

Environmental Check List

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) N	(a) WASA-F will prepare an EIA report and submit it to EPA during the present survey (b) EIA report shall be approved before the announcement of tender, which is expected to be September, 2021. (c) Special conditions are not imposed for EIA approval (d) Other environmental permits are not required
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a) A stakeholders meeting was held with local administration in June 2019 to explain the outline of the project and expected negative environmental and social impacts and received opinions from local governments. Also, a joint session stakeholders meeting was held in December 2019. (b) Comments made during the above meetings were reflected in the project. (c) the consultant will also be responsible to conduct public hearing and incorporate the suggestion of local community etc. into the report.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Alternatives for facility components, location of distribution centers, construction methods of crossing the canal were considered.
2 Pollution Control	(1) Air Quality	(a) Is there a possibility that chlorine from chlorine storage facilities and chlorine injection facilities will cause air pollution? Are any mitigating measures taken? (b) Do chlorine concentrations within the working environments comply with the country's occupational health and safety standards?	(a) N (b) Y	(a) Since sodium hypochlorite is applied for chlorination, a negative impact to the air is negligible. (b) Chlorine is used for cleaning the pipe after installation and in the water treatment process, but since the concentration is low and the amount is small, this will not be a problem. Also, the dosing method is safe in line with safety standards.
	(2) Water Quality	(a) Do pollutants, such as SS, BOD, COD contained in effluents discharged by the facility operations comply with the country's effluent standards?	(a) Y	(a) Wastewater generated from the water treatment plant will be properly treated and discharged into the drainage canal in accordance with the country's wastewater standards.
	(3) Wastes	(a) Are wastes, such as sludge generated by the facility operations properly treated and	(a) Y	(a) Sludge generated from the water treatment plant will be dewatered and then transported to the designated disposal site to be disposed.

3

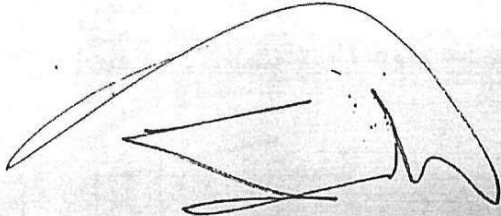

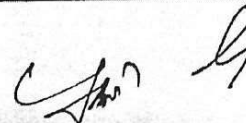
6


Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
3 Natural Environment		disposed in accordance with the country's regulations?		
	(4) Noise and Vibration	(a) Do noise and vibrations generated from the facilities, such as pumping stations comply with the country's standards?	(a) Y	(a) Since all pumps are to be installed inside the building, noise and vibration from the pumps will be minimal and consistent with the country's standards.
	(5) Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?	(a) N	(a) Groundwater will not be pumped up in this project.
	(1) Protected Areas	(a) Is the project site or discharge area located in protected areas designated by the country's laws or international treaties and conventions? (b) Is there a possibility that the project will affect the protected areas?	(a) N (b) N	(a) (b) Since the project site is in an urban area, protected areas are not existent.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site or discharge area encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Is there a possibility that the amount of water used (e.g., surface water, groundwater) by project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?	(a) N (b) N (c) N (d) N	(a) Since the project site is in an urban residential area, ecologically significant nature, flora and fauna do not exist. (b) The project site does not include habitats for precious species needed to be protected by laws and international treaties of this country. (c) Since the project site is in an already developed area, significant impacts on the ecosystem are not concerned. (d) Since the water intake from the irrigation canal for this project accounts for only a small percentage of the irrigation water volume planned by the Irrigation Department, the impact on the surrounding aquatic environment is extremely limited.
(3) Hydrology	(a) Is there a possibility that the amount of water used (e.g., surface water, groundwater) by the project will adversely affect surface water and groundwater flows?	(a) N	(a) Since water intake for this project is irrigation canal and the amount of water withdrawn is limited compared to the amount of water used for irrigation, influence on the flow of surface water and groundwater is negligible.	

B C S

6

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?		
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) Landscapes needing special consideration in the target area are not found.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) N (b) N	(a) Components that may affect ethnic minorities or indigenous peoples are not existent. (b) Not applicable.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are tangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) N (b) Y (c) Y (d) Y	(a) Since the working environment is assured by laws including the national labor law, no problems will arise. (b) The above labor law requires the safety of workers, and safety measure will be taken by the contractor in charge of the construction work. (c) The contractor will prepare safety and health plans and carry out safety education for workers. (d) Educational guidance for security personnel will be provided by the contractor.



Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
5 Others	(1) Impacts during Construction	<p>(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>(c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> <p>(d) If the construction activities might cause traffic congestion, are adequate measures considered to reduce such impacts?</p>	<p>(a) Y (b) Y (c) Y (d) Y</p>	<p>(a) The mitigation plan is through proper selection of construction equipment and vehicles, careful operation and maintenance, and proper construction methods. In addition, efforts will be made to minimize impacts by establishing a claims window and respond to complaints.</p> <p>(b) Since the project area is an area that has already been developed, construction will have almost no impact on the natural environment.</p> <p>(c) Possible impacts include the problems of security and the increase of infectious diseases associated with the entry and exist of construction workers from outside. The contractor will prepare plans for prevention of crimes and infectious diseases, and carry out awareness education and security measures.</p> <p>(d) When laying pipes along the main trunk road, traffic congestion may occur. Traffic congestion may be alleviated by securing detour roads and one-sided traffic, installing traffic signs and control staff, and advance notice of construction details and traffic regulations.</p>
	(2) Monitoring	<p>(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>(b) What are the items, methods and frequencies of the monitoring program?</p> <p>(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p>	<p>(a) Y (b) Y (c) Y (d) Y</p>	<p>(a) Monitoring will be carried out according to the proposed monitoring plan.</p> <p>(b) The environmental monitoring plan will set the methods and frequency for necessary environmental and social items.</p> <p>(c) WASA-F will secure the necessary budget for implementation of the environmental monitoring and will request the contractor to conduct proper monitoring.</p> <p>(d) These are specified in the environmental monitoring plan.</p>
6 Note	Reference to Checklist of Other Sectors	(a) When necessary, pertinent items described in the Dam and River Projects checklist should also be checked.	(a) n/a	(a) None of these items are applicable to this project.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the	(a) n/a	(a) Impacts on transboundary or global issues are not expected.

6

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the left and several smaller initials and marks on the right.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).		

Note:

- 1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience)
- 2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item considering the characteristics of the project and the particular circumstances of the country and locality in which the project is located.

