EP9.3.4 Site clearance shall be measured by the acre calculated as the plan area instructed by the Engineer to be cleared.

EP9.3.5 Unless otherwise instructed, vegetation and perishable materials shall be disposed of by burning. Where material or debris cannot be burnt, it shall be carted to designated spoil areas for removal consistent with specification EP3.

EP9.3.6 If the Contractor clears the Site in advance of the main works such that grass or other vegetation re-grows prior to the main Works commencing at any particular location, any further site clearance required shall be at the Contractor's expense.

EP9.4 TREE MANAGEMENT

Certain trees shrubs or groupings of trees or shrubs may merit protection and preservation because of a number of characteristics, including: species type; rarity; size; age; aesthetics; wildlife habitat function, including provision of species-wildlife habitat; and, the uniqueness of the ecological community. The following measures apply to such specimens or groupings. These measures also apply to edge vegetation that do not present a concern with respect to encroachment into the project right-of-way and that do not require removal.

EP9.4.1 Where trees or large shrubs have encroached into the right-of-way of the project and require removal, stumps shall be removed as to not project above the ground and impede vehicular, pedestrian and non-vehicular traffic.

EP9.4.2 Trees or shrubs outside the construction area, but within the right of way of utilities having a trunk girth of more than 46 cm at a point 61 cm above the ground shall not be cut down without the prior approval of the Engineer.

EP9.4.3 Where the Engineer instructs that site clearance is required, trees not designated to remain shall be uprooted or cut down as near to ground level as possible, and shall be either burned or removed by the Contractor.

EP9.4.4 Stumps and tree roots shall be grubbed up and burned. All holes left by removal of stumps and roots shall be backfilled with approved material compacted to 95% MDD (AASHTO T99) up to the existing ground level or up to the foundation level if the area is in cut.

EP9.4.5 All fallen brush and trees, as well as overhanging branches, shall be removed from the right-of-way.

EP9.4.6 The Contractor's operations shall not cause flooding or sediment deposits on areas where trees not designated for removal are located.

EP9.4.7 Unless the contractor requires work within the dripline of trees not designated for removal, equipment shall not be operated within the dripline area. When the contract requires work within the dripline of trees not designated for removal, operation of equipment within the dripline area shall be kept to the minimum necessary to perform the work required.

EP9.4.8 The Contractor's operations shall not cause damage to the trunk or branches of trees not designated for removal where necessary, fencing or barriers shall be provided for trunk protection (see EP9-4.10).

EP9.4.9 Equipment vehicles shall not be parked, repaired or refueled, construction materials shall not be stored, and earth materials shall not be stockpiled within the dripline area of any tree not designated for removal.

EP9.4.10 Barriers for tree protection shall be erected prior to commencement of construction operations, at locations specified in the contract, to provide a continuous barricade between trees and the area of work. The Barriers shall be maintained erect and in good repair throughout the duration of construction operations, and shall be removed upon completion of the work and disposed of outside the right-of-way.

EP9.4.11 The Barrier shall be placed at the dripline of trees or woodlot edges unless this is inadequate to provide a 1.5-m buffer zone between the Barrier and the limit of grading. The Barrier may be placed within the dripline if necessary to provide a buffer zone of up to 1.5 m. Under no circumstances shall it be placed less than 0.75 m from the circumference of the trunk. When the trunks of trees are less than 4.5 m apart, the trees shall be considered a group, and the Barrier shall be placed to form a continuous barricade as specified in the contract.

EP9.4.12 A Barrier is not required where an existing fence will serve the same purpose. At such locations, the barrier shall terminate at the existing fence so that a continuous barricade is provided between the trees and the area of work.

EP9.4.13 Specimen trees and trees safeguarded by barriers shall be repaired in accordance with this specification.

EP9.4.14 Within five calendar days of damage, branches 25 mm or greater in diameter that are broken as a result of the Contractor's operations shall be cut back cleanly at the break, or to within 10 mm of their base, if a substantial portion of the branch is damage.

EP9.4.15 The Contractor may be required to prune roots that might otherwise be damaged by large excavating equipment.

EP9.4.16 Roots 25 mm or larger in diameter that are exposed by the Contractor's operations shall be cut back cleanly to the soil surface within five calendar days of exposure.

EP9.4.17 Bark that is damaged by the Contractor's operations shall be neatly trimmed back to uninjured bark, without causing further injury, within five calendar days of damage.

EP10 VEHICULAR, NON-VEHICULAR AND PEDESTRIAN TRAFFIC MANAGEMENT AND SAFETY

EP10.1 SCOPE

The strategies to minimize the potential for large scale traffic slowdown and any adverse effects on the environment, while maintaining safety for all during the construction phase are detailed in this specification.

These specifications should be applied in concert with the following specifications:

EP6 Spill Contingency Plan

EP10.2 MANDATE

This section applies to all individuals who are responsible for the transport of equipment, materials, supplies or personnel to and from the Project site during construction. Project personnel responsible for scheduling of construction activities also form part of this management process.

EP10.3 TRAFFIC MANAGEMENT AND SAFETY

To prevent unacceptable levels of traffic slowdown and to reduce the potential effects on various components of the environment due to the construction activity, it is recommended that the following should be accomplished.

EP10.3.1 Construction shall be scheduled in phases.

EP10.3.2 Construction shall be carried out in such a manner to avoid unnecessary traffic bottlenecks.

EP10.3.3 The Contractor shall be required to construct and maintain temporary detour roads adjacent to construction. Where the new construction is exactly on the existing alignment and diversions or deviations are not possible, the Contractor will arrange the construction so as to maintain a single lane of controlled traffic as necessary on any particular portion of the Works.

EP10.3.4 Manually operated “stop/go” signals, if used, shall be of the size and type approved by the Engineer and radio equipped flagmen should be used at all detours. The cost of this traffic control for the period agreed by the Engineer is the responsibility of the Contractor.

EP10.3.5 All schemes for the temporary control of traffic must be submitted to the Engineer for approval beforehand. Depending on legal, environmental or any other considerations, the Engineer may refuse approval to certain schemes involving diversions or deviations on or off the Site of the road Works and the requirements for such measures must be decided as soon as possible after construction commences.

EP10.3.6 When required, the Contractor shall erect and maintain, all signs necessary for the proper direction and control of traffic. All such signs shall conform to international standards and shall be approved by the engineer before erection.

EP10.3.7 Road blocks/detours shall be installed and signed appropriately, where required, to direct traffic.

EP10.3.8 Safe access for non-motorized vehicles shall be provided through construction areas.

EP10.3.9 Safe access for pedestrian and non-vehicular traffic shall be provided through construction areas.

EP10.3.10 Pedestrian traffic shall be restricted to one side of the road (non-active work area) for safety.

EP10.3.11 Drivers assisting the construction process must hold a valid driver’s license, appropriate to the vehicle in question, and have a good driving record.

EP10.3.12 Drivers assisting the construction process shall adhere to the speed limits posted along the length of the roads.

EP10.3.13 Speed limits shall be reduced temporarily and marked accordingly, where required, to provide for the safety of the drivers, pedestrians and workers.

EP10.3.14 Signs and road markers shall be installed to instruct and inform all drivers of local restrictions in a timely and safe manner.

EP10.3.15 The Contractor shall furnish barricades or temporary fencing that may be required for the safety of the public or the security of the Works as required by the Engineer, and erect such barricades or temporary fencing at locations specified by the Engineer.

EP10.3.16 Gross vehicle weights for construction vehicles shall be limited according to road and bridge capacities.

EP10.3.17 Drivers assisting the construction process shall be instructed to be careful at all times, particularly when carrying material whose spillage may be detrimental to the environment.

EP10.3.18 Such drivers shall also communicate the presence of traffic bottlenecks and the resulting time loss to the site engineer; data generated from these reports can be used for traffic management plan revisions where appropriate.

EP10.3.19 The Spill Contingency Plan shall be implemented, as required (Specification EP6).

EP10.3.20 Drivers assisting the construction process shall be trained to perform spill reporting and clean-up procedures for minor spills.

EP10.3.21 Drivers assisting the construction process that demonstrate a lack of safety while driving shall be subject to warning(s) or, as required, additional measures to ensure the continued safety of pedestrians, drivers and workers.

EP10.3.22 The Engineer Environmental Inspector and the Contractor shall be in regular communication and shall monitor the effects of construction on traffic pedestrians, and residents during the construction phase of the project. Operating procedures shall be adjusted to address any unexpected adverse effects.

EP10.3.24 The Contractor shall consult with police force in the area regarding their requirements in the control of traffic and other matters, and provide all assistance and facilities that may be required by such officials, in the execution of their duties.

EP11 SPECIFICATIONS FOR HEALTH, SAFETY AND ACCIDENTS ON THE CONSTRUCTION SITE

EP11.1 SCOPE

These specifications cover the guidelines for health, safety and accidents in construction sites.

EP11.2 APPLICATION

These specifications apply to all Personnel and Contractors involved in construction of the project. The Contractor shall ensure, so far as is reasonably practicable and to the satisfactions of the Engineer, and the Employer, the health, safety and welfare at work of his employees including those of this subcontractors and of all other persons on the site.

EP11.3 HEALTH, SAFETY AND ACCIDENT PROCEDURES

In the execution of his contractual responsibilities, the contractor shall:

EP11.3.1 Ensure the provision and maintenance of Construction sites that are lighted, safe and without risks to health.

EP11.3.2 Ensure the execution of suitable arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage, transport and disposal of articles and substances.

EP11.3.3 Ensure the provision of protective clothing and equipment (including hard hats and hearing protection for applicable activities), first aid stations with such personnel and equipment as are necessary and such information, instruction training and supervision as are necessary to ensure the health and safety at work of all persons employed on the Works in accordance with all applicable laws.

EP11.3.4 Designate as Safety Officer of one of the Contractor's senior staff who shall have specific knowledge of safety regulations and experience of safety precautions on similar works and who shall advise on all matters affecting the safety of workmen and on measures to be taken to promote safety.

EP11.3.5 Ensure the provision and maintenance of access to all places on the Site in a condition that is safe and without risk of injury.

EP11.3.6 Provide clean, sufficient and continuous supply of fresh water, both for construction of the Works and for all related facilities at staging areas. He shall undertake all arrangements including pipelines and meters as necessary for connecting to local water mains and the provision of pumps, storage tanks or water conveyance where necessary, payment of all fees and water charges and the satisfactory removal of all such arrangements and provisions on completion of the Works. The water shall be cleared of suspended solids and free from any matter in quantities considered by the Engineer to be deleterious to the work or human health. Water supplied to all the offices, laboratories and houses shall be wholesome and potable.

EP11.3.7 Provide and maintain adequate sanitation, refuse collection and disposal, complying with all applicable laws and by-laws and to the satisfaction of the Engineer, for all sites and related facilities at staging areas.

EP11.3.8 Provide an adequate number of suitable latrines and other sanitary arrangements at sites and areas where work is in progress.

EP11.3.9 Notify the Engineer and emergency response authorities (e.g., fire and police) of all personal injury accidents that could result in lost work hours, and shall submit a report of the details to the Engineer and the Employer as soon as possible after its occurrence.

EP12 SPECIFICATIONS RELATED TO DUST SUPPRESSION

The following dust suppression measures shall be implemented:

- Stockpiles of sand and aggregate greater than 20 cubic meters for use in concrete manufacture shall be enclosed on three sides, with walls extending above the pile and two (2) meters beyond the front of the piles.
- Effective water sprays shall be used during the delivery and handling of all raw sand and aggregate, and other similar materials, when dust is likely to be created and to dampen all stored materials during dry and windy weather.
- Areas within the Site where there is a regular movement of vehicles shall have an acceptable hard surface and be kept clear of loose surface material.
- Conveyor belts shall be fitted with wind-boards, and conveyor transfer points and hopper discharge areas shall be enclosed to minimize dust emission. All conveyors carrying materials that have the potential to create dust shall be totally enclosed and fitted with belt cleaners.
- Cement and other such fine-grained materials delivered in bulk shall be stored in closed silos fitted with a high-level alarm indicator. The high-level alarm indicators shall be interlocked with the filling line such that in the event of the hopper approaching an overfull condition, an audible alarm will operate, and the pneumatic line to the filling tanker will close.
- Cement manufactured from dredging of off-shore coral reef resources will not be used in the Project.
- All air vents on cement silos shall be fitted with suitable fabric filters provided with either shaking or pulse-air cleaning mechanisms.
- Weigh hoppers shall be vented to a suitable filter.
- The filter bags in the cement silo dust collector must be thoroughly shaken after cement is blown into the silo to ensure adequate dust collection for subsequent loading.
- Adequate dust suppression including water tank trucks with spray bars.
- Areas of reclamation shall be completed, including final compaction, as quickly as possible consistent with good practice to limit the creation of wind-blown dust.
- All non-bituminous /unsurfaced roads forming access to parts of the construction areas of the Site shall be kept moist by spraying.
- All vehicles, while parked on the Site, will be required to have their engines turned off.
- All equipment and machinery on the Site will be checked at least weekly and make all necessary corrections and or repairs to ensure compliance with safety and air pollution requirements.
- All vehicles will be properly cleaned (bodies and tires are free of sand and mud) prior to leaving the site areas. The necessary cleaning facilities will be provided on site to ensure that no water or debris from such cleaning operations is deposited off-site.
- All trucks used for transporting materials to and from the site will be covered with canvas tarpaulins, or other acceptable type cover (which shall be properly secured) to prevent debris and/or materials from falling from or being blown off the vehicle(s).
- Construction walls will be provided in all locations where strong winds could cause the blowing of dust and debris.
- At any concrete batching plant or crushing plant being operated on the Site, the following conditions shall be complied with:
    - ✓ Dust nuisance as a result of construction activities will be avoided. An air pollution control system shall be installed and shall be operated whenever the plant is in operation.
    - ✓ Where dusty materials are being discharged to vehicles from a conveying system at a fixed transfer point, a three-sided roofed enclosure with a flexible curtain across the entry shall be provided. Exhaust fans shall be provided for this enclosure and vented to a suitable fabric filter system.
    - ✓ Any vehicles with an open load carrying area used for moving potentially dust-producing materials shall have properly fitting side and tailboards. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin in good condition. The tarpaulin shall be properly secured and shall extend at least 300 mm over the edges of the side and tailboards.
    - ✓ The concrete batching plant and crushing plant sites and ancillary areas will be frequently cleaned and watered to minimize any dust emissions.
    - ✓ Dry mix batching shall be carried out in a totally enclosed area with exhaust to suitable fabric filters.

EP13 SPECIFICATIONS RELATED TO NOISE AND VIBRATION CONTROL

To avoid potential adverse noise and vibration impacts, the Contractor shall:

- Provide prior notification to local authorities and the public of construction operations prior to commencing works.
- Repair any damage caused as the result of vibrations generated from or by the use of his equipment, plant, and machinery.
- Erect temporary noise barriers where schools are within 50 meters of construction activities.
- Ensure that all exhaust systems will be maintained in good working order; properly designed engine enclosures and intake silencers will be employed; and regular equipment maintenance will be undertaken.
- Ensure that stationary equipment will be placed as far from sensitive zones as practical and is selected to minimize objectionable noise impacts being provided with shielding mechanisms where possible.
- Schedule operations to coincide with periods when people would least likely be affected; work hours and work days will be limited to less noise-sensitive times. Hours-of-work will be approved by the site engineer having due regard for possible noise disturbance to the local residents or other activities.

EP14 SPECIFICATIONS FOR PROTECTION OF HISTORIC AND CULTURAL RESOURCES

To avoid potential adverse impacts to historic and cultural resources, if any, the Contractor shall:

- Protect sites of known antiquities, historic and cultural resources by the placement of suitable fencing and barriers;
- The Contractor will consult with local authorities and appropriate agencies prior to construction works to identify potential historic and cultural sites that may be affected by Project works.
- Not locate construction camps within 500 meters from cultural resources.
- Adhere to accepted international practice and all applicable historic and cultural preservation requirements of the Government of the Islamic Republic of Afghanistan, including all appropriate local government entities
- In the event of discoveries of cultural or historic artifacts (movable or immovable) in the course of the work, the Contractor shall take all necessary measures to protect the findings and shall notify the Engineer and concerned District-level and central government level representatives. If continuation of the work would endanger the finding, project work shall be suspended until a solution for preservation of the artifacts is agreed upon.

EP15 SPECIFICATIONS FOR PROTECTION OF BORROW AREAS AND QUARRIES

- The contractor shall ascertain that the owner of the quarry, from which construction materials shall be extracted, has been granted the necessary permit or license of exploitation by the corresponding authority, municipal, departmental or national (cite the law or regulation as the case may be).
- The following mitigation measures shall be generally used to control erosion and other direct impacts at borrow sites and quarries:
    - ✓ the topsoil organic layer, removed to uncover the quarry or borrow-pit, shall be piled up in storage at an approved and convenient location, so that when the exploitation is finished, the organic topsoil shall be reincorporated to its original location; in addition, cover gently sloping or flat borrow sites with topsoil after termination of the use of the site;
    - ✓ shape contour embankments to slow down run-off;
    - ✓ landscape the faces of vertical rocky borrow sites in the process of exploitation; and
    - ✓ provide for conditions for good borrow site management practices in contracts with private site operators.
- The contractor shall prevent fill material from escaping beyond the embankment slope stakes by the construction of toe ditches or by the erection of rock, boulder, earth or log barriers at the toes of embankments or by other suitable means satisfactory to the engineer.
- Sufficient work shall be performed on the top surface and side slopes of the embankments that they shall be left in a neat and workman like condition and in close conformity with the lines and grades shown on the Drawings. Wherever shown on the Drawings, the contractor shall perform the designated rounding at the top and bottom of slopes and elsewhere as shown. The embankment shall be maintained in completed condition until final acceptance.
- Upon termination of the exploitation of a temporary quarry, the contractor shall re-shape the excavation to its original superficial hydraulic characteristics, to the extent possible, sowing the area with grass (i.e., Vetiver, Cus-Cus or Pangola) or other appropriate local vegetation whenever required.
- The contractor shall not extract river run stone, gravel, sand or any other construction material from watercourse beds. In exceptional cases, prior authorization from the engineer must be obtained, as well as the necessary permit or license by the pertinent governmental authority.
- The contractor shall not excavate borrow ditches or pits on flat lands subject to water stagnation and/or with slow runoff drainage, and in proximity of villages or urban settlements. Whenever such exploitation becomes necessary, in addition to the pertinent permits, the contractor must prepare, and present for approval of the engineer, a drainage plan based on a topographic survey drawn up at a convenient scale.
- Any measure applicable for the contractor shall automatically also apply to the subcontractor (i.e. quarry operators) whenever relevant.

ANNEX X

Environmental and Social Compliance Report

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Environmental and Social Compliance Report

I. INSTRUCTIONS

This Report aims to establish the level of environmental, social, health and safety compliance during the construction phase of subprojects classified as Moderate Risk, as a result of the application of the Environmental and Social Scoping step of the ESMF.

The completion of this Report requires a site visit by the MCIT Field Supervisor of the province where the subproject in under implementation. The PMO Environmental and Social Officer will provide support in the performance of field compliance oversight activities from time to time, focusing on subprojects with environmental and social conformity gaps. To the extent possible, the corresponding provincial NEPA Inspector will take part in these oversight activities. The recommended periodicity of field inspections is weekly, which may be increased or decreased based on the level of socio-environmental performance of each subproject.

Section II includes a table with a series of questions on Contractors' compliance with environmental and social requirements, and on impacts detected during the field visit. As applicable, check whether each non-compliance or impact is observed, and then provide a brief narrative of the non-compliance or impact, the actions recommended to address each and, finally, if applicable, the status of implementation of previously suggested actions to address the non-compliance or impact. As applicable, supporting documentation and photographs should be attached as evidence of the occurrence of the non-compliance or impact.

The table in Section II also includes details on the participants, the persons contacted and the date of the site visit, as well as on the project inspected.

Section III contains a summary of the major non-compliances and impacts detected, and the main recommended actions to address them, in order to prioritize the follow-up of those actions in future oversight visits.

Section IV includes the attachments that support the determination of major non-compliances or impacts.

II. ENVIRONMENTAL AND SOCIAL COMPLIANCE TABLE

Subproject Name/Code:_____ Location:_____

Date of Site Visit:_____

Participants in Site Visit:_____

Name and job title of persons contacted:_____

Name and contact information of community members contacted (if applicable):_____
_____
_____

NOTE: A "YES" answer to any of the questions in the table below indicates a non-compliance or impact.

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
ORGANIZATION, REPORTING, TRAINING AND PERMITTING REQUIREMENTS						
Is the Contractor non-compliant with, as applicable, any of the requirements for socio-environmental management established in the works contract and the Site-Specific ESMP (e.g., staffing, management structure, equipment and other material resources (e.g., office space, vehicles, computers, field monitoring equipment, etc.), field inspection instruments and procedures, etc.)? (please specify)						
Is the Contractor non-compliant with socio-environmental reporting requirements?						

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
(please specify)						
Is the Contractor non-compliant with environmental effects monitoring requirements (please specify)						
Is the Contractor non-compliant with workers environmental, health and safety training and awareness requirements (please specify)						
Is the Contractor non-compliant with the required environmental permitting for the project (e.g., water abstraction, vegetation clearance, etc.) (please specify)						
Is the Contractor non-compliant with Afghan labor laws and international labor standards, in particular in reference to right to receive just compensation and benefits for work, prohibition of forced and child labor, and prevention of sexual harassment and discrimination in the work place on the basis of gender, religion, social origin, etc.? (please specify)						
Is the Contractor failing to employ women or reducing the number of female employees in disproportionate numbers when compared to dismissed men? (please specify)						
ENVIRONMENTAL AND SOCIAL IMPACTS						
Is there standing water on the site? If yes, is there reason to believe the water has been standing longer than 4 days? (Standing water breeds insect disease vectors, particularly mosquitoes. It takes 4 days for the malaria-bearing anopheles mosquito to hatch and mature to its flying adult form)						

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
Is there erosion from the cleared site or from material stockpiles? Gullying on surrounding lands clearly caused by runoff from the site? (In addition to permanently degrading the site itself, erosion/ runoff from the site can degrade nearby surface waters and damage adjoining lands)						
Are fill, sand, and/or gravel being extracted from waterways or ecologically sensitive areas? (Extracting materials from streambeds and wetlands degrades water quality, ruins critical habitat, alters drainage and flow, and can create standing water)						
Is demolition debris or construction waste disposed in the open? (These wastes can pose physical hazards, such as broken glass and rusty torn roofing sheets, and toxic hazards, such as leaded paint, and can create breeding habitat for disease vectors)						
Are there fuel, oil, paint or chemical spills to ground or streams? (Such spills can contaminate soils, surface waters and groundwater)						
Is the site very dusty or noisy? (Dust and noise can have negative impacts on the health of workers and residents located close to construction site)						
Are operation and maintenance of construction plants inadequate and, hence, there is presence of excessive noise, vibrations, fumes and particle emissions?						
Are sprinklers lacking or damaged in crushing conveyors to spray mist/water on						

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
belts during crushing operations to help control dust?						
Are there excessive periods of interruption of access to public transport, or residential, commercial, health or institutional areas and services due to inadequate implementation of traffic control and safety measures during construction?						
Are there damages to public utilities and service lines, mains or pipes, and extended periods of interruption of services?						
Are quarries and borrow pits being operated in an unsafe or environmentally unsustainable manner?						
Is vegetation being cleared in areas beyond those indicated in contract drawings?						
Are there conflicts with local populations due to resource use, in particular water?						
Is there inadequate storage and utilization of top soils?						
Are there unresolved resettlement and compensation issues?						
Are there any manifestations of unintended or unanticipated impacts? (please specify type of impact and location)						
HEALTH AND SAFETY IMPACTS						
Is a well-marked site boundary absent and is an actively controlled access not provided?						
Are good housekeeping practices not in place, and is the site not maintained in a generally orderly condition?						
Are safety signs missing—at minimum, to mark site boundary, hardhat areas, explosion and toxic hazards?						
Is smoking allowed or not restricted to a designated smoking area well away from						

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
flammable materials?						
Is First Aid kit missing on site, and there is no one on site familiar with its use and trained in basic first aid?						
Drinking water and sanitary facilities are not provided (or are not very close at hand), including hand-wash station?						
Is personal protective equipment (PPE) inadequate or does it appear little-used (PPE must be adequate and used consistently to fulfill its intended function: helping protect workers against injuries and disease)						
Is scaffolding inadequate (i.e., not able to carry at least 4 times its maximum intended load without settling or displacement)?						
Is scaffolding inadequate (i.e., not on solid footing—boxes, loose bricks and stones, etc.)?						
Is scaffolding inadequate (i.e., does not have guardrails, midrails and toeboards)?						
Is scaffolding inadequate (i.e., not at least 3 meters from any electric power line)?						
Are scaffolding inspections insufficient (i.e., not inspected each day by a competent manager)?						
Is fall protection inadequate (i.e., there are no guardrails or at least ropes near the edge of floors and roofs where a drop is greater than 2 meters. Where not possible, workers in these areas do not wear a body harness and rope?						
Are trenches inadequate (i.e., spoils are not maintained at least 1 meter back from edge of trench)?						
Are trenches inadequate (i.e., trench walls						

QUESTIONS	ANSWER			BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)
	YES	NO	NA			
are not shored or sloped back for any trench 1.75 meters or deeper)?						
Are trenches inadequate (i.e., for any trench 1.75 meters or deeper, there is not a means of exit (ladder, stair, ramp) at least every 10 meters?						
Is leaded paint or asbestos in any form used in new construction?						
Are painted surfaces being scraped or sanded? (Paint containing lead is very common in some countries. Scraping or sanding releases lead dust, a toxic health hazard to workers)						
Are asbestos roofing sheets, linoleum, fiberboard ceiling or wall panels or pipe insulation being removed/disturbed? (Asbestos should be assumed to be present in all these products. When disturbed, carcinogenic asbestos fibers may be released)						
For rehabilitation or demolition, the contractor failed to check prior to commencing work whether lead-based paint, asbestos (including roofing sheets) and other toxics are present?						

Source: Cabral, 2013, Annex XVI.

III. MAJOR NON-COMPLIANCES AND IMPACTS, AND RECOMMENDED ACTIONS FOR FOLLOW-UP

Based on the Environmental and Social Compliance Table, list in the table below the major non-compliances and impacts detected, as well as the main actions recommended to address them. This table will serve to prioritize the follow-up of those actions in future oversight visits.

BRIEF DESCRIPTION OF IMPACT/NONCOMPLIANCE (INCLUDE LOCATION OF IMPACT)	RECOMMENDED ACTIONS	FOLLOW-UP ON IMPLEMENTATION OF ACTIONS (IF APPLICABLE)

Report prepared by:

Signature: _____ Date :_____

Name (print): _____ Job Title: _____

IV. ATTACHMENTS

ANNEX XI

Grievance Registration Form

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)
Grievance Redress Committee (GRC) for Environmental and Social Performance Issues

Grievance Registration Form

Grievance Number: _____

Subproject Name/Code:_____ Location:_____

General Information Name of Grievant…….Position…….…… Email ……. Cell phone ……...…….. Address……..Province……..…….
Type of Grievance Please describe the type of grievance and the problem briefly (include specific details)
Who or what is the source of the grievance?
Have you lodged the grievance previously on the same subject?

What you think should be done to resolve the complaint or grievance?
Fingerprint and signature of: Grievant…….……Date…….
Receiver: Name……... Position……. Signature……Date…….....……..

ANNEX XII

Grievance Logbook

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)
Grievance Redress Committee (GRC) for Environmental and Social Performance Issues

Grievance Logbook

S. No	Complainants Name, address and Phone	Province	District	Village	Date	Complaints	Decision taken by Committee

ANNEX XIII

Grievance Decision Form

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)
Grievance Redress Committee (GRC) for Environmental and Social Performance Issues

Grievance Decision Form

Grievance Number: _____

Subproject Name/Code:_____ Location:_____

General Information
Name of Grievant.....Type of Grievance..... Date Grievance Lodged..... Date Grievance Decided.....
Committee Decision and Justification
Please describe the type of grievance, what the committee decided, and how. (include specific details) Discussion: _____ _____ _____ _____ Final Decision: _____ _____

Committee Members

1: Name.....Position.....Signature.....Date.....

2: Name.....Position.....Signature.....Date.....

3: Name.....Position.....Signature.....Date.....

4: Name.....Position.....Signature.....Date.....

5: Name.....Position.....Signature.....Date.....

Agreement of the Grievant to the above Decision

I ……. agree/disagree with the decision taken.

Name……..…….
Signature……..……Date……..…

ANNEX XIV

Grievance Report Format

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)
Grievance Redress Committee (GRC) for Environmental and Social Performance Issues

Grievance Report for Month/Quarter (please specify month/quarter and year):

Complaints Received (No.)	Complaints Discussed	Complaints Resolved	Complaints Not Resolved/Rejected	Complaints Pending	Solution Accepted by Complainants	Complaints Referred to Court	Remarks

ANNEX XV

Procedure for Mine and Unidentified Explosive Object Risk Management

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Procedure for Mine and Unidentified Explosive Object Risk Management[1]

I. INTRODUCTION

PMO's Environmental and Social Officer will complete Sections II and III of this Form during the Environmental and Social Screening Step of the ESMF process, which is applicable during the Prequalification Phase of PMO's Project Cycle. In completing Section II, dealing with the initial assessment of mine and Unidentified Explosive Object (UXO) risk, the Specialist will review documentation on proposed subprojects and may also need to review secondary information on armed conflicts and violence involving explosives in the proposed areas of implementation of subprojects. Further, the Specialist will consult with the United Nations Mine Action Center for Afghanistan (UNMACA) in order to fill out Section II accurately.

If the Initial Risk Assessment concludes that the proposed area of implementation of a given subproject exhibits mine or UXO risk, then the procedure on the detailed risk assessment and clearing operations specified in Section III applies. The procedure requires a survey of the suspected area during the Prequalification Phase of PMO's Project Cycle and, if the findings of the survey confirm the existence of mine or UXO risk, then the information will be included in the bidding documents for the specific subproject. The survey is a specialized activity that requires the involvement of UNMACA or a mine action organization accredited by it. The procedure contains two options for conducting a more detailed risk assessment and the clearing of mines or UXOs prior to the start of construction works during the Subproject Implementation Phase of PMO's Project Cycle and the Environmental and Social Compliance Oversight step of the ESMF. PMO's Environmental and Social Officer, in consultation with UNMACA, will make a recommendation regarding which of the two options mentioned should be followed for each subproject.

II. SUBPROJECT IDENTIFICATION

Subproject Name/Code:

Subproject Location:

[1] This Form in based on the following two sources: DABS, 2014a, pp. 75-79, and MRRD and IDLG, 2016a, p. 44.

III. INITIAL RISK ASSESSMENT

Please place a check mark next to the appropriate answer to each of the following questions:

1. Was there fighting in the area where the subproject is to be implemented?
   ___Yes ___No

2. Was this area a permanent military checkpoint?
   ___Yes ___No

3. Have there been any accidents related to mine or Unidentified Explosive Object (UXO) explosions during the last 10 years in this area?
   ___Yes ___No

4. Was this area used for any of the following?
   ____Ammunition dump ____Suspected minefield ____Current ambush area
   ____Confrontation area ____ None of the previous

5. Has the area been cleared of mines or UXOs in the past?
   ____ Yes ____ No

6. Is this area considered at risk for mines or UXOs?
   ____Yes ____ No

7. If the subproject area is considered at risk for mines or UXOs, please respond also to the questions below. In addition, apply the procedure contained in Section IV.

   a) What is the source of information about mines in the area?
   ___Civilians ___Incident involving animals ___Incident report
   ___Military person ___Minefield record

   b) Does the subproject area contain markers, flags, fencing, rocks, etc. showing that mine-clearing operations have taken place?
   ___Yes ___No.

   c) Indicate the type of area where the subproject is to be implemented:
   ___City ___Field ___Forest ___Roadside ___Road
   ___Path ___Government building ___Military installation
   ___Residential building ___Riverbank ___Unknown
   ___Other (please specify): _____

IV. DETAILED RISK ASSESSMENT AND MINE/UXO CLEARING OPERATIONS

This procedure applies to subprojects with a budget above US$ 5 millions, such as the development of Optical Fiber Cable (OFC) Networks included in Component 1 of the Digital CASA Afghanistan Project.

The main Contractor for each respective subproject will be responsible for dealing with mine- and UXO-related risks, in coordination with UNMACA.

All parties involved in this process are required to closely coordinate with UNMACA and to provide the Government, local communities, UNMACA and any interested party the full available information on mine-related risks that may reasonably be required (e.g., maps of identified minefields, assessments for specific areas).

1. MINE/UXO Survey

- As part of the preparation of bidding documents, a general survey shall be carried out by UNMACA (or a mine action organization accredited by UNMACA) of all the areas found to present risk of mine or UXO during the execution of the initial risk assessment. The survey shall provide detailed information on mine-related risks in each respective area, allowing for an unambiguous identification of areas that have a nil-to-low risk of mine/UXO contamination and areas where the risk is either higher or unknown. The survey shall be financed out of the preparation costs of the bidding documents.

- All survey information shall be communicated to the bidders (with sufficient legal caveats so that it does not entail any liability), as information for the planning of their activities (e.g., final alignment of trenches for optical cable laying, location of Contractor's office, etc).

2. Options for Detailed Risk Assessment and Mine/UXO Clearance

Depending on the nature and location of the subproject and the results of the detailed risk assessment, the two options below are available.

2.1 Mine-Clearance Activities are Part of the General Contract:

- Based on the general survey results, a specific budget provision for mine action during construction is set aside as a separate provisional sum in the tender documents for the general contract.

- As a separately identified item in their bid, the bidders include a provision for a further detailed mine assessment and clearance during construction.

- On the instruction of MCIT and drawing on the specific provisional sum for mine action in the contract, the Contractor uses one of several nominated sub-contractors (or a mine action organization accredited by UNMACA) to be rapidly available on call, to carry out assessment prior to initiation of physical works in potentially contaminated areas, and to conduct clearance tasks as it finds may be needed. The Contractor may also hire an international specialist to assist him in preparing and supervising these tasks. The Contractor is free to choose which of the accredited sub-contractors to use, and it is fully

responsible for the quality of the works and is solely liable in case of accident after an area has been demined.

- To avoid an "over-use" of the budget provision, the Contractor is required to inform MCIT in writing (with a clear justification of the works to be carried out) well in advance of mobilizing the mine-clearing team. MCIT has the capacity to object to such works.

2.2 Mine-Clearance Activities are Carried Out Under a Separate Contract:

- Specific, separately-awarded contracts are issued for further surveying and/or clearing of areas with a not-nil-to-low risk (under the supervision of MCIT) by specialized Contractors (or a mine action organization accredited by UNMACA). The definition of the areas to be further surveyed/cleared shall be limited to those areas where any Contractor would have to work, and should not include areas such as camp sites and quarries/material sites which are to be identified by the Contractor during and after bidding of the works. As a result of these further surveys and possibly clearance works, mine-related risk in the entire contract area is downgraded to nil-to-low.

- The contract with the general Contractor specifies the extent of the portion of the construction site of which the Contractor is to be given possession from time to time, clearly indicating restrictions of access to areas where the mine risk is not nil-to-low. It also indicates the target dates at which these areas will be accessible. Following receipt of the notice to commence works from MCIT, the Contractor can start work in all other areas.

- The general Contractor is invited to include in its bid an amount for mine-security, to cover any additional survey/clearance it may feel necessary to undertake the works.

3. Procedure in Case of Accident

In case of an accident, a Board of Inquiry shall be assembled by UNMACA to investigate the causes of the accident and determine liabilities. Large penalties shall be applied to the Contractor if the Board determines that the accident resulted from a breach of safety rules.

Form prepared by:

Signature: _____ Date: _____

Name (print): _____ Job Title: _____

Form approved by:

Signature: _____ Date:_____

Name (print): _____ Job Title: _____

ANNEX XVI

Chance Find Procedure

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Chance Find Procedure

Chance find procedures are defined in the Law on the Preservation of Afghanistan's Historical and Cultural Heritages (Official Gazette No. 828, 1383/2004, April 16, 2004), specifying the authorities and responsibilities of cultural heritage agencies if sites or materials are discovered in the course of project implementation.

This law contains, inter alia, the following key provisions:

1. The Archaeology Institute and the Historical Artifacts Preservation and Repair Department are both responsible to survey, evaluate, determine and record all cultural and historical sites and collect and organize all historical documents related to each specific site. No one can build or perform construction on the recorded historical and cultural site unless approved or granted permission or agreement is issued from the Archaeology Institute (Article 7).

2. All moveable and immovable historical and cultural artifacts and heritage items that are discovered or remain buried and not discovered/excavated in Afghanistan are the property of the Islamic Republic of Afghanistan and any kind of trafficking of such items is considered theft and is illegal (Article 8).

3. Whenever municipalities, construction, irrigation or other companies (whether they are governmental or private) find or discover valuable historical and cultural artifacts during the conduct of their projects, they are responsible to stop their project and report any findings to the Archaeology Institute about the discovery (Article 10).

4. Any finder or discoverer of historical and cultural sites is obligated to report a find or discovery to the Archeology Institute immediately but not later than one week if it is in the city of Kabul and not later than 2 weeks if it is in a province. All discovered artifacts are considered public properties and the Government of Afghanistan will pay for all lands and sites which are considered to be of historical or cultural value (Article 19, 1).

5. Whenever there is an immovable historical and cultural site discovered which includes some movable historical and cultural artifacts, all such movable artifacts are considered public property and the owner of that property will be rewarded according to Article thirteen (13) of this Decree (Article 19, 2).

6. A person who finds or discovers a movable historical and cultural artifact is obligated to report the discovery to the Archaeology Department no later than seven (7) days if he/she lives in the capital city of Kabul, and in the provinces they should report the discovery to the Historical and Cultural Artifacts Preservation Department or Information and Culture Department or to the nearest governmental Department no later than fourteen (14) days.

7. The Departments mentioned in this article are responsible to report the issue to the Archaeology Department as soon as possible and the discoverer of the artifact will be rewarded according to Article 13 of this Decree (Article 26).

8. Whenever individuals who discover historical and cultural artifacts do not report such discoveries to the related Departments within the specified period according to Articles 19 and 26 of this Decree, they will be incarcerated for a minimum of one (1) month but not more than a maximum of three (3) months (Article 75).

The above procedures must be referred to as standard provisions in construction contracts, when applicable. During project supervision, the MCIT Field Supervisors shall monitor that the above regulations relating to the treatment of any chance find encountered are observed.

Relevant findings will be recorded in World Bank Project Supervision Reports. The World Bank Implementation Completion Reports will assess the overall effectiveness of the Project's cultural resources mitigation, management, and capacity building activities, as appropriate.

ANNEX XVII

TOR for PMO's Environmental and Social Officer

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (MCIT)

Digital CASA Afghanistan Project
Project Management Office (PMO)

Terms of Reference (TOR) for
PMO's Environmental and Social Officer

I GENERAL OBJECTIVE

The general objective of the Environmental and Social Officer position at the Project Management Office (PMO) for the Digital CASA Afghanistan Project is to serve as the focal person for the coordination and implementation of all of the activities related to the Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) for the Project.

II. SCOPE OF WORK

The main tasks of the Environmental and Social Officer include, but are not limited, to:

1. Obtain a deep knowledge and understanding of the ESMF and RPF objectives, processes, implementation tools and supporting documentation.

2. Complete all of the implementation tools included in each of the steps of the ESMF for Digital CASA (i.e., Environmental and Social Screening Tools Form, Environmental and Social Scoping Form, preparation of TORs for Contractors' Site-Specific Environmental and Social Management Plans and Site-Specific Health and Safety Management Plans, Procedure for Mine and Unidentified Explosive Object Risk Management, etc.).

3. Liaise and coordinate with the National Environmental Protection Agency in relation to the definition of the national regulatory requirements that Optical Fiber Cable Network subprojects must meet and make sure that MCIT effectively complies with those requirements.

4. Liaise and coordinate with local, regional and national government agencies that may be involved in different aspects of the preparation and monitoring of Abbreviated Resettlement Actions Plans (e.g., review of land records and ownership, valuation of assets, and consultation and participation, etc.).

5. Participate in Technical Committees set up by MCIT to evaluate bid proposals for the implementation of Optical Fiber Cable Network subprojects, in order to ensure that Environmental, Social, Health and Safety (ESHS) Criteria for Evaluation of Bid Proposals

and ESHS Conditions of Particular Application are adequately applied and weighted in the qualification and selection of bid proponents.

6. Support the process of recruitment of an International Consultant or Consultants that will finalize the design and deliver the Environmental and Social Training Plan for Digital CASA. In addition, support the preparation of training sessions and delivery of training modules.

7. Formulate, collect and report on monitoring indicators to assess the environmental and social performance of the Project, which will be part of the overall Monitoring and Evaluation System for the Project.

8. Support the establishment of Grievance Redress Committees that will receive, process, negotiate, help to settle and respond to complaints and concerns from affected persons and communities regarding negative environmental and social impacts from Project implementation, as well as asset compensation issues.

9. Develop and implement a Follow Up Program for the design and execution of Abbreviated Resettlement Plans.

10. Develop and implement an Environmental and Social Compliance Oversight Program.

III. QUALIFICATIONS

Candidates must have, at a minimum, a university degree in an environmental or social field, and at least three years of professional experience.

ANNEX XVIII

Action Plan for Implementation of ESMF and RPF

Islamic Republic of Afghanistan
Ministry of Communications and Information Technology

CONSULTANCY SERVICES TO PREPARE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF) AND TO CARRY OUT RELEVANT CAPACITY BUILDING FOR DIGITAL CASA AFGHANISTAN PROJECT

Action Plan for Implementation of ESMF and RPF

This document proposes an Action Plan for the smooth rollout, implementation and follow up of the Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) for the Digital CASA Afghanistan Project.

The table below contains the details of the Action Plan. It identifies specific actions and, for each action, establishes implementation responsibilities, describes it and sets a timeframe for its completion.

Action	Responsibility	Description	Timeframe
Recruitment of Environmental and Social Officer	PMO Head. PMO Procurement Specialist.	The Environmental and Social Officer will be the focal person for the environmental and social issues associated with Digital CASA. The recruitment process should be transparent and based on technical selection criteria. The process should be led by a technical selection committee, or similar evaluation panel, that will apply defined qualification and selection criteria transparently, so that the most qualified applicant is selected.	As soon as the Digital CASA Afghanistan Project is approved by the World Bank and funds become available
Obtaining a deep knowledge and understanding of ESMF and RPF objectives, processes, implementation tools and supporting documentation	PMO Environmental and Social Officer	It is the responsibility of the Environmental and Social Officer to gain an intimate knowledge of and obtain a practical familiarity with the two mechanisms designed to manage the environmental and social impacts and risks of Digital CASA. This means not only reading both the ESMF and RPF, but also practicing the application of the tools contained in them and consulting additional technical materials and experts on the ESMF and RPF processes and implementation instruments.	Within one month after appointment of the Environmental and Social Officer
Implementation of Environmental and Social Training Plan	PMO Head. PMO Environmental and Social Officer. PMO Procurement	Soon after the appointment of the Environmental and Social Safeguards Specialist, efforts should start aimed at recruiting the International Consultant or Consultants (see Section 7.9, Chapter 7.0) that will finalize the design and deliver the Environmental and Social Training Plan included as part of the ESMF. The Consultant should be recruited following an	Within three months after the appointment of the Environmental and Social Officer

Action	Responsibility	Description	Timeframe
	Specialist.	international Request for Expressions of Interest and, as in the case of the Environmental and Social Officer, the recruitment process should also follow transparency and technical competence criteria.	
Establishment of coordination and communication mechanisms with National Environmental Protection Agency (NEPA) regarding implementation of ESMF	PMO Environmental and Social Officer. PMO technical staff. PMO Head.	The implementation of the ESMF requires close coordination and communication with NEPA's Environmental and Social Assessment Division regarding the documentation that MCIT must submit in order to meet legal obligations established in the Afghan environmental regulatory framework. As early as possible during Project implementation, there must be clarity and agreement with NEPA about what the legal requirements for Digital CASA are and how MCIT will meet them. Coordination is also needed regarding the planning, timing and resource requirements for the execution of some joint inspections between NEPA Inspectors and MCIT Field Supervisors, as discussed and agreed with NEPA senior management (see Subsection 4.1.1.1, Chapter 4.0). In addition, coordination is required dealing with the possible participation of NEPA staff in the Environmental and Social Training Plan proposed for Digital CASA (see Section 7.9, Chapter 7.0).	Establishment of mechanisms: within one month after appointment of the Environmental and Social Officer. Implementation of mechanisms: during remaining life of the Project.
Establishment of coordination and communication mechanisms with government agencies regarding implementation of RPF	PMO Environmental and Social Officer. PMO technical staff. PMO Head.	The implementation of the RPF may require the involvement of different government agencies at the local, regional and national levels regarding issues such as review of land records and ownership, valuation of assets, and consultation and participation. Contacts and coordination with these entities must be established before the design and implementation of Abbreviated Resettlement Plans.	Establishment of mechanisms: at start of bidding process for Optical Fiber Cable Network subprojects. Implementation of mechanisms: during remaining life of the Project.
Definition and collection of, and reporting on environmental and social monitoring indicators	PMO Environmental and Social Officer	The PMO Environmental and Social Officer will formulate monitoring indicators to assess the environmental and social performance of the Project, which will be part of the overall Monitoring and Evaluation System for the Project. Once defined, the indicators will be collected on a monthly basis and reported to MCIT every month. The monthly monitoring reports will be consolidated into quarterly reports and submitted to the World Bank as part of standard Project Supervision Reports.	Definition of indicators: within three months after appointment of Environmental and Social Officer. Indicators collection and reporting: during remaining life of the Project.
Establishment of Grievance Redress Committees	PMO Environmental and Social Officer. PMO technical staff. PMO Head.	Grievance Redress Committees will receive, process, negotiate, help to settle and respond to complaints and concerns from affected persons and communities regarding negative environmental and social impacts from Project implementation, as well as asset compensation issues. These Committees have to be formed and their operations modalities defined.	Establishment of Committees: after approval of first Optical Fiber Cable Network subproject. Operation of Committees: during remaining life of the Project.
Development and implementation of Environmental and Social Compliance Oversight Program	PMO Environmental and Social Officer. MCIT Field	The details of the Environmental and Social Compliance Oversight Step of the ESMF must be defined for each province where Optical Fiber Cable (OFC) Network subprojects will be implemented (i.e., periodicity, resource needs, field instruments, participants, sites to visit, activities	Formulation of Program: after approval of first Optical Fiber Cable Network subproject. Implementation of

Action	Responsibility	Description	Timeframe
	Supervisors. PMO Head. Head of MCIT Policy and Planning Department. NEPA. OFC Network subproject Contractors.	to carry out, action plans to respond to noncompliances and reporting). The efficient planning and implementation of this Step is crucial for the overall environmental and social performance of the Project.	Program: during remaining life of the Project.
Development and implementation of Follow Up Program for design and execution of Abbreviated Resettlement Plans	PMO Environmental and Social Officer. MCIT Field Supervisors. PMO Head. Head of MCIT Policy and Planning Department. OFC Network subproject Contractors. Pertinent government agencies.	In order to minimize and manage complaints from and conflicts with local communities, it is critical to follow the steps and procedures for the design and execution of Abbreviated Resettlement Plans defined in the RPF. Therefore, a detailed program to follow up the process of design and execution of the Plans needs to be formulated.	Formulation of Program: after approval of first Optical Fiber Cable Network subproject. Implementation of Program: during remaining life of the Project.