SFG2012

TURKEY

SUSTAINABLE CITIES PROJECT (P128605)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

---- FINAL ----

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THE SUSTAINABLE CITIES PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

1. INTRODUCTION

The Sustainable Cities Project (SCP) developed by the World Bank (WB) is designed to establish a support mechanism for participating municipalities to plan and invest on a sustainable future. The SCP Project will establish a support system for selected cities to identify, prepare and finance bankable investments of the sustainable target based projects. In 2006, the WB invested in Municipal Services Project (MSP) through Iller Bank (IB) by supporting eleven municipalities and two utilities in three specific areas; water supply, wastewater, and solid waste investments successfully. Therefore, SCP would be a second generation operation that will support eight eligible municipalities and follow the same investment goals, except, the investment options for municipal financing will be expanded by adding investment areas as, sustainable urban transport and sustainable urban energy projects. Through this second generation operation, the SCP will focus more on urban planning systems and extensive urban development, instead of investing on single sub-projects. This expansion on the investment options for municipal financing is the result of the current municipal priorities and lack of city planning on developing urban areas. The aim of this new investment options are to provide needed sources for the fast growing cities that are in need of infrastructure finance and strengthened planning tools and mechanisms. The SCP's objective is to help second tier Metropolitan Municipalities and assist them for improvements in the structure and functioning of the development planning system.

2. Objectives of the Sustainable City Project

The primary objective of the Sustainable Cities Project (SCP) is for participating metropolitan municipalities to incrementally improve their environmental, financial/economic and social sustainability. Sustainability measures include: reducing unaccounted for water losses by water utilities, decreasing the discharge of untreated wastewater into the environment, reducing electricity consumption through energy efficiency improvements, lowering traffic congestion, air pollution and carbon emissions by improving public transport and increased options for pedestrian mobility, strengthening municipal finances and financial planning, and expanding social participation and services to those parts of the province that do not benefit from network services. SCP will feature three Components as follows:

Component A: Sustainable City Planning and Management Systems

This component, with an indicative grant financing amount of EUR 25 million (subject to EU approval of an IPA2 funding request) will provide financing to support participating Metropolitan Municipality technical assistance needs to develop more integrated approaches to urban spatial planning and enhance financial sustainability and practices. Technical assistance on spatial planning will support *inter alia,* preparation of Detailed Development Plans; special area integrated development frameworks to promote local economic development and rural-urban linkages; Geo technical surveys and base maps; review and improvement of existing Territorial Development Plans and other measures within an Integrated Metropolitan Municipality Planning Framework. For municipalities seeking to update their systems for monitoring infrastructure services, a fully-developed GIS and City Information System will be designed and developed. Technical assistance to enhance financial sustainability will support *inter alia*, development of integrated financial management systems; revenue enhancement; expenditure control improvement; and asset management. Public consultations will take place within all phases of the planning work to promote civic engagement and social sustainability.

Component B: Municipal Investments

This component, with an indicative financing amount of US$ 300 million will provide support for infrastructure service investments to participating metropolitan municipalities. Eligible expenditures under this component will be for municipal water, wastewater, solid waste, urban transport, and energy efficiency/renewable energy investments. The Project will also help cities to use evidence-based methods[1] to identify investment priorities that promote their sustainability and to monitor and track improvements over time. Financing will be provided at competitive interest rates and long-term maturities not currently available in the market.

[1] Evidence-based methods include collection of baseline performance data on energy efficiency, water and wastewater services, etc. and agreeing on performance target improvements against appropriate benchmarks.

Component C: Project Management and Institutional Capacity Building

This component, with an indicative financing amount of US$1 million, will cover the costs of overall Project implementation including outsourcing by Iller Bank for consulting services necessary to carry out Iller Bank's Project monitoring, evaluation and supervision functions, fiduciary and safeguard responsibilities, Sustainable Cities Diagnostics and mobilization of sector specific expertise for relevant advisory services. The Component would also support Iller Bank in equipping and strengthening its new units in the Spatial Planning Department for urban transport and energy efficiency as needed. Iller Bank may also seek to use some financing for internal staff training, capacity building, and system development in the desired areas.

Box 1 Potential Investment Fields for SCP

Field	Objective/ Scope
Water	Upgrading, rehabilitating and expanding of water supply systems to accompany urban growth and redevelopment.
Wastewater	Expanding and rehabilitating collection networks, to ensure sewerage coverage in developing urban areas; separation of sewerage and stormwater drainage networks as appropriate, investing in new wastewater treatment capacity, including for sludge management, in pursuit of environmental policy objectives.
Solid Waste	Integrated solid waste management systems, including transfer, sorting, recycling and disposal (e.g. landfill development)
Urban Transport	Financing to support public transit systems (Bus Rapid Transit, zero-emission Trolley Buses) parking facilities, transport system management improvements, pedestrianization (improved or expanded walking or bike paths and sidewalks)
Energy Efficiency & Renewable Energy	Energy efficient systems in urban transport and municipal infrastructure systems; energy efficient buildings, solar fields, wind power, geothermal heating of buildings.

Investments carried out under the SCP will conform to the Republic of Turkey Environmental Regulation and the World Bank Safeguards Policies (as the lead financier). IB will be the implementing agency of the WB loan and, acting as a financial intermediary, will on-lend the loan proceeds to municipalities or municipal utilities (henceforth "municipalities"). In this capacity, IB will ensure that WB policies on environment are followed as described in this framework, in addition to the Turkish requirements IB would be responsible to document that all Turkish environmental approvals, permits, licenses have been secured.

As general policy, regardless of whether a project is financed through IB's own sources or from the proceeds of a WB loan, IB considers only those project proposals that have fulfilled the requirements of the Turkish Regulation on Environmental Impact Assessment (EIA). In other words, all potential subprojects must have undergone an EIA screening according to Turkish Regulation and either have a positive opinion on the EIA or be assessed not to need an EIA before IB starts reviewing them. Furthermore, no subproject loan may be approved until Turkish and World Bank environmental safeguard policy/regulatory requirements have been successfully completed.

Ineligibility in terms of WB safeguards are another important factor for financing of the projects. Projects triggering *International Waterways OP 7.50* will be directly considered as ineligible. Additionally, projects which has impact on any Critical Natural Habitats are also defined as ineligible. Definition of Critical Natural Habitats under OP 4.04 covers i) legally protected; ii) officially proposed for protection; or iii) unprotected but of known high conservation value sites. In terms of Energy Efficiency and Renewable Energy, municipalities can propose renewable energy projects in order to support their energy need. The main purpose of the projects should be to provide energy needs of the municipalities. Therefore, projects that are based on energy trading will be approached as "ineligible". Expected renewable energy projects include geothermal, solar and wind project. HEP projects are also recognized as ineligible.

This document aims at minimizing the additional efforts necessary to meet WB environmental safeguards requirements. To this end, it identifies the key differences between the Turkish and WB requirements and defines steps that will fill the gaps.

3. ENVIRONMENTAL FRAMEWORK

The World Bank's environmental and social safeguards policies require that the borrower country is expected prepare an Environmental and Social Management Framework (ESMF), integrated with the Regulation on Environmental Impact Assessment (henceforth "EIA Regulation") (Official Gazette No. 29186, November 25, 2014) and WB's Operational Policy for Environmental Assessment (OP 4.01) for the SCP. Since the sub-project locations to be financedunder the SCP is not known at the time of appraisal, ESMF is the key document to be shared with stakeholders before implementation starts.

The ESMF forms a scope of the comprehensive environmental and social management approach that has been adopted for acknowledging the potential environmental and social impacts from the SCP. The ESMF seeks to consolidate and facilitate understanding of all necessary policy and regulatory features of the Turkish Government as well as the World Bank's environmental and social safeguards policies that are applicable to the project. Box 2 also presents further information regarding the related WB OP's that are assessed by the IB to determine if the project is ineligible in anyway. Currently, the details (location, dimension and design) of the SCP are not definite, therefore, the detailed assessment of possible social and environmental impacts of the Project is not achievable at this time. However, the ESMF will cover the entire related environmental and social framework from the previous MSP project and include the impacts of the new financing options and Component A related activities as well.

The ESMF serves as an overall and systematic guide covering policies, procedures and provisions that are to be integrated with the overall project period to ensure that the social and environmental issues are systematically addressed at the sub-project stage. Furthermore, the ESMF provides technical inputs and guidance for the SCP from an environmental and social management perspective. Therefore, the application and implementation of the ESMF will guide the integration of social and environmental aspects into the decision making process of all stages related to planning, design, execution, operation and maintenance of sub-projects, by identifying, preventing and /or minimizing adverse social and environmental impacts early – on in the project cycle.

4. INTEGRATED PROVINCIAL TERRITORIAL PLANNING FRAMEWORK (IPTPF)

The IPTPF, supported under Component A, is designed to help the new metropolitan municipalities (MM) to update their urban planning tools and practices through technical assistance and capacity building. The IPTPF, in addition to strengthening and linking urban land use planning with transport planning and other environmental planning considerations, will build upon and contribute to developing an accurate, reliable and continuously updated urban database in terms of economic, social and financial aspects of the participating municipalities. Analysis and monitoring of data will be used for further planning, implementation and monitoring purposes.

All of the investment options provided by the IB and WB would have strong connections with building efficient urban infrastructure systems and services. A particular focus will be given to sustainable urban mobility planning, taking into consideration the rising congestion costs, deteriorating air quality and carbon emissions that accompany rapidly increasing private vehicle ownership rates. Within the IPTPF structure, preparation of a Strategic Environmental Assessment (SEA) will also be an option, and an important consideration relevant to WB Operational Policy 4.01 (OP 4.01).

The World Bank follows the Organization for Economic Co-operation and Development (OECD) in describing Strategic Environment Assessment (SEA) as “analytical and participatory approaches to strategic decision-making that aims to integrate environmental considerations into policies, plans and programmes, and evaluate the inter-linkages with economic and social considerations”. Originally, SEA was designed as an extension of Environmental Impact Assessment (EIA) of projects to plans, programs, and policies. Over time SEA has become more strategic by bringing different groups of stakeholders into an environmental and social dialogue in an iterative and adaptive way. For most countries,’ SEA legislation falls under and extends existing EIA legislation to programs and plans. Many developing countries have recently adopted legislation or regulations on SEA, and the use of this assessment tool is increasing rapidly.

In the European Union, SEA is a legally enforced assessment procedure required by Directive 2001/42/EC (known as the SEA Directive). The SEA Directive aims at introducing a systematic assessment of the environmental effects of strategic land use related plans and programs. It typically applies to regional and local development, waste and transport plans, within the European Union. In this context, a draft SEA Regulation has been prepared by Ministry of Environment and Urbanization (MoEU) as a part of association period. In this SEA Regulation development period, case studies will be carried out by MoEU in four specific sectors namely energy, water,

transportation and agriculture. The aim of MoEU is to put SEA Regulation into force within the coming three years period.

Although Turkish legislation is currently in a stage of adopting SEA as a requirement, Municipalities that seek to voluntarily prepare SEA in the scope of IPTPF within this period will already accomplish the expected legal obligations, as SEA will eventually become a legal requirement.

5. TURKISH AND WB REQUIRMENTS AND KEY DIFFERENCES

The Turkish Regulation on EIA

The Regulation on Environmental Impact Assessment (henceforth "EIA Regulation") (Official Gazette No. 29186 November 25, 2014) governs environmental impact assessment of investment projects in Turkey and is largely in line with the EU Directive on EIA. Below, the key relevant steps of Turkish EIA procedure namely screening, public consultation, scoping, disclosure and supervision are reviewed briefly in the order in which they are prescribed to occur:

A) Screening:

The EIA Regulation classifies projects into two categories

- *Annex I projects*. These are projects that have significant potential impacts and *require* an EIA. Annex I of the EIA Regulation lists these projects types, so project proponents are expected to start the EIA procedure without any other screening process; and

- *Annex II projects*. These are projects that may or may not have significant effects on the environment. Annex II of the EIA Regulation lists these projects types. Proponents of Annex II projects are required to submit a Project Introduction File (PIF) to the Ministry of Environment and Forestry (MoEU) The PIF is prepared following the General Format for PIF provided in Annex III of the EIA Regulation and contains information on (i) project characteristics and objective; (ii) selected and alternative project sites; (iii) environmental characteristics of the project site and impact area; (iv) significant impacts of the project and measures to be taken; and (v) plan for public participation. A non-technical summary of the above items is also to be added to the PIF. On the basis of the PIF and the Selection and Elimination Criteria specified in Annex IV of the EIA Regulation, MoEU determines whether an EIA is necessary.

Table 1 lists project types that will be considered for funding under the present project and their category according to the EIA Regulation

TABLE 1. PROJECT TYPES AND THEIR CATEGORIZATION ACCORDING TO TURKISH EIA REGULATION

Investment area	Annex I	Annex II
Municipal solid waste	• Landfills of ≥ 10 ha or receiving ≥100 tons / day, including in the target year	• Receiving <10 tons / day • Plants established to incinerate, compost, store solid waste.
Municipal wastewater	• WWTP for population ≥150.000 and/or having ≥30.000 m3/day flow.	• Deep sea discharge • WWTP for population of 50.000- 150.000 or 10.000 - 30.000 m3/day flow
Municipal water supply	• Reservoirs of ≥10 million m3 • Extraction of ground water of ≥10 million m3/year	• Reservoirs of ≥5 million m3 • Extraction of ground water of ≥1 million m3/year
Urban transport	• N/A	• Trams, rapid transit(metro, subways, undergrounds etc.
City planning	• >500 Room touristic residence facilities	• Housing Projects > 500 residences • > 50.000 m2 shopping centers • > 50 – 500 Bed capacity hospitals • >50.000 m2 camp and motorhome areas • >50.000 m2 theme parks • >1000m Ski resorts • > 500 room tourism facilities • Golf facilities •
Energy Efficiency & Renewable Energy (Sustainable Urban Energy)	• Energy efficiency projects like improvement of heating and lighting systems, new municipal buildings with energy efficient certification, not subjected to EIA. • Renewable energy projects (solar > 10 MWe, geothermal >20 MWe , wind > 50 MWm)	• Energy efficiency projects are not on Annex I or Annex II and there is no EIA or PIF required. • Renewable energy projects (solar 1-10 MWe, geothermal >5 MWe, wind 10-50 MWm)

Source: Republic of Turkey, Regulation on EIA (Official Gazette No. 29186, November 25.11.2014)

b) Public consultation meeting:

For projects that require the preparation of an EIA, the Governorate is required to inform the public that a project application has been submitted in a specified locality, that the EIA process has begun and that the public may submit its comments and suggestions to the Governorate or MoEU. The announcement is made using a variety of methods, including the internet, bulletin boards and loudspeaker announcements. MoEU informs the public of the same through the internet.

A formal public consultation meeting occurs for projects that are subject to an EIA after the screening process and prior to scoping. The project proponent organizes a "public-participation meeting" chaired by a MoEU's provincial director in a location that affected local groups can access easily. The invitation to the meeting is published in a national and a local newspaper at least ten days prior to the meeting. There is no requirement that information on the project should be provided to the public, except for the subject matter of the meeting, in advance. However, the EIA Regulation specifies that during the meeting, which is chaired by the Director or a member of MoEU's provincial directorate, it should be ensured that the public is informed about the project, and its comments and suggestions regarding the project are obtained. The meeting chairperson may request comments in writing too. Minutes of the meeting are kept and submitted to MoEU and the Governorate. The Governorate is required to inform the public about the timeframe for submission of public comments and suggestions. Such comments and suggestions are submitted to the EIA commission

c) Scoping:

The project proponent presents a project dossier (PIF for Annex II projects or using the PIF outline for Annex I projects) to a commission, which comprises representatives of MoEU and relevant organizations as identified by MoEU. Based on the information submitted, the commission determines the scope of the EIA and the 'project specific format" which follows the outline of the "general format" used for the PIF, furthermore, the commission may exclude or include some items depending on the specific characteristics of the proposed project. The commission also determines the level of detail under each heading depending on the special project's environmental impacts. In this process, the commission takes into consideration of the opinions expressed during the public participation meeting.

d) Review and approval of the EIA report:

As mentioned previously, the commission revises the draft version of the EIA report. . In its review, the commission assesses (i) the adequacy of the EIA report and its annexes; (ii) whether the analyses, evaluations or calculations were adequately substantiated by relevant data and documentation; (iii) whether the potential environmental impacts of the project were evaluated in adequate scope and depth; (iv) whether measures necessary to prevent or mitigate negative environmental impacts have be identified; (v) whether the public participation meeting was carried out in accordance with prescribed procedures and the issues brought up during the meeting were adequately addressed in the report. While the EIA identifies a project's environmental impacts and mitigation measures, it does not specify costs and institutional responsibilities associated with these mitigation measures. Neither does the EIA include a monitoring plan. The final EIA report, which incorporates the commission's assessments, is then submitted to the MoEU for final review.

MoEU determines whether the "EIA is positive" in which case the project proponent may implement the project or "EIA is negative" in which case the project may not go any forward.

e) Disclosure:

The draft EIA report is made available to the public for comments at Central MoEU or provincial directorate. After MoEU's final evaluation of the EIA report, the Governorate announces to the public MoEU's decision together with its justifications. Disclosure of the final EIA document is not foreseen in the EIA Regulation.

f) Monitoring and inspection:

According to the EIA Regulation, MoEU monitors and inspects projects that were assessed either "not to need an EIA" or "to have a positive EIA" based on provisions specified in the PIF or the EIA, respectively. Furthermore, the project proponent is obliged to submit monitoring reports to MoEU, which transmits them to the Governorate for disclosure to the public. (The form or medium of this disclosure is not specified in the EIA Regulation.) In case MoEU determines non-compliance, the Governorate issues a warning. If after the granted time compliance is still not achieved the Governorate may suspend the operation of the plant in question.

6. The WB Environmental Assessment Policy

a) Project categories and screening

Under the WB's Operational Policy for Environmental Assessment (O.P. 4.01) projects are classified under Categories A, B and C according to the level of their likely impact on the environment:

- *Category A*. A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts (based on type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts). These impacts are generally large-scale, irreversible, sensitive, diverse, cumulative or precedent setting and may affect an area broader than the sites or facilities financed by the project. For example, Category A projects have one or more of the following attributes: large-scale conversion or degradation of natural habitats; extraction, consumption, or conversion of substantial amounts of forest, mineral and other natural resources; direct discharge of pollutants resulting in degradation of air, water or soil; production, storage, use or disposal of hazardous materials and wastes; measurable changes in hydrologic cycle; risks associated with the proposed use of pesticides. Indicative examples in the context of the present project include: Construction of a significant new wastewater treatment plant, a new landfill, and rehabilitation of existing landfill with significant environmental impact.
- *Category B.* A proposed project is classified as Category B if the potential impacts on the environment are typically site-specific, reversible in nature; less adverse than those of Category A subprojects and for which mitigatory measures can be designed more readily. Projects in Category B sometimes differ only in scale from Category A projects of the same type. For example, large irrigation and drainage projects are usually categorized as A; however, small-scale projects of the same type may be categorized as B. The same can be true for small-scale, relatively clean (gas or light diesel oil fired) thermal power plants, micro

hydro power plants, and small sanitary landfills. Similarly, projects that finance rehabilitating or maintaining an existing infrastructure may have adverse impacts, but are likely to be less significant compared to a Category A project, and would be categorized as B. Indicative examples include: Rehabilitation or construction of water supply and/or sewerage network, water treatment plants, wastewater treatment plants which does not include an expansion or new construction, construction of small-scale water treatment plants, urban transport and energy efficiency. Although it has not been specified in the OP, Category B projects can be divided in two within its structure as B and B+ projects in practice. Category B+ projects have relatively more impacts and mitigation measures comparing to Category B projects, yet the impacts and mitigation measures are not significant enough to be recognized as Category A projects.

Category C. A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. For example, technical assistance projects in institutional development, computerization and training fall in Category C.

TABLE 2. CHECKLIST FOR SUBPROJECT ENVIRONMENTAL RISK SCREENING.

CRITERION[+] Is the subproject, either during construction or operation likely to…	**Minor or No Risk***	**Modest Risk****	**High Risk*****
• ….present a serious impact on soils and land in the project area?	□	□	□
• ….cause destabilization of geological formations due to well drilling? (Applicable to geothermal subprojects only.)	□	□	□
• …alter the quality or quantity of surface or ground water resources?	□	□	□
• …affect the ambient air quality in the project area?	□	□	□
• ….produce high levels of noise in and around the project area?	□	□	□
• …disturb natural habitats or damage fauna and flora in or around the project area?	□	□	□
• ….present health and safety hazards to workers or nearby communities?	□	□	□
• ….have a serious impact on the esthetics and the landscape in or around the project area?	□	□	□
• ….disturb, degrade or damage any known or previously unknown historic or cultural sites	□	□	□

+ Annexes 1A-D provide more detailed and generic lists of potential issues for each of the criteria for each of the project investments under the present project.

* *Minor or No Risk* means that the risk is easily established as minor or inconsequential.

** *Modest Risk* means that the risk can be readily managed with standard good engineering and construction practices (limited in scope, extent, and duration, wholly or almost wholly reversible) or requiring small limited study to optimize or minimize

***_High Risk_ means that there are potentially serious consequences (large-scale, irreversible, diverse impacts or impacts that cover a large area) with reasonable probability of occurrence.

When a WB-funded project involves a series of subprojects, which are selected and funded by a financial intermediary (FI) using WB loan proceeds, the project is classified as Category FI. In such projects, the FI screens and classifies the proposed subprojects as Category A, B, or C following the above definitions and ensures that the borrower[2] carries out the corresponding environmental assessment. Since the present project is an FI project, the following discussion will refer to subprojects only.

There are no clear cut border values distinguishing the categories or, unlike the Turkish EIA Regulation, any ready lists of project types for categorizing projects as A, B and C; rather projects are screened on a case by case basis, using criteria listed in Table 2. Tthis list represents a first approximation of the types of environmental risks associated with particular types of projects, without the benefit of detailed information regarding the environmental baseline of the proposed project site or details regarding the project parameters. If the screening identifies either Modest or High risk of any of these impacts, the next step should be detailed assessment.

b) Scope of environmental assessment.

The scope and type of the environmental assessment (EA)[3] varies between Category A and B subprojects.

For Category A subprojects the borrower is required to prepare an EIA which examines the subproject'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 (see Annex 2A for a suggested format.). Analysis of alternatives is a particularly important feature of an EIA. EIA also includes an environmental management plan (ESMP) which details the measures to be taken during the implementation and operation of a (sub) project to eliminate, reduce or offset adverse environmental impacts, the actions needed to implement these measures as well as monitoring indicators and actions and responsibilities (see Annex 2B for an ESMP format). (Annexes 3A-G provide sample ESMPs for each of the subproject types to be financed under the project.)

The scope of environmental assessment document for a Category B subproject may vary from subproject to subproject, but is narrower than the ESIA required for Category A. Like Category A ESIA, it examines the subproject's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. If the project is recognized as B category, this information may be contained in an environmental and social management plan (ESMP) only unless there are site-specific issues which necessitating a site-specific assessment in addition to the ESMP. An example is modest scale building construction on a site in an urban area which

[2] "Borrower" refers to borrowing project proponent in FI projects. In the context of the present project, the borrowers are municipalities.

[3] "Environmental assessment" is used as a general term here.

would normally require only an ESMP if it is known that there are no environmental issues relating to the site. If it is construction on a greenfield site, a partial ESIA[4] would be needed to clarify whether there are any special environmental or social issues. The project could turn into Category A if EIA work shows likelihood of significant damage to natural habitat. On the other hand, if the project is recognized as B+, then partial ESIA is required to satisfy the expected requirements.

c) Public consultation

For all Category A and B subprojects proposed for WB financing, during the EA process, the borrower consults subproject-affected groups and NGOs about the subproject's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, consultations with these groups occur at least twice: a) shortly after environmental screening and before the terms of reference for the EIA are finalized; and (b) once a draft ESIA report is prepared. The borrower provides for the initial consultation a summary of the proposed subproject's objectives, description, and potential impacts. For consultation after the draft ESIA report is prepared, the borrower provides a summary of the EIA's conclusions. For Category B subprojects, at least one consultation is held with affected groups and local NGOs: once the draft ESIA report (including ESMP) is prepared. (Please also refer to “g) Disclosure”).

In addition, the borrower consults with such groups throughout project implementation as necessary to address environmental and social issues that affect them.

For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B subprojects proposed for WB financing, the borrower provides relevant material (in local language) in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.

d) ESIA expert selection

For Category A subprojects, WB reviews and clears the terms of reference (TOR) for experts selected to carry out the ESIA. Furthermore, such experts must be independent from the project proponent and not affiliated with the project. Hence, for example, consultants designing the subproject or staff of the project proponent working directly on the project may not carry out the ESIA due to possible conflicting interests. These requirements do not apply to Category B subprojects.

e) Review and approval of the Environmental Assessment Documents

In FI projects, the responsibility to ensure that OP 4.01 requirements are met rests with the FI[5]. The environmental assessment process should normally be completed prior to the FI’s approval of a subproject for financing with a WB loan.

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[4] For projects which may need a partial ESIA, the format will be similar to an elaborated ESMP. The project description section, impacts and mitigation sections should be more detailed in order to provide clear explanation about the significant of the impacts and the residual impacts after mitigation. The necessity of preparing a partial ESIA instead of an ESMP and the format of a partial ESIA will be decided by consulting the WB.

[5] FI should be aware that WB retains its due diligence/oversigth resposibility over projects.

f) Conditionality

In FI projects, the sub-loan agreement between IB and the borrower must include the conditionality for the borrower to implement the ESMP for Category A and B subprojects. The borrower must monitor and ensure that the contractor is in compliance with the provisions of the ESMP. In order to fulfill its environmental obligation, the borrower may incorporate provisions of the ESMP into the procurement documents and contracts for works. Non-compliance may lead to the suspension of WB funding for the subproject.

g) Disclosure

In addition to the disclosure requirements specified under "c) Public consultation" above, for Category A subprojects the FI must make the draft ESIA report in local language available at a public place accessible to subproject-affected groups and local NGOs.

When the ESIA of a Category A subproject is finalized, the FI transmits to WB an English language copy of the final report including an English language executive summary. The Bank distributes the executive summary to its executive directors and makes the report available through its InfoShop.

In case of Category B subprojects, the ESMP or partial ESIA document is disclosed in country in local language and after finalization FI transmits to WB the final English language of the report. Then, WB makes it available through its InfoShop by indicating the in-country disclosure date.

h) Implementation

During subproject implementation, the FI reports to WB on (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of the ESMP; and (b) the findings of monitoring programs. The Bank bases supervision of the project's environmental aspects on the findings and recommendations of the EA, including measures set out in the legal agreements, any ESMP, and other project documents.

7. Key Differences between the Turkish EIA Regulation and WB OP 4.01 Policy

The Turkish EIA procedures are, with some exceptions, in line with the World Bank's EA policies. The primary exceptions are in project categorization, content of EA document (ESIA, ESMP, partial ESIA) and public consultation:

a) Project categorization.

Some subprojects covered by Turkish Annex II fall within the WB Category A. For example, where a significant new wastewater treatment plant (WWTP) is proposed for financing which, as a Category A project for the WB requires an ESIA, but under the Turkish EIA Regulation is identified as Annex II requiring a PIF, which after review and decision by MoEU may or may not require an EIA.

Some subprojects that are not listed in either Annex I or Annex II of the Turkish EIA Regulation, such as a new WWTP servicing a population of less than 150,000 may under the WB policy be classified as Category B or even Category A project (Table 5).

b) EIA expert selection.

There are no clauses in the Turkish EIA Regulation limiting expert eligibility to prevent conflict of interest.

c) Content of the environmental and social assessment document.

Category A subprojects. A broad comparison of the outline required by WB for a Category A subproject ESIA with the general format of a Turkish PIF indicates a number of differences as presented in Table 4. These include notably the absence of an executive summary and information on the policy, legal and administrative framework, as well as possible discrepancies with regard to the level at which the subproject's environmental impacts, its alternatives, and mitigation measures for the impacts are discussed. A key gap is the absence of an ESMP with clear specification of actions and delineation of responsibilities. Nevertheless, the project specific format for EIA may require more details under some of these headings than indicated in the general format for PIF. Consequently a case by case review of the Turkish EIAs is necessary to identify gaps with WB requirements.

Category B subprojects. The content of the environmental and social assessment document required by WB depends on the special circumstances of the project. In all cases, an ESMP is required which is only partially covered in a Turkish EIA. The WB also requires partial ESIA for Category B+ projects, on the other hand, Turkish EIA does not cover in between categorization as Category B+, nor requires any other project documents in this regard.

TABLE 3. COMPARISON OF TURKISH AND WB CATEGORIES FOR INVESTMENT TYPES COVERED UNDER THE PRESENT PROJECT

	Turkish Category		WB Category	Comments
	Annex I	**Annex II**		
Municipal Solid Waste	• Landfill of ≥ 10 ha or receiving ≥100 tons / day, incl. in the target year		A	
		• Receiving <10 tons / day • Plants established to incinerate, compost, store solid waste.	B	Unless there is reason to believe that there is likely to have significant impacts on nature, or air or water quality beyond the landfill site. Whether the impact exists is examined through initial reconnaissance.
Municipal Wastewater		• Deep sea discharge	A	Could be B only if the discharge is very small and if demonstrated that there is no possibility that the discharge will include hazardous materials.Or an existing deep sea discharge system is being rehabilitated and the additional impacts will not be major.
	• WWTP for population of more than 150.000 population or having 30.000 m3/day flow.	• WWTP for population 50.000- 150.000 or 10.000-30.000 m3/day flow	A/B+/B	Annex I projects is likely to be treated as Category A projects. If there is reason to believe that there is likely to have significant impacts on nature, or air or water quality beyond the WWTP, WWTP project with a capacity less than 150,000 person equivalent and/or <30,000 m3/day can be classified as Category B+ or B. Whether the existing impact is examined through initial

				reconnaissance.
Municipal Water Supply	• Reservoirs of ≥10 million m3	• Reservoirs of ≥5 million m3	A/B+/B	If there is a reason to believe that there is likely significant impacts on nature, or air or water quality beyond the reservoir site, project can be classified as A or B+. Whether the existing impact is examined through initial reconnaissance.
	• Extraction of ground water of ≥10 million m3/year	• Extraction of ground water of ≥1 million m3/year	A/B+/B	If there is a reason to believe that there is likely significant impacts on nature, or air or water quality beyond the extraction site, project can be classified as A or B+. Whether the existing impact is examined through initial reconnaissance.
Urban Transport	N/A	• Trams, rapid transit (metro/ subways/underground etc.)	B	Unless there is reason to believe that there is likely to have significant impacts on nature, or air or water quality. Whether the impact exists is examined through initial reconnaissance.
City Planning	• >500 Room touristic residence facilities	• Housing Projects > 500 residences • > 50.000 m2 shopping centers • > 50 – 500 Bed capacity hospitals • >50.000 m2 camp and	B	Unless there is reason to believe that there is likely to have significant impacts on nature, or air or water quality. Whether existing impact is examined through initial reconnaissance.

		motorhome areas • >50.000 m2 theme parks • >1000m Ski resorts • > 500 room tourism facilities • Golf facilities		
Sustainable Urban Energy	• Energy efficiency projects like improvement of heating and lighting systems, new municipal buildings with energy efficient certification, not subjected to EIA. • Renewable energy projects (solar > 10 MWe, geothermal >20 MWe , wind > 50 MWm)	• Energy efficiency projects are not on Annex I or Annex II and there is no EIA or PIF required. • Renewable energy projects (solar 1-10 MWe, geothermal >5 MWe, wind 10-50 MWm)	B	Unless there is reason to believe that there is likely significant impacts on nature, or air or water quality. Whether existing impact is examined through initial reconnaissance.

TABLE 4. COMPARISON OF REQUIRED EIA REPORT CONTENTS

WB Category A project ESIA requirements *	Covered by the Turkish EIA?
Executive Summary	No. (Technical level of information in the non-technical summary required in the Turkish EIA may not meet WB requirements).
Policy, legal and administrative framework	No.
Project description	Largely yes, but may not include supporting infrastructure that may be required.
Baseline data	Yes, but it might not include all baseline data or level of detail that WB may require
Environmental impacts	Yes, but no requirements to discuss residual impacts that cannot be mitigated or to explore opportunities for environmental enhancement. Also no requirement to identify and estimate the extent and quality of data, key data gaps, and uncertainties associated with predictions, or to specify projects that require further attention. Additionally, assessment of cumulative impacts including indirect and induced impacts are not is not discussed in detailed. Specially, no requirement to cover cumulative impacts with other projects (past, existing and future) in project influence area.
Analysis of alternatives	Yes. General format for PIF requires that the main alternatives be discussed in summary and the reasons for selecting the proposed site, but does not provide any other specific instructions. The level of detail and depth in the discussion of alternatives in the EIA is determined by the EIA commission appointed by MoEU.
Environmental Management Plan	No. PIF requires presentation of planned mitigation measures, but not the cost, timing and institutional responsibilities or monitoring arrangements.

* Please refer to Annex 2 for a description of each heading.

- ***Public consultation.*** The “pre-scoping” consultation which is required by Turkish EIA Regulation for subprojects requiring an EIA is largely equivalent to the first consultation required by WB for Category A subprojects. However, WB requires a consultation on draft environmental assessment document for both Category A and Category B subprojects; there is no equivalent provision in the Turkish EIA Regulation.
- ***EIA expert selection*****:** For Category A subprojects, World Bank requires that an *independent* expert unaffiliated with the project prepare the EIA. The Turkish EIA regulation does not have this requirement.
- ***Disclosure.*** The Turkish EIA Regulation only requires announcement of the evaluation result together with the justification. WB policy requires disclosure of the final EA document: For Category B subprojects the final ESMP report must be published in the WB InfoShop. For Category A sub-projects WB requires that the final ESIA report be

made available to the public locally in addition to being published in the Infoshop and submitted to the WB Board (Table 5).

TABLE 5. COMPARISON OF DISCLOSURE REQUIREMENTS

Timing	WB requirements		Turkish requirement*
	Category A	Category B	
Shortly after screening	Borrower provides to participants of public consultation meeting summary of proposed subproject's objectives, description, and potential impacts.		Participants are informed on the project. (EIA Regulation does not specify content of information to be provided.)
When draft EA is ready	• Borrower provides to participants of public consultation meeting summary of ESIA conclusions. • Borrower makes draft ESIA report available at a public place accessible to project-affected groups and local NGOs.	Borrower provides to participants of public consultation meeting summary of EA conclusions and ESMP.	Central MoEU or provincial directorate makes draft EIA report available to public for comments.
When EA has been finalized	• Borrower makes final ESIA report available at a public place accessible to project-affected groups and local NGOs. • Borrower sends final English language ESIA report to WB and WB makes it publicly available (by publishing on InfoShop). • Borrower sends English-language executive summary of final ESIA report to WB for submission to WB Board of Executive Directors.	Borrower sends final English and Turkish language EA report to WB and WB makes it publicly available (by publishing on InfoShop).	Governorate informs public on the result of MoEU's evaluation of the EIA report and justification

* For projects that are subject to EIA.

8. APPLICATION OF THE TURKISH EIA REGULATION AND WB EA POLICY

Under the World Bank EA system (OP. 4.01) projects are classified as Category A, Category B or Category C depending upon estimated potential environmental risk. Unlike the WB categorization system, Turkish EIA regulation (same as EU EIA Directives) indicates threshold based project descriptions through Annexes. One of the main differences between two environmental processes (WB EA and Turkish EIA policies) can be seen in screening system of the projects. The differences between the Turkish EIA procedure and WB's Operational Policy for Environmental Assessment (O.P. 401) can be seen in Table – 3, 4 and 5.

Since the screening systems differ when compared to national EIA regulation, it is not technically very easy to cross-match the project screening among national and WB system. For example, it cannot be assumed that Annex I under the national system equates directly with World Bank Category A or Annex II with Category B. The differences in the two systems may arise, and it is possible for some Annex I projects to be considered Category B, or conversely, some Annex II projects to be considered Category A if for example they are planned in sensitive areas. Likewise, some No Annex projects may be screened as Category B especially if they could lead to modest negative impacts to the human or natural environment and the impacts confined to a small region and are temporary or short-lived and these impacts are easy and inexpensive to control (e.g. most of the construction activities).

In order to avoid repeating the same steps for both procedures, the Project will be carried out to meet the WB OP 4.01 requirements that are not contained in the Turkish EIA or PIF, but are required by the WB will be prepared in the form of "supplementary documents" to the Turkish EIA.

Required documentation for ESIA/EA process is presented in Annex 1 through Annex 5 of this document. These annexes provide generic information related to proposed project items presented in SCP. Therefore, this information can vary project to project depending on project characteristics. In that respect, IB will ensure that these checklists, ESMP's and other tables presented in annexes are prepared specific to proposed project.

Step-By-Step Process of Meeting WB Requirements

Step 1: Screening

IB, in consultation with WB, will carry out the screening of subprojects in terms of Category A or, B or C. IB will classify a subproject as Category A if even one of the criteria is assessed to carry "high risk". If none of the criteria is found to carry high risk but at least one has "modest risk", then the subproject will be classified as Category B. If all of the criteria of a subproject are found to carry "minor or no risk", then the project is classified as Category C. In this process IB may ask consultants preparing the subproject feasibility reports to carry out an initial assessment of these risks to reach more informed decisions.

As it is described above, Category B covers any project which is not sufficiently complex and risky to require a full, comprehensive ESIA (addressing a wide range of potential issues and including up-to-date environmental baseline data and a detailed analysis of alternatives), but does require some analysis of potential environmental impacts in order to

be able to identify appropriate mitigation measures and monitoring indicators. According to the significance of the limited impacts of Category B projects different types of EA documentation could be required. The IB will assess whether the impacts are significant than a low risk Category B project and then decide if a partial ESIA will be necessary instead of an ESMP.

The triggering of OP 4.04, OP 4.10, OP 4.11, or 4.37 may necessitate upgrading of the project Category from B to B+ or A if the potential impact is significant or, in the absence of an upgrade, the preparation of a site-specific EA. In either case, unless an alternative site is chosen, IB will ensure that measures to mitigate the impact of the subproject are incorporated in the ESMP. With regard to OP 7.50, IB is responsible for ensuring that the projects financed are located/depending on national waterways only. The waterways identified as NOT an international waterway (do not trigger OP 7.50) in Turkey. These waterways are namely Susurluk, North Aegean, Gediz, Kuçuk Menderes, Buyuk Menderes, Western Mediterranean, Antalya, Sakarya, Western Black Sea, Yesilirmak, Kizilirmak,Konya Kapali, Eastern Mediterranean, Seyhan, Ceyhan, Eastern Black Sea, Burdur, Afyon, Orta Anadolu, and Van. See Box 2 for further information.

BOX 2 COMPLIANCE WITH OTHER WB OPERATIONAL POLICIES

Natural Habitats (OP 4.04). There is some possibility that construction activities under the project may affect critical or non-critical natural habitats (as per World Bank definition in OP 4.04). Subprojects that have a significant impact on a recognized critical habitat or eco-system will be identified as ineligible under OP 4.01 and the key issue in the EIA will be the identification of alternatives to the subproject in terms of site and scope. If the subproject's likely impact on natural habitats is not significant or the impact is not on critical habitats then the first priority is to solve the situation through re-siting, if that is not possible, then the appropriate mitigation measures will be acknowledged for the related circumstance.

Physical Cultural Resources (OP 4.11). As the initial stage of baseline studies, literature and surficial studies are performed. Depending on these studies, potential impact on these sources and related mitigation measures are assessing in EA/ESIA. However, due to the nature of physical cultural resources, buried assets (i.e. graves or mounds) may not be determined during baseline studies. The principal issue is twofold: (i) "chance finds" identification of during construction, and (ii) potential impact of the project on known cultural values. Turkish laws, notably Law No. 2863 dated 21.07.1983 on the Protection of Cultural and Natural Assets (revised through the amendment issued on 27.07.2004 dated Official Gazette) and practices meet the World Bank requirements. The Regulation on Researches, Drillings and Excavations in Relation to the Cultural and Natural Assets, which was published in the Official Gazette No. 18485 dated 10.08.1994 define the procedures and obligations concerning the cultural and natural assets found out during construction. The municipalities are responsible for the application of the said law and regulation. As part of the regular reporting, the municipalities will inform IB of the historical and cultural findings, if any, as well as the actions taken. IB is responsible to avoid or mitigate impacts on physical or cultural resources of the financed projects. Therefore, IB will not proceed with subproject funding until all requirements of the Turkish legislation are met.

International Waterways (OP 7.50). Iller Bank is responsible for ensuring that the projects financed are located/depending on national waterways only. The waterways identified as NOT an international waterway (do not trigger OP 7.50) in Turkey are as follows: Susurluk, North Aegean, Gediz, Kuçuk Menderes, Buyuk Menderes, Western Mediterranean, Antalya, Sakarya, Western Black Sea, Yesilirmak, Kizilirmak, Konya Kapali, Eastern Mediterranean, Seyhan, Ceyhan, Eastern Black Sea, Burdur, Afyon, Orta Anadolu, and Van.

Involuntary Resettlement (OP 4.12). A Land Acquisition and Resettlement Policy Framework (LARPF), which meets the requirements of this OP, is being prepared and will be utilized. LARPF calls expects for preparation of sub-project specific Land Acquisition and Resettlement Policy, when required.

LARF also has ability to address an retroactive approach in case land acquisition has already been done prior to requesting subproject loan.

Indigenous Peoples (OP 4.10). This policy is not triggered in Turkey projects

Safety of Dams (OP 4.37). All Sub-loans/Financing Leases to be financed under the project will be subject to the provisions of the World Bank Operational Policy 4.37 Safety of Dams.The IB will screen all sub-projects to be financed under the loan, to

determine whether any contain large dams in accordance with the definitions of OP 4.37: (a) dams greater than 15 m in height; (b) dams greater than 10 m but less than 15 m in height and having a crest length greater than 500m, or a spillway design discharge of more than 2000 m3/s, or having a reservoir volume of greater than 1.0 million m3; or (c) if they present special design complexities for example, location in a zone of high seismicity, foundations that are complex and difficult to prepare, or retention of toxic materials. For subprojects involving large dams the IB will require municipalities to:

a) appoint an independent panel of experts (the Panel) to review the investigation, design, and construction of the dam and the start of operations;
b) prepare and implement detailed plans: a plan for construction supervision and quality assurance, an instrumentation plan, an operation and maintenance plan, and an emergency preparedness plan;
c) prequalify bidders for civil works involving dams and associated structures;
d) carry out periodic safety inspections of the dam after completion.

For sub-projects that will rely on the performance of an existing dam or a dam under construction (DUC) as defined in OP 4.37, the IB will require the sub-borrower to appoint an independent expert or experts to carry out the due diligence work on the existing dam as defined in Paragraphs 8 and 9 of OP 4.37. A Model Terms of Reference (TOR) for a Dam Safety Review Panel for Sub-Project involving large dams has been prepared. For small dams, generic dam safety measures designed by qualified engineers are usually adequate.

Other World Bank Safeguards. No other safeguard policies are expected to be triggered but IB will alert the WB if questions arise.

IB will submit to WB for clearance the proposed screening categories for the first 5 subprojects. The information submitted to the WB for this purpose will include the proposed screening category and the key environmental issues to be analyzed together with information substantiating the category selection. If after 5 subprojects WB feels comfortable with IB's categorization, it will only carry out spot checks.

In cases where several separate investments (components) constitute a subproject, the highest category among the components will apply to the subproject. For instance, a subproject may include a wastewater treatment investment (Category A) and water distribution network rehabilitation (Category B). In this case, the subproject is classified as Category A. Ideally, the EA carried out in a subproject should combine all the components to be implemented under the subproject since this will generate a comprehensive overview on the environmental impact. However, the EAs of the activities may be prepared separately and works may commence at separate times as long as the components are independent of each other in terms of impact on the environment. When in doubt, IB will consult with the WB Environmental Specialist assigned to the project.

Step 2: Environmental Assessment

The type and content of the environmental assessment that fulfill WB OP 4.01 will depend on the category and special issues associated with the project as discussed above. A large part of the information and analysis is likely already available in the EIA or PIF document if the proposed subproject is classified as either an Annex I or and Annex II project according to the Turkish EIA Regulation. In such cases, only those sets of information, analysis and plans that are not contained in the Turkish EIA or PIF, but are required by the WB will be prepared in the form of "supplementary documents". The supplementary documents will be submitted and disclosed to the WB together with the Turkish EIA translated to English. The process is laid out in Tables 7 and 8.

<u>Category A Subprojects</u>

For Category A projects, if a Turkish EIA was not prepared (either because the subproject was listed in Annex II and not deemed to need an EIA or it was not listed in either Annex I or Annex II) a full ESIA following WB guidelines will have to be prepared. If a Turkish EIA was prepared then IB will carry out a gap analysis of the information and analysis provided to determine the content of the supplementary documents. If the nature of the missing information is minor, i.e. the information gap concerns only policy, legal and administrative framework; baseline information; or minor discrepancies in project description, but all other requirements listed in Annex 2, including ESMP, are met, then supplementary documents will contain only this information. If the information gap concerns the depth and scope of discussion on environmental impacts, mitigation and monitoring measures and arrangements; project alternatives, it is considered major, and will require in depth documentation of these issues, including an ESMP. In both cases, the "WB ESIA" will consist of supplementary documents and the Turkish EIA.

Category B Subprojects

In cases, where the proposed subproject is not listed in Annex II project, then a PIF is not available. In Category B project, an ESMP must be prepared. For subprojects that are listed in Annex II, the PIF likely has information on the mitigatory measures but no details on their costs and the institutions designated to carry them out or a detailed monitoring plan. If the project is recognized as B+, then partial ESIA (including an ESMP) is required to satisfy the expected requirements.

Completing a satisfactory ESMP/limited EA is the municipalities' responsibility. They may fund the cost of the ESMP either from the municipality's own resources or from the subproject loan.

IB will perform an overall quality assurance function that the documents prepared meet WB requirements. In reviewing an ESMP, IB will also confirm that it is clear, feasible and appropriate.

Step 3: Public Consultation

Category A Subprojects

In the case of Category A projects, the number and content of public consultations will depend on whether a Turkish EIA was carried out and the compatibility of the Turkish EIA report with WB requirements. If a Turkish EIA was not carried out, at least two public consultation meetings will be carried out, namely one to discuss the TOR and a second one to discuss the draft ESIA report.

In cases where the Turkish EIA has major information gaps relative to WB requirements (see discussion under "Step 2: Environmental Assessment"), also at least two public consultation meetings will be held. The first meeting will be on the ESIA TORs for the proposed supplementary documents. The second meeting will be held when the supplementary environmental assessment documents are in draft form; at this meeting both the draft supplementary documents and the Turkish EIA will be discussed. In contrast, in cases, where the information gap between the Turkish EIA and the WB requirements is minor (also see discussion under "Step 2: Environmental Assessment), a public consultation meeting will be carried out when the draft supplementary documents are available and discuss the entire WB ESIA package.

Category B Subprojects

A public consultation meeting will be held for Category B subprojects at the draft EA stage whether or not PIF is available. This is because the Turkish EIA Regulation does not require public consultation for projects that are not subject to EIA whereas WB policy requires at least one consultation meeting.

Public consultations will be widely announced at least two weeks using local newspapers and other local means of information dissemination that are known to be effective. For both Category A and B projects, the municipality will ensure that draft EIAs and ESMPs and other assessment or supplementary documents are available in public places and meeting announcement will point out the location. The minutes of public meetings will be recorded and included in the draft and final ESIAs for Category A subprojects, final WB environmental assessment documents (ESMP and assessment of local environmental

issue where applicable) s for Category B subprojects. Annex 4 provides a table of contents for the public consultation documentation.

Step 4: ESIA Expert Selection and TOR

For Category A subprojects, IB will submit the TOR that have been discussed in the Public Consultation (see Step 4 below) for the ESIA to WB for review and clearance prior to selection of an expert, and IB will ensure that the expert selected is independent of the project.

Step 5: World Bank Clearance

The World Bank will review and provide no objection to all projects required by Turkish regulation to prepare an EIA and/or assigned "Category A" in accordance with WB procedures before a final decision to fund the subproject can be taken by IB.

The WB require 'no objection' for any Category B subprojects. In case of Category B subprojects, IB can review and clear the ESIAs and/or partial ESIAs and/or ESMPs after approving to fund the subproject but before any physical construction has started and/or any commitments to purchase equipment have been made. This of course creates the risk for the project proponent that the detailed designs and tender documents may have to be revised at their expense. Regardless of the timing of their finalization, the World Bank will review the first 3 Category B subproject partial ESIAs and/or ESMPs. If after review of the first 3 Category B subprojects the World Bank is satisfied that procedures described in this Framework are being implemented by IB in a satisfactory manner the World Bank will not engage in detailed reviews of Category B subprojects. However, the World Bank will conduct post-review of selected Category B documents.

Step 7: Incorporation in Works Contracts

Sub-loan agreement must include requirement to implement the ESMP. For both Category A and Category B projects, the ESMP will also be attached to the procurement documents and be part of the contract with the contractor selected to carry out the subproject works. These sections include potential impacts that may occur during the set of works in question and measures that the contractor needs to take to mitigate them.

Step 7: Information Disclosure

For both Category A and B projects, the municipality will ensure that hard copies of the final Turkish language WB ESIAs and ESMPs are available in public place[6]. IB will post the final documents on its website. In case of Category A subprojects and the first three Category B subprojects disclosure in Turkey must be complete before WB can provide the 'no objection' to its financing. In addition, the final ESIA report for Category A projects should be disclosed to public during the second public participation meeting.

Prior to subproject approval, IB will also submit English versions of the final WB ESIA and ESMP documents to the World Bank for posting on InfoShop. In case of Category A subprojects, 30 days prior to subproject approval, IB will submit an English language executive summary of the WB ESIA report to WB for submission to the WB Board of Executive Directors.

[6] "WB ESIAs and ESMPs" means original Turkish EIA *and* gap-filling supplementary documents.

Step 8: Monitoring

IB will carry out regular supervision of subprojects during construction and operation to ensure that the ESMP is being duly carried out. When IB notices any problems in ESMP implementation it will inform the relevant municipality and agree with them on steps to rectify these problems. IB will report its findings to the WB in its biannual project progress report or more frequently, as needed to bring issues to the attention of the World Bank. The WB project team will on occasion, and as required, also visit project sites as part of project supervision.

9. EA STATUS REPORTING TO THE WORLD BANK

In its biannual project status reports, IB will include a section titled "Environmental Safeguards" which will summarize the status of ESMP implementation based on its monitoring activities. The report will highlight any issues arising from non-compliance and how it has been/is being addressed and from the triggering of OPs 4.04, 4.11 or 7.50.

IB will also maintain an EA status table titled "Environmental Assessment Status of Project Components by Municipality". The table will include information on the WB EA category, review of the EA TOR by IB, consultant hiring, public consultation meetings, status (drafting, revision and finalization) of the EA report. IB will share this document with the WB upon request.

10. INSTITUTIONAL ARRANGEMENTS

Key actors in the implementation of this framework are the IB Project Management Unit (PMU) and project proponent municipalities. In the following the overall roles and capacities of these actors are discussed. The summary of roles and responsibilities is listed in Table 6.

Iller Bank PMU

IB PMU will continue to include an environmental specialist to coordinate the implementation of the Environmental Framework. The Environmental Specialist's responsibilities will be as follows:

- Carry out screening of the subprojects with regard to EA categorization according to WB requirements.
- Provide municipality EA consultants guidance on preparation of Category A and Category B EA documents in accordance with WB requirements
- Provide municipality officials/municipality EA consultants with guidance on World Bank EA procedures, notably consultation and disclosure requirements for Category A and Category B projects
- Provide municipality officials/municipality EA consultants with guidance on WB safeguard requirements (documentation and procedures) for cultural properties, natural habitats, forests, and international waterways
- Review EA documentation, provide written comments to municipality EA consultants, ultimately provide formal approval of EA documentation and procedures in accordance with WB safeguard requirements
- Ensure that sub-loan documentation includes agreements to implement the ESMP and any other environment or social safeguard requirements;
- Perform supervision of ESMP implementation by the municipality and document performance, recommendations and any further actions required as part of overall project supervision reporting to the WB;

- Be open to comments from affected groups and local environmental authorities regarding environmental aspects of subproject implementation. Meet with these groups during site visits, as necessary;
- Coordinate and liaise with WB supervision missions regarding environmental safeguard aspects of subproject implementation

Municipalities

The EA work to be prepared by the municipalities will be mainly conducted by consulting companies of which there is an adequate number in Turkey. Municipalities have been carrying out infrastructure investments and are familiar with Turkish environmental legislation and construction procedures. However, knowledge of WB requirements is less common. To help build improve capacity in this regard, IB will organize training workshops to familiarize municipalities and their potential consultants with World Bank safeguard policies, as new municipalities join the project.

The municipalities generally have the capacity to properly implement ESMPs (for both Category A and B) during the construction and operational phases. Where such capacity is lacking[7], the municipalities will retain environmental specialist consultants to assist them in supervising the works carried out by the contractor and ensuring that the ESMP is followed adequately. Furthermore, the project may provide institutional strengthening to municipalities through additional training or acquisition of equipment, as needed.

[7] The capacity of the participating municipalities will be done by the PIU (IB) in close collaboration with WB.

TABLE 6. ROLES AND RESPONSIBILITIES

	Municipalities	Iller Bank	World Bank
Financial Roles	Requestor	Financial intermediary	Main finance source
Application Process	Submit Demand Based Applications	Review / Analyze the applications in order to provide information to World Bank	Concur the final selection of eight participating municipalities.
Preparation Process	Welcome and apply the relevant laws and regulations that are introduced by World Bank through Iller Bank	Coordinate the selected municipalities to ensure all the relevant rules and regulations will be adopted throughout the project Organize internal working structure for the investment options	Assist Iller Bank in Developing Performance and Monitoring Database system during the preparation phase Provide technical guide for Iller Bank
Number of Staff	One Social and One Environmental Expert	Structure of the team will be defined by IB	Assist Iller Bank in establishing monitoring team.
Project Roles	Preparation of ESIA, ESMP and Grievance Mechanism	The main responsible for monitoring ESIA, ESMP and Grievance process	Overall review of the project development stages
	Tendering all the project works and consulting services	Supervise and monitor the whole process to ensure the proper application of the World Bank's environmental and social safeguard policies are applied.	Review of incoming reports to see the Bank standards are in progress

11. ENVIRONMENTAL AND SOCIAL MONITORING AND GRIEVANCE MECHANISM

Environmental and Social Monitoring

The environmental and social issues included within the mitigation measures are monitored and supervised by the appointed specialists through Iller Bank. Although the environmental and social impacts are expected to be quite low, the potential negative environmental impacts are planned to be prevented or mitigated during the construction and operation stages.

The Environmental Monitoring System will cover the following,

- General Environment

- Air Emissions
- Soil
- Surface water and groundwater
- Biodiversity
- Noise and dust emissions
- Social Monitoring

Environmental and social monitoring system starts from the implementation phase of the project thorough the operation phase in order to prevent negative impacts of the project and observe the effectiveness of mitigation measures. This system abeles the WB and the borrower to evaluate the success of mitigation as part of project supervision, and allows to take an action when needed.

The monitoring system provides,

- Technical assistance and supervision when needed,
- Early detection of conditions related to particular mitigation measures,
- Follow up on mitigation results,
- Provide information of the project progress.

Grievance Mechanism

The Grievance Mechanism is a process that enables any stakeholder to make a complaint or a suggestion about the way a project is being planned, constructed or implemented. The municipality will establish a transparent and comprehensive Grievance Mechanism before the implementation of the project in order to receive and resolve the affected communities concerns, queries, complaints and grievances about the environmental and social aspects of the project.

Some forms public of announcements for the establishment of Grievance Mechanism includes,

- Distribution of leaflets to the public places
- Notice Boards
- Website
- Telecommunication Tools
- Public Meetings

The Grievance Mechanism[8] (sometimes also called Grievance Procedure) will be prepared according to existing EIA and WB policies, procedures, laws and regulations.

Although there is no obligation, a Public Grievance Form has been prepared for convenience. The selected municipalities will collect all the complaints and concerns through the White Table system to achieve and attempt to solve or mitigate related issues within a reasonable timeframe. The municipalities should report the statistics of grievances to the Iller Bank and seek for assistance if the issue was not solved or mitigated by the municipal departments.

A sample of Grievance Form is shown in Appendix 5 and Grievance Closeout Form is shown in Appendix 5 A.

The White Table System

All municipalities adopted a service called *Beyaz Masa*, which means “White Table” in Turkey to collect feedback from citizens. This municipal department was established to collect all the complaints and requests of the local residents and aims to provide possible solutions within the municipal structure for the requested concerns.

[8] Municipalities establish the Grievances Mechanism through the White Table system

Although the White Table system is not considered as a grievance mechanism, it is still acknowledged as a general complaint mechanism that the municipalities adopted within their structure. Therefore, the White Table system can be either proceeded as the actual or additional complaint mechanism for the selected projects since the selected projects are already within the municipality structure.

Citizens can access the White Table by calling the Call Center (Alo 153), internet page or in person. There will be a tracking number given for the each comment / complaint that allows to follow up the status of the report. Alo 153 Call Center intends to provide better quality assistance and faster solutions for concerned residents through the White Table solutions team. There is also an internet page of municipalities which includes a White Table section that allows the residents to contact public relations experts electronically. Also, the residents can apply their requests in person for an instant solution.

Although the White Table system provides data management through the feedback of the citizens, the system is currently not in a sufficient stage. The system only run within the specific organizational barriers which sometimes disables the citizen's concern or comment to be addressed directly. Therefore, this system needs in-depth sensitivity to make sure all the problems in the city gets addressed by the responsible institution.

ANNEX 1. SUBPROJECT CHECKLISTS[9]

Annex 1A. Check List for Water Treatment and Supply

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• Damage to soil structure due to material storage, construction traffic, etc. • Loss of topsoil during excavation or disposal of construction materials • Effects of excavation for/disposal of soil and other materials • Erosion due to uncontrolled surface run-off and wastewater discharge • Damage to land during construction • Landslips on embankments or hillsides	• Protect non-construction areas, avoid work in sensitive areas during highly adverse conditions, provide temporary haul roads as appropriate, restore damaged areas • Design works to minimize land affected • Strip topsoil where necessary, store and replace post construction • Design drainage and other disposal facilities to ensure soil stability and appropriate treatment • Design slopes & retaining structures to minimize risk, provide appropriate drainage, soil stabilization/vegetation cover • Take/dispose of materials from/at approved sites

[9] The checklists contained in this annex point out main impacts and mitigation measures, but are not meant to be exhaustive in their coverage. Impact assessment and mitigation planning has to be tailored to each individual subproject. Furthermore, not all of the issues identified in this Annex may apply to all subprojects. In particular, rehabilitation subprojects may entail only some of the issues.

Environmental Component	Possible Impacts	Mitigation Measures
Water Resources[10]	• Over-exploitation, causing changes in resources, flow patterns, etc., with possible impact on downstream users/ users elsewhere (if groundwater) • Interruption of surface and underground drainage patterns during and post construction, creation of standing water. • Contamination/pollution of resource and/or supply by construction, human and animal wastes, including fuel & oil, hazardous wastes, wastewater, etc. • Storage/handling of treatment chemicals (esp chlorine),	• Determine sustainable use/yield (test as required) • Resource planning and management, in conjunction with authorities & communities • Careful design - maintain natural drainage where possible, provide suitable wastewater drainage, safe/sanitary disposal of hazardous wastes • Careful design, adequate protection from/control of livestock; agriculture, casual human contact, hazardous materials - fuel (including storage), etc. • Ensuring chlorinated water is treated with anti-corrosion chemicals, and disposal of material from cleaning of screens and pipes.

[10] As per OP 7.50 on International Waterways, IB commits itself not to carry out any water supply subproject that involves new water extraction in basins connected with an international waterway (see Box 2 in main text). Hence issues related to extraction of water apply only to subprojects that are not connected with an international waterway.

Environmental Component	Possible Impacts	Mitigation Measures
Air Quality	• Dust and fumes during construction • Impacts from water treatment	• Control dust with water, control construction methods and plant, timing of works, vehicle speeds • Minimize major works inside communities • Appropriate design, training in O&M, safety
Acoustic Environment	• Noise disturbance from construction works, pump stations (if near house/s)	• Time work to minimize disturbance • Use appropriate construction methods & equipment • Restrict through-traffic in residential areas • Careful siting and/or design of plant, provide noise barriers e.g. embankments of waste soil
Biological Environment		
Natural Habitats	• Disturbance of natural habitats from construction, e.g. dust, noise, un-seasonal working, poor siting of new works, disposal of untreated wastes, etc. • Changes in water resources regime	• Careful siting, alignment, design of pipelines and structures, and/or timing of works (seasonal) • Select disposal areas and methods carefully Protect sensitive areas within/close to site • Ensure compliance with minimum seasonal flow requirements

Environmental Component	Possible Impacts	Mitigation Measures
Fauna and Flora	• Loss or degradation during and post construction, especially due to un-seasonal working, changes in environment regimes, etc. (see also above)	• Careful siting, alignment and/or design to minimize impacts, especially for any sensitive/rare species • Select appropriate construction methods • Protect sensitive areas within/close to site

Environmental Component	Possible Impacts	Mitigation Measures
Social Environment		
Grievances	• Concerns and complaints of affected communities	• Consultation on risks and adverse impacts of the project and create opportunities to receive affected communities view on project • Establishment of grievance mechanism to collect and facilitate resolution of affected communities concerns and grievances regarding of the client's environmental and social performance. • Transparent public disclosure to inform each phase of the project through web-site, notice boards, telecommunication tools and public meetings. • Establishing well designed and structured public questionnaire to receive feedback from affected communities
Aesthetics and Landscape	• Local visual impact of completed works and some intrusions into general manmade and natural landscape, loss of trees, vegetation, etc. • Noise, dust, wastes, etc., during and post construction	• Careful siting and design of works, screening of intrusive items • Replace lost trees, boundary structures, etc., re-vegetate work areas • Careful de-commissioning of construction areas and disposal of wastes • See also Soil, Land, Air Quality and Acoustic

Environmental Component	Possible Impacts	Mitigation Measures
Human Health	• Health and safety hazards during and post construction • Health impacts and diseases from hazardous construction materials wastes, contaminated water, improper water treatment	• Appoint experienced contractors. Incorporate safety and environmental requirements in contract documents. Provide information on mitigating measures. Capacity building to emphasize need for safe working, good supervision, careful planning and scheduling of work activities, involve communities, fence hazardous areas • Correct design and adequate training in O&M of plant, safety procedures, water testing, etc. • Correct disposal of waste
Land Acquisition	• To Cause a physical/economical displacement.	• Identfy the land owners and users and prepare Resettlement Action Plan.
Historical / Cultural Sites	• Disturbance/damage/degradation to known and undiscovered sites	• Careful siting/alignment of works; special measures to project known resources/areas • Immediately halt work in vicinity of discoveries, pending instructions from relevant authorities

Annex 1B. Check List for Sewerage and Wastewater Treatment

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• Damage to soil structure due to material storage, construction traffic, etc. • Loss of topsoil during excavation or disposal of construction materials • Erosion due to uncontrolled surface run-off and wastewater discharge • Pollution at discharge point, possibly leading to groundwater pollution • Landslips on embankments, hillsides, etc.	• Protect non-construction areas, avoid work in sensitive areas during highly adverse conditions, provide temporary haul roads as appropriate, restore damaged areas • Design works to minimize land affected • Strip topsoil where necessary, store and replace post construction • Design drainage and other disposal facilities to ensure soil stability and appropriate treatment • Design slopes & retaining structures to minimize risk, provide appropriate drainage, soil stabilization/vegetation cover. • Carefull site selection of discharge location; not to choose the areas has contamination risk for groundwater pollution. • Use of gasket for sewage collection system. • Take/dispose of materials from/at approved sites

Environmental Component	Possible Impacts	Mitigation Measures
Water Resources	• Changes in regime from excavation for/disposal of soil, waste materials, etc. • Contamination/pollution from construction, human and animal wastes, including fuel & oil, hazardous wastes, wastewater and sewage – especially from discharge if not connected to existing sewer. • Eutrophication of surface water leading to habit changes	• Store hazardous materials and wastes carefully, provide suitable wastewater drainage and safe waste disposal • Select appropriate technology for wastewater treatment to minimize pollution, especially in sensitive locations, e.g. close to drinking water source, and operate and maintain correctly/ according to agree discharge standards provide O&M training • Site treatment works appropriately, or incorporate into larger wastewater systems, provide any treatment necessary to meet required standards, plus training

Environmental Component	Possible Impacts	Mitigation Measures
Air Quality	• Dust and fumes during construction • Hazardous gases in manholes and during disinfection (if chlorine gas) • Odor problem.	• Control dust with water • Control construction methods and plant, timing of works • Restrict vehicle speeds in residential areas • Appropriate design • Proper operation, monitoring system in place • Performance control of aeration units for odor control. • Shorter sludge storage time for eliminating odor.
Acoustic Environment	• Noise disturbance from construction works and traffic	• Time work to minimize disturbance • Use appropriate construction methods & equipment • Restrict vehicle speeds in residential areas, especially trucks
Biological Environment		
Natural Habitats	• Disturbance or loss of natural habitats and disturbance of protected areas, during and post construction • Changes due to eutrophication of surface water	• Careful siting/design of structures and/or timing of works (seasonal) • Select disposal areas and methods carefully, Protect sensitive areas within/close to site

Environmental Component	Possible Impacts	Mitigation Measures
Fauna and Flora	• Disturbance or loss, especially aquatic animals and vegetation from eutrophication of surface water, (effect of water pollution)	• Careful siting, alignment and/or design to minimize impacts, especially for any sensitive/rare species • Select appropriate construction methods • Protect sensitive areas within/close to site • Abatement of pollution by a proper effluent treatment and disposal.

Environmental Component	Possible Impacts	Mitigation Measures
Social Environment		
Grievances	• Concerns and complaints of affected communities	• Consultation on risks and adverse impacts of the project and create opportunities to receive affected communities view on project • Establishment of grievance mechanism to collect and facilitate resolution of affected communities concerns and grievances regarding of the client's environmental and social performance. • Transparent public disclosure to inform each phase of the project through web-site, notice boards, telecommunication tools and public meetings. • Establishing well designed and structured public questionnaire to receive feedback from affected communities

Environmental Component	Possible Impacts	Mitigation Measures
Aesthetics and Landscape	• Local visual impact of completed works and some intrusions in general manmade and natural landscape, loss of trees, vegetation, etc. • Noise, dust, wastes, etc., during and post construction • Unpleasant odors from treatment facility, disposal point and/or polluted water course	• Careful siting and design of works, screening of intrusive items • Replace lost trees, boundary structures, etc., re-vegetate work areas • Careful de-commissioning and reinstatement of construction areas, and disposal of wastes during and post construction, including proper O&M of treatment facility and training in both • See also Soil, Land, Air Quality and Acoustic
Human Health	• Health and safety hazards during and post construction • Health impacts from hazardous construction materials and untreated wastes	• Appoint experienced contractors. Incorporate safety and environmental requirements in contract documents. Provide information on mitigating measures. Capacity building to emphasize need for safe working, good supervision, careful planning and scheduling of work and O&M activities, involve communities, fence hazardous areas • Careful siting and design of works • Correct disposal of wastes, based on selection of most appropriate technology; training in O&M operation and maintenance plans

Environmental Component	Possible Impacts	Mitigation Measures
Human Communities	• Impacts may be concentrated downstream in other communities	• ~~Adequate treatment prior to discharge~~ • Prepare Emergency Respose Plan regarding operational failures and incidents. Plan should consider downstream impact of failure. • Adequate consultation of potentially affected communities
Land Acquisition	• To cause a physical/economical displacement.	• Identfy the land owners and users and prepare Resettlement Action Plan.
Historical / Cultural Sites	• Disturbance/damage/degradation to known and undiscovered sites	• Careful siting/alignment of works; special measures to project known resources/areas • Immediately halt work in vicinity of discoveries, pending instructions from relevant authorities

Annex 1C. Checklist for Solid Waste Landfills

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• Damage to soil structure due to material storage, construction traffic, etc. • Loss of topsoil during excavation • Effects of excavation for/disposal of soil and other materials • Erosion due to uncontrolled surface run-off and wastewater discharge • Damage to land during construction • Landslips on embankments, hillsides, etc. • Contamination of lower layers of soil	• Protect non-construction areas, avoid work in sensitive areas during highly adverse conditions, provide temporary haul roads as appropriate, restore damaged areas • Design works to minimize land affected • Design slopes & retaining structures to minimize risk, provide appropriate drainage, soil stabilization/vegetation cover • Strip topsoil where necessary, store and replace post construction • Design drainage and other disposal facilities to ensure soil stability • Take/dispose of materials from/at approved sites • Select sites with impermeable soils layers/ use impermeable base material

Environmental Component	Possible Impacts	Mitigation Measures
Water Resources	• Interruption of surface and underground drainage patterns during and post construction, creation of standing water • Contamination/pollution of resource by construction, human and animal wastes, including fuel & oil, hazardous wastes, wastewater, • Contamination of groundwater by leachate.	• Careful design - maintain natural drainage where possible, provide suitable wastewater drainage, safe/sanitary disposal of hazardous wastes • Careful design, adequate protection from/control of livestock; agriculture, casual human contact, hazardous materials - fuel (including storage) • Select sites with impermeable soils layers and no hydrologic connections (such as fractures in rock and inadequate casing and seals on wells) ; use impermeable base materials
Air Quality	• Dust, vehicle exhaust and fumes during construction • Landfill gas, odor	• Control dust with water, control construction methods and plant, timing of works, vehicle speeds • Appropriate design, training in O&M, safety • Landfill gas collection, landfill organization in small well-defined cells, daily covering of waste and other modern operational techniques

Environmental Component	Possible Impacts	Mitigation Measures
Acoustic Environment	• Construction noise, vibrations from landfill development	• Time work to minimize disturbance • Use appropriate construction methods & equipment • Restrict through-traffic in residential areas • Careful siting and/or design of plant, provide noise barriers e.g. embankments of waste soil
Biological Environment		
Natural Habitats	• Disturbance of natural habitats from construction, e.g. dust, noise, poor siting	• Careful siting, alignment, timing of works • Protect sensitive areas within/close to site
Fauna and Flora	• Loss or degradation during and post construction, especially due to un-seasonal working, changes in environment regimes, (see also above)	• Careful siting, alignment and/or design to minimize impacts, especially for any sensitive/rare species • Select appropriate construction methods • Protect sensitive areas within/close to site

Environmental Component	Possible Impacts	Mitigation Measures
Social Environment		
Grievances	• Concerns and complaints of affected communities	• Consultation on risks and adverse impacts of the project and create opportunities to receive affected communities view on project • Establishment of grievance mechanism to collect and facilitate resolution of affected communities concerns and grievances regarding of the client's environmental and social performance. • Transparent public disclosure to inform each phase of the project through web-site, notice boards, telecommunication tools and public meetings. • Establishing well designed and structured public questionnaire to receive feedback from affected communities

Environmental Component	Possible Impacts	Mitigation Measures
Aesthetics and Landscape	• Local visual impact of completed works and some intrusions into general manmade and natural landscape, loss of trees, vegetation, etc. • Noise, dust, wastes, etc., during and post construction • Windblown litter	• Careful siting and design of works, screening of intrusive items • Replace lost trees, boundary structures, etc., re-vegetate work areas • Careful decommissioning of construction areas and disposal of wastes • Careful site selection, waste compaction and daily application of cover • See also Soil, Land, Air Quality and Acoustic

Environmental Component	Possible Impacts	Mitigation Measures
Human Health	• Health and safety hazards during and post construction • Health impacts and diseases from hazardous construction materials wastes and from exposure to / handling of landfilled waste • Explosion of landfill	• Appoint experienced contractors. Incorporate safety and environmental requirements in contract documents. Provide information on mitigating measures. Capacity building to emphasize need for safe working, good supervision, careful planning and scheduling of work activities, involve communities, fence hazardous areas • Correct design and adequate training in O&M of plant, safety procedures, etc. • Strict control of entry and exit into landfill; control of vermin, insects and birds by compaction of deposited waste, use of daily cover and adoption of cellular filling; provision of first aid facilities; strict use of protective clothing and gear for landfill workers; regular health check for personnel; • Collection of landfill gas
Land Aquisition	• To cause a physical/economical displacement.	• Identfy the land owners and users and prepare LARPF.

Environmental Component	Possible Impacts	Mitigation Measures
Historical / Cultural Sites	• Disturbance/damage/degradation to known and undiscovered sites	• Careful siting/alignment of works; special measures to project known resources/areas • Immediately halt work in vicinity of discoveries, pending instructions from relevant authorities

Annex 1D. Checklist for Urban Transport

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• Damage to soil structure due to material storage, construction traffic, etc. • Loss of topsoil during construction of railroads, etc. • Effects of excavation for/disposal of soil and other materials • Erosion due to uncontrolled surface run-off.	• Protect non-construction areas, avoid work in sensitive areas during highly adverse conditions, provide temporary haul roads as appropriate, restore damaged areas • Design works to minimize land affected • Strip topsoil where necessary, store and replace post construction • Take/dispose of materials from/at approved sites
Air Quality	• Dust and fumes during construction	• Control dust with water, control construction methods and plant, timing of works, vehicle speeds • Minimize major works inside communities • Appropriate design, training in O&M, safety

Environmental Component	Possible Impacts	Mitigation Measures
Acoustic Environment	• Noise disturbance from construction works, • Noise generated during operation	• Time work to minimize disturbance • Use appropriate construction methods & equipment
Biological Environment		
Natural Habitats	• N/A	• N/A
Fauna and Flora	• N/A	• N/A

Environmental Component	Possible Impacts	Mitigation Measures
Social Environment		
Grievances	• Increased traffic and transport activities passing in the project area. • Concerns and complaints of affected communities	• Traffic / Transport Management Plan to be prepared and implemented to minimize likely negative effects. • Consultation on risks and adverse impacts of the project and create opportunities to receive affected communities view on project • Establishment of grievance mechanism to collect and facilitate resolution of affected communities concerns and grievances regarding of the client's environmental and social performance. • Transparent public disclosure to inform each phase of the project through web-site, notice boards, telecommunication tools and public meetings. • Establishing well designed and structured public questionnaire to receive feedback from affected communities

Environmental Component	Possible Impacts	Mitigation Measures
Aesthetics and Landscape	• Local visual impact of completed works and some intrusions into general manmade and natural landscape, loss of trees, vegetation, etc. • Noise, dust, wastes, etc., during and post construction	• Careful siting and design of works, screening of intrusive items • Replace lost trees, boundary structures, etc., re-vegetate work areas • Careful de-commissioning of construction areas and disposal of wastes • See also Soil, Land, Air Quality and Acoustic

Environmental Component	Possible Impacts	Mitigation Measures
Human Health	• Health and safety hazards during and post construction •	• Appoint experienced contractors. Incorporate safety and environmental requirements in contract documents. Provide information on mitigating measures. Capacity building to emphasize need for safe working, good supervision, careful planning and scheduling of work activities, involve communities, fence hazardous areas • Correct design and adequate training in O&M of the system, safety procedures, etc. • Correct disposal of waste
Land Aquisition	• To cause a physical/economical displacement.	• Identfy the land owners and users and prepare Resettlement Action Plan.

Environmental Component	Possible Impacts	Mitigation Measures
Historical / Cultural Sites	• Disturbance/damage/degradation to known and undiscovered sites	• Careful siting/alignment of works; special measures to project known resources/areas • Immediately halt work in vicinity of discoveries, pending instructions from relevant authorities

Annex 1E. Checklist for Energy Efficiency

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• N/A	• N/A
Air Quality	• N/A	• N/A
Acoustic Environment	• Noise disturbance from construction works.	• Time work to minimize disturbance • Use appropriate construction methods & equipment

Environmental Component	Possible Impacts	Mitigation Measures
Biological Environment		
Natural Habitats	• No impact.	• N/A
Fauna and Flora	• No impact	• N/A
Social Environment		
Social Components	• N/A	• N/A
Aesthetics and Landscape	• N/A	• N/A
Human Health	• Health risks posed by hazardous substances.	• Use of substances non-hazardous to health. • Replacement, storage and dispose of hazardous substances (i.e. halogens, heavy metal containing lams, asbestos containing materials etc.)
Historical / Cultural Sites	• Visual destruction. • Un-esthetic application.	• Involvement of Cultural Heritage expert during planning and application phases.

Annex 1F. Checklist for Renewable energy (including associated infrastructure)

Environmental Component	Possible Impacts	Mitigation Measures
Physical Environment		
Soils and Land	• Damage to soil structure due to material storage, construction traffic, etc. • Loss of topsoil during excavation • Effects of excavation for/disposal of soil and other materials • Erosion due to uncontrolled surface run-off and wastewater discharge • Damage to land during construction • Landslips on embankments, hillsides, etc.	• Protect non-construction areas, avoid work in sensitive areas during highly adverse conditions, provide temporary haul roads as appropriate, restore damaged areas • Design works to minimize land affected • Design slopes & retaining structures to minimize risk, provide appropriate drainage, soil stabilization/vegetation cover • Strip topsoil where necessary, store and replace post construction • Design drainage and other disposal facilities to ensure soil stability • Take/dispose of materials from/at approved sites

Environmental Component	Possible Impacts	Mitigation Measures
Water resources	• Interruption of surface and underground drainage patterns during and post construction, creation of standing water. • Contamination/pollution of resource and/or supply by construction, human and animal wastes, including fuel & oil, hazardous wastes, wastewater, etc. • Dangers of flow variation for downstream population (dams)	• Store hazardous materials and wastes carefully, provide suitable wastewater drainage and safe waste disposal • Determine sustainable use/yield (test as required) • Resource planning and management, in conjunction with authorities & communities • Careful design - maintain natural drainage where possible, provide suitable wastewater drainage, safe/sanitary disposal of hazardous wastes • Careful design, adequate protection from/control of livestock; agriculture, casual human contact, hazardous materials - fuel (including storage), etc.
Air Quality	• Dust, vehicle exhaust and fumes during construction • Landfill gas, odor, fuel gas	• Control dust with water, control construction methods and plant, timing of works, vehicle speeds • Appropriate design, training in O&M, safety • Proper operation, monitoring system in place
Acoustic Environment	• Noise disturbance from construction works. • Noise from wind farms	• Time work to minimize disturbance • Use appropriate construction methods & equipment • Minimum distance with buildings for the wind farms • Careful siting and/or design of plants and infrastructures, provide noise barriers e.g. embankments of waste soil

Environmental Component	Possible Impacts	Mitigation Measures
Biological Environment		
Natural Habitats	• Disturbance of natural habitats from construction, e.g. dust, noise, un-seasonal working, poor siting of new works, disposal of untreated wastes, etc. • Changes due to modification of the water quality (dam) • Diminution of natural habitat surface / protected areas (wetland, mangrove, estuarine, primary forest, special area for protecting biodiversity) • Creation of barriers for migratory animals	• Careful siting, alignment, design of pipelines and structures, and/or timing of works (seasonal) • Select disposal areas and methods carefully Protect sensitive areas within/close to site • Ensure compliance with minimum seasonal flow requirements • Selection of the site, protection of sensitive areas within / close to site • List of exclusion (protected areas)
Fauna and Flora	• Loss or degradation during and post construction, especially due to un-seasonal working, changes in environment regimes, etc. (see also above) • Loss during reservoir impoundment • Disturbance or loss, especially aquatic animals and vegetation from eutrophication of surface water, (effect of water pollution) • Danger for the birds and bats (wind farms / electric lines) • Decline or changes in fisheries (dam) • Facilitation of access to protected areas by new roads or transmission line corridor	• Careful siting, alignment and/or design to minimize impacts, especially for any sensitive/rare species • Select appropriate construction methods • Selection of the site, protection of sensitive areas within/close to site • Select appropriate technology for the bird protection

Environmental Component	Possible Impacts	Mitigation Measures
Social Environment		
Social Components	• Increased traffic and transport activities passing in the project area. • Concerns and complaints of affected communities • Resettlement • Pressure on local resources • Disturbance during works due to workers massive influx • Disproportionate impacts on the poor, vulnerable, women, children, indigenous people) • Cumulative impact • Disruption of radar or telecommunications from interference	• Traffic / Transport Management Plan and Code of Conduct to be prepared and implemented to minimize likely negative effects. • Consultation on risks and adverse impacts of the project and create opportunities to receive affected communities view on project • Establishment of grievance mechanism to collect and facilitate resolution of affected communities concerns and grievances regarding of the client's environmental and social performance. • Transparent public disclosure to inform each phase of the project through web-site, notice boards, telecommunication tools and public meetings. • Establishing well designed and structured public questionnaire to receive feedback from affected communities • List of exclusion (resettlement)
Aesthetics and Landscape	• Local visual impact of completed works and some intrusions into general manmade and natural landscape, loss of trees, vegetation, etc. • Noise, dust, wastes, etc., during and post construction • Windblown litter	• Careful siting and design of works, screening of intrusive items • Replace lost trees, boundary structures, etc., re-vegetate work areas • Careful decommissioning of construction areas and disposal of wastes • Careful site selection, waste compaction and daily application of cover • See also Soil, Land, Air Quality and Acoustic

Environmental Component	Possible Impacts	Mitigation Measures
Human Health	• Health and safety hazards during and post construction (poor sanitation and solid waste during construction at camps and work site, possible risks of STD transmission from workers to local population) • Health impacts and diseases from hazardous construction materials wastes, contaminated water, improper water treatment • Health risks posed by hazardous substances. • Impacts may be concentrated downstream in other communities (dams) • Creation of temporary breeding habitat for insects • Risk due to the reservoir regulation	• Appoint experienced contractors. Incorporate safety and environmental requirements in contract documents. Provide information on mitigating measures. Capacity building to emphasize need for safe working, good supervision, careful planning and scheduling of work activities, involve communities, fence hazardous areas. • Correct disposal of waste (especially management of old solar panels) • Correct design and adequate training in O&M of the system, safety procedures, etc. • Use of substances non hazardous to health. • Replacement, storage and disposal of hazardous substances (ie. halogens, heavy metal containing lams, asbestos containing materials etc.) • Adequate treatment prior to discharge • Adequate consultation of potentially affected communities
Land Acquisition	• To cause a physical/economical displacement.	• Identfy the land owners and users and prepare Resettlement Action Plan.

Environmental Component	Possible Impacts	Mitigation Measures
Historical / Cultural Sites	• Disturbance/damage/degradation to known and undiscovered sites • Flooding of holy sites (dams)	• Careful siting/alignment of works; special measures to project known resources/areas • Immediately halt work in vicinity of discoveries, pending instructions from relevant authorities • Involvement of Cultural Heritage expert during planning and application phases.

Annex 2. SUGGESTED FORMATS

Annex 2A. Environmental Impact Assessment Report for a Category A Project

An Environmental Impact Assessment (EIA) report for a Category A project focuses on the significant environmental issues of a project. The report's scope and level of detail should be commensurate with the project's potential impacts. The report and the executive summary submitted to the Bank are prepared in English.

The EA report should include the following items (not necessarily in the order shown):

(a) *Executive summary*. Concisely discusses significant findings and recommended actions.

(b) *Policy, legal, and administrative framework*. Discusses the policy, legal, and administrative framework within which the EA is carried out. Explains the environmental requirements of any cofinanciers. Identifies relevant international environmental agreements to which the country is a party.

(c) *Project description*. Concisely describes the proposed project and its geographic, ecological, social, and temporal context, including any supporting infrastructure that may be required (e.g., dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities). Indicates the need for any resettlement plan or indigenous peoples development plan (see also subpara. (h)(v) below). Normally includes a map showing the project site and the project's area of influence.

(d) *Baseline data*. Assesses the dimensions of the study area and describes relevant physical, biological, and, socioeconomic conditions, including any changes anticipated before the project commences. Also takes into account current and proposed development activities within the project area but not directly connected to the project. Data should be relevant to decisions about project location, design, operation, or mitigatory measures. The section indicates the accuracy, reliability, and sources of the data.

(e) *Environmental impacts*. Predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. Identifies mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental enhancement. Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention.

(f) *Analysis of alternatives*. Systematically compares feasible alternatives to the proposed project site, technology, design, and operation--including the "without project" situation--in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible. States the basis for selecting the particular project design proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

(g) *Environmental and Social Management Plan (ESMP)*. Covers mitigation measures, monitoring, and institutional strengthening;.

(h) *Appendixes*

(i) List of EA report preparers--individuals and organizations.

(ii) References--written materials both published and unpublished, used in study preparation.

(iii) Record of interagency and consultation meetings, including consultations for obtaining the informed views of the affected people and local nongovernmental organizations (NGOs). The record specifies any means other than consultations (e.g., surveys) that were used to obtain the views of affected groups and local NGOs.

(iv) Tables presenting the relevant data referred to or summarized in the main text.

(v) List of associated reports (e.g., resettlement plan or indigenous peoples development plan).

Annex 2B. Environmental Management Plan

(a) Responsible Party: The authors who prepared the ESMP along with the date of preparation.

(b) Project Description: Present a brief description of the subproject. Include the nature of the investment, the location, and any characteristics of the area that are of particular interest (e.g. near a protected area, area of cultural or historical interest). Also, include a brief description of the socio-economic conditions in the area. One or more simple maps showing project location and relevant neighboring features should be included unless there is compelling reason not to.

(c) Mitigation Plan: This should include a description of the steps to be taken to mitigate the major potential impacts on land, water, air and other media during the planning, design, construction and operation phases and specify cost estimates and institutional responsibilities. Particular attention should be paid to the specification of emission limits (e.g. for wastewater discharge) and design standards (e.g. for solid waste disposal sites) and how these compare to Turkish laws (which at a minimum must be met) and any other relevant guidelines such as those in directives of the European Union or limits suggested by the World Bank Pollution Prevention and Abatement Handbook (1998) or other relevant international norms. Attachment 1 to this Annex provides the format for a mitigation plan.

(d) Monitoring Plan: This should include a description of the key parameters to be monitored (including monitoring locations, schedules and responsible entities) to ensure that the construction and operation of the project is in conformance with Turkish law and other relevant norms and standards. If such details are covered by permits or construction or monitoring contracts these can be referenced as attachments. Attachment 2 to this Annex provides the format for a monitoring plan.

(e) Institutional Arrangements: There should be a narrative discussion briefly presenting how the monitoring data is going to be used for sound environmental performance - who collects the data, who analyzes it, who prepares reports, who are the reports sent to and how often, what is done by the responsible authorities after they receive the information; and how is non-compliance with the ESMP treated.

(f) Consultations with Affected Groups and Non-governmental Organizations: The following should be included:

- Date(s) of consultation(s);
- Location of consultation(s);
- Details on attendees (as appropriate)

Annex 2. Suggested Formats

- Meeting Program/Schedule: What is to be presented and by whom;
- Summary Meeting Minutes (Comments, Questions and Response by Presenters)
- Agreed actions.

Annex 2. Suggested Formats for ESMPs

Attachment 1 to Annex 2B

A. MITIGATION PLAN

			Cost to:		Institutional Responsibility to:		Comments (e.g. secondary or cumulative impacts)
Phase	Impact	Mitigating Measure	Install	Operate	Install	Operate	
Pre-construction phase	• • •						
Construction phase	• • •						
Operation phase	• • • .						

Annex 2. Suggested Formats for ESMPs

Decommissioning phase	• • •						

Annex 2. Suggested Formats for ESMPs

Attachment 2 to Annex 2B

B. MONITORING PLAN

						Cost to:		Responsibility to:	
Phase	**What** *parameter is to be monitored?*	**Where** *is to be monitored?*	**How** *is it to be monitored/ type of monitoring equipment?*	**When** *is it to be monitored - frequency or continuous?*	**Why** *is the parameter to be monitored (optional)?*	**Install**	**Operate**	**Install**	**Operate**
Baseline									
Construct									
Operate									

Annex 2. Suggested Formats for ESMPs

Decommission									

Annex 3. SAMPLE ESMP CHECKLISTS[11]

Annex 3 A. Sample ESMP for Water Treatment Plant Construction/Rehabilitation

Annex 3A. Table 1. Main Environmental and Social Impacts due to Water Treatment Plant Construction/Rehabilitation Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic			X
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures		X	
5.	Cultural and Heritage			X
6.	Land Use			X
7.	Air Quality			X
8.	Water Sources and Water Quality	X		
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X

[11] The checklists contained in this annex point out main impacts and mitigation measures, but are not meant to be exhaustive in their coverage. Impact assessment and mitigation planning has to be tailored to each individual subproject. Each subproject will require a site specific EIA, ESMP, partial EA, etc. Furthermore, not all of the issues identified in this Annex may apply to all subprojects.

13.	**Forests and Biodiversity**		X	
14.	**Visual Impact**			X

Annex 3A. Table 2: Mitigation Plan

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Interruptions in transport	Positioning clear warning and information signs around the construction zone. Imposing time constraints (e.g. 7AM to 5 PM) for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Transport safety	Positioning clear warning and information signs around the construction zone. Imposing time constraints for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Dust	Close or cover trucks for the transport of materials. Throwing water on the ground where dust is generated, disposing of excess material and cleaning the location upon the finalization of works. Protective covers or curtains for zone where the largest amounts of dust are generated.		Included in construction costs	Contractor
Construction	Noise and Vibrations	Imposing time constraints for works (works in the course of daytime (e.g. 7AM to 5 PM). Establish schedules and/or other forms of specific limitations for works		Included in construction costs	Contractor
Construction	Exhaust gases from	Imposing time constraints for works (e.g. 7AM to 5		Insignificant	Contractor

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
	equipment/air quality	PM).			
Construction	Spill outs of fuel, lubricant, antifreeze etc. in the course of performance of works may result in the pollution of ground, surface and subterranean water.	Periodic examination of the condition of vehicles and other machinery and equipment used in the course of the performance of works. Compliant warehousing of fuel and lubricant, and in case of a spill out, isolation and cleaning of the location.		Included in construction costs	Contractor
Construction	Damage to trees and vegetation may onset in the course of construction	Minimizing the areas requiring the removal of vegetation, and upon finalization of works, replace/restore removed vegetation. Special measures if needed to avoid damage to protected trees or species.		Included in construction costs	Contractor
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected landfill determined by relevant municipal bodies for utility affairs.		Included in construction costs	Contractor
Construction	There is a possibility of discovering artifacts or other cultural and historical items of value	Discontinuing all works. Contact responsible authorities. Organizing all necessary measures to protect the location. No works to proceed until official notification is received		No costs involved	Contractor
Construction	Periodic interruptions in water supply to neighboring population	Scheduling interruptions in water supply in cooperation with the Water Supply Company and informing the population with the objective of		Included in construction costs	Contractor and Water Supply Company

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
		minimizing the negative effect on the population			
Construction	Excavated and removed material is harmful to environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous (such as, for example, asbestos and cement pipes, pieces of profiles etc)	All non-dangerous waste and excavated material generated in the course of construction has to be deposited in the landfill and in a manner that is not harmful to the environment. Stone, soil and other materials that may be reused shall be utilized in the procedure of project realization. Materials that cannot be used and dangerous waste should be removed in compliance with entity level regulations.		Included in construction costs	Contractor Relevant inspection services
Operations / exploitation	Poor operation may result in inadequate water quality released to the general population	Establish emergency procedures for notification and alerting the public		Included in the operating costs	Operator of the water treatment plant
Operations / exploitation	Environment safety hazards from chlorine storage and use	Establish continuous chlorination control and monitoring, chlorination equipment maintenance procedures, storage procedures, and emergency response procedures. Chlorination plant should have ambient monitoring and locked. Accessible only to authorized staff.		Included in the operating costs	Operator of the water treatment plant
Operations / exploitation	Chlorine and other process chemicals leaks and spills	Establish safe delivery/storage/handling procedures in accordance with material safety data sheets (MSDSs). Immediately contain and cleanup any		Included in the operating costs	Operator of the water treatment plant

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
		spilled material.			
Operations / exploitation	Process sludge (filtration and flocculation processes) and wastewaters from equipment cleaning	Sludge to be disposed in site approved by municipality. Wastewaters discharged into municipal wastewater collection system		Included in the operating costs	Operator of the water treatment plant

Annex 3A. Table 3. Monitoring Plan

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Interruptions of transport, transport safety	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Dust generation	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Unpleasant effects of noise, vibration and exhaust gasses	On the location and around the location	By listening, complaints of the population in the vicinity and workers	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Spill outs of fuel, lubricant, antifreeze etc	Below and around the place where materials are stored and used. Near the vehicles and around the vehicles	Visual examination to determine the spill out	On the daily basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Reductions in air quality levels by emissions from mechanization	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of workers and the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Removal of vegetation and subsequent replanting of the area	On the location and around the location	Visually in the course of works, examination and photographing before and after the works	Before and after the works on construction	Included in construction costs	Contractor, Regulatory body
Construction	Changes on the ground, erosion, as a consequence of excavation and depositing of materials	On the location	Visually, geotechnical examinations	Before the initiation of works and in the course	Included in construction costs	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
				of works		
Construction	Discovery of artifacts and other items of cultural and historical value	On the location and around the location	Visually in the course of works, minutes from construction site	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body
Construction	Periodic interruptions in water supply	On the location and throughout the water supply system	Public information, on the basis of minutes.	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body, Water Supply Company
Construction	Excavated and removed material disposal practices. Especially if the material or waste is dangerous or might be dangerous (such as asbestos and cement pipes)	Demolition/ removal site, disposal site,	Visual at both locations	Weekly	No costs involved	Contractor, Water Supply Company
No costs	Contractor, Water Supply Company	Chlorine storage building	Check operation of chlorine dosing system, satisfactory operation of	Monthly		

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
involved			chlorine ambient monitoring devices			
No costs involved	Contractor, Water Supply Company	Chlorine storage building, Process chemical storage area	Visual	Weekly		
No costs involved	Contractor, Water Supply Company	Filtration and flocculation process areas, disposal sites	Visual	Monthly		

Annex 3B. Sample ESMP for Water Supply Pipeline

Annex 3B. Table 1. Main Environmental and Social Impacts due to Water Supply Pipeline Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures			X
5.	Cultural and Heritage			X
6.	Land Use		X	
7.	Air Quality		X	
8.	Water Sources and Water Quality	X		
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity		X	
14.	Visual İmpact		X	

Annex 3B. Table 2. Mitigation Plan

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Interruptions in transport	Positioning clear warning and information signs around the construction zone. Imposing time constraints (e.g. 7AM to 5 PM) for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Transport safety	Positioning clear warning and information signs around the construction zone. Imposing time constraints for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Dust	Close or cover trucks for the transport of materials. Throwing water on the ground where dust is generated, disposing of excess material and cleaning the location upon the finalization of works. Protective covers or curtains for zone where the largest amounts of dust are generated.		Included in construction costs	Contractor
Construction	Noise and Vibrations	Imposing time constraints for works (works in the course of daytime (e.g. 7AM to 5 PM). Establish schedules and/or other forms of specific limitations for works		Included in construction costs	Contractor
Construction	Exhaust gases from equipment/air quality	Imposing time constraints for works (e.g. 7AM to 5 PM).			Contractor

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
				Insignificant	
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected landfill determined by relevant municipal bodies for utility affairs.		Included in construction costs	Contractor
Construction	There is a possibility of discovering artifacts or other cultural and historical items of value	Discontinuing all works. Contact responsible authorities. Organizing all necessary measures to protect the location. No works to proceed until official notification is received		No costs involved	Contractor
Construction	Periodic interruptions in water supply	Scheduling interruptions in water supply in cooperation with the Water Supply Company and informing the population with the objective of minimizing the negative effect on the population		Included in construction costs	Contractor and Water Supply Company
Operations / exploitation	In the course of exploitation of the pipeline, periodic blockages of the pipes are possible	Continuous control of compliance of the entire water supply system. In the case of a blockage, urgent removal of the causes of the blockage.		Included in maintenance costs	Water Supply Company

Annex 3B. Table 3. Monitoring Plan

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Interruptions of transport, transport safety	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Dust generation	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Unpleasant effects of noise, vibration and exhaust gasses	On the location and around the location	By listening, complaints of the population in the vicinity and workers	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Reductions in air quality levels by emissions from mechanization	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of workers and the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Discovery of artifacts and other items of cultural and historical value	On the location and around the location	Visually in the course of works, minutes from construction site	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Damages to existing subterranean utility installations and devices	On the location and around the location	Visually in the course of works, minutes from construction site	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body Owners of installations, relevant inspection bodies
Construction	Periodic interruptions in water supply	On the location and throughout the water supply system	Public information, on the basis of minutes.	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body, Water Supply Company
Operations / exploitation	Blockage of the pipeline	On the location and around the location	Visually, by continuous control of system operations and reports of the population	Continuously	At the expense of the Water Supply Company	Water Supply Company
Operations / exploitation	Damages to the pipeline	On the location	Visually, by continuous control of system operations and reports of the population	Continuously	At the expense of the person responsible for the damage	Water Supply Company, relevant inspection services and state institutions

Annex 3C. Sample ESMP for Municipal Wastewater Treatment Plant

Annex 3C. Table 1. Main Environmental and Social Impacts due to Municipal Wastewater Treatment Plant

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures		X	
5.	Cultural and Heritage			X
6.	Land Use			X
7.	Air Quality			X
8.	Water Sources and Water Quality			X
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity		X	
14.	Visual İmpact			X

Annex 3C. Table 2. Mitigation Plan

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Construction	Dust	Work sites shall be watered under warm, dry and windy weather conditions. Materials shall be loaded and unloaded with protective screens For trucks, 30 km/hour speed limit shall be set on non-paved roads. Top of the trucks will be covered or watered when transporting dusty material	Minor	CONTRACTOR
Construction	Air Emission (exhaust gases from heavy machinery)	Regular maintenance of heavy machinery. Vehicles will require to demonstrate that emission permit is valid	Minor	CONTRACTOR
Construction	Noise and vibration (Excavation and drilling works)	Local people will be informed one week prior to starting any noisy activities that may cause a temporary disturbance; Regular maintenance of heavy machinery. Construction works carried out during the day time period (07:00-19:00)	No cost implication	CONTRACTOR
Construction	Excavated material	Excavated material will be stored at the Project Site and all of it will be used for backfilling.	Included in the civil works	CONTRACTOR

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Construction	Accidental finding of cultural artifacts	If article or site of cultural significance is accidently uncovered, work will immediately cease, proper authorities notified. Work will only begin again after authorities provide written approval. No articles are to be removed	Minor	CONTRACTOR
Construction	Vegetative top soil	Vegetative top soil of the Projects Site, will be stripped prior to excavation works and will be stored in the construction site away from the other excavations. Topsoil will be used in landscaping.	Included in the civil works	CONTRACTOR
Construction	Construction wastes	Recyclable wastes (metal, wood, paper, glass etc.) will be collected separately and recycled. Remaining part will be transported by licensed trucks and disposed to official disposal sites as approved by the Municipality	Included in the civil works	CONTRACTOR
Construction	Domestic solid waste	Formed where construction sites are established. Wastes will be collected in the closed containers at the Project Site and transported by the Municipality to the waste disposal sites. Domestic solid wastes will be transported to the waste disposal sites by licensed trucks.	Included in the civil works	CONTRACTOR

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Construction	Hazardous Waste (such as fl**u**orescent lamp, asbestos insulation, waste oil, waste batteries and accumulators batteries)	Hazardous wastes will be handled in compliance with regulations (i.e., disposal of these wastes to an approved hazardous waste landfill or collection by a company certified for collection and disposal of hazardous materials).	Included in the civil works	CONTRACTOR
Construction	Domestic wastewater	Formed where construction sites are established. It will be collected in sealed septic tanks that will be constructed in compliance with the regulations and licensed/certified sewage trucks will be employed for transport of sewage from the septic tank to facilities required by the Municipality.	Included in the civil works	CONTRACTOR
Construction	Public health and safety	Construction trucks will maintain a speed limit of 30 km/hour. Warning signals will be installed around the sites where heavy construction facilities are carried out.	Included in the civil works	CONTRACTOR

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Construction	Occupational health and safety	Water will be removed by a drainage system or pumps to prevent accumulation in pits and sludge discharged after settling. Barriers will be used to retain soil in highly sloped excavation areas. Compliance with the relevant Occupational Health and Safety Regulation of Turkey (e.g., use of personal protective equipment and compliance with excavation procedures detailed in the Regulation). Notify relevant local authority within three days of the start of construction works in terms of number of workers, measures being taken, etc.).	Included in the civil works	CONTRACTOR
Operation	Effluent Discharge	Treated water discharge from the WWTP should be comply with the pertinent standard. Additionally, the WTTP should be equipped with monitoring devices stipulated in related regulation	Included in the civil works	CONTRUCTOR/MUNICIPALITY
Operation	Noise and vibration	Noise will be minimized at the source with proper installation of noise barriers and insulation. Employees will be supplied with earplugs.	Included in the operational costs	MUNICIPALITY
Operation	Domestic solid waste	Wastes will be collected in the closed containers at the Project Site and managed by the Municipality.	Included in the operational costs	MUNICIPALITY
Operation	Excess sludge	Excess sludge will be analyzed in accordance with Regulation on Control of Hazardous Wastes, and if suitable, will be used for agricultural purposes as fertilizer	Included in the operational costs	MUNICIPALITY

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Operation	Hazardous Waste (such as fl**u**orescent lamp, asbestos insulation, waste oil, waste batteries and accumulators batteries)	Hazardous wastes will be handled in compliance with regulations (i.e., disposal of these wastes to an approved hazardous waste landfill or collection by a company certified for collection and disposal of hazardous materials).	Included in the operational costs	MUNICIPALITY
Operation	Hazardous Material Use	Hazardous materials such as disinfecting agents (liquefied chlorine, sodium hypochlorite etc.) will be stored in leak-proof containers designed for this designated use. The containers will be stored in locked facilities with limited and authorized access. These facilities will have monitoring and alarm systems installed in case of leaks or spills.		
Operation	Domestic wastewater	Domestic wastewater will be directed to the WWTP and treated and discharged in compliance with effluent standards	Included in the operational costs	MUNICIPALITY
Operation	Odor	Top of the building where odor is generated will be covered. Minimum hourly air circulation rate shall be 6 exchanges for these buildings. Buildings that have low air circulation rate with an odor problem shall be constructed from sulfate-proof concrete.	Included in the operational costs	MUNICIPALITY

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility
Operation	Occupational health and safety	Compliance with the relevant Occupational Health and Safety Regulation of Turkey (including use of personal protective equipment and preparation of an emergency action plan, to be prepared by Contractor and approved by the Municipality prior to the start of the activities, for accidents during maintenance of sewerage and water supply systems).	Included in the operational costs	MUNICIPALITY

Annex 3C. Table 3. Monitoring Plan

Phase	**Which parameters shall be monitored**	**Where shall the parameters be monitored**	**How shall the parameters be monitored**	When shall the parameters be monitored	**Costs**	**Responsibility**
Construction	Dust	Construction site Nearest neighboring sensitive receptor	Site observation	Daily	Included in the civil works	CONTRACTOR
Construction	Air emissions from heavy machineries	Heavy machineries	Check to see that operating permit is valid	Once, prior to allowing equipment onto project site	Included in the civil works	CONTRACTOR

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Noise and vibration (Excavation, drilling and blasting works)	Nearest neighboring sensitive receptor	Noise measurement with a calibrated sound level meter	Monthly and especially during the activities that increase noise levels (measurements should be performed more frequently if there are complaints by the public) Measurements will be repeated if a new facility will be performed that cause an increase in noise level or construction works will be carried out during night time after getting necessary permission.	Included in the civil works	CONTRACTOR

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Excavated material disposal method	Excavation and storage sites	Site observation and document review whether or not disposal area and the method are in accordance with procedures approved by the Municipality.	Daily by construction staff	No cost	CONTRACTOR
Construction	Vegetative top soil conditions (height of the storage-1.5 m at max. and cover over piles)	Excavation and storage sites	Site observation (excavation and soil storage facilities)	Daily by construction staff	No cost	CONTRACTOR
Construction	Sites/artifacts of historical or cultural significance	Excavation site(s)	Observation, assurances that “chance find” procedures are strictly followed	In the event of an accidental discovery	No cost	CONTRACTOR
Construction	Construction waste disposal/recycle method	Construction and storage sites	Site observation of disposal/recycle procedures	Daily by the construction staff	No cost implementation	CONTRACTOR
Construction	Domestic solid waste disposal method	Construction and storage sites	Site observation of disposal procedures	Weekly by the construction staff	Included in the civil works	CONTRACTOR

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Hazardous waste disposal method	Construction and storage sites	Site observation of the hazardous waste disposal site	Weekly monitoring of the hazardous waste disposal site	Included in the civil works	CONTRACTOR
Construction	Domestic wastewater disposal method	Septic tank	Measurement of wastewater level in septic tanks	Daily by the construction staff	No cost implementation	CONTRACTOR
Construction	Public health and safety measures	Excavation and construction site, storage sites	Site observation speed limits are obeyed, worker health and safety equipment (earplugs, goggles, safety shoes etc.) are being worn	Daily by the construction staff	No cost implementation	CONTRACTOR
Operation	Noise and vibration	Nearest neighboring sensible receptor	Noise measurement with a calibrated sound level meter	Monthly measurements (measurements should be performed more frequently depending on the complaint of the public)	Included in the operational costs	MUNICIPALITY
Operation	Domestic solid wastes disposal method	Operation and maintenance sites	Site observation, of disposal procedures	Daily recordings and monthly assessment of the solid wastes generated.	Included in the operational costs	MUNICIPALITY

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Operation	Excess sludge	Treatment plant and excess sludge storage site (if sludge is not hazardous it will be sent to solid waste storage, if hazardous treated in compliance with regulations	Site observation, of sludge storage procedures and facility (non-hazardous) If hazardous site observation of hazardous waste disposal procedures	Once every year (if non-hazardous) Twice a year (if hazardous)	Included in the operational costs	MUNICIPALITY
Operation	Hazardous waste disposal method	Construction and storage sites	Site observation of hazardous waste disposal method	Daily recordings and monthly assessment of the solid wastes generated.	Included in the operational costs	MUNICIPALITY
Operation	Hazardous material use	Hazardous material storage site(s)	Site observation of container conditions, secured access maintained, and monitors are in working order	Every three months	Included in the operational costs	MUNICIPALITY
Operation	Domestic wastewater disposal method	Connection pipes to the WWTP	Site observation	Once, to insure pipe is properly connected	No cost implementation	MUNICIPALITY

Phase	**Which parameters shall be monitored**	**Where shall the parameters be monitored**	**How shall the parameters be monitored**	When shall the parameters be monitored	**Costs**	**Responsibility**
Operation	Odor	At the building where odor generation is expected	Site observation (smell)	Daily by the operational staff	No cost implementation	MUNICIPALITY
Operation	Occupational health and safety measures	Operation site	Site observation of personal safety equipment use by staff	Daily by the operational staff, quarterly audits by environmental consultant	Included in the operational costs	MUNICIPALITY

Annex 3D. ESMP for Sewage Pipeline

Annex 3D. Table 1. Sewage Pipeline Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures			X
5.	Cultural and Heritage			X
6.	Land Use		X	
7.	Air Quality			X
8.	Water Sources and Water Quality		X	
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity		X	
14.	Visual Impact		X	

* Odor problems.

Annex 3D. Table 2. Mitigation Plan

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Interruptions in transport	Positioning clear warning and information signs around the construction zone. Imposing time constraints (e.g. 7AM to 5 PM) for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Transport safety	Positioning clear warning and information signs around the construction zone. Imposing time constraints for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Dust	Close or cover trucks for the transport of materials. Throwing water on the ground where dust is generated, disposing of excess material and cleaning the location upon the finalization of works. Protective covers or curtains for zone where the largest amount of dust is generated.		Included in construction costs	Contractor
Construction	Noise and Vibrations	Imposing time constraints for works (works in the course of daytime (e.g. 7AM to 5 PM). Establish schedules and/or other forms of specific limitations for works		Included in construction costs	Contractor
Construction	Exhaust gases from equipment/air quality	Imposing time constraints for works (e.g. 7AM to 5 PM).		Insignificant	Contractor

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Spill outs of fuel, lubricant, antifreeze etc. in the course of performance of works may result in the pollution of ground, surface and subterranean water.	Periodic examination of the condition of vehicles and other machinery and equipment used in the course of the performance of works. Compliant warehousing of fuel and lubricant, and in case of a spill out, isolation and cleaning of the location.		Included in construction costs	Contractor
Construction	Damage to trees and vegetation may onset in the course of construction	Minimizing the areas requiring the removal of vegetation, and upon finalization of works, replace/restore removed vegetation		Included in construction costs	Contractor
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected land fill determined by relevant municipal bodies for utility affairs.		Included in construction costs	Contractor
Construction	There is a possibility of discovering artifacts or other cultural and historical items of value	Discontinuing all works. Contact responsible authorities. Organizing all necessary measures to protect the location. No works to proceed until official notification is received		No costs involved	Contractor
Construction	Periodic interruptions in water supply	Scheduling interruptions in water supply in cooperation with the Water Supply Company and informing the population with the objective of minimizing the negative effect on the population		Included in construction costs	Contractor and Water Supply Company

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Excavated and removed material is harmful to environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous (such as, for example, asbestos and cement pipes, pieces of profiles etc)	All non-dangerous waste and excavated material generated in the course of construction has to be deposited in the landfill and in a manner that is not harmful to the environment. Stone, soil and other materials that may be reused shall be utilized in the procedure of project realization. Materials that cannot be used and dangerous waste should be removed in compliance with entity level regulations.		Included in construction costs	Contractor Relevant inspection services
Operations / exploitation	In the course of exploitation of the pipeline, periodic blockages of the pipes and spill outs of fecal water to the surface are possible	Continuous control of compliance of the entire sanitation system. In the case of a blockage, urgent removal of the causes of the blockage, cleaning of the pipeline and cleaning and disinfecting the area on which the fecal water had spilled out		Included in maintenance costs	Water supply and Sanitation Company
Operations / exploitation	In the course of exploitation in the parts of the route located in the forest area and on transport facilities damages to the pipeline or damages or theft of cast iron lids from revision inlets may occur, which may cause blockages of the pipeline and spill outs of fecal water to the surface	Continuous supervision over the operations of the sanitation system, urgent removal of the causes of the blockage, cleaning of the pipeline and cleaning and disinfecting the area on which the fecal water had spilled out, sanctioning the person responsible for the damage.		At the expense of the person responsible for the damage	Water supply and Sanitation Company, relevant inspection services and state institutions

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Operations / exploitation	Following the construction of the sewage system and connection of facilities to the sewage system, existing septic tanks that had not been rehabilitated may cause pollution or other effects harmful for the environment.	Eliminating the contents of existing septic tanks in a safe manner, cleaning the tanks and filling them out		At the expense of owners of facilities	Owners of facilities and relevant inspection services

Annex 3D. Table 3. Monitoring Plan

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Interruptions of transport, transport safety	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Dust generation	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Unpleasant effects of noise, vibration and exhaust gasses	On the location and around the location	By listening, complaints of the population in the vicinity and workers	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Spill outs of fuel, lubricant, antifreeze etc.	Below and around the place where materials are stored and used. Near the vehicles and around the vehicles	Visual examination to determine the spill out	On the daily basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Reductions in air quality levels by emissions from mechanization	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of workers and the population in the	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
			vicinity			
Construction	Removal of vegetation and subsequent replanting of the area	On the location and around the location	Visually in the course of works, examination and photographing before and after the works	Before and after the works on construction	Included in construction costs	Contractor, Regulatory body
Construction	Changes on the ground, erosion, as a consequence of excavation and depositing of materials	On the location	Visually, geotechnical examinations	Before the initiation of works and in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Discovery of artifacts and other items of cultural and historical value	On the location and around the location	Visually in the course of works, minutes from construction site	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body
Construction	Damages to existing subterranean utility installations and devices	On the location and around the location	Visually in the course of works, minutes from	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body Owners of installations, relevant

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
			construction site			inspection bodies
Construction	Periodic interruptions in water supply	On the location and throughout the water supply system	Public information, on the basis of minutes.	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body, Water Supply Company
Operations / exploitation	Blockage of the pipeline and spill out of fecal water on the surface	On the location and around the location	Visually, by continuous control of system operations and reports of the population	Continuously	At the expense of the Water Supply Company	Water Supply Company
Operations / exploitation	Damages to the pipeline, damages and theft of lids from shafts	On the location	Visually, by continuous control of system operations and reports of the population	Continuously	At the expense of the person responsible for the damage	Water supply and Sanitation Company, relevant inspection services and state institutions

Annex 3E. Sample ESMP for Solid Waste Landfills

Annex 3E. Table 1. Main Environmental and Social Impacts due to Solid Waste Landfills Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic			X
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures		X	
5.	Cultural and Heritage			X
6.	Land Use			X
7.	Air Quality			X
8.	Water Sources and Water Quality			X
9.	Groundwater Quality			X
10.	Noise			X
11.	Solid Waste	X		
12.	Hazardous Waste			X
13.	Forests and Biodiversity			X
14.	Visual İmpact			X

Annex 3E. Table 2. Mitigation Plan

Phase	Subject	Mitigation Measure	Responsibility
Construction	Excavation wastes	Excavation wastes shall be used in the landfill and road works of municipality as a filler material.	Construction Contractor
Construction	Dust spreading from digging	No more than 3 vehicles shall work at the facility area concurrently. During excavation, surfaces at the site will be sprayed with water.	Construction Contractor
Construction	Dust spreading during transportation of digging	Truck contents shall be covered with canvas and/or sprayed with water.	Construction Contractor
Construction	Dust emission occurring during transportation activities	Road to the facility area shall be paved.	Construction Contractor
Construction	Noise	Construction activities shall be limited from 7 A.M. to 5 P.M. Employees working near machines with high noise levels shall be required to wear ear protectors provided by Contractor.	Construction Contractor
Construction	Historical, cultural and archeological assets	In case during excavations any historical, cultural or archeological asset is found, the excavation shall be stopped and the Provincial Culture and Tourism Directorate shall be informed. Only after confirmation is obtained, works shall be continued. Necessary measures shall be taken to prevent employees to keep any archeological asset.	Construction Contractor
Construction	Infrastructure elements	At least one month before commencing the excavation, the related departments and institutions (water, natural gas, sewerage network, communication, transportation etc.) shall be informed in writing to prevent damage to other infrastructure installations. Necessary institutional permits shall be obtained.	Construction Contractor

Phase	Subject	Mitigation Measure	Responsibility
Construction	Public and employee security	The entrance into the construction area shall put barriers, and illuminated warning signs to prevent any danger to the public and employees. A fence shall be established around the excavation area.	Construction Contractor
Construction	Transportation roads	Traffic arrangements shall be made in a planned manner for passing of work machines and trucks on transportation roads to construction area to minimize impact on normal local traffic patterns.	Construction Contractor
Construction	Exhaust smoke	Each construction vehicle shall be required to demonstrate their exhaust emissions conform to Ministry of Environment and Forestry criteria by providing a copy of “Motor Vehicle Exhaust emission measurement license”	Construction Contractor
Construction	Employee sanitation	Employee toilets shall be constructed in a secured distance to the construction area.	Construction Contractor
Construction	Site restoration	At the end of construction, the construction area shall be improved and be cleaned. Forestation and landscaping works shall be made around the landfill facility.	Construction Contractor
Operation	Landfill gas	Landfill gas shall be collected with collection wells and flared	Operator Company and Municipality
Operation	Low weight wastes	Before the daily cover is provided, papers, packs, bags etc. shall be prevented from becoming airborne by placing a wire fence around the deposit area	Operator Company and Municipality
Operation	Odor	The garbage emptied in the solid waste area shall be covered with soil every day.	Operator Company and Municipality

Phase	Subject	Mitigation Measure	Responsibility
Operation	Leachate	Leachate shall be collected and conveyed/recirculated by means of drainage pipes to be placed on base of the landfill and treated biologically, or physically/chemically, as needed, if the water is to be discharged.	Operator Company and Municipality
Operation	Runoff	Surface runoff shall be collected by means of channels surrounding the area and their access to the garbage mass shall be prevented. The storm water falling on the area shall be discharged by means of drainage waters.	Operator Company and Municipality

Annex 3E. Table 3. Monitoring Plan

Phase	Parameter to be Monitored	Location	Monitoring Methodology	Frequency	Responsibility
Construction	Excavation wastes	Facility area, and its surrounding area	Visual audit	Daily	Construction Contractor
Construction	Air quality (dust)	Facility area its surrounding	Visual audit	Continuous	Construction Contractor
Construction	Noise (dBA)	Facility area and its surrounding	dB[A] noise meter	2 times a week	Construction Contractor
Construction	Historical, cultural and archeological assets	Excavation area	Visual	2 times a week	Construction Contractor
Construction	Infrastructure elements	Excavation area	By controlling the permits and visually at the area	At beginning of excavation	Construction Contractor
Construction	Public and employee security	Facility area and its surrounding	Review of permits to determine conformity with the standards	Continuous	Construction Contractor
Construction	Transportation roads	Transportation course	Visual audit	Daily	Construction Contractor
Construction	Exhaust smoke	Vehicle courses and construction areas	Visual audit	Daily	Construction Contractor
Construction	Condition of Employee Sanitary Facilities	Construction site	Visual audit to insure toilets are operating properly	Daily	Construction Contractor

Phase	Parameter to be Monitored	Location	Monitoring Methodology	Frequency	Responsibility
Construction	Construction area restoration	Facility area its surrounding	Visual audit	At the end of Construction period	Construction Contractor
Operation	COD in Leachate	Monitoring wells around the facility	Sampling and analysis is made by an accredited laboratory	Once in every 6 months	Municipality
Operation	NH_4-N in Leachate	Monitoring wells around the facility	Sampling and analysis is made by an accredited laboratory	Once in every 6 months	Municipality
Operation	NO_2-N in Leachate	Monitoring wells around the facility	Sampling and analysis is made by an accredited laboratory	Once in every 6 months	Municipality
Operation	Color	Monitoring wells around the facility	Sampling and analysis is made by an accredited laboratory	Once in every 6 months	Municipality
Operation	Landfill gas composition	Landfill gas stacks	Portable gas analyzer	Once in every 6 months	Municipality

Annex 3F. Sample ESMP for Urban Transport

Annex 3F. Table 1. Main Environmental and Social Impacts due to Urban Transport Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety			X
3.	Workers Health and Safety			X
4.	Third Party Infrastructures			X
5.	Cultural and Heritage			X
6.	Land Use			X
7.	Air Quality			X
8.	Water Sources and Water Quality		X	
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity		X	
14.	Visual İmpact			X

Annex 3F. Table 2. Mitigation Plan

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Interruptions in transport	Positioning clear warning and information signs around the construction zone. Imposing time constraints (e.g. 7AM to 5 PM) for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Transport safety	Positioning clear warning and information signs around the construction zone. Imposing time constraints for works. Locating and marking alternative roads (roundabouts)		Included in construction costs	Contractor
Construction	Dust	Close or cover trucks for the transport of materials. Throwing water on the ground where dust is generated, disposing of excess material and cleaning the location upon the finalization of works. Protective covers or curtains for zone where the largest amounts of dust are generated.		Included in construction costs	Contractor
Construction	Noise and Vibrations	Imposing time constraints for works (works in the course of daytime (e.g. 7AM to 5 PM). Establish schedules and/or other forms of specific limitations for works		Included in construction costs	Contractor
	Exhaust gases from equipment/air quality	Checking the emission certificates of the construction vehicles			

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction				Insignificant	Contractor
Construction	Spill outs of fuel, lubricant, antifreeze etc. in the course of performance of works may result in the pollution of ground, surface and subterranean water.	Periodic examination of the condition of vehicles and other machinery and equipment used in the course of the performance of works. Compliant warehousing of fuel and lubricant, and in case of a spill out, isolation and cleaning of the location.		Included in construction costs	Contractor
Construction	Damage to trees and vegetation may onset in the course of construction	Minimizing the areas requiring the removal of vegetation, and upon finalization of works, replace/restore removed vegetation		Included in construction costs	Contractor
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected landfill determined by relevant municipal bodies for utility affairs.		Included in construction costs	Contractor
Construction	There is a possibility of discovering artifacts or other cultural and historical items of value	Discontinuing all works. Contact responsible authorities. Organizing all necessary measures to protect the location. No works to proceed until official notification is received		No costs involved	Contractor

Annex 3F. Table 3. Monitoring Plan

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Interruptions of transport, transport safety	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Dust generation	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of the population in the vicinity	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Unpleasant effects of noise, vibration and exhaust gasses	On the location and around the location	By listening, complaints of the population in the vicinity and workers	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Spill outs of fuel, lubricant, antifreeze etc.	Below and around the place where materials are stored and used. Near the vehicles and around the vehicles	Visual examination to determine the spill out	On the daily basis in the course of works	Included in construction costs	Contractor, Regulatory body
	Reductions in air quality levels by emissions from	On the location and around the location	Visually, on the basis of irritation of the breathing system, complaints of workers and the	On the weekly basis in the course of works	Included in construction costs	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	mechanization		population in the vicinity			
Construction	Removal of vegetation and subsequent replanting of the area	On the location and around the location	Visually in the course of works, examination and photographing before and after the works	Before and after the works on construction	Included in construction costs	Contractor, Regulatory body
Construction	Changes on the ground, erosion, as a consequence of excavation and depositing of materials	On the location	Visually, geotechnical examinations	Before the initiation of works and in the course of works	Included in construction costs	Contractor, Regulatory body
Construction	Discovery of artifacts and other items of cultural and historical value	On the location and around the location	Visually in the course of works, minutes from construction site	On the daily basis in the course of works	No costs involved	Contractor, Regulatory body
Construction	Damages to existing subterranean utility installations and	On the location	Visually in the course of works,	On the daily	No costs	Contractor, Regulatory body

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
	devices	and around the location	minutes from construction site	basis in the course of works	involved	Owners of installations, relevant inspection bodies
Operations	Noise Waste	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the daily basis in the course of works	??	Municipality

Annex 3G. Sample ESMP for Energy Efficiency

Annex 3G. Table 1. Main Environmental and Social Impacts due to Energy Efficiency Project

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety		X	
3.	Workers Health and Safety		X	
4.	Third Party Infrastructures		X	
5.	Cultural and Heritage			X
6.	Land Use		X	
7.	Air Quality	X		
8.	Water Sources and Water Quality		X	
9.	Groundwater Quality		X	
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity		X	
14.	Visual Impact		X	

Annex 3G. Table 2. Mitigation Plan

Phase	Issue	Mitigation Measures	Comments	Costs	Institutional Responsibility
Construction	Removed or replaced material is harmful to environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous (ie, asbestos containing insulators, mercury containing lamps, ozone depleting substances etc.)	All non-hazardous waste and excavated material generated in the course of construction should be disposed to a licensed landfill area or waste storage sites. Other wastes such as electric and mechanical, fluorescence, ozone depleting substances and hazardous wastes should be disposed in accordance to related regulations.		Included in construction costs	Contractor
Construction	Noise impact	The level of noise and working hours must be adhered to ensure residents and other applicable neighbors to the site are not disturbed unreasonably.		Included in construction costs	Contractor
Construction	Cultural and Heritage (Visual destruction and un-esthetic application)	Involvement of Cultural Heritage expert during planning and application phases.		Included in construction costs	

Annex 3G. Table 3. Monitoring Plan

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Why shall the parameters be monitored	Costs	Responsibility
Construction	Amount and type of solid and hazardous wastes	On the location and around the location	Solid waste and hazardous waste amounts will be recorded and tracked. This tracking record will also include information of licensed transportation companies and disposal sites.	On the daily basis in the course of works	Safety of the population and workers, functionality of installations	No costs involved	Contractor, Regulatory body

Annex 3H. Sample ESMP for Renewable Energy Projects

Annex 3H. Table 1. Main Environmental and Social Impacts due to Renewable Energy Projects

No.	Environmental and Social Component	Impact		
		Positive	No Impact	Negative
1.	Socio-economic	X		
2.	Public Health and Safety		x	
3.	Workers Health and Safety		X	
4.	Third Party Infrastructures		X	
5.	Cultural and Heritage			X
6.	Land Use			X
7.	Air Quality			X
8.	Water Sources and Water Quality			X
9.	Groundwater Quality			X
10.	Noise			X
11.	Solid Waste			X
12.	Hazardous Waste			X
13.	Forests and Biodiversity			X
14.	Visual Impact			X

Annex 3G. Table 2. Proposed Mitigation Plan

Phase	Issue	Mitigation Measures	Costs	Institutional Responsibility
Construction	Interruptions in transport / Transport safety / Noise and Vibrations	Positioning clear warning and information signs around the construction zone. Imposing time constraints (e.g. 7AM to 5 PM) for works. Locating and marking alternative roads (roundabouts) Establish schedules and/or other forms of specific limitations for works	Included in construction costs	Contractor
Construction	Dust / Air quality (exhaust gases)	Close or cover trucks for the transport of materials. Throwing water on the ground where dust is generated, disposing of excess material and cleaning the location upon the finalization of works. Protective covers or curtains for zone where the largest amounts of dust are generated. Imposing time constraints for works (e.g. 7AM to 5 PM) and regular maintenance of heavy machinery. Vehicles require to demonstrate that emission permits are valid	Included in construction costs	Contractor
Construction	Noise and vibration (Excavation and drilling works)	Local people will be informed one week prior to starting any noisy activities that may cause a temporary disturbance; Regular maintenance of heavy machinery. Construction works carried out during the day time period (07:00-19:00)	No cost implication	Contractor

Phase	Issue	Mitigation Measures	Costs	Institutional Responsibility
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected landfill determined by relevant municipal bodies for utility affairs. Excavated material will be stored at the Project Site and all of it will be used for backfilling	Included in construction costs	Contractor
Construction	Vegetative top soil	Vegetative top soil of the Projects Site, will be stripped prior to excavation works and will be stored in the construction site away from the other excavations. Topsoil will be used in landscaping.	Included in construction costs	Contractor
Construction	Domestic waste	Formed where construction sites are established. Solid and liquid wastes will be collected in the closed containers at the Project Site and managed appropriately (transported by the contractor to the waste disposal sites by licensed trucks).	Included in construction costs	Contractor
Construction	Hazardous Waste (such as fluorescent lamp, asbestos insulation, waste oil, waste batteries and accumulators batteries)	Hazardous wastes will be handled in compliance with regulations (i.e., disposal of these wastes to an approved hazardous waste landfill or collection by a company certified for collection and disposal of hazardous materials).	Included in construction costs	Contractor
Construction	Domestic wastewater	Formed where construction sites are established. It will be collected in sealed septic tanks that will be constructed in compliance	Included in construction costs	Contractor

Phase	Issue	Mitigation Measures	Costs	Institutional Responsibility
		with the regulations and licensed/certified sewage trucks will be employed for transport of sewage from the septic tank to facilities required by the Municipality.		
Construction	Public health and safety	Construction trucks will maintain a speed limit of 30 km/hour. Warning signals will be installed around the sites where heavy construction facilities are carried out.	Included in construction costs	Contractor
Construction	There is a possibility of discovering artifacts or other cultural and historical items of value	Discontinuing all works. Contact responsible authorities. Organizing all necessary measures to protect the location. No works to proceed until official notification is received	No costs involved	Contractor
Construction	Occupational health and safety	Water will be removed by a drainage system or pumps to prevent accumulation in pits and sludge discharged after settling. Barriers will be used to retain soil in highly sloped excavation areas. Compliance with the relevant Occupational Health and Safety Regulation of Turkey (e.g., use of personal protective equipment and compliance with excavation procedures detailed in the Regulation). Notify relevant local authority within three days of the start of construction works in terms of number of workers, measures being taken, etc.).	Included in construction costs	Contractor

Phase	Issue	Mitigation Measures	Costs	Institutional Responsibility
Construction	Influx of workers	Code of conduct to be defined by Contractor and signed by all workers	Included in construction costs	Contractor
Construction	Precious ecology / protected areas	Sites should be selected to avoid disturbance of protected species Plan should be define to avoid disturbance of fauna and flora	Included in construction costs	Contractor
Construction	Damage to trees and vegetation may onset in the course of construction	Minimizing the areas requiring the removal of vegetation, and upon finalization of works, replace/restore removed vegetation	Included in construction costs	Contractor
Construction	Deposit of excavated soil, erosion, landslides or sedimentation may occur.	Depositing all excess excavated material in a compliant manner into a carefully selected land fill determined by relevant municipal bodies for utility affairs.	Included in construction costs	Contractor
Construction / Operation	Resettlement / compensation	Design works to minimize land affected List of exclusion for resettlement		Contractor/EMRA
Operation	Threat to fauna and flora (opening of access, threat to wild life and especially birds due to facilities, creation of boundaries)	Design of works and operation should take into account natural wildlife	Included in the operational costs	Contractor
Operation	Modification of flood cycle or water quality affecting ecosystem and people's	Design of works should take into account sediment deposit and water quality modifications	Included in the operational	Contractor

Phase	Issue	Mitigation Measures	Costs	Institutional Responsibility
	livelihoods Modification of sediment deposit (dam)	Discharge should comply with the pertinent standard (definition according to ecological issue). In case of important reduction of discharge on one section of the river, specific measures to be defined according to biodiversity and human uses	costs	
Operation	Water resources (solar)	Studies to define the availability of water resources for maintenance	Included in the operational costs	Contractor
Operation	Waste management (solar)	Specific management of the photovoltaic technologies wastes	Included in the operational costs	Contractor
Operation	Noise and vibration (wind)	Noise will be minimized at the source with proper installation of noise barriers and insulation. Infrastructures to be located and security distance from any building	Included in the operational costs	Contractor
Operation	Domestic waste	Liquid and solid wastes will be collected in the closed containers at the Project Site and managed appropriately	Included in the operational costs	Contractor

Annex 3H. Table 3. Proposed Monitoring Plan

Phase	**Which parameters shall be monitored**	**Where shall the parameters be monitored**	**How shall the parameters be monitored**	When shall the parameters be monitored	**Costs**	**Responsibility**
Construction	Interruptions of transport, transport safety, accident	On the location and around the location	According to complaints of the population in the vicinity or transport participants	On the weekly basis in the course of works	Included in construction costs	Contractor,
Construction	Dust	Construction site Nearest neighboring sensitive receptor	Site observation	Daily	Included in construction costs	Contractor
Construction	Air emissions from heavy machineries	Heavy machineries	Check to see that operating permit is valid	Once, prior to allowing equipment onto project site	Included in construction costs	Contractor

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Noise and vibration (Excavation, drilling and blasting works)	Nearest neighboring sensitive receptor	Noise measurement with a calibrated sound level meter	Monthly and especially during the activities that increase noise levels (measurements should be performed more frequently if there are complaints by the public) Measurements will be repeated if a new facility will be performed that cause an increase in noise level or construction works will be carried out during night time after getting necessary permission.	Included in the civil works	Contractor
Construction	Excavated material disposal method	Excavation and storage sites	Site observation and document review whether or not disposal area and the method are in accordance with procedures approved by the Municipality.	Daily by construction staff	No cost	Contractor

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Vegetative top soil conditions (height of the storage-1.5 m at max. and cover over piles)	Excavation and storage sites	Site observation (excavation and soil storage facilities)	Daily by construction staff	No cost	Contractor
Construction	Sites/artifacts of historical or cultural significance	Excavation site(s)	Observation, assurances that “chance find” procedures are strictly followed	In the event of an accidental discovery	No cost	Contractor
Construction	Construction waste disposal/recycle method	Construction and storage sites	Site observation of disposal/recycle procedures	Daily by the construction staff	No cost implementation	Contractor
Construction	Domestic waste disposal method	Construction and storage sites	Site observation of disposal procedures	Weekly by the construction staff	Included in the civil works	Contractor
Construction	Hazardous waste disposal method	Construction and storage sites	Site observation of the hazardous waste disposal site	Weekly monitoring of the hazardous waste disposal site	Included in the civil works	Contractor

Phase	**Which parameters shall be monitored**	**Where shall the parameters be monitored**	**How shall the parameters be monitored**	When shall the parameters be monitored	**Costs**	**Responsibility**
Construction	Public health and safety measures	Excavation and construction site, storage sites	Site observation speed limits are obeyed, worker health and safety equipment (earplugs, goggles, safety shoes etc.) are being worn	Daily by the construction staff	No cost implementation	Contractor
Operation	Noise and vibration	Nearest neighboring sensible receptor	Noise measurement with a calibrated sound level meter	Monthly measurements (measurements should be performed more frequently depending on the complaint of the public)	Included in the operational costs	
Operation	Domestic solid wastes disposal method	Operation and maintenance sites	Site observation, of disposal procedures	Daily recordings and monthly assessment of the solid wastes generated.	Included in the operational costs	Contractor

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Operation	Excess sludge	Treatment plant and excess sludge storage site (if sludge is not hazardous it will be sent to solid waste storage, if hazardous treated in compliance with regulations	Site observation, of sludge storage procedures and facility (non-hazardous) If hazardous site observation of hazardous waste disposal procedures	Once every year (if non-hazardous) Twice a year (if hazardous)	Included in the operational costs	Contractor
Operation	Hazardous waste disposal method	Construction and storage sites	Site observation of hazardous waste disposal method	Daily recordings and monthly assessment of the solid wastes generated.	Included in the operational costs	Contractor
Operation	Hazardous material use	Hazardous material storage site(s)	Site observation of container conditions, secured access maintained, and monitors are in working order	Every three months	Included in the operational costs	Contractor

Phase	Which parameters shall be monitored	Where shall the parameters be monitored	How shall the parameters be monitored	When shall the parameters be monitored	Costs	Responsibility
Construction	Removal of vegetation and subsequent replanting of the area	On the location and around the location	Visually in the course of works, examination and photographing before and after the works	Before and after the works on construction	Included in construction costs	Contractor,
Construction	Changes on the ground, erosion, as a consequence of excavation and depositing of materials	On the location	Visually, geotechnical examinations	Before the initiation of works and in the course of works	Included in construction costs	Contractor,
Operation	Occupational health and safety measures	Operation site	Site observation of personal safety equipment use by staff	Daily by the operational staff, quarterly audits by environmental consultant	Included in the operational costs	Contractor
Operation	Water quality and discharge	Operation site	Monitoring of water quality	According to best international practice	Included in the operational costs	Contractor

Phase	**Which parameters shall be monitored**	**Where shall the parameters be monitored**	**How shall the parameters be monitored**	When shall the parameters be monitored	**Costs**	**Responsibility**
Operation	Hazardous material use	Hazardous material storage site(s)	Site observation of container conditions, secured access maintained, and monitors are in working order	Every three months	Included in the operational costs	Contractor

Annex 4 Environmental and Social Management Checklist for Construction and Rehabilitation Activities

PART 1: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE		
Country		
Project title		
Scope of project and activity		
SITE DESCRIPTION		
Name of site		
Describe site location		Attachment 1: Site Map [ ]Y [ ] N
Who owns the land?		
Description of geographic, physical, biological, geological, hydrographic and socio-economic context		
Locations and distance for material sourcing, especially aggregates, water, stones?		
LEGISLATION		
Identify national & local legislation & permits that apply to project activity		
PUBLIC CONSULTATION		
Identify when / where the public consultation process took place		
INSTITUTIONAL CAPACITY BUILDING		
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program	

PART 2: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) During interior demolition debris-chutes shall be used above the first floor (b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (side walks, roads) shall be kept free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) There will be no excessive idling of construction vehicles at sites
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
B. Individual wastewater treatment system	Water Quality	(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.
C. Historic building(s)	Cultural Heritage	(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. (b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
D. Toxic Materials	Asbestos management	(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
E. Affected forests, wetlands and/or protected areas	Protection	(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
F. Disposal of medical waste	Infrastructure for medical waste management	(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: ▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal; and ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
G Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART 3: MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity **preparation**							
During activity **implementation**							
During activity **supervision**							

Annex-5 SAMPLE OF GRIEVANCE FORM

Reference No	
Full Name	
Please mark how you wish to be contacted (mail, telephone, e-mail).	Please mark how you wish to be contacted
Province/Town/Settlement	
Date	

Category of the Grievance	
1. On abandonment (hospital, public housing)	
2. On assets/properties impacted by the project	
3. On infrastructure	
4. On decrease or complete loss of sources of income	
5. On environmental issues (ex. pollution)	
6. On employment	
7. On traffic, transportation and other risks	
9-Other (Please specify):	

Description of the Grievance What did happen? When did it happen? Where did it happen? What is the result of the problem?
What would you like to see happen to resolve the problem?

Signature: **Date:**

Annex-5. A : SAMPLE OF GRIEVANCE CLOSEOUT FORM

Grievance closeout number:	
Define immediate action required:	
Define long term action required (if necessary):	
Compensation Required?	[ ] YES [ ] NO

CONTROL OF THE REMEDIATE ACTION AND THE DECISION	
Stages of the Remediate Action	Deadline and Responsible Institutions
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

COMPENSATION AND FINAL STAGES

This part will be filled and signed by the complainant after s/he receives the compensation fees and his/her complaint has been remediated.

Notes:

Name-Surname and Signature

Date…./…../…..

Of the Complainant:

Representative of the Responsible Institution/Company

Title-Name-Surname and Signature

Annex 6. Table of Contents for the Public Consultation Documentation

- Manner in which notification of the consultation was announced: media(s) used, date(s), description or copy of the announcement
- Date(s) consultation(s) was (were) held
- Location(s) consultation(s) was (were) held
- Who was invited

  Name, Organization or Occupation, Telephone/Fax/e-mail number/address (home and/or office)

- Who attended

  Name, Organization or Occupation, Telephone/Fax/e-mail number/address (home and/or office)

- Meeting Program/Schedule

  What is to be presented and by whom

- Summary Meeting Minutes (Comments, Questions and Response by Presenters)
- List of decisions reached, and any actions agreed upon with schedules, deadlines and responsibilities.