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Environmental Monitoring and Mitigation Plan

Activity Type:	Construction and rehabilitation activities will occur in urban, peri-urban areas, and remote locations for select specialized activities. Rehabilitation may include small commercial buildings, market activities, and individual homes. Some activities will involve planning and rehabilitation of more specialized projects, such as cultural and archeological sites, botanical gardens, plazas, and other communally designated recreational areas. NOTE: Because of similar impacts and mitigation measures, building repair and rehabilitation and community based repair for small scale infrastructure and small scale new construction were consolidated.					
Key Components:	The IRP Grants Management Unit (GMU) will work with recipient communities on construction and rehabilitation designs and preparation of activity planning documents, including activity profiles and budgets. The construction work may be conducted by the grantee or implemented via a subcontractor through a competitive bid process and managed by the GMU. The GMU will review and monitor IRP grantees to ensure adherence to environmental compliance requirements and mitigation measurement requirements in the EMMP. Where activity planning and design requires the preparation of SOPs or an environmental plan, an IRP-approved template will be provided to the grantee. The grants and subcontracts manager (SGM) provides oversight for environmental compliance during the full project life-cycle: planning and design (P&D); construction (C), or operations and maintenance (O&M).					
Scale:	Activities include construction or rehabilitation of one-story, small and medium sized structures less than 1,000 square meters (USAID definition of small-scale construction), repair and rehabilitation of schools, clinics, government buildings, market places, parks, open-air markets, and specialized structures, such as cultural and archeological sites.					
Ambient Environment:	Construction and rehabilitation activities will occur primarily in urban and peri-urban areas. Locations are typically office or small commercial buildings, markets, and individual homes. There is minimal natural vegetation in these sites, except for some low grasses and an occasional tree. New construction will not be located on or near sensitive habitats, such as wetlands or undisturbed pristine forests. Community-based construction and rehabilitation includes cultural and archeological sites, marketplaces, urban parks, and other similar structures. The land is not occupied by unauthorized residents or squatters. Legal documentation related to land ownership will be requested from local entities prior to rehabilitation or construction of new structures.					
Potential Environmental Impact/Climate Risk	Mitigation Measure(s)	Phase of Mitigation Measure Planning and Design (P&D), Construction (C), Operation and Management (O&M)	Indicator	Responsible Authority	Timing	Priority of Mitigation Measure 1 = High, 2 = Medium, 3 = Low
1: Impact on habitat for key ecosystems, animals or plants, and/or important scenic, archeological, or cultural/historical features	1.1: As applies to project activity, consult with stakeholders and corresponding government entity with jurisdiction to determine if the project is in proximity to sensitive ecosystems, important scenic, archeological or cultural/historical feature(s), or toxic hot spots. Prepare a map that shows the location of the activity.	P&D	1.1: Stakeholder consultation through community meetings and other methodologies informing the community of the activity and soliciting input as needed. Meeting summaries will be maintained with project files.	IRP GMU and grantee	Prior to construction	1
	1.2: Ensure that the property owner has a clear title to the structure/property where construction/rehabilitation will occur.		1.2: Title documentation and clear of squatters, if applicable.			1
	1.3: Prepare an activity plan using the template provided by the IRP GMU. Plan includes map of the project area and surrounding activities. Examples of factors to be considered in the survey include: - Alteration or degradation of land - Soil erosion potential - Storm water management - Potential impacts to water supply systems - Proximity of site to sensitive ecological or agricultural areas - Proximity of site to public or incompatible locations - Transport and use of required equipment and materials - Operation and maintenance requirements	P&D, C	1.3: IRP-approved activity plan using template provided by IRP GMU. Site visits confirm plan is accurate and implemented.		Plan developed prior to construction, implemented throughout activity	1
	1.4: Prepare a waste management plan or project SOP appropriate for the size and type of activity. The plan/SOP will include management of construction waste and recycling (if available), and site access and disposal. Construction waste will be securely stored during project construction and removed to an approved final, disposal site at the completion of the activity. Construction waste having potentially hazardous substances such as asbestos, PCBs, or other materials will be disposed in an IRP-approved site suitable for receiving the waste.		1.4: IRP-approved waste management plan (WMP) or procedure. Implementation of the waste management process.		Plan prepared prior to beginning the activity	1
	2.1: As part of the project plan, address the use of appropriate building materials that comply with international best management practices and Iraqi country laws and regulations. Avoid the use of materials known to cause health impacts, including asbestos-containing materials, lead-based paint, and materials that off-gas unsafe levels of formaldehyde. Include the use of sustainable building materials (e.g. recycled products, renewable materials, etc.) where possible. Design storage areas to ensure hazardous materials are aboveground and in leak-proof containments to prevent spills occurring during normal operation or natural disaster events.	P&D, C	2.1: Preparation and implementation of the IRP-approved activity plan addressing use of unacceptable building materials.		Plan prepared prior to construction and implemented throughout construction period.	1

Potential Environmental Impact/ Climate Risk	Mitigation Measure(s)	Phase of Mitigation Measure Planning and Design (P&D), Construction (C), Operation and Management (O&M)	Indicator	Responsible Authority	Timing	Priority of Mitigation Measure 1 = High, 2 = Medium, 3 = Low
2: Occupational health and safety	2.2: Prepare a health and safety plan or SOP appropriate for the size and complexity of the construction activity, including personal protective equipment (PPE) for worker safety, construction BMPs, and emergency evacuation plan for natural emergencies. Specialized training appropriate for the hazard must be provided where potentially hazardous material has been identified at the site (such as asbestos).	C	2.2: Require use and maintenance of appropriate PPE. Monitoring log.	IRP GMU and grantee	Plan is prepared prior to construction and monitoring occurs throughout project activity.	1
	2.3: Worker sanitation will be managed through provided latrines and water for hygiene. As a best practice, use a ratio of 20 people per one pit latrine. Never exceed a ratio of 50 people per latrine. Source: http://conflict.ishtm.ac.uk/page_161.htm	P&D, C	2.3: Number of temporary latrines in the construction or rehabilitation place		Prior to construction, identify the number of latrines needed. Maintain throughout construction	2
3: Impact on resources and sustainability of environmental activities	3.1: As feasible for project scope and size, incorporate energy efficiency measures and use of renewable energy sources, where feasible, to reduce energy use and costs. This may include the use of insulation and reflective building materials to reflect heat, energy efficient fixtures, and high efficiency heating, cooling, and lighting systems.	P&D, C	3.1: As feasible for scope of activity, installation of energy efficiency measures or justification for not including.	IRP GMU and grantee	Review during activity design phase	3
4. Inadequate communication and response to community inquiries and complaints may cause social tension among stakeholders, local authorities, and construction firm	4.1: Prepare SOP, appropriate for activity size, to receive and respond to complaints from community stakeholders concerning project activities.	P&D, C	4.1: Log with community feedback and complaints about project implementation. Document the response to stakeholders. Designate a point of contact for the activity.	IRP GMU and grantee	Prior to activity and weekly updates.	2
5. <i>Climate risk:</i> Construction workers may face increased risk of heat exhaustion or impacts of climate-related extreme events (e.g., heavy rain storms, flooding, dust storms or wildfires)	5.1: Require that construction crews receive proper hydration and are not exposed to dangerously high heat levels, in accordance with local and national health and safety requirements.	C	5.1: Documented process of providing breaks	IRP GMU and grantee	Throughout construction period	3
	5.2 Ensure emergency plans are in place (and well communicated to crews) to respond to climate-related extreme events.		5.2: Documented emergency plans posted at the work site.		Throughout construction period	2
6. <i>Climate risk :</i> Climate-related precipitation and storm events (e.g. storms, wildfires, extreme heat, flooding, landslides, erosion) can reduce the durability of project structures and transportation systems necessary to access the project structures	6.1: To the extent feasible and appropriate, use enhanced construction methodologies and best practices to integrate design measures to address specific potential climate stressors (e.g., use more resilient materials or construction methods, and design for future upgrades/repairs).	P&D	6.1: Indication of climate risk considerations in building designs or justification for not including.	IRP GMU and grantee	Prior to construction	2
	6.2: Consider alternative locations if proposed site faces higher climate risks (e.g. floods, wildfires, high winds, storms, or other site-specific threats) than other potential, appropriate locations.		6.2: Indication of climate risk considerations in construction site selection		Prior to construction	2
7. <i>Climate risk:</i> Water scarcity - Declining precipitation rates and changed distribution patterns are causing water stress in Iraq	7.1. To the extent feasible, design community based facilities to increase water efficiency to promote resilient communities.	P&D	7.1: IRP-approved design that enhances water efficiency, to the extent feasible.	IRP GMU and grantee	Prior to construction	3
Acronyms						
Planning and design:		P&D				
Construction		C				
Operations and maintenance		O&M				
Environmental Review Form		ERF				
Implementing partner (grantee)		IP				
Project development officer		PDO				
Storm water pollution prevention plan		SWPP				
Health and safety plan		HASP				
Waste management plan		WMP				