ATM SAĞLIK KONYA YATIRIM VE İŞLETME A.Ş.

KONYA KARATAY INTEGRATED HEALTH CAMPUS PROJECT

NON-TECHNICAL SUMMARY

KONYA PROVINCE, KARATAY DISTRICT

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ABBREVIATIONS

EU	European Union
A.Ş.	Corporation
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management Monitoring Plan
EBRD	European Bank for Reconstruction and Development
EHS	Environment Health Security
GIIP	Good International Industry Practice
IFC	International Finance Corporation
KKIHC	Konya Karatay Integrated Health Campus
KOSKİ	Konya Water and Sewerage Administration

1. INTRODUCTION

Konya is located in the boundaries of Central Anatolia Region of Turkey. **Konya Karatay Integrated Health Campus** Project (**KKIHC** or **Project**) is planned to be constructed in Konya Province, Karatay District. In the scope of Project, General Hospital with 420 beds, Maternity and Children's Hospital with 468 beds (in total 838 beds) will be in service for patients. Visual plan of Project is given in **Figure 1** and Location map of Project is given in **Figure 2**.

Figure 1. Visual plan of Project

KKIHC is one of the city hospitals in the scope of “Health Transformation” program conducted by Ministry of Health. The Project is based on a PPP-Public Private Partnership investment – finance model which has become an extensively used model in recent years. The project will be realized through PPP investment model. While the period of investment is 3 years, the period of operation is 25 years.

The reason why it is extensively used , is that resources are limited due to public debt burden and it is desired to increase the private sector's participation in infrastructure investment The main reasons of the use of PPP model in health sector are as follow; the usage of private sector finance funding in public investments, the ability of private sector of rapid decision-making and implementation of these decisions, creativity of private sector to integrate into project process, the sharing of risk, not bearing the cost in the name of public until health campus is active, extending over years of investment burden on limited investment funding at the level of hire payment, support of the operation of working areas and other services except medical service by private sector. ATM Konya Yatırım ve İşletme A.Ş. which will undertake the construction, operation and maintenance phases of project was established in 2013 within the scope of YDA Group. The main objective of ATM is to provide the construction of KKIHC and provide products and services through Public Private Partnership model.

ATM Konya Yatırım ve İşletme A.Ş. which will undertake the construction, operation and maintenance phases of project was established in 2013 within the scope of YDA Group. YDA Group one of leader groups in Turkey is a group of companies that operates in various sectors and owns domestic and international enterprises, creates business. Since the beginning of the 2000s, YDA Group has entered international markets, and has started its activities in Kazakhstan, Ukraine, Abu Dhabi, Russia,

Saudi Arabia and Moldova. In recent years, YDA Group has concentrated in investment projects at home and abroad and has activities in real estate& property development projects, Built Operate Transfer projects and PPP Healthcare investment projects. YDA Group is both a leader and a well-respected company in building city hospitals.

An Environmental and Social Impact Assessment Report was prepared, in line with the requirements of financial institutions, for KKIHC to identify the environmental and social impacts of project and the mitigation measures to minimize the adverse impacts.

This document, the non-technical summary (NTS), provides the summarized information on the project, the ESIA process, the significant potential environmental and social impacts of the projects, proposed mitigation measures and the stakeholder engagement process.

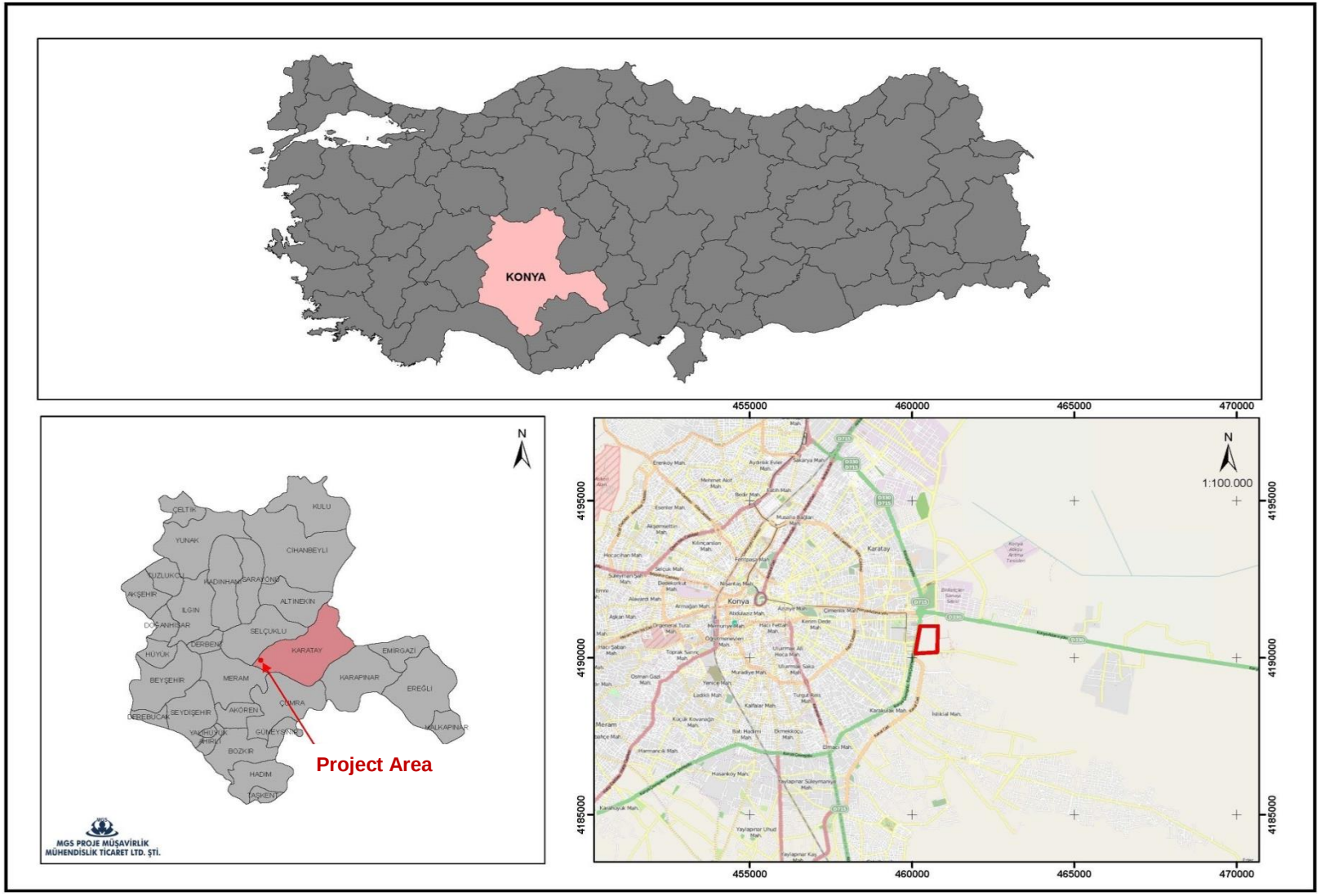

Figure 2. The Map of Project's Location

1.1. Objectives of ESIA

Objectives

ESIA is a research on physical, natural, cultural, social and socio-economic impacts of the project's activities during preparation, construction and operation phases. ESIA Report describes the project design, define the impacts of Project on the environmental and social conditions, mitigation measures to minimize negative impacts and the procedures to maximize positive impacts.

The main objectives of the ESIA are to:

- Determine the baseline conditions of the study area,
- Identify and assess the anticipated environmental and social impacts of the proposed project, both positive and negative,
- Identify and analyze alternatives of the proposed project,
- Propose mitigation measures for negative impacts and enhancement measures for positive impacts to be undertaken before, during and after the implementation of the proposed projects,
- Verify compliance with national and international environmental regulations and policies,
- Generate baseline data for monitoring and evaluation of the mitigation measures' implementation during the project life cycle,
- Recommend cost effective measures to be used to mitigate against the anticipated negative impacts;
- Receive the opinions of vulnerable stakeholders

Even though the Project is exempted from the EIA Process, MGS Proje Müşavirlik Mühendislik Ticaret LTD has been contracted by ATM Sağlık Konya Yatırım ve İşletme A.Ş. to prepare an ESIA in line with the requirements of EBRD, Equator Principles and IFC. So, ESIA is demanded by

International investment banks demand conformance with the following standards in order to maintain environmental and social sustainability:

- European Bank of Reconstruction and Development (EBDR) Performance Requirements (2008),
- EBRD Environmental and Social Policy (2008)
- EBRD Sub-Sectorial Environmental and Social Guidelines for Health Services and Clinical Waste Disposal (October 2009)
- Equator Principles (July 2013)
- World Bank / IFC Performance Standards (January 1, 2012)
- IFC General Guidelines for Environment, Health and Safety (EHS) (April 30, 2007)
- IFC General Guidelines for Environment, Health and Safety for Health Centers (April 30, 2007)
- International Environmental Conventions Applicable for Turkey

The Project is required to be in compliance with Turkish Environmental and Social Regulations. KKIHC Project and concrete plant which will be used during construction phase are exempted from National EIA Legislation. An official letter has been submitted to Provincial Directorate of Konya Environment and Urbanization for exemption and official correspondence stating that the Project is exempted from EIA Legislation has been obtained.

Whenever the exact thermal capacity of trigeneration facility is determined, it shall be assessed according to the national regulations and required approvals shall be taken including EIA permit.

ESIA Scope
Environmental and Social Impact Assessment studies for the Project consist of:

- Construction of the health campus,
- Operation of the health campus.

The responsibility duration of the project owner on project will be total 28 years including 3 years of construction and 25 years of operation. After the 28 years of responsibility duration, the project will be transferred to the Ministry of Health with all elements. Responsibility for decisions relating to the duration of the project operation belongs to the Ministry of Health. Therefore, there is no any information about the closing of the project at this stage. Once closure timing and the objectives are clearer, decommissioning/closure issues can be addressed.

Studies for KKIHC Project are implemented for three phases;

- Design (Project Preparation)
- Construction
- Operation

ESIA report has considered the outcomes of the public consultation meetings, stakeholder participations and interviews through local community questionnaires and the findings of the socio-economic and ecologic based studies, laboratory analysis, management meetings, literature reviews, various field visits. The objective of the report was:

- To determine the relevant environmental and social responsibilities to meet with the desired environmental compliance standards under the EBRD, IFC/World Bank Guidelines and national/ international regulatory as applicable to the Project,
- To determine the baseline conditions of the Project area,
- To define the activities to mitigate any potential adverse impacts.

Applicable Standards of Financial Institutes

Basic credit guidelines to be followed throughout the project have been determined as May 2008 dated “EBRD Environmental and Social Policy”, July 2013 dated “Equator Standards” and January 2012 dated “IFC Performance Standards”. These documents include respectively EBRD Performance Requirements, Equator Principles and IFC Performance Standards.

KKIHC Project is categorized as **Category B**. Category B means that the facility has a potential for small, specific to the region, mostly reversible negative social and environmental impacts. These impacts should be managed in conformance with EBRD and IFC standards.

Project site was used by Directorate of Bahri Dağdaş International Agricultural Research Institute before project planning phase. However, locations have been assessed during the planning phase and this location has been assigned to Ministry of Health by Ministry of Food, Agriculture and Livestock in conformance with specified special conditions. So it is not required to follow the following performance criteria:

- **PR 5:** Land Acquisition, Involuntary Resettlement and Economic Displacement
- **PS 5:** Land Acquisition and Involuntary Resettlement

Project site has been used for agricultural research activities for long years under the body of the Institute. For this reason, there are no natural fauna and habitat over the field. Since the field has no ecological and bio-diversity importance, it is not required to follow the following performance criteria:

- **PR 6:** Protection of Biodiversity and sustainable Management of Living Natural Resource
- **PS 6:** Protection of Biodiversity and sustainable Management of Living Natural Resource

No local public is living in the field so it is not required to follow the following performance criteria:

- **PR 7:** Indigenous Peoples
- **PS 7:** Indigenous Peoples

As is mentioned by Directorate of Konya Museum and Directorate of Provincial Culture and Tourism, there are no cultural assets or natural heritage (refer to **Annex-A**). So, there is no impact over cultural heritage. If any mobile/fixed cultural asset is found during project studies then Archeological Findings Procedure in conformance with 2863 numbered Protection of Cultural and Natural Assets Law (Section 5.8.2). So it is not required to follow the following performance criteria:

- **PR 8:** Cultural Heritage
- **PS 8:** Cultural Heritage

The Project is not classified in financial intermediaries (FI) category. Therefore, the following performance criteria will not be applicable.

- **PR 9:** Financial Intermediaries

The applicable EBRD's Environmental and Social Performance Requirements (PR's) for the project are;

- **PR 1:** Environmental and Social Appraisal and Management;
- **PR 2:** Labor and Working Conditions;
- **PR 3:** Pollution Prevention and Abatement;
- **PR 4:** Community Health, Safety and Security;
- **PR 6:** Biodiversity Conservation and Sustainable Natural Resource Management.
- **PR 10:** Information Disclosure and Stakeholder Engagement

The applicable IFC's Performance Standards (PS's) for the project are;

- **PS 1:** Assessment and Management of Environmental and Social Risks and Impacts
- **PS 2:** Labor and Working Conditions
- **PS 3:** Resource Efficiency and Pollution Prevention
- **PS 4:** Community Health, Safety, and Security
- **PS 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources

2. LOCATİON AND DESCRIPTION OF THE PROJECT

Location of the Project

KKIHC Project has 616,000 m^2 area belongs to Undersecretariat of Treasury. Project field is registered as in 376-377-379 plot, 32968 block and 2 parcel in land registration and has been transferred to ATM Sağlık Konya Yatırım İşletme A.Ş. for 30 years.

The information about the surroundings of the field is given below:

- Bahri Dağdaş International Agricultural Research Institute located at the eastern section and within the borders of the of the project area,
- Municipal Parking Area (Zoo) is about 600 meter distance from the site,
- Municipal Livestock Park and Marketing Field and meat and meat products factory is about 600 meter from the north-eastern section of the site,
- A sport facility including football field carpet and recreation areas located is about 700 meter from the north-eastern section of the site,
- Konya E type Closed Prison is about 170 meter from the north-western section of the site,
- Karatay District Gendarmerie Command, Courthouse, İMKB Gazi Mustafa Kemal Hotel Management and Tourism Vocational School and İMKB Zübeyde Hanım Vocational and Technical Anatolian High School is about 80 meter from the western section of the site,
- Residence areas are located in southern, south-western and north-western section of the site.

Detail information about environmental and social area of influence for the project is presented in the ESIA report. In this scope, area of influence was determined for social, air quality and noise.

Description of the Project

Compared to other facilities, KKIHC project comes to the prominence thanks to providing health service in an effective and quick way, reaching the specialized knowledge easily, saving space and time, reduction in cost, activity on staff organization, high level of infrastructure in social and hotel management quality, enough bed capacity, the opportunity of caring lots of patients with short-term patient process, making saving with projects in technology and other logistic units (electricity, water, heating up, cooling), vehicle and parking level.

Due to the increasing population of the Province, the requirements for higher quality of services and developing technologies, new health care facilities are needed in Konya.

KKIHC is one of the investments planned by Ministry of Health as a result of health needs assessment. The rooms to take place in this health campus will be with 1 or 2 beds in accordance with health campus program and objectives of Ministry of Health. The project will be done in the framework of "Regulation on Building Health Facilities in return for lease and Renewal in return for the Operation of Areas Standing out of Health Care Services" which is in 3359 numbered "Health Services Fundamental Law" (Article 7). This model can be thought as "Public-Private Partnership" but it is "build-lease-transfer" method in terms of implementation model.

In the framework of basic standards to be determined and preliminary project to be given by Ministry, in this model based on cooperation and partnership working in order to provide service and infrastructure in health sector; it will be allowed entrepreneurs to

build health facilities for a while in return for lease. Thus, financial needs will be met by private sector and the burden on government budget will be shared, new and efficient facilities will be built, investments in health sector will be supported, no payment will be made to private sector until the facility will be ready to use, standards determined before for services will be stay the same during the cooperation process.

Public-Private Partnership brings close together private sector and non-governmental organizations, develops a new understanding for public management. Moreover, it is a method in which cost of goods, risk and benefits are shared by everyone.

Public private partnership is used commonly in these days because funds are limited and there is a demand for increasing the private sector's participation in infrastructure investment. This method includes basic factors such as the implementation of the PPP model in the healthcare sector, the use of private sector's sources of finance, sharing the risk, making no payment until health campus is ready to use, shortening the time of building construction because of inadequate fund, investment burden on public sources, the use of private sector to run service areas out of medical services.

2.1. The Necessity of Project

Hospitals in Konya are generally very old. Apart from this, hospitals cannot expand because they are located in the central areas. Hospitals do not have enough space for parking area and green field.

According to Konya Provincial Directorate of Health statistics, even though there was an increase in the number of hospitals in 2012, it began to decline in 2013. Whereas 39 hospitals were in service in 2012, this number decreased to 35 in 2013. The reason of this decrease is the closure of 2 private hospitals and 2 state hospitals. According to Provincial Directorate of Health data, there were 44 hospitals in Konya in 2014. These hospitals are public, university and integrated hospitals.

In terms of total bed amount, there was an increase in 2013. Designated bed capacity being 6,912 in 2012 declined to 6,579 in 2013 (4.8% decrease).

District state hospitals which offer personal protective health services, first step diagnosis, treatment and rehabilitating health services, mobile health care services and inpatient treatment services all together by taking account of region-centered healthcare planning criteria in district centers are defined as integrated hospitals. There are 8 integrated hospitals in total.

Hospitals providing in private health sector are generally located in large county towns. According to data in 2014, there are 12 private hospitals in Konya. Private Medicana Konya Hospital comes the first with 201 bed capacity. Total bed capacity of private hospitals is 816 by 2014.

There are 4 university hospitals in according to Konya Provincial Directorate of Health. Necmettin Erbakan University Meram Medical Faculty Hospital (1137 bed capacity) is one of the important healthcare organizations. Selçuk University Medical Faculty Hospital comes seconds with 748 bed capacity. Bed capacities of Başkent University Research and Application Center and Mevlana University Health Research and Application Center are less.

There are 20 public hospitals by 2014. These hospitals have 3699 beds in total. Konya Education and Research Hospital has 1090 beds while Konya Numune Hospital has

600 beds. Even though the bed capacities of two hospitals are higher compared to other healthcare organizations, this number is not enough for inpatient treatment.

There are only 3 Public Oral and Dental Health Clinics in Konya. Two of them are in Selçuklu District, the other one is in Meram District.

There are 15 public Polyclinics in Konya. According to Konya Department of Sanitation statistics, the majority of health care staff consists of medical personnel (30%) and nurses (29%). While there were 14,313 health care staff working under Ministry of Health in 2013, this number increased to 19.026 in 2014.

When situation of the health personnel is examined, a table of highly insufficient figures comes out of a such large province as Konya. According to the data of Konya Provincial Directorate of Health, majority of the health personnel in Konya consists of assistant health personnel (30%) and nurses (29%) apart from physicians. While the number of health personnel increased, 3.876 physicians endeavor to provide service for 2.108.808 people in Konya province in 2014. There is one specialist physician per 1118 people and one practicing physician per 1987 people. These figures are so close to the average in Turkey for specialist physicians (Turkey's average of one specialist physician per 1131 people are almost the same as that of Konya), while it is above Turkey's average for practicing physicians. (Turkey's average of one practicing physician per 1881 people is below the average of Konya) However, these figures indicate that Turkey and Konya averages are far below the average of European Union. AB average is indicated as one physician per 300 people.

In 2014, the population of Konya was 2,108,808. This population is experiencing difficulties in benefiting from the services of the hospitals in Konya. Bed capacities of hospitals under Ministry of Health are not enough. The number of beds per 10,000 people in Turkey is on the rise. Turkey has the least bed capacity compared to the EU member and candidate countries.

Intensive care units whose aims to provide life support with polyclinic service and number of surgeries do not have enough hospital beds. Considering service buildings of hospitals and increasing population, high service quality cannot be given to the settlements around Konya.

Even though total budget for health investment are on the rise this budget not allow to produce physical capacity parallel to increasing population and it is not enough to renovate and develop current health facilities. Budget can only be made to develop ongoing constructions. New investment decisions taken get into a financial need cycle and these decisions are doomed to the financial facilities of general budget in the future. Therefore, each investment decision taken postpones the end date of current and new projects. While unfinished constructions wait to be financed, finished parts of the construction start to run out of construction time in the framework of project life cycle. System will have new facilities with health facilities finished in a short time (maximum 3 years) thanks to PPP model, facilities will get their own finances, the investments made in this model will do modeling to pay debt instead of waiting for financial aid in the framework of general budget and floating capital. Thus, short-term dilemma in the budget allocated for health sector will turn into long term dilemma (20-25 years).

Besides, it is aimed to reduce costs of operation and construction, use operating techniques with the thought of "effective investment in health sector", apply private sector's effective management skills to public services, provide common interest to share risk, responsibility and management with private sector.

2.2. Assessment of Alternatives

Site selection, Project design alternatives and alternatives of no project option have been considered during the feasibility studies of the Konya Karatay Health Facility.

Alternatives for Project		
Project Site	**Design**	**No Project Option**
The area over which KKIHC will be constructed has been determined by Ministry of Health. The following criteria have been regarded during the location selection for the project: ➧ Social and economic properties of the region, ➧ Locations and properties of the health facilities located nearby, ➧ Population density, ➧ Transportation and substructure status, ➧ Physical and geographical properties of the region	KKIHC Project is a provincial hospital project to be realized under the scope of Transformation Program of Health which has been commenced as of the beginning of 2003 by Ministry of Health. For the project which will be realized by Public-Private Cooperation model, it is mandatory to use the type projects specified by Ministry of Health. Type projects are designed according to state of art technology properties to be used for hospital design.	Karatay District of Konya is economically and socially one of the least developed districts of Konya. Regarding the population density in the district, it has been determined that health substructure of the district is inadequate and there is no comprehensive health campus. For this reason, if ever this project is not realized then health campus defect and public health related problems shall continue to increase.

2.3. Technical Properties of the Project

KKIHC Project includes a health campus with 838 beds. Under the body of the facility, there exists general hospital with 304 beds, a Maternity and Children's Hospital with 318 beds and an intensive care unit with 216 beds. In addition to these mentioned units, there are available surgeries, conference hall, outpatient clinic and doctors' offices, diagnosis block, emergency service. Besides, other locations for parking lot, cafeteria, technical services, etc. will also be constructed. Facility layout of hospital units is given in **Figure 3.**

Figure 3. Facility Layout of Konya Karatay Health Campus

Energy requirements during construction phase of the project shall be met by transformer(s) via city network. Power generators which shall be kept ready at the construction site shall only be used for required cases to maintain the sustainability of electrical tools and machines against any power failure at the region.

Energy type to be used during operation phase is electrical energy and natural gas. For approximately first 1 year of operation, boiler system will be used for domestic heating and vapour production. The total thermal power of boiler system is planned to be 18.8 MWt. Whenever the health campus is at operation phase, its energy requirement shall be monitored for approximately 1 year, and a trigeneration facility shall be constructed. Thermal power of the trigeneration facility will be determined according to the energy necessity of the project. Nevertheless, it has been predicted that the thermal capacity of the trigenaration facility will be approximately 17 MWt according to the preliminary evaluation. Whenever the exact thermal capacity of trigeneration facility is determined, it shall be assessed according to the national regulations and required approvals shall be taken including EIA permit.

Fields of units covered by the KKIHC Project and their bed capacities are given at **Table 1.**

Table 1. Project Units and the area they occupy

Hospital Main Units	Area (m)	Piece	Explanation
General Hospital	24.006	304	Number of beds
Maternity & Children's Hospital	22.559	318	Number of beds
Polyclinic and Doctor Room	24.235	360	Number of Rooms
Conference Rooms	200	1	Number of Halls
Diagnostic Blog	38.670		
Operating room	7.912	28	Number of Operating room
Day Operating room	1.579	4	Number of Operating room
Intensive Care Unit (ICU + NICU)	17.570	216	ICU+NICU Number of beds
Emergency room	6.838		
Emergency Cafeteria	70		
Hospital Main Units Total	**143.639**	**838**	**Total Number of beds**
Hospital Other Units			
Parking Garage	79.200	2.400	Car Parking
Outdoor Parking		100	Car Parking
Technical Service Center	2.286		
Hospital Other Units Total	81.486		
Campus Main Total	**225.125**	**838**	**Total Number of beds**

2.4. Project Activities

2.4.1. Construction Phase

Duties and Responsibilities

KKIHC Project construction activities shall be performed by investing company ATM Sağlık Konya Yatırım ve İşletme A.Ş. It is deemed to work 7 days per week and 10 hours per day during the construction phase.

Rest areas, dormitories, canteen, infirmary to meet requirements of personnel as well as administrative buildings, offices, material storage areas shall be available within the job site. All designs and arrangements at the job site and construction areas shall be made in conformance with technical specification, Turkish legal regulations and standards of financial bodies. Contractor shall meet the requirements of personnel in conformance with Guidance on Workers' accommodation: Process and Standards prepared by IFC and EBRD.

Entries and exits to and from the job site shall be continuously monitored by a security personnel. Security warnings shall be placed inside the project site and the surrounding to prevent unauthorized entries. Trainings shall be given to employees about the security precautions and speed limits to be followed. Following management plans will be implemented for camp management.

- Workers Accommodation and Construction Camp Management Plan
- Personnel Procedure
- Worker's Code of Conduct
- Security Plan

Personnel shall be employed and assigned in conformance with job descriptions. For jobs and responsibilities related with environmental and social management, the following corporate management plans will be used.

- Human Resources Plan and Procedures in alignment with the YDA Corporate Human Resources Policy and Procedure
- Environmental Health and Safety Plan and Procedures

Work Force

It is forecasted to employ maximum 1,500 employees for the construction phase of the project. Employees shall be as much as possible employed among local public.

2.4.2. Operation Phase

Duties and Responsibilities

The project which will be realized according to Public Private Partnership that will be operated through Dual Management for 25 years. In the scope of Dual Management, management and administrative staff shall be provided by Ministry of Health during the operation phase of the project and mandatory and optional services except doctors and health personnel shall be provided by ATM Sağlık Konya Yatırım ve İşletme A.Ş.

According to Dual Management model, outline of the responsibilities of the Ministry of Health are given below:

- Ministry of Health will act in accordance with applicable laws and regulations and give related authorizations.
- Ministry of Health is responsible for issues related to land ownership and its consequences.
- Ministry of Health will carry out the construction supervision of health facilities or assign an independent auditing company.
- Ministry of Health will provide medical staff to the health campus.
- Ministry of Health is responsible for the diagnosis and treatment of patients.
- Ministry of Health will and check all the work carried out by the project company.
- Ministry of Health is responsible for the procurement of supplies.
- Ministry of Health is responsible for the energy usage and expenses..

Outline of mandatory and optional services to be provided by ATM Sağlık Konya Yatırım ve İşletme A.Ş. are given below as items:

- Cleaning, disinfestation and laundry services,
- General services required inside the building and around the hospital,
- Parking lot services,
- Security services,
- Landscaping of surroundings of the hospital and maintenance services,
- Food and waste management services,
- Material and goods provision,
- Medical support services,
- Services provided to patients and patient relatives except medical services.

HIMS (Hospital Information Management System): The operators of this service will be aware of the legal responsibilities. The company of operation must be experienced on this issue. Also, ATM and service subcontractor have the capability of existing data management scale. “Data entry operator” who is employee of service provider will enter data under the scope of HIMS. Entry and exit of system will be by personal passwords and user accounts. Advanced encryption mechanisms will be used; all necessary measures will be in place for protection of patient’s data that uses the hospital.

Work Force

It is forecasted to employ total of 2,000 employee including personnel of Ministry of Health and personnel of ATM Sağlık Konya Yatırım ve İşletme A.Ş. for the operation phase of KKIHC Project.

2.4.3. Closure Phase

The responsibility duration of the project owner on project will be total 28 years including 3 years of construction and 25 years of operation. After the 28 years of responsibility duration, the project will be transferred to the Ministry of Health with all elements. Responsibility for decisions relating to the duration of the project operation belongs to the Ministry of Health. Therefore, there is no any information about the closing of the project at this stage. Once closure timing and the objectives are clearer, decommissioning can be addressed.

3. ENVIRONMENTAL AND SOCIAL BASELINE SITUATION, ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

3.1. Water Quality

Wastewater will be generated in the phase of construction in two forms; domestic wastewater caused by employees and washing the ready mixed concrete plant equipment.

Since water which will be used in irrigation works to prevent dust formation, will evaporate and since concrete mixing water which will provide hydration with cement will be in concrete construction it is not possible to return as wastewater.

In general, construction activities can create negative impacts on surface and groundwater resources such as; possible leaks during moving materials like fuel and oil which are needed for earth movement, construction machines and equipment, adverse situations like percolation while moving and using the concrete. In addition, flooding can occur during the storm drainage. Water released or leaks as a result of these negative events can mix in surface and groundwater resources.

During operation phase, there will be water need of patients, patient relatives, visitors and staff; water use for hygiene, water use for equipment used in the hospital (autoclave, sterilizer, Rontgen etc.), water demand which will be used in landscape areas.

Upon, Ministry of Health request, mitigation of impacts is addressed in technical specification prepared in the scope of KKIHC Project. Some measures determined in the scope of design criteria and infrastructure needs are given below. In addition to this, disposal methods of wastewater to occur in the phases of construction and operation are described in sub-titles:

Mitigation Measures:

- Drainage systems in buildings will be designed taking into account the hospital's capacity.
- Piping will be created for storm drainage and connected to sewer system. Rainwater will be directed through oil slinger and if necessary pump system will be set up.
- During the phase of construction, storage and disposal of waste will be regularly provided in order to prevent water pollution. In addition to this, employees will be trained during storage and transportation of excavation materials. These materials will be stored in a place away from hazardous materials. Storage and transportation will be implemented under supervision.
- Oil change of machinery, fuel delivery etc. will be performed in excavation area. Requirements will be met on systems of impermeable floor.
- Any damage will be reported and required measures will be taken and disposed in a proper way.

Mixers transporting in concrete plant should be washed during the transportation and after pouring of concrete. As a result of washing mixers, wastewater will occur in concrete plant. Suspended solid concentration and turbidity are very high as a result of this wastewater. There will be concrete admixture (clay, sand, pebble etc.) in these wastewater. Therefore, "Sedimentation Pool" will be set up in construction sites for recycling of wastewater and concrete aggregate. Thus, the water of truck mixers will be given to sedimentation pool and solids will be separated from water. Concrete admixtures sink to the bottom in time with the rest water taken into sedimentation pool. The water in the pool will be used again by performing loopback for washing interior and exterior of mixer.

Exit waters of sedimentation pool will not be discharged to any receiving environment. Concrete aggregate accumulated in the bottom of the sedimentation pool will be processed again in concrete plant.

Domestic wastewater to occur in the phases of construction and operation will be disposed according to Regulation on Water Pollution Control and Regulation on Wastewater Treatment Plant Technical Procedures and Water Products. Discharge of any wastewater which can cause deterioration of current quality of project area and near water resources will be prevented and necessary measures will be taken by receptor. Konya wastewater treatment plant has been designed according to the advanced biological treatment method for carbon removal and partial nitrogen removal. Exit water is discharged through UV disinfection system. Treatment of Konya wastewater will be suitable and effective for human and environmental health. Safe environmental conditions will be provided with water to be discharged and treatment sludge to be stabilized.

The project will be implemented according to provisions of Regulation on Surface Water Quality Control and Protection of Watersheds, Regulation on the Preparation of Management Plans and Regulation on Protection of Groundwater against Pollution and Degradation.

3.2. Soil Quality

Construction phase of the Project includes all of activities (excavation, foundation, concrete pouring, elaborate, etc.) required for the construction of the hospital. Blasting will not be done during the construction phase.

If hazardous materials, hazardous wastes or waste oil mix into the soil during construction works, soil pollution will occur. It is planned to remove the topsoil and to transport this layer. If topsoil is not properly protected and stored during strip excavation, soil will lose its properties. Topsoil will be temporary stored in the project site.

Leakages and spill occur during working of machines and equipment for excavation, during storage of fuel oil, etc. materials and these leakages and spill cause pollution at the soil and groundwater.

During concrete plant activities which is planned to be established at construction phase, spills might occurred during manufacturing or uncontrolled handling. This causes pollution at soil and safety hazards.

Spills of dangerous materials required in operation phase of the health campus, leakages at storage areas, uncontrolled management of generated dangerous wastes, leakages from waste water network pipes may cause pollution at the soil. Degree of the

pollution depends on the dimension of spill outs and leakages and depending on the area.

Mitigation measures for the operation phase are addressed in technical specification of the project contracted by Ministry of Health. Septic waste water drainage systems of buildings to be operated under the body of the health campus shall be designed in such a way to be able to carry the load of the envisaged facility. Ventilation and waste facilities shall be available at all buildings for wastes to be collected.

Underground fuel oil tanks or protected over ground tanks shall be used in the region where energy shall be supplied to health campus. Emergency Case Generators shall be kept ready. Besides, control systems shall be made available to determine possible leakages and fuel level. So, pipelines and fuel tanks shall be controlled.

The following protection measures shall be taken in order to protect soil and groundwater quality during construction and operation phase:

- Training shall be given by Contractor to personnel about the matters causing soil pollution.
- Excavated soil shall be stored in such a manner protected from rain and wind erosions.
- Dumpers of trucks shall be covered during transportation of excavation material to prevent soil to be scattered.
- Fertile soil obtained after stripping operations shall be re-used so it is important to provide this soil to keep its own characteristics. Therefore, vegetable soil shall be kept in a separate place and shall be kept humidified.
- If excavation soil is found proper then it shall be used in backfill. Waste soil which is not used in backfill shall be transported to areas mentioned by the municipality.
- Waste Management Plan and Hazardous Materials Management Plan shall be prepared.
- Cement and concrete production during concrete plant operations shall be kept under control. Spill outs and leakages during transportation and usage of concrete shall be controlled.
- Transportation and disposal of excavation material and hazardous materials shall be made in conformance with national regulations.
- Under the scope of prevention and control of soil pollution, hazardous materials, hazardous wastes and waste oil shall be prevented to mix with environment.
- No discharge shall be made to the receiving medium.
- Waste oil and hazardous wastes shall be collected in impermeable tanks and these tanks shall be kept at a concrete floor having barriers against leakages. There shall be no connection of storage area of these tanks with rain water drainage canals.
- Maintenance and repair of construction equipment and machinery shall be performed over concrete floor having barriers against leakages.
- Rain water and surficial water drainage canals shall be built in conformance with topography of the region. Drainage canals shall be inspected in regular intervals during operation phase.
- All required precautions against floods within project site shall be taken by the Contractor.
- Domestic waste water sourced from water usage in job site during construction phase of the project and water usage inside the facility within the operation phase shall be discharged to sewage system. Required permissions shall be taken for sewage system connection. Proper connections to sewage system shall be made and these connections shall be inspected in regular intervals.

- Fuel oil storage, fuel supply to vehicles and maintenance of vehicles shall be made on an impermeable area and barriers shall be used against leakages.

If there is an area with potential contamination encountered during construction and operation phases of the project or if contamination is detected then necessary measures shall be taken to recover the negative impact, to prevent leakage. Contaminated fields shall be regularly cleaned not to impose risk over human health or ecosystem. Besides, Emergency Preparedness and Response Plan shall be followed in case of leakage, spill out, fire, etc. Negative impacts over soil shall be prevented/mitigated by taken required measures.

At construction and operation phases of the project, provisions of "*Regulation on Soil Pollution Control* and Point-Source Contaminated Sites" shall be followed. After the construction phase of the project is completed, recreation studies shall be commenced regarding natural vegetation.

During the project activities, provisions of 167 numbered Groundwater Law, Regulation on Protection of Groundwater against Pollution and Degradation and Regulations on Groundwater Measurement Systems of General Directorate of state Hydraulic Works shall be followed.

3.3. Air Quality

At the health campus construction phase;

a) Dust emissions sourced from excavations (excavation, filling, transportation etc., blasting will not be done during the construction phase),
b) Dust emissions sourced from operation of concrete plant,
c) Dust emissions sourced from constructions of buildings planned under the scope of the project,
d) Exhaust gas emissions from heavy machines to be operated in excavations and construction activities.

In order to ensure quality control of air emissions in the construction phase of the project, the following measures will be taken:

- Construction site and routes will be watered with sprinklers in certain periods. In studies, it is observed that the dust formation is reduced 80% by watering.
- Truck tire washing unit will be installed close to the asphalt road.
- During the transportation of excavated material, skidding of soil will be blocked by covering the truck.
- Trucks will not be allowed to leave the construction area without washing the tires and the upper part being covered with a tarpaulin.
- Loading and unloading operations will be ensured to be performed without tossing.
- Construction machinery will comply with the specified speed limit value in the Highways Traffic Act and Regulations.
- Dust emissions will be controlled by monitoring studies, in case of any complaints the frequency of monitoring will be increased and comprehensive measures will be taken.
- In order to control exhaust emissions during the construction phase, new vehicles and / or new-maintained vehicle will be used and "Exhaust Gas Emissions Control with Gasoline and Diesel Quality Regulation" shall be complied.

- Except for maintenance and repair operations construction equipment will be stopped during park position.

Emission sources during operation phase are given below;

a) Emissions will be generated from 17 MWt trigeneration system
b) Emissions will be generated from 18.8 MWt boiler system
c) Exhaust gas emissions will be generated from vehicles using open and closed parking lot.

Following measures will be taken in order to control dust emissions during the operational phase of the project:

- Regular maintenance of emission sources will be made.
- Chimney height of emission sources will have the specified dimensions at National and International regulations /standards.
- The most important pollutant sourcing from trigeneration (energy production utility) and boilers that are powered by natural gas is NO_2. In order to reduce flue gas emissions that will come from these units catalytic converter system will be used. Thus, NOx, CO and hydrocarbons are converted into harmless compounds.
- Emission sources will be closed during the time that there is no need to use.
- All necessary application will be made in order to ensure compliance with national and international emission standards.
- In accordance with the IFC General EHS Guidelines, to flue gas central heating height will be designed according to Good International Industry Practice (GIIP).
- Boiler systems will be designed in accordance with relevant national legislation and the IFC standards.

The following measures will be taken to keep greenhouse gas emissions at the lowest possible level:

For the reduction of heating fuel;
- Taking the necessary measures for building insulation
- Outside the entrance of the building, a revolving door, double doors or air curtains will be used.
- The maintenance and control of the heating system will cover the burner settings based on flue gas measurements.
- To inform the relevant employees about this matter.

For the reduction of fuel used in vehicles;
- Performing properly exhaust emission measurements of vehicles
- The preference of fuel-efficient vehicles
- Prevention of unnecessary use
- Turning off the ignition of the vehicle in standby mode
- Making regular and complete vehicle maintenance

For the reduction of fuel used in generators;
- Timely maintenance of generators

For Air-conditioning gases;
- Preferring A Class ventilation systems
- The use of automatic air-conditioning system

For electricity consumption;

- Using high efficiency fixtures and lamps, electronic ballasts, lighting control systems for lighting and benefiting from daylight as much as possible.
- Using compact fluorescent lamps and electronic ballasted highly efficient fluorescent or LED lamps.
- Using motion, heat or light sensitive sensor control system
- Using highly reflective luminaries instead of the luminaries preventing light transmission
- For interior lighting, arrangements should be made for the sections that have more than one armature
- Reduction in lighting during daylight hours

3.4. Noise

Due to the machinery and equipment that will be used at the projects site preparation and construction phase, noise will occur. The following mitigation measures will be taken during the construction phase of the project:

- All of the business machinery and equipment shall not be operated simultaneously.
- Periodic maintenance of all working machines and equipment will be done on time.
- High-tech equipment with the lowest possible noise level will be used.
- Construction machinery will be turned off whenever not used.
- Construction activities will be conducted during daylight hours whenever possible.
- Activities that will cause noise will be carried out in as far locations from residential areas as possible.
- Noise monitoring will be conducted in order to ensure the noise standards.
- Excavation will be done during normal working hours using shipping routes. If it must be done at night, all the permissions will be taken.
- Staff will be made aware on reducing the impact of the noise level.
- Local people will be informed about the progress of activities which will cause noise. Complaints on noise will be considered under the Grievance Mechanism.
- Working hours will be set by the provisions of the relevant legislation.

In the operational phase of the project, noise sources will be in closed environments and contractor will perform the necessary insulation inside the building. Therefore, the operational phase of the project would have a negligible effect on the current noise level.

Machinery and equipment working in the field will be checked regularly and necessary maintenance will be made at regular intervals to determine the noise levels at all construction phase of the project including land preparation .In addition at periodic intervals noise measurements will be made at the project site and at the nearest residential unit .

At construction and operation phases of the project, noise limit values specified in national and international legislation will be strictly adhered.

3.5. Waste Management

Waste management principles specified in the guidelines IFC Health Care Facilities for wastes to be generated during construction and operation phases shall be followed. Wastes that will be generated during the construction and operation phase of KKIHC

shall be collected, stored and disposed in accordance with national and international standards. Waste Management Plan (to include all solid, medical and hazardous wastes) will be prepared.

Management of Hazardous Materials

For fuels and chemical containing materials that will be used in the project construction and operation phases, Hazardous Materials Management Plan will be prepared and will be developed for the transportation and storage in conformance with international standards and national regulations for transport and storage of the scope, including the safety precautions.

During the construction and operation phases of the project:

- Refueling operations will be performed over the concrete floor in sealed impermeable area. Storage of needed fuel, oil, etc. hazardous substances will be made in proper sized watertight tanks allowing leak detection.
- Storage of fuel and chemicals will be made over the concrete floor that is protected against the adverse weather conditions and floods.
- In case of spills and leaks, emergency action shall be taken and absorbing kit and sawdust will be available in order to collect the spills and leakage.
- Transportation, storage and disposal of dangerous substances will be managed in accordance with the manufacturer's instructions.

Construction Phase

Excavation waste that will be generated during construction activities will be disposed properly in accordance with the Excavation, Construction and Demolition Waste Control Regulation. In case of contamination of soil, the proper management and disposal will be provided in accordance with Regulation on Soil Pollution Control and Point Source Contaminated Sites.

Domestic liquid wastes which are generated during the project phase will be disposed directly to the provincial sewer system. Required protocol shall be made with the Municipality for this activity.

Measures to be taken during the construction phase of the project are given below:

- During the storage, transport and disposal of the wastes, all kinds of measures will be taken against leaks and spills and storage will be made in an area where there are barriers against leakage.
- All of recyclable wastes will also be stored and will be sent to landfills.
- Construction machinery and equipment sourced waste oils will be stored in impermeable and sealed containers and will be sent to a licensed disposal facility to be disposed.
- During temporary storage of waste, temporary storage times of wastes of which maximum storage period have been specified will be monitored by the Environmental Officer Registration Statement and wastes will be shipped before the end of this specified period.
- Hazardous waste will be stored temporarily in a safe manner sealed containers, and over concrete floors in accordance with the standards specified in the relevant regulations. Dates, name, code, quantity, storage date of hazardous wastes will be recorded at the Delivery date Registration Table by the administration.
- The doors of hazardous waste landfills will be kept constantly locked and only authorized people will be allowed to enter. At the warehouse space entry,

"Warning! Hazardous Waste Temporary Storage Area" and "Dangerous" signs will be placed.
- National Waste Transportation Form will be held during the transportation of hazardous waste.
- Waste notification shall be made Konya Provincial Directorate of Environment and Urbanization at regular intervals.
- Documents relating to the waste will be kept for five years and will be declared to the relevant authorities during inspections.
- Storage, transport and disposal of the waste will be made in accordance with the provisions laid down in the national and international legislation and will be conducted in accordance with best practices.
- Emergency equipment will be ready for use in the field.

Operation Phase

Waste that will arise during the operational phase will be moved to the temporary storage area regarding their types. In health care facilities, waste to be stored in temporary storage sites will not be in the parts of hospital which are intensely used by patients and people .In order to avoid accidents that may occur in the waste handling process, waste management provisions will be followed and additional required measures will be taken.

In health campus a neutralization tank will be installed for laboratory waste water and bloody waste water, also for radioactivity removal there will be a decay tank system.

Waste that will occur during the operational phase will be stored in separate areas according to their class in accordance with national and international regulations.

3.6. Ecology

The project area is located in the city center. In the field of Konya Karatay Health Care Facilities, agricultural activities have been carried out for many years within the Institute of Agricultural Research. Therefore, the project area and the surrounding natural ecosystem structure have already been exposed to human influence.

Project site has been used for agricultural research activities for long years under the body of the Institute. For this reason, there are no natural fauna and habitat over the field.

3.7. Social and Economic Structure

Relevant municipalities and Ministry of Health in public sector give full support to the project. Both the survey study conducted and the interviews with headmen support it. These supports and expectations have two objective bases;

1) Karatay district is the least developed one among the central districts of Konya province in terms of district health facilities and services. There isn’t any inpatient public health facility to provide service at expert level within the district boundaries apart from the first degree community health centers.

2) Karatay district area is the least developed area of Konya province in terms of social and areal facilities.

Construction Phase

In order to eliminate the risks caused by conflict between heavy and light vehicle construction machinery traffic for the construction site and the area traffic, accumulation of vehicles and construction machinery to cause stop and slowdown on the adjacent state road must be prevented. For this purpose, ancillary roads and lay-bys must be constructed to get the vehicles from the state road to the construction site; the flowing traffic must be warned by means of markers and warning signs in times and places where vehicle ins and outs are intensive; construction machinery must be prevented from using the state highways and municipal roads within working hours. If the heavy and light vehicle construction machinery need to follow the intercity route, speed limits and traffic restrictions must be imposed on such vehicles.

Vehicle and human ins and outs on the construction site must be kept under full control. For this purpose, the number of security gates controlling ins and outs must be limited as much as possible. These security gates must only be established on the periphery road surrounding the site on the west; security gate must not be established on the state road surrounding the site on the north to prevent heavy industrial zone traffic on this road; similarly, no entry-exit point must be established in the direction of Bahri Dağdaş Agricultural Research Institute and Çataltömek Quarter on the south. Agricultural Research Institute direction will cause interruption of agricultural research and development operation and the quarter direction on the south will become more problematic due to inadequacy of the capacity of in-quarter roads, so they must be kept close to human and vehicle entrance-exit.

Depending on these precautions, checking entrance to the construction site, closing the site to entrance and placing the signboards specifying the restriction of entrance will prevent transition between the construction site and the vicinity and thus the risks on social and economic life close to the construction operations. Thus, potential risks on particularly Justice Palace and the schools on the west of the state road surrounding the project site on the west will be reduced to a negligible level.

Employment opportunities for the works not requiring expertise and technical skill at construction stage must be utilized in favor of the local human resource: This preference will also minimize accommodation problems on the project site. Similarly, prioritizing the local resources is required to reduce the impacts of the project while determining supply policy.

The access between the construction site and the Institution must also be fully closed to eliminate the potential impacts on the activity area of Bahri Dağdaş International Agricultural Research Institute at construction stage.

Solid and liquid waste management plan must be prepared for solid, liquid and chemical wastes and disposal of such wastes which may create negative effects on the urban life and environmental health. For this purpose, it is enough to observe the national environmental regulations and realize implement a management plan in this context

Operation Phase

Precautions are required to provide access to the hospital campus. The periphery road surrounding the west of the campus is a significant obstacle and risk factor for pedestrian access. Therefore, pedestrian overpass and subways must be planned to ensure access between the west side of the road and the campus area. In addition, the said road also poses a significant problem for access of the handicapped persons to come from the city center. It is compulsory to design the recommended pedestrian

overpass and subway suitable for access of the handicapped and develop design solutions to ensure easy access of the handicapped to the points of service.

Inner city access for the area of the health facility is found to make progress more and more. 14 km long tramline constructed by Konya Metropolitan Municipality and anticipated to be put into operation soon will connect the city center to Justice Palace right across the health campus. Thus, the intensity arising from the people in Karatay district going to the city center for health care service and the obligation of Karatay district residents to go to the city center for this service will be eliminated and consequently they will be able to get health care service without going to the city center. This opportunity should be considered as one of the positive impacts of the project in terms of optimization of effective provision of health care services at operation stage and the intensity of urban mobility. The fact that the project site is located by the side of the periphery road should be considered as one of the positive impacts in terms of access of the people from outside the city to the hospital complex.

Remarkable people and vehicle mobility in the area upon commissioning of the facility is identified as a significant social impact. Following commissioning of the facility, entrance-exit of the facility must be designed in a way to reduce the pressure of additional burden on the periphery road and arranged in a way not to allow congestions due to intensity of the said road.

Arranging the practices on employment for the works not requiring expertise and special qualifications and the supply policy at operation stage will contribute to social and economic life particularly in the quarters of Karatay district which is less developed compared to other metropolitan districts of the city.

A management plan must be prepared to cover the local regulations and requirements of the work for solid, liquid, chemical and medical wastes and disposal of such wastes what may cause negative impacts on the urban life and environmental health at operation stage.

3.8. Public and Workers Health and Safety

Owing to the fact that the mobility to arise on the construction site and from the construction are within the campus bordering the construction site, the contact between the social and economic environment defined as the project's impact area and the construction site is quite limited. Therefore, there isn't any social security risk to threaten this social and economic environment. Accordingly, community health risk is at the lowest level. No epidemic has been encountered in Konya metropolitan area during the republic period. Thus, no epidemic is expected because of the existence of the construction and particularly covering the employment need from local resources. In spite of these, health infrastructure of Konya metropolitan area is sufficient for any probable epidemics. In addition, an office will be set up for construction management, workplace and employee health and safety. Occupational safety specialist, workplace physician shall be employed or service will be provided from authorized expert companies under Occupational Health and Safety Law.

Spread of infectious diseases will be representing important risk during KKIHC project. Infectious disease can be due to surgeries, improper and uncontrolled waste management, poor air conditioning and insufficient sterilization. Therefore during the operation period, improved isolation techniques, personnel protective equipment usage (mask, gloves, etc.), regular sterilization implementations, safe injection implementations, hygiene standards, controlled air conditioning and proper waste management will be performed with priority.

Implementation of the procedure to ensure personnel discipline will enable to clear the project construction administration of any external impacts and to eliminate unfavorable situations caused or encountered by the personnel in public area.

The management plans prepared shall be implemented not limited to the following ones for community and employee health and safety.

- ✓ Occupational Health and Safety Plan
- ✓ Security Plan
- ✓ Worker Accommodation Management Plan
- ✓ Community Health and Safety Plan
- ✓ Emergency Preparedness and Response Management Plan
- ✓ Traffic Management Plan
- ✓ Noise and Vibration Control and Monitoring Management Plan
- ✓ Air Quality Control and Monitoring Management Plan

The precautions given below according to Security Plan will be taken for the public and workers health and safety during the construction and operation phases of Project.

- A construction camp site will be built within project site for the employee during construction activities.
- Living conditions of employee will be in national and international standards, hygienic environment will be ensured and for essential health services facility, district and provincial facilities will be utilized. The camp will be designed and operated in accordance with Workers' Accommodation: Processes and Standards: A Guidance Note by IFC and the EBRD.
- In the selection of employees, priority will be given to people living in the region and opportunity will be offered to stay in their own homes for these employees. Also, effort will be made to employ women in suitable roles.
- Personnel Procedure, Human Resources Procedure will be implemented.
- In the selection of employees, priority will be given to people living in the region and opportunity will be offered to stay in their own homes for these employees. Also, effort will be made to employ women in suitable roles.
- Project Company will implement HR policies in line with IFC PS2 & PS4 and EBRD PR2 & PR4 expectations on aspects including workers organizations; collective bargaining; non-discrimination and equal-opportunities; retrenchment; child labor; forced labor; and, on non-employee workers and workers engaged by third parties.
- The mobilization area will be designed and operated in accordance with Workers' Accommodation: Processes and Standards: A Guidance Note by IFC and the EBRD.
- Occupational health and safety plan which aims to prevent accidents, injuries and work-related diseases through the identification of the causes of physical, chemical, biological and radiological hazards and by prioritizing hazard elimination, hazard control and hazard minimization will be fully implemented during the construction phase.
- Grievance Mechanism in line with IFC PS2 given in will be implemented.
- Contractor Management and Monitoring Plan will be developed.
- In order to prevent occupational accidents, required training will be given to all employees working within construction site
- Personnel protective equipments (helmet, safety shoe, gloves, etc.) will be used when needed.
- Warning signs will be used on related areas.
- Qualified and trained employees will be preferred.
- Drivers of construction vehicles will be the educated and certified.

- Social facilities will comply with the technical and hygienic conditions.
- There will be an infirmary within the site. Scotches and injuries will be treated here and more severe injuries will be treated in hospitals located in Konya city center.
- In the facility, the electrical devices will be controlled regularly, and the necessary maintenance, repair and renewal processes will be made regularly.
- Adequate lighting will be provided in the construction site.

3.9. Cultural Heritage

In the scope of KKIHC Project, it was applied to Konya Provincial Directorate of Culture and Tourism and it was indicated that there was no movable or immovable cultural heritage in the project area. 2nd degree Archeological protected area (according to 2863 numbered Protection of Cultural and Natural Assets Law) was seen in the approximately 160 meters north of the project area boundaries.

During the location assignment studies of KKIHC Project, an archeological protected area was also considered for parcel determination of the project. Parcels of archeological protected area and health facility area were separated and committed to development plan which was prepared and approved by Karatay Municipality according Konya Regional Conservation Council of Cultural Properties. Therefore, any negative impact is not expected on archaeological protected area due to the project activities.

3.10. Traffic

From the development plan that is approved by Karatay Municipality project area which is determined Health Facility Area has been seen that there is a road connection at the planned in the future. The planned connection road is out of the project scope and it is not associated facility of the project. Also, it is known that the connection road will be realized as expansion and revision of existing road. Therefore, any expropriation and land acquisition are not expected due to connection road.

At the current status, public transportation is available at the KKIHC area (buses and light rail – rail). According to Konya Metro Information Booklet (2015), there is a metro stop which is very close to the area of health facilities in the new metro network.

Also, with realization of the project, existing public transportation will be revised in order to ensure easy access to the hospital.

In order to reduce the negative impacts on the traffic load during project construction and operation phases, following measures will be taken:

- In order to prevent negative effects on traffic in and around the project area, a Traffic Management Plan will be prepared to cover by the construction and operation period by ATM Health Konya Investment and Management Company.
- As far as possible the roads that will be used during construction phase will not pass from the sensitive receptors like schools and residential units.
- Security and traffic warning signs will be placed around the project area.
- Speed limit rules will be complied with.
- During construction, drivers of vehicles and personnel to use the machines will be informed for safe driving.
- Information to the relevant authorities will be given during the transportation of special cargo.

- Training about Safe loading / unloading and issues such as load limits will be given to the operators that will use special tools such as forklifts and license will be taken.
- There will be will sound alarm equipment for the vehicles that has limited rear view during driving back.
- Operating rules and procedures for right of way, pitch speed limits, vehicle inspection requirements will be determined and compliance will be ensured.
- Transport activities will not damage existing roads; formation of any conditions such as dust, smoke, unburned gas will be prevented, vehicles will not be loading more than permissible value, bridges, warning signs, culverts, asphalt and gravel covering the road will not be impaired. In case of any damage to the structure, damage costs will be borne by the contractor.

During the project`s shipping and transportation activities 2918 Road Traffic Act, the Regulation on Road Transport (25.02.2004 dated and 25384 numbered OG) and the Regulation on the Transport of Dangerous Goods by Road (24.10.2013 dated and 28801 numbered OG) will comply with the provisions.

4. STAKEHOLDER ENGAGEMENT

Stakeholder engagement studies on the project began with discussions with relevant governmental agencies prior to the ESIA. Stakeholder participation and has continued during the ESIA period, construction period and operation period.

During the ESIA period;

- The stakeholder engagement plan has been prepared.
- Advertisements in national and local newspapers regarding stakeholder engagement have been given.
- By stakeholder participation meeting information about the project and its possible effects have been presented to the stakeholders.
- Making meetings and surveys, comments have been received from stakeholders.
- Official opinion about the project has been received by making official correspondences with relevant institutions.
- Field work has been performed by expert sociologists and the views of stakeholders have been taken during one on one meeting.
- Draft ESIA report and its annexes, Non-Technical Summary and Stakeholder Engagement Plan shall be opened to the views of stakeholders on its Web site.
- During the consultation period, second public participation meeting will be performed in order to present the ESIA studies and to receive opinions of public.

Construction and Operating period;

- Final ESIA document and attachments, Non-Technical Summary, Stakeholder Engagement Plan and Project Report Forms shall be made available to stakeholders at the owner`s website, at related mukhtar offices and construction site.
- If necessary, an informative meeting with local people and authorities shall be made.
- Stakeholder Engagement Plan shall be updated as necessary.
- Stakeholder Engagement Plan and Grievance Mechanism shall be used at the Communication with stakeholders.
- Relevant staff shall receive training on Grievance Mechanism.

5. MONITORING AND REPORTING PROGRAM

It is required to monitor the performance of Environmental and Social Impact Assessment during construction and operation phases then should be recorded. Environmental and social management applications specified within ESIA Report shall be accepted as main guidelines by ATM and subcontractors and shall be adopted for the related activities of the Project.

An Environmental and Social Management and Monitoring Plan (ESMMP) has been prepared for KKIHC Center. The objective of ESMMP which has been prepared in conformance with national legal framework and International standards and guidelines is to determine basic management and monitoring activities during the design (Project preparation), construction and operation phases of the KKIHC Project. Plan has been developed according to preventive and reducing measures mentioned in Environmental and Social Impact Assessment Report for possible negative environmental and social impacts of the Project.

The Management and Monitoring Plan includes the following information;

- Environmental and Social Impacts
- Legal framework
- Project phases
- Details of preventive measures
- Responsible executor
- Monitoring frequency and method
- Objective and assessment criteria

Whenever required, internal audit, independent audit, field controls, questionnaire studies, grievance forms and environmental measurement / analysis methods shall be used under the scope of monitoring activities. The monitoring studies and outcomes shall be stored and shall be made available to shareholders whenever requested. The responsibility of accomplishment of practices mentioned in Environmental and Social Impact Assessment Report and Environmental and Social Management and Monitoring Plan belongs to the Contractor, namely ATM Sağlık Konya Yatırım ve İşletme A.Ş. ATM shall supply necessary resources and personnel for these implementations.