



**GENERAL DIRECTORATE OF HATAY WATER AND WASTEWATER
ADMINISTRATION**

**KUMLU (HATAY) TRANSMISSION LINE AND
DRINKING WATER NETWORK PROJECT**

ENVIRONMENTAL IMPACT SCREENING REPORT



SEDES ENGINEERING LTD. CO.



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ABBREVIATIONS

HATSU	General Directorate Of Hatay Water And Wastewater Administration
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
EC	European Commission
EEC	European Economic Community
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EU	European Union
MADAD	European Union's Regional Trust Fund in Response to the Syrian Crisis
PID	Project Identification Document
TSS	Total Suspended Solid



1. INTRODUCTION

Hatay is a province in south of Turkey, on the eastern Mediterranean coast and at the border of Syria. Hatay is one of the first arrival points for hundreds of thousands of Syrian who have taken refuge in Turkey due to fled five year war. The issue is important due to the closeness of the border and the fact that Syrian guest can remain their own communities, working and setting up business in Hatay and its district. Existing Infrastructure of Kumlu has been planned for normal population growth, however they are not enough due to Syrian crisis. For that reasons, Kumlu needs to new infrastructure and upgrade of existing ones.

A Project Identification Document (PID) has been prepared for infrastructure improvements to be financed under European Union's Facility for Refugees in Turkey (FRIT) fund. The purpose of Environmental Impact Screening Report is to screen and define possible environmental impact of planning project and also designate whether Environmental Impact Assessment Report is required or not.

2. PROJECT LOCATION

The project includes drinking water transmission line and networks for Kumlu district and it's surrounding 11 small neighbourhoods (villages). These neighbourhoods are Akpınar, Torun, Özkızılkaya, Muratpaşakızılkaya, Muratpaşa, Çiloğlanhöyüğü, Kaletepe, Akkuyu, Kırcaoğlu, Muharrem, Akkerpiç neighbourhoods. Drinking water of Kumlu is insufficient for the present situation. Figure 2 shows Kumlu Centrum and neighbourhoods.



Figure 1: Location of Hatay on Turkey Map



Figure 2. Location of Kumlu Centrum and Other Villages Benefited from the Project on Googlearth Image

3. PROJECT DESCRIPTION

The project is comprised of construction of the drinking water transmission line and networks project of Kumlu. Existing Infrastructure project of Kumlu has been planned for normal population growth; however they are not enough due to Syrian guests cause over populations. For that reasons, Kumlu needs to new infrastructure and upgrade of existing ones.

Water supply network is constructed in 1990's with ACP and PVC pipes (~20-25km). Kumlu centrum's water is supplied by wells. Water sourced from the wells are chlorinated and directly pumped to the network. Liquid chlorination is applied in wells for disinfection purposes. There are no storage service water reservoirs in operation in Kumlu. Water from the wells is directly pumped to network without any balancing or storage. There are no isolation valves operable. Leakage level is estimated to be high.

Transmission Line and Water Supply System part of the proposed Project is designed considering both Kumlu centrum and 11 surrounding villages' water requirements. Accordingly, for design of the transmission line that supply water from the wells to Kumlu



and surrounding neighbourhoods, total flowrate is calculated as 66.00 l/s. In the scope of the proposed system; construction of 6 wells, pressure lines from wells to collection tank, 300 m³ volume collection tank, a Pump Station, 5,000 m³ volume service reservoir, gravity transmission lines to the reservoirs of the villages, gas chlorination system, miscellaneous pipeline structures including washout and air relief valve chambers, branch chambers. A SCADA system is also proposed in order for the efficient control of the whole water supply system. Transmission line consists of Ø90- Ø560 HDPE pipes and length of the networks line will be 26.964 km. Proposed Wells, Transmission Lines, Reservoirs and Branch Chambers on Googleearth view is given Figure 3.

Water network is designed only for Kumlu centrum in 2 stages. The 1st stage covers main pipes and laterals in built-up and partly built-up areas with already existing roads with a total length of 24.6 km. Proposed network consists of Ø90- Ø280 HDPE pipes. The 2nd stage (13.2 km) would be required according to the development of the town, approximately after year 2025. Apart from network pipes, miscellaneous network structures including isolation valve chambers, residual chlorine measurement chamber, pressure reducing valve chamber shall be constructed. Figure 4 demonstrated Water Supply Network Pipes and Part of Transmission Line.

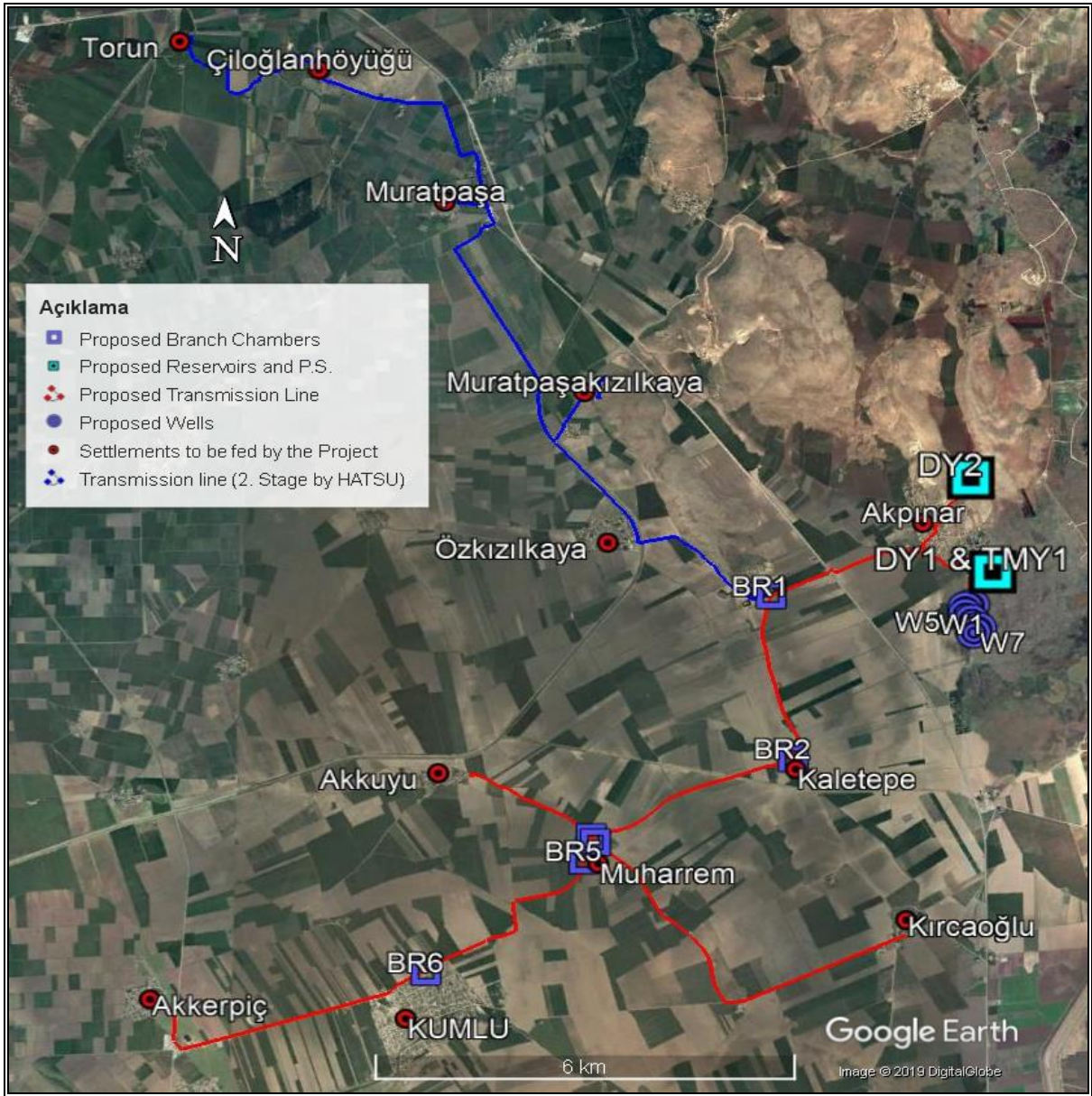


Figure 3: Proposed Wells, Transmission Lines, Reservoirs and Branch Chambers on Googlearth View



Figure 4: Kumlu Water Supply Network Pipes and Part of Transmission Line on Googleearth view



4. REGULATORY CONTEXT

The determination as to whether any of the proposed 3 project components requires a formal Environmental Impact Assessment (EIA) under the European Union Directive 2011/92/EU is carried out through this process of screening. According to the national by-law on EIA published on 25 November 2014, transposing the EIA Directive of EU, drinking water network project is not subject to EIA process.

4.1 Turkish Norms & Applicable Legislation

4.1.1 Environment Law

The Environmental Law (No 2872 of 9 August 1983) as amended by Law No. 5491/2 of 26 April 2006 constitutes the basis of the regulatory arrangements in the field of the environment. Its purpose is the protection and improvement of the environment, protection and efficient utilization of natural resources, prevention of water, soil and air pollution, protection of the natural and historical wealth of Turkey as well as its flora and fauna.

The Environment Law sets out the rules and the framework for the issuance of licenses, the formulation of the prohibitions and restrictions for preventing and controlling pollution and the rules, principles and limits for fines and penalties that will be applied to violations of the Law.

4.1.2 Regulation on Water Intended for Human Consumption

The objective of the Regulation on Water Intended for Human Consumption is to put forth the procedures and principles for ensuring that the water for human consumption conform to technical and hygienic requirements and quality standards and for production, packing, labelling, marketing and inspection of spring water and potable water.

This Regulation is based on the below mentioned legislation and their relevant provisions:

- Clauses 235 and 242 of the Public Health Care Law no. 1593, dated 24.4.1930;
- Clause 26 of the Law on Amendment of the Framework Decree on food production, consumption and inspection no. 1593, dated 27/5/2004;
- Clause 43 of the Framework Decree on organization and tasks of the Ministry of Health.

This regulation is also prepared in compliance with the following directives implemented by the EU member countries:

- Council Directive no. 98/83/EC for the quality of water for human consumption;



- Council Directive no. 80/777/EEC, date 15/7/1980, for adaptation of the laws of member countries on exploitation and marketing of natural mineral water; and
- Council Directive no. 2003/40/EC, date 16/05/2003, for defining the requirements for developing a list of natural mineral water concentration limits and labelling information and processing the natural mineral water and spring water with air enriched with ozone.

4.1.3 Regulation on Urban Wastewater Treatment

The aim of this regulation dated 08.01.2006 and numbered 26047 is; "Collecting, treating and discharging urban wastewater and protecting environment against negative effects caused by wastewater discharges from certain industrial sectors. This Regulation covers technical and administrative principles regarding collection, treatment, discharge, monitoring, reporting and inspection of urban and certain industrial wastewaters discharged into sewerage systems."

In accordance with the Law, Iller Bank certainly applies the standards in Turkish Legislation. reference values given in the Turkish Regulation on Urban Wastewater Treatment is fully harmonized with COUNCIL DIRECTIVE 91 /271 /EEC of 21 May 1991 8 (on urban waste water treatment). References values have been given as follows;

Parameter	Unit	Turkish Regulation on Urban Wastewater Treatment Composite sample 2 Hours	COUNCIL DIRECTIVE 91 /271 /EEC of 21 May 1991 (on urban waste water treatment)
BOD ₅	mg/lt	25	25
COD	mg/lt	125	125
TSS	mg/lt	35	35
Total Nitrogen	mg/lt	10	10
Total Phosphorus	mg/lt	1	1

4.2 EU Legislation

4.2.1 EU Water Framework Directive (2000/60/EC)

The EU Water Framework Directive 2000/60/EC provide sustainable guidelines for the role of water in human health and environmental protection. The Directive aims to provide a framework for the protection of all subterranean and surface water sources and the sustainability and development of the water environment of the EU. All legislation related to water is in support of the Framework Directive (European Commission, 2000).



4.2.2 EU Drinking Water Directive (98/83/EC)

This directive concerns the quality of water intended for human consumption to ensure that all water intended for human consumption is clean and safe, aiming to protect public health from the adverse effects of possible contamination of water sources (European Commission, 1998). This Directive is not applicable, since there is no water supply component.

4.2.3 Surface Water Abstraction Directive

This Directive belongs to the 'first wave' of EU water legislation adopted in the 1970s and 1980s. The Directive aims to protect public health by ensuring that surface water abstracted for use as drinking water reaches certain quality standards before it is supplied to the public. The Directive lays down nonbinding 'guide' values and binding 'imperative' values and requires Member States to monitor the quality of surface waters from which drinking water is abstracted and to take measures to ensure that it complies with the minimum quality standards.

This directive will be integrated into the Water Framework Directive and will be repealed and replaced by the relevant provisions hereof with effect from 22 December 2007. As such it is no longer directly relevant to the project. However, the main principal obligations mentioned below are still relevant.

Member states are required (among other things) to:

- Establish water quality standards applicable to surface water used for the abstraction of drinking water, for the parameters specified in the Directive;
- Carry out sampling and analysis of surface waters used for the abstraction of drinking water, and assess the extent to which surface waters used for the abstraction of drinking water comply with the quality standards;
- Take measures to ensure that surface waters used for the abstraction of drinking water comply with the minimum quality standards; and do not allow waters that do not meet these standards to be used for the abstraction of drinking water, other than in exceptional circumstances; and
- Ensures the progressive reduction of pollution of surface water and prevents its further pollution.

The directive specifies which parameters to control and other directives specify methodologies for measurement.



4.2.4 Urban Wastewater Treatment Directive

This legal notice transposed Directive 91/271/EC on Urban Wastewater Treatment. The aim of this directive is to protect the aquatic environment from the adverse effects of discharges of untreated or improperly treated urban waste water and waste water from industrial sectors and concerns the collection, treatment and discharge of domestic water, mixture of waste water and wastewater from certain industrial sectors as illustrated in the figure below:

The obligations under this legal notice can be summarized as follows:

- Provision of urban waste water collecting systems (sewerage) and treatment plants for all agglomerations above 2,000 population equivalents;
- Provision of a legal framework for specific authorization for all discharges of urban waste water and industrial waste water from particular sectors, as well as for all discharges of industrial waste water into urban waste water systems;
- Requires the phase out of any dumping or discharge of sewage sludge into surface waters;
- Requests that the treated urban waste water discharges and their effects are adequately monitored.

5. ENVIRONMENTAL AND SOCIAL RISK CATEGORIZATION

This Environmental Impact Assessment Screening Report has been compiled in order to present the relevant information on the proposed Kumlu Drinking Water Transmission Line and Network Project; and to discuss how the proposals perform with respect to Turkey's Environmental Impact Assessment (EIA) Regulation 29186 (amendment 09 February 2016) is harmonized to a large extent with the 1985 EC EIA Directive (85/337/EEC) and its 2014 amendments (2014/52/EU), and under both the EC EIA Directive and Turkey's EIA Regulation drinking water transmission line and network projects are out of scope. Therefore, there is not any Annex I or II categorization for this project. In this regard, the letter provided by Hatay Provincial Directorate of the Ministry of Environment and Urbanization, stating that either the EIA or preliminary EIA process is not needed for Kumlu drinking water network in accordance to the Turkish EIA Regulation, is presented in Appendix 2.



As a general rule, throughout environmental screening of the projects, EIB's Environmental and Social Standards have been followed. Particular attention was given to the provision of Annex I and II of the EC EIA Directive 85/337/EEC, as amended by Directives 97/11/EC and 2003/35/EC, in the completion of the Environmental Screening Report (ESR), for each of the project component. According with the EIB Guidelines, for projects outside of the EU, Candidate and potential Candidate countries, the promoter shall be consistent with the classification provided by EU legislation, as well as the national environmental and social legislation and applicable international best practice.

Turkey's Environmental Impact Assessment (EIA) Regulation 25.Nov.2014/29186 is harmonized to a large extension with the 1985 EC EIA Directive (85/337/EEC) and its 2014 amendments (2014/52/EU). According to both EC EIA Directive and Turkey's EIA Regulation, it is not necessary to carry out a full Environmental Impact Assessment Study for drinking water network projects. In this regard, this environmental impact screening report has been prepared for Kumlu drinking water network. As the review done by the EIB consultants, the report had further revised and be consistent with the EIB's environmental and social guidelines. In this respect; the water quality analysis at the source, quantification of the impacts, revisions on the mitigation and monitoring philosophy of the projects and institutional structuring of implementation unit together with the enhancement of grievance and redress mechanism have been achieved. According with Paragraph 8 EIB Environmental Guideline the operations outside of the EU, Candidate and potential Candidate countries should be designed and operated in consistency with EU environmental standards and requirements. However, the promoter should adhere to international best environmental practice and to any obligations and standards in the applicable multilateral environmental agreements to which the host country is party to. Where EU standards are more stringent than national standards, the higher EU standards are required, if practical and feasible, taking local conditions into account.

For the approval of environmental reports, ILBANK is a competent authority in accordance to the Law of Establishment (Law no. 6107), for the water and waste water related activities including supplying of drinking water, collection and treatment of waste water. The related provisions of the establishment law are given below:

ARTICLE 3 - (1) The aim of the bank is to meet the financing requirement of the special provincial administrations, municipalities and its subsidiaries and local administrative



unions to which local administrations take place, to develop projects related to the common services of the people living within the borders of these administrations, to provide consultancy services to these administrations and to assist in the implementation of technical and urban projects, and infrastructure and superstructure works, and to perform all kinds of development and investment banking functions.

(2) (b) ILBANK can serve on the fields of activity for research, project development and consultancy or enable others to give those services, give technical assistance.

(2) (h) (Annex: 8/8/2011-KHK-648/58 art.) Achieve or enables others to achieve special projects and urban infrastructure projects and construction works to be demanded by the Ministry.

Additionally; according to “ILBANK Organization, Duty and Authority Instruction” dated on 15.11.2012 the related articles are;

Article 14 Project Department duties are;

(a) To prepare or have prepared projects of drinking water supply, storage, distribution and treatment, sewage network and treatment, stormwater network, sea outfall, solid waste and all kinds of superstructure facilities for the demands of service recipients, public institutions and organizations. To perform these services, prepare or have prepared hydrological, hydrogeological, geophysical, geotechnical, geological survey and feasibility studies, as well as bathymetric and autographic research and impact analysis of groundwater on concrete.

(e) To carry out the technical review and approval of the projects made or commissioned by the bank, service recipients or other public institutions.

Article 15 Infrastructure Implementation Department duties are;

(a) To prepare or have prepared drinking water, supply, storage, distribution, drinking water treatment, HES and other energy facilities, dams, ponds, irrigation, regulator, geothermal heating facilities and distribution, road and road pavements, wastewater collection and discharge according to service recipients and facilities, wastewater treatment, sea outfall, stormwater collection and discharge, flood protection and stream reclamation, solid waste; building or constructing environmental protection and infrastructure facilities such as collection, disposal, assessment and rehabilitation, carrying out project modifications and approval procedures for the ongoing facilities.



In conclusion, it should be noted that, the EIB requirements regarding the completion and approval of Environment Impact screening reports were done in accordance with requirements of Annex I or II of the EC EIA Directive 85/337/EEC, as amended by Directives 97/11/EC and 2003/35/EC.

6. LAND ACQUISITION AND LAND RELATED MATTERS

The project does not require any land acquisition and resettlement of people. There will not be any temporary economic displacement, temporary occupation, etc. At this stage, it is not anticipated that construction sites will lead to any resettlement and/or economic displacement, including temporary. If this were to change as the project progresses (e.g. through a better understanding of the impact of road closures), the final beneficiary will advise the financier and ensure compliance with EU Standards in these respects. Compensation would be assessed and provided in accordance with such standards.

During design stage of the project, as a result of the approach of Iller Bank, network routes are determined so that no land acquisition is required. Before the implementation stage, all necessary official permissions shall be obtained for right of way. The routes of the pipelines are exclusively on public lands. The place of the water tank is exclusively on public lands and therefore no land acquisition nor and resettlement is needed. However, some water network is to be laid through private gardens. The right of way for these sections will be obtained in due time.

7. ASSESSMENT OF POTENTIAL IMPACTS

Information available to date has been reviewed and visual inspections of the site have been carried out to determine whether or not the development is likely to give rise to any significant environmental effects. The contractors will be obliged to follow Environmental Monitoring Plan (*Appendix 2*) in order to minimise any impact within the construction area. The proposed development has been assessed against the European Commission's *Guidance on EIA Screening* ⁽¹⁾ 'checklist' which is designed to help users assess whether

(1) European Commission, 2001, *Guidance on EIA Screening*, <http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-screening-full-text.pdf> Accessed 26 October 2009



EIA is required based on the characteristics of a project and its environment. The completed checklist is set out in the attached *Appendix 1*.

7.1 Landscape and Visual

There are no landscape designations covering or abutting the site, and drinking water transmission line and networks is constructed at open road and streets and after placing the pipes, these streets will be returned to the previous condition. For the project, in general, necessary actions shall be taken by the contractor for the provision of compensation for temporary disruption, or access to asset.

7.2 Noise

Noise and vibration impacts will result from the use of equipment and machinery during the construction stage, including the excavation and filling works. Impacts will be temporary and will be minimized by limiting construction activities to day-time working hours. During operation, the only source for noise may be the pumping station. In this project however, since the pumping station will be constructed underground, such impact is not expected.

The mitigation measures that will be taken to minimize the noise level especially at the construction phase will be as follows:

- The machinery and equipment to be used during the construction activities will not be operated at the same point/location but homogeneously distributed in the site;
- The projects will be mostly carried out in the residential areas. Therefore, upon grievance, noise measurements should be conducted and necessary additional mitigation measures (i.e. installation of noise barriers) should be considered;
- At all projects, attention will be given to the selection of equipment with low noise level;
- The maintenance of the construction machinery and equipment will be carried out regularly and periodically. Daily maintenance will be carried out in each shift; and working time of each vehicle will be registered by the operator in order to follow the total working hours for periodic maintenances. Periodic maintenances will be conducted at every 50, 250, 500, 1000, 2000 working hours. Maintenance forms will be filled regularly;
- The maintenance of the construction machinery and equipment will be carried out regularly and regulatory speed limitations will be followed for construction vehicles;
- The works will be performed day-time; no night work will be allowed unless it is absolutely necessary;
- A grievance mechanism to manage noise related grievances will be established;
- Constructions will be implemented as fast as possible in the project areas where sensitive receptors (hospitals, schools and elderly housings, etc.) are located and necessary precautions such as will installation of noise barriers should be taken to provide temporary solution in those areas.



- The Contractor will develop a Noise Management Plan, which will (as a minimum) incorporate the measures described here but will not be limited to these measures.

7.3 Ecology and Nature Conservation

As can be seen in the database of Ministry of Forests and Water Works, Directorate of Nature Protection and National Parks, (For GIS map, please see: <http://www.milliparklar.gov.tr/korunan-alanlar-haritas%C4%B1>) there are no areas under protection.

The drinking water network is designed on existing streets and within built-up area where located in an urban part of Kumlu District, not involving any protected and sensitive ecosystems or species. The project's one of the aims is decreasing the very high Non-Revenue Water Level by reducing high physical losses at the Project Area (currently estimated at 78%). In addition, it will replace an asbestos pipe with HDPE pipe and old pipes are leaved underground. Both directly has impact on protection and efficient use of water resources and hence contributes to natural conservation.

7.4 Flood Risk

The drinking water transmission line and networks project is designed to construct open road. Because of the impermeable surfaces in urban areas, flooding occurs as a human-made event. Floods that occur with heavy storms are drained in existing stormwater networks and river beds that have dried out. Furthermore, precautions should be taken to prevent floods in the constructed site.

7.5 Odour Risk

There is no odour risk for drinking water network projects.

7.6 Impacts on surface / ground waters

There are no protected aquifers or surface waters in the close vicinity of the project area. In current situation in Kumlu, water demand is met from wells. With the project, the existing pressure on water resources will not change significantly and indeed is expected to reduce by time by reducing water leak and losses. Consequently, project will have positive effect on surface / groundwater.



The water resource for Kumlu drinking water network will be the Kumlu spring itself. The water quality analysis at the sources for in-situ parameters and at the laboratory for the physical, biological and chemical parameters have been measured in November, 2019 and it is proved that all the measured parameters remained below the regulatory thresholds and suitable for the drinking purpose without treatment.

The possible environmental impact on ground/surface water will be the construction activities of the drinking water network. In this regard the below-mentioned measures will be taken in order to minimize/avoid such impacts:

- In case the excavated trenches are filled with surface water, ground water or rainfall, the potential muddy water in these channels will be pumped out, and will not be directly discharged to the receiving environment. These waters will be discharged to the receiving environment after eliminating the sand and sludge;
- Discharge wastewater, residues or other waste into groundwater or into surface water will be avoided. The wastewater generated in the construction sites will be connected to the existing sewage network or where the connection is not possible it will be collected into the septic tanks and then discharged into the nearest sewage network;
- Surface runoff due to watering for dust suppression activities will be prevented;
- The wastewaters arising from cleaning or washing vehicles and construction equipment will be collected in tanks and disposed of via the septic trucks;
- The units of the Project that are in touch with water, wastewater and chemicals will be constructed with using concrete with appropriate cement ratio and durability in order to provide basement impermeability. Thus, no leakages to soil and groundwater will occur;
- Silt fences will be used at the potential river crossings and around the irrigation channels located near the construction sites;

7.7 Disclosure and Consultation and Grievance Mechanism

Disclosure and Consultation

The results of the environmental screening have not officially been disclosed to the public yet. A consultation process was not implemented as an EIA is not required. However, public disclosure of the project has happened by the mayor and other municipal officials through the usual channels (direct contact with people local radio, TV and Municipal Website. A public disclosure campaign will be implemented by municipality officials, once financing of this project has been approved. This will be done in form of i) information via municipal website, ii) radio information, iv) TV information, poster information on municipalities black board and v) one or two information meetings organised for the immediately affected population.

Grievance Mechanism



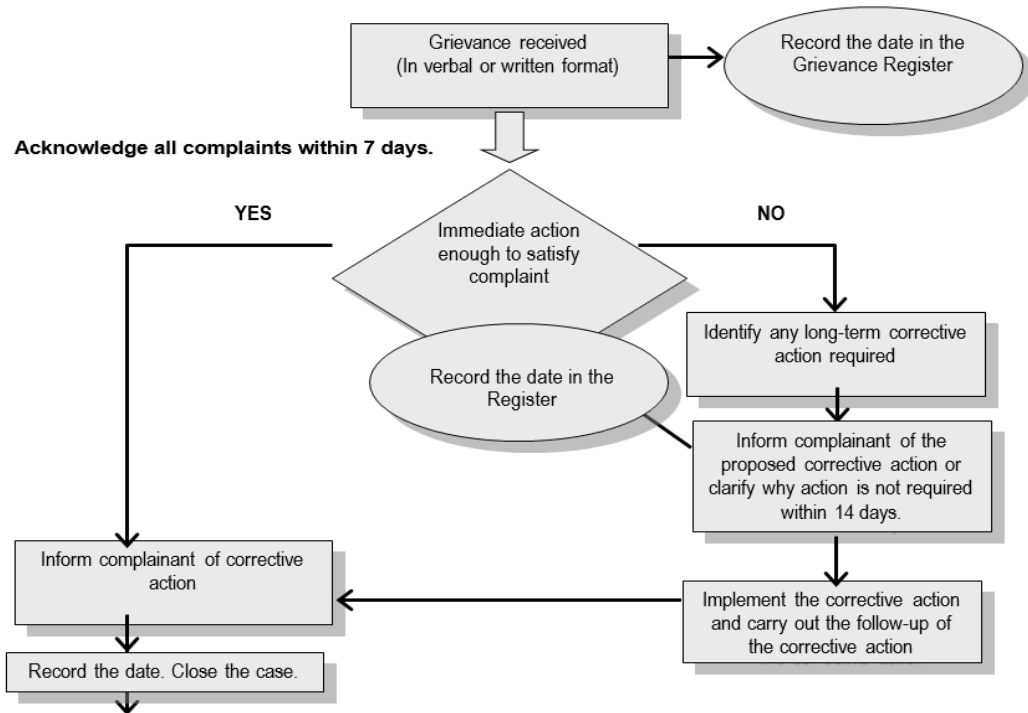
For purposes of this project, the Municipality will establish specific grievance mechanism for any concerns and complains to be handled in a systematic manner. The mechanism will be established such that people can make their complaints either by directly visiting a designated grievance centre or if required by anonymous written/verbal (phone call) applications. Information on the grievance mechanism will be distributed together with other project information. The HATSU currently has a public consultation and grievance mechanisms called as “Mavi Masa”. A similar mechanism dedicated to the project shall be established.

During the construction phase, all communication on grievance from the public will be channelled through an established Public Reception of HATSU and Kumlu Municipality.

The intention is that any problem or complaint arising during the construction period as well as concerns or complaints on the municipal services will be handled by the same team. Complaints may for example be related to noise, traffic, access to schools and businesses, problems for disabled and elderly people and working conditions for workers of the contractors.

Workers to be employed in the construction site also have access to a separate workers’ grievance mechanism regarding also any form of discrimination, abuse of rights or harassment, etc.. Additionally, the possibility of reporting any form of discrimination, abuse of rights or harassment shall be ensured to be safe and free of fear of reprisal. The unit will handle communication in Turkish and Syrian languages as appropriate.

The grievance mechanism to be applied is described in the figure below.



7.8 Other Impacts

The archaeology, ground conditions and air quality are unlikely to be receptors of significant impacts. It is considered unlikely that any other impacts will arise but if so they will be addressed through good design, construction and operating practices.

As a result of the project, there will not be any economic displacement. There will be not any significant impact on local business during construction of drinking water transmission line and network. Although roads will be closed temporarily, alternative routes or service roads are enabled and since pedestrian roads are always open, shops will not close during the construction.

Kumlu is located on the first degree (very high) zone in Turkey's Earthquake Zones Map that has been approved by Board of Ministers in 18 April 1996. Therefore, in construction of the line and network, particular concern will be given to comply with the requirements of the By-law on Structures to be constructed in Disaster Zones.

The purpose of the project under consideration is totally to provide environmental health of the city and all people living there will take advantage of the project and therefore there will be positive impact on vulnerable groups.

Labour standards are determined by Law in Turkey and it is the responsibility of Contractor to obey the rules. ILO labour standards that were ratified by Turkey shall also



be complied with. Occupational health and public safety shall be guaranteed by national legislation and the Municipality and İller Bank Regional Directorate in Adana, as the supervisory authority, shall continuously control the construction site in order for compliance with the related legislation and standards.

Before the construction is started for the network project, public participation meetings will be held by the Municipality in order to fully inform public living in the surrounding area.

7.8.1. Transboundary impact:

Considering the project location and the EU funding conditions for the project, the trans boundary impact shall be assessed according with the provision of ESPOO Convention on Environmental Impact Assessment in Transboundary Context. In this scope, the raw water abstraction for the drinking water lines is the type of impact or similarity with the activities listed in the Appendices of ESPOO Convention. The existing design capacity for the drinking water network in Kumlu will be 129.6 m³/s which refers to 36lt/s in year 2019 and estimated as 111.6 m³/s for the year 2051 that refers to 31 lt's

The above maximum design capacity for water intake, calculated according with İLBANK specifications are way below the threshold stated in the Appendix 1, paragraph 12 of ESPOO Convention on Environmental Impact Assessment in Transboundary Context. (10 milion cubic meter and more). Therefore, it can be said that, the project has no negative transboundary impact since the amount of abstraction is very limited and Kumlu spring, as the water resource, has not any affection with Syria.

8. ENVIRONMENTAL AND SOCIAL MONITORING

Monitoring of the Project shall be done by Supervision Authority which members are including the assigned personnel of HATSU and İller Bank Regional Directorate in Adana.

The main objective of environmental monitoring of the Project is to ensure compliance with the developed Environmental Monitoring Plan. Environmental monitoring plans distinguish between two different phases, since construction and operation phases cause different environmental problems. These studies are conducted in accordance with Turkish Laws and other norms and standards for the construction and operation phases of the project. Monitoring plans, which shows the place, method used, cost, time and responsible party for each parameter to be monitored, is given in *Appendix 2*. Monitoring reports shall be prepared periodically every 3 months during the construction phase and for every 6 months during the first year of the operation phase and submitted to İller Bank.



9. CLIMATE CHANGE ADAPTATION & CLIMATE CHANGE MITIGATION :

No detailed climate change studies are available for the project area. However, according to the "Climate Change Projections for Turkey: Three Models and Two Scenarios" study, performed by Turkey State Meteorological Service, Research Department, Climatological Service of 2017, an increase between 1°C and 6°C in mean temperatures is expected to happen in Turkey. And in general, precipitation amount shows a decreasing trend, except for the winter season. Although there is no regular decreasing or increasing trend throughout the projection period, an increase in irregularity of the precipitation regime is expected.

One of the objectives of the project is to protect environment, which will contribute to climate change adaptation efforts, as the water resources will be used more efficiently. Moreover, the other objectives of the drinking water project is to reduce the high physical losses, which will contribute to climate change adaptation efforts, as the water resources will be used more efficiently as well as less power will be required to supply water to the city.

No significant impact of climate change is expected on the drinking water network system. Increasing temperature and reduced rainfall presumably affect the availability of water sources and might increase the water consumption.

10. CONCLUSION:

The proposed drinking water network project does not require a preparation of formal Environmental Impact Assessment (EIA) in accordance / compliance with both:

- European Union Directives 2011/92/EU amended by 2014/52/EU;
- Turkish EIA legislation (the Law on Environmental Impact Assessment ("Official Gazette of TR", number 29186 and date 25 November 2014))

The EIA Screening carried out and documented with this report indicates that the proposed projects is a viable site and that while some potential ecological and environmental impacts but it is not expected that these impacts will be significant.

**Appendix 1: The Screening Checklist**

Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
Brief Project Description: Kumlu drinking water transmission line and networks project is designed per capita water 120 lt/cap/day for the year of 2015 and 150 lt/cap/day for the year of 2051. Furthermore, the daily water consumption is also accepted as 120.00 lt/cap/day for Syrian guest. Transmission line consists of Ø90- Ø560 HDPE pipes and length of the networks line will be 26.964 km. The network is planned to comprise of Polyethylene Pipes of 90-280 mm diameter. Length of the networks line will be 24.6 km.		



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
<p>1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?</p>	<p>No, line and networks are planned on public roads.</p>	<p>For drinking water networks, since public roads are used and reinstatement will be done after construction, there won't be any effects. Therefore, there will be not any permanent impact such as expropriation, any physical building affected, any physical displacement, etc. By the project activities, any vulnerable groups and any ethnic minority or tribal group will not be affected adversely. Contrarily, the projects will improve sanitation and hygienic conditions of the area.</p> <p>Regarding public consultation; the suggestions and complaints are taken into consideration by the municipality.</p> <p>Regarding the workforce to be used: The amount of workers cannot be given, since it is totally depends on Contractors. It's not intended to hire Syrian Guest as a labour force unless all legal and labouring procedures are correctly applied complying with the requirements of Ministry of Labour and Social Security.</p> <p>Labour standards are determined by Law in Turkey and it is the responsibility of Contractor to obey the rules. ILO labour standards shall also be complied with.</p>
<p>2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?</p>	<p>No.</p>	



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	No	
4. Will the Project produce solid wastes during construction or operation or decommissioning?	Yes. Construction is likely to produce small quantities of spoil and construction waste.	No. Construction Quantities will be small and non-hazardous. Construction and demolition debris will be disposed in an area to be designated by the Hatay Metropolitan Municipality. Compliance will be ensured with the By law on Control of Excavation Soil, Construction and Demolition Wastes (OG: 18.03.2004; No: 25406)
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	No	
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes. Noise and vibration will occur but during construction only	No significant impacts expected
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	No. Groundwater and soil contamination will be prevented by means of good construction equipment, practices and use of impermeable and robust pipe material.	



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	<p>No, there will be only the usual construction risks for which the contractors have to take precaution. i.e. failure to use proper personal protective equipment, repetitive motion injuries, etc.</p> <p>This is contractor responsibility and checked by supervisory authority. Furthermore, Operational health and safety of workers will be guaranteed by applying general safety rules (see. https://www.osha.gov/Publications/OSHA3252/3252.html). Final beneficiary will ensure their compliance with EIB standards in this respect</p>	
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	No	
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	No	
11. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No	No.



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	No	
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No there are no known.	No.
14. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	No	No.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	No	
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
<p>17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?</p>	<p>No. Drinking water transmission line and network are planned on main public roads which have at least 2 traffic lanes. Since the ditch to be excavated for the maximum diameter pipe is less than 3 m there won't be any problem to use the other lane not to interrupt traffic. Traffic management will be performed by the Municipality.</p> <p>If necessary, streets might be temporarily closed when the route crosses the street.</p>	<p>Traffic density shall be monitored at areas where construction works are done. In the event of long-continued traffic stop, alternative routes or service roads are enabled.</p> <p>Additionally,</p> <ul style="list-style-type: none"> - People shall be informed previously about field works - Warning signs to be placed at construction site shall be recognizable - Transfers shall be done on off-peak periods - Alternative routes shall be determined for engineering vehicles and trucks - "Motor Vehicle Exhaust Emission Measurement Permit" shall be checked for all vehicles during the construction with respect to the criteria defined by Ministry of Environment and Urban Development
<p>18. Is the project in a location where it is likely to be highly visible to many people?</p>	<p>Yes during the construction of water lines and network will be visible. On the other hand, protection fence shall be used during the construction period.</p>	
<p>19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?</p>	<p>No. none are known</p>	<p>Chance finding procedures will be put in place and in compliance with EIB standards.</p>



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No. for drinking water transmission and network.	
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes for drinking water construction. The project no requires any land acquisition, neither any resettlement of people.	<p>No significant impacts are anticipated.</p> <p>The construction works shall be immediately completed and these points shall be immediately restored to original situation. During constructions, necessary precautions shall be taken in order to provide access to these locations</p> <p>At this stage, it is not anticipated that construction sites will lead to any resettlement and/or economic displacement, including temporary. If this were to change as the project progresses (e.g. through a better understanding of the impact of road closures), the final beneficiary will advise the financier and ensure compliance with EIB Standards in these respects. Compensation would be assessed and provided in accordance with such standards, including for nuisance and disturbance such as private gardens being affected.</p>
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No.	



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the <u>Scoping Guidance</u>	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Temporarily to some extent during construction of drinking water lines and network.	Impacts will be limited by compliance to the Environmental Monitoring Plan and not significant.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Yes, to some extent during construction of drinking water.	The construction works shall be as fast as possible completed and these points shall be immediately restored to original situation. During constructions, necessary precautions shall be taken in order to provide access to these locations.
25. Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	No	
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No .	
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	No	



Questions to be Considered For further guidance on factors to be considered see the more detailed questions listed in the Scoping Guidance	Yes / No / ? . Briefly describe	Is this likely to result in a significant effect? Yes/No/? - Why?
<p>Summary of features of project and of its location indicating the need for EIA</p> <p>Drinking Water Networks;</p> <p>There will be no significant impacts related with odour, noise and landscape. There are no protected, important and sensitive ecosystems on and around the project area. Construction debris during construction stage will be disposed in the municipal disposal area in compliance with the pertinent regulations. No hazardous waste generation is anticipated. Impacts such as traffic congestion and noise will be temporary and will be limited to the construction stage. The Project area where the networks line will be constructed is an urban area. Networks line will extend along the existing roads, and where necessary will have to pass through private gardens, which necessary permissions shall be received by final beneficiary. According to both Turkish and EU EIA legislation, drinking water transmission line and net wok project has not to be prepared EIA report. As a result of the assessment done by the Provincial Directorate, it was determined that the projects are outside the scope of EIA regulation (Annex 3).</p>		



Appendix 2: Monitoring Plans



**GENERAL DIRECTORATE OF HATAY WATER AND WASTEWATER
ADMINISTRATION
Kumlu DRINKING WATER TRANSMISSION LINE AND NETWORK PROJECTS**

ENVIRONMENTAL MONITORING PLANS

GRAND NUMBER	
SUB GRAND NUMBER	
REPORT PERIOD	
CONTRACTOR'S NAME	
NAME OF CONTROLLER	



Table 1. Monitoring Plan During Construction Phase

Parameter	Measurement Area	Measurement Technique	Measurement Time	Cost	Start Date	End Date	Responsibility	Explanation
Excavation Soil	Excavation areas and storage fields	Observation in the field	- Daily by construction workers	Requires no cost			Contractor, Supervisory Authority	
Noise ($L_{day} < 70$ dBA)	Closest receiving area	Noise level measurement with calibrated sound level meter	- Monthly and during the activities that noise level increases (might be done more frequently with respect to the public complaints) - In the event of a change in activities causing increase in noise level - In the event of doing permitted night works	Included to construction cost			Contractor, Supervisory Authority	
Dust Emission and Air Pollution ($PM(10) < 50$ $\mu g/m^3$ (24 hour))	Closest receiving area	Observation in the field or measurement device	- Monthly and during the activities that dust level increases (might be done more frequently with respect to the public complaints) - In the event of a change in activities causing increase in dust level -	Included to construction cost			Contractor, Supervisory Authority	



Solid and Liquid Waste	Construction site, storage areas	Observation in the field	- At least twice a week by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Waste Oils	Construction site, storage areas	Observation in the field	- Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Health and Safety	Construction site	Workers' health and safety inspections	- Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Traffic	Construction site	- On site survey - Control of traffic jam - Placement of warning and information signs - Road safety	- Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Construction Waste	Construction site	- Observation in the field	- Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Historical, Cultural and Archaeological Assets	Construction site	Observation in the field	- Daily by construction workers during excavation	Included to construction cost			Contractor, Supervisory Authority	



Field and Visual Environment	Construction site	Observation in the field	Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	Necessary actions shall be taken for the compensation for temporary disruption, or access to asset. The construction works shall be immediately completed near hospitals, schools, etc. and these points shall be immediately restored to original situation. During constructions, necessary precautions shall be taken in order to provide access to these locations.
Existing Infrastructure System	During construction	Field observation	- During excavation by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Groundwater	Construction site	Observation in the field	- Daily by construction workers	Included to construction cost			Contractor, Supervisory Authority	
Right of way	Construction site	Examining responsibility areas	-	Covered by Local			Contractor, Supervisory	



		of institutions		Authority			Authority, Local Authority	
Communication plan	-	-	- Weekly	-Local Authority			Local Authority	Feedback will have been recorded, including how it was addressed. An ongoing mechanism for public engagement / feedback (not limited of grievance) will be in place.
Community grievance	Grievance centre	Checking records	- Daily	-			Local Authority, Supervisory Authority	The cost for compensation shall be covered by Contractor. Feedback will be recorded in the related unit to be established at the Municipality.
Worker's grievance	Grievance centre	Checking records	- Daily	-			Local Authority, Supervisory Authority	The cost for compensation shall be covered by Contractor. Feedback will be recorded in the related unit to be established at the Municipality.
Occupational health and public	Construction site	Monitoring - Workers' health - Hygiene safety	- Daily	Included to construction cost			Contractor and Supervisory Authority	



safety		- Security measures defined in security plan to be prepared by the Contractor						
Employment		Employment list	- Monthly	Included to construction cost			Contractor and Supervisory Authority	
Land Acquisition And Land Related Matters	water network routes	Field observation, grievance	Continuously by the Supervisory Authority	Included to construction cost			Contractor and Supervisory Authority	
Table 2. Monitoring Plan During Operation Phase								
Parameter	Measurement Area	Measurement Technique	Measurement Time	Cost	Start Date	End Date	Responsibility	Explanation
Maintenance	Along pipelines, project area	Reports of failure records	-Preparation of failure and repair record reports regularly, check of records monthly	Included in operation cost			Local Authority, Contractor and Supervisory Authority (1st year)	
Disasters and Accidents	Whole project area	Observation in the field, environmental searches	- On complaints and at certain intervals	Included in operation cost			Local Authority, Contractor and Supervisory Authority (1st year)	
Odor	Operation Area	Field observation	- Daily by operation workers	Included in operation cost			Local Authority, Contractor and Supervisory Authority (1st Year)	



Solid and Liquid Waste	Maintenance and operation areas	Observation in the field, environmental searches	- Keeping records of solid and liquid waste occurring during maintenance periods, assessing monthly and supervising annually	Included in operation cost			Local Authority, Contractor and Supervisory Authority (1st year)	
Health and Safety of Workers	Operation area	Worker health and safety inspections	- Daily by operation personnel	Included in operation cost			Local Authority, Contractor and Supervisory Authority (1st year)	
Communication plan	-	-	- Weekly	-Local Authority			Local Authority	
Community grievance	Grievance centre	Checking records	- Daily	-			Local Authority, Supervisory Authority (1st year)	
Worker's grievance	Grievance centre	Checking records	- Daily	-			Local Authority, Supervisory Authority (1st year)	



Appendix 3: The Governorship of Hatay Provincial Directorate of Environment and Urbanization EIA Feedbacks for Kumlu Drinking Water Transmission Line and Network Project



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T.C.
HATAY VALİLİĞİ
Çevre ve Şehircilik İl Müdürlüğü

Sayı : 26634441-220.03-E.19451
Konu : ÇED Değerlendirmesi

HATAY BÜYÜKŞEHİR BELEDİYE BAŞKANLIĞINA
(Su Ve Kanalizasyon İdaresi Genel Müdürlüğü)

İlgi : Etüt ve Plan Dairesi Başkanlığı'nın 29.11.2018 tarihli ve 48036060-13517 sayılı yazısı.

İlgi yazı gereği, Hatay Büyükşehir Belediyesi tarafından planlanan, Hatay İli, Yayladağı İlçesi Yayladağı Kanalizasyon Şebeke Hattı, Reyhanlı İlçesi Reyhanlı İçme Suyu Şebeke Hattı, Kırıkhan İlçesi Kırıkhan İçme Suyu Şebeke Hattı, Döşeme İlçesi Döşeme Harbîye İçme Suyu Şebeke Hattı ve Kumlu İlçesi Kumlu İçmesuyu Şebeke Hattı projeleri, 25/11/2014 tarih ve 29186 sayılı Resmî Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırımlar ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlerin riayet edilmesi gerekmektedir.

Bilgilerinize ve gereğini arz ederim.

Halit ERGİN
Çevre ve Şehircilik İl Müdürü

Nr. 2070 sayılı Elektronik İmza Kanunu gereği bu belge elektronik imza ile imzalanmıştır.

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