Initial Environmental Examination

August 2014

GEO: Urban Services Improvement Investment Program (Tranche 1)
- Construction of a New Head Office of United Water Supply Company of Georgia

Prepared by the United Water Supply Company of Georgia LLC of the Ministry of Regional Development and Infrastructure for the Asian Development Bank.

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Project number: 43405

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ABBREVIATIONS

ADB	–	Asian Development Bank
DC	–	Design Consultant
SC	–	Supervision Consultant
EA	–	Executing Agency
EIP	–	Environmental Impact Permit
EMP	–	Environmental Management Plan
ES	-	Environmental specialist
GoG	–	Government of Georgia
GRC	–	Grievance Redress Mechanism
IA	–	Implementing Agency
IEE	–	Initial Environmental Examination
IP	–	Investment Program
IPMO	–	Investment Program Management Office
kg	–	Kilogram
km	–	Kilometre
m	–	Meter
MoENRP	–	Ministry of Environment and Natural Resources Protection
MDF	–	Municipal Development Fund
MFF-IP	–	Multitranche Financing Facility Investment Program
mg/l	–	Milligram per liter
mm	–	Millimeter
MoRDI	–	Ministry of Regional Development & Infrastructure
EMS	-	Environmental Management Specialist
UWSCG	–	United Water Supply Company of Georgia
DREP	–	Division of Resettlement and Environment Protection

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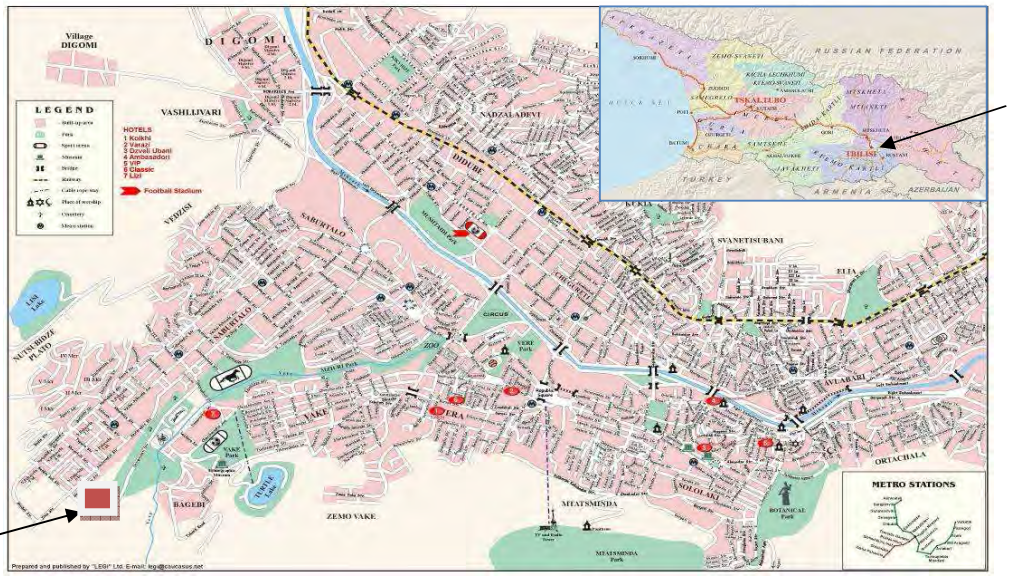
A. EXECUTIVE SUMMARY

1. It is proposed to build a new Head Office of UWSCG in Tbilisi. The United Water Supply Company of Georgia (UWSCG) is the Implementing Agency (IA) of this Project. The subproject is likely to be start by the end of 2014 and completed by the end of 2015. Since the subproject is unlikely to have significant adverse impacts, it is classified as environment Category B, and accordingly an Initial Environmental Examination has been conducted. This is a summary of the IEE Report.

2. The New Head Office of UWSCG is to be situated in Tbilisi at the University street (nearby to Tbilisi State University Building)

3. Tbilisi is located in the South Caucasus at 41° 43' North Latitude and 44° 47' East Longitude. The city lies in Eastern Georgia on both banks of the Mtkvari River (internationally called Kura River).

4. **Fig.1:** Location and Map of Project Town



5. The subproject activities are mostly located nearby to the University Street. The new Head Office of UWSCG will be located on the private land of LTD "United Water Supply Company of Georgia" on the registered 7500 m2 nonagricultural area. The office will be located close to Tbilisi State University Buildings and Resident Houses.

6. The New Head Office of UWSCG subproject is not relatively big in scale and involves straightforward construction. Regular maintenance is required. Disturbances will be limited to the construction period. The predicted impacts are associated with the construction process. Impacts mainly arise from the generation of dust from soil deep excavation/drilling refilling, concrete activities and earth work foundation; generation of surplus/waste soil; disturbance of residents, noise, vibration, traffic and activities in the city (traffic management related to transportation of construction materials) health and safety issues related to high-rise building for workers and local residents.

7. These are common impacts of construction, and following methods are suggested for their mitigation:

   - Utilizing surplus soil for beneficial purposes;
   - Measures to reduce/control dust generation (cover/damp down by water spray; consolidation of top soil, cover during transport etc.);
   - Public information/consultations;
   - Restoring the top soil after construction;
   - Avoiding tree cutting at maximum extend.

8. The other predicted impacts associated with the construction process are due to ground disturbance. Impacts mainly arise from generation of dust from soil excavation and refilling, and activities by the construction work. These are common impacts of construction, and there are well developed methods suggested for their mitigation. These include:

   - Measures to reduce risks associated to deep excavation;
   - Measures to reduce/control dust generation;
   - Planning transport routes/schedules carefully and awareness creation in drivers;
   - Following standard and safe procedures for public and worker safety, and
   - Avoiding night time construction activities.

9. There is no major health and safety risks for nearby residents associated with the subproject, as the construction site will be properly fenced. There will be no access for unauthorized persons.

10. Mainly two types of waste (municipal and construction) will be produced during the construction phase. The municipal waste will be collected in a special dedicate waste containers that is served by municipal waste management company (LTD “Tbilservice Group”). Accumulated construction waste should be allocated in a special place and transported/disposed based on agreement with Tbilisi City Hall.

    In case of producing hazardous waste, it will be placed separately based on its nature in special containers (with specific indication) at the specially dedicated place. On contractual agreement with specially authorised company that has permit from the MoENRP will dispose of it appropriately.

11. During operation phase there will be produced only municipal waste stream that will be collected by authorized municipal waste collection company operated in Tbilisi based on contractual agreement.

B. POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

12. This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

a. ADB Policy

13. Superseding the previous safeguard policies (the Involuntary Resettlement Policy, 1995, the Policy on Indigenous Peoples, 1998, and the Environment Policy 2002), ADB, has adopted a comprehensive Safeguard Policy Statement in 2009 (SPS, 2009). This Statement describes common objectives of ADB's safeguards, lays out policy principles, and outlines the delivery process for ADB's safeguard policy. It applies to all ADB-financed and administered projects, and their components including investment projects funded by a loan, grant or other means.

14. Aiming on promotion and sustainability of project outcomes by protecting the environment and people from projects' potential adverse impacts, the objectives of ADB's safeguards are to:

- avoid adverse impacts of projects on the environment and affected people, where possible;
- minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and
- help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

15. The objective of environmental safeguards is to ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process. All ADB funded projects are screened at initial stages of preparation and categorized according to significance of the project's potential environmental impacts. Projects are assigned to one of the following three categories:

Category A - Projects likely to have significant adverse environmental impacts, which are irreversible, diverse or unprecedented and may affect an area larger than the location subject to physical works. An Environmental Impact Assessment is required.

Category B – Projects with adverse environmental impacts that are less significant than those of Category A projects, are site-specific, generally not irreversible, and in most cases can be mitigated more readily than for Category A projects. An Initial Environmental Examination (IEE) is required.

Category C - likely to have minimal or no adverse environmental impacts; IEE is not required.

16. The New Head Office of UWSCG subproject has been classified as environmental assessment category B (some negative impacts but less significant than category A) according to the criteria laid down in the checklists of the ADB's Environmental Assessment and Review Framework (November 2010) that was especially prepared for the environmental assessment of the Georgia Urban Services Improvement Investment Program.

17. *ADB Review and Approval.* For Category B projects the Draft IEE report is reviewed by ADB's Operational Department (in this case Central & West Asia Department) and after addressing their comments, if any, the EA then officially submits the IEE reports to ADB. Completed reports are made available on the ADB and UWSCG websites.

b. Georgian Laws

i Framework Legislation

18. **The Law of Georgia on Environmental Impact Permit (2007)** defines the full list of activities on the territory of Georgia subject to mandatory ecological expertise. The Law defines the legal aspects of issuing an environmental permit, undertaking the ecological expertise, informing the public and participating in the given procedures. Under the Law, the environmental permit is the authorization to realize the planned activities. Under the Law, an environmental permit is issued by the Ministry of Environmental Protection and Natural Resources of Georgia based on the review/expertise of the application of an applicant for the environmental permit. The aim of the Law is to ensure the protection of a human health, natural environment, physical assets and cultural heritage during the activity.

19. **The Law of Georgia on Environment Protection (1997)** regulates the legal relations between the state establishments and physical or legal entities in the field related to the use of territorial waters, air space, including continental shelf and special economic zones, environmental protection and natural resources on the territory of Georgia. The Law regulates the standards of the environmental protection and issues of environmental management; it describes the economic sanctions, standards and issues of environmental impact, different issues of protection of the natural eco-systems and biodiversity, and global and regional management issues. In addition to the above-mentioned, the Law considers the major principles of waste management. The law defines the ecological requirements for the waste (Article 34). According to the provision of the given Article, an entrepreneur is obliged to reduce the origination of industrial, domestic and other types of waste, ensure their treatment, utilization, placement or burying by considering the environmental, sanitary-hygienic and epidemiological standards and rules. The Law defines the requirements for the placement of toxic, radioactive and other hazardous waste and prohibits their discharge in the surface water sources.

20. **Law of Georgia on Licenses and Permits (2005)** defines the list of activities needing licenses or permits, including so called "Environmental permit". It also defines the requirements for the license or permit issue. The Law, together with the normative by-laws, regulates such organized activity or action, which relates to an indefinite circle of entities, is characterized by increased hazard to the human life or health, affects particularly important state or public interests or is related to the use of a state resource. The given Law regulates the field regulated by a license or permit; it gives a thorough list of licenses and permits, and establishes the rules to issue the licenses and permits, makes amendments to them or abolishes them. Under the Law, a state regulation of the activity or action through a license or permit is undertaken only when the given activity or action is directly associated with the increased hazard to the human life or health or fields of state or public interests. The state regulation is

undertaken only when the issuance of a license or permit is a real means to reduce the hazard in question or consider state or public interests. The aim and major principles of regulating the activity or action via licenses or permits are as follows:

- Provision and protection of human life and health;
- Safety and protection of a human's residential and cultural environment;
- Protection of state and public interests;

21. The state ensures protection of the environment and, correspondingly, protection of water as its main component in **The Law of Georgia on Water (1997)**. All residents of Georgia are liable to ensure the rational and sustainable use and protection of water. They have to prevent its contamination, pollution and depletion. The dumping of industrial, household and other garbage and wastes in water bodies is prohibited according to this act. The disposal of industrial, household and other effluents into water bodies is permitted on the basis of a license by the Ministry. With the objective of protecting the Black Sea and preserving its ecological system, all natural and legal persons (including foreigners) are obliged to take measures for preventing pollution of the sea with wastewater from the sources of pollution located on the land. The use of a surface water body for discharging industrial, communal-household, drainage and other wastewater is allowed only under a water use license issued on the basis of the Ministry-approved multipurpose water utilization plans and water management balance-sheet. Currently the new law on Water is under preparation by the MoENRP and its initial draft version has already been distributed to various stakeholders including line ministries. All received comments on draft law has been reflected in the documents and in the near future it will be submitted to the Parliament of Georgia for its adoption.

22. The **Law of Georgia on Cultural Heritage (2007)**. Article 14 of the Law specifies the requirements for 'large-scale' construction works. According to this Article, a decision on career treatment and ore extraction on the whole territory of Georgia, as well as on construction of an object of a special importance as it may be defined under the legislation of Georgia, is made by a body designated by the legislation of Georgia based on the positive decision of the Ministry of Culture, Monument Protection and Sport of Georgia. The basis for the conclusion is the archeological research of the proper territory to be carried out by the entity wishing to accomplish the ground works. The entity wishing to do the ground works is obliged to submit to the Ministry the documentation about the archeological research of the territory in question. The preliminary research should include field-research and laboratory works. In case of identifying an archeological object on the territory to study, the conclusion of the archeological research should contain the following information: (a) a thorough field study of the archeological layers and objects identified on the study territory by using modern methodologies, (b) recommendations about the problem of conservation of the identified objects and planning of the building activity on the design territory, on the basis of the archeological research.

23. The aim of the **Law of Georgia on Public Health** (2007) is as follows: Promotion of the introduction of a good health and healthy lifestyle of the population; Creation of the environment, which is safe for a human health; Promotion of the protection of the reproductive health of a family; Prevention of infectious and non-infectious diseases. The Law defines the rights and obligations of the population and legal entities in the

field of public health. Aiming at establishing the environment safe to the public health, the Ministry sets the qualitative standards for the environment safe for a human health (atmospheric air, water, soil, noise, vibration, electromagnetic radiation), including maximum permissible concentrations and rates of harmful impact. The standards are mandatory. Every person on the territory of Georgia is obliged not to carry out the activity, which causes a hazard of the infectious and non-infectious diseases to spread and helps the origination of the risks to human health; protect the sanitary and epidemiological standards; to supply the information to the public health department about all emergencies caused by the violation of the sanitary norms in the production or technological process, etc. The observance of the standards is controlled by appropriate state structures. The responsibility for the internal and external audits rests with a certified, independent laboratory.

24. The following acts of the Ministry of Labor, Health and Social Protection of Georgia define the **Waste Management** rules to be met during the project:

- The act on "Approval of the rules of collection, storage and neutralization of the wastes of preventive treatment establishments" 16 August of 2001, 300 ("Georgian Legislative Messenger" N90 24/08/2001);
- The act on "Approval of arrangement of polygon/grounds for disposal of solid household wastes and adoption of sanitary rules and norms" 24 February, #36 (Georgian Legislative Messenger N17, 07.03.03);

25. **Environmental Assessment and Review Framework (November 2010, EARF)** was established for the Asian Development Bank funded Georgia Urban Services Improvement Investment Program (or the Investment Program). This is prepared to adequately address the ADB Safeguard Policy Statement (2009) requirements and is to be endorsed by the Georgian government. Projects have to be assigned to Categories A, B, and C. General mitigation measures are listed for anticipated impacts.

26. The **Law of Georgia "On the Red List and Red Book" (2003)** regulates the legal relations in the field of developing the Red List and Red Book, protecting and using the endangered species, except the legal issues of the international trade with endangered wild animals and wild plants, which within the limits of the jurisdiction of Georgia are regulated by virtue of the Convention 'On the international trade with the endangered species of wild fauna and flora' concluded on March 3 of 1973 in the city of Washington. According to Article 10 of the Law, any activity, including hunting, fishing, extraction, cutting down and hay-mowing, except particular cases envisaged by the present Law, Law of Georgia 'On animal life' and legislation of Georgia, which may result in the reduction in number of the endangered species, deterioration of the breeding area or living conditions, is prohibited. The Red List of Georgia was approved by the Presidential Decree No. 303 'On approving the Red List of Georgia' (May 2, 2006).

27. Other National Environmental Legislations and Applicability are listed in the **Table1:**

Table 1: Other National Environmental Legislations and Applicability

Legislation	Applicability	Remarks
Law on Ambient Air Protection, 2000		It stipulates Maximum Allowable Concentration (MAC) of various pollutants in Ambient Air; however the establishment of emission standards for various sources or activities is under process, therefore at present no standards are available
Decree of Georgian Government (N57, 2009) on Construction Permit Technical Requirements and Permit Conditions		It regulates the construction permit issues throughout the Country, compliance to permit conditions and buildings exploitations process
Georgian Law on Safety of Traffic Movement (N2050,1999)		This Law regulates safety of traffic movement throughout the Country according to Georgian legislative requirements
Approval of Environmental Quality Standards (Ministry of Health, Labour and Social Affairs of Georgia, 297n of August 16, 2001)		The Georgian standards for noise control as approved by the Decree of the Minister for Health, Labour and Social Affairs upon the 'Approval of Environmental Quality Standards'; specifying the tolerable and maximum admissible levels of noise for different zones

c. Licenses & Approvals Required

28. The environmental assessment of various activities and development projects in Georgia is governed by the Law on Environmental Impact Permits (EIP), which has entered into force in January 2008. This Law notifies the list of the activities and projects, which will be subjected to ecological expertise and require Environmental Impact Permit. The Law also makes the public participation mandatory in the process of environmental assessment, ecological expertise and decision making on issuance of an environmental impact permit. Under this Law, various projects/activities have been divided into four categories based on their size, importance and potential environmental impact, and sets out permitting process for each category.

29. None of the components of the proposed project are notified in the Law on EIP and therefore environmental impact permit is not required.

Administrative Structure in Georgia

30. Ministry of Environment and Natural Resources Protection of Georgia (MoENRP). MoENRP has the overall responsibility for protection of environment in Georgia. The

Department of Permits of MoENRP is responsible for reviewing EIAs and for issuance of the Environmental Permits. MoENRP is the main state body pursuing state policy in the sphere of environment. Their functions for regulating economic or development activities with regard to environmental protection include:

31. Issuing permits for project development (Environmental Impact Permit)
32. Setting emission limits and issuing surface water intake and discharge consents
33. Responding to incidents and complaint
34. For the projects, which do not require Construction Permit, the Environmental permit is being issued by the MoENRP on the ground of State Ecological Examination. State Ecological Examination is carried out by MoENRP upon official submission of Environmental Impact Assessment (EIA) prepared by project developers.
35. For projects requiring Construction Permit, no special permit is issued by MoENRP (according to "One window principle", only one permit shall be issued for each activity). The Construction Permit is issued by the Ministry of Economy and Sustainable Development of Georgia, but the issuance of the Permit is subject to the consent of the MoENRP in a form of Conclusion of Ecological Expertise, as well as the Ministry of Culture (Centre of Archaeological Studies, Department of Monuments protection). Consent of the MoENRP in such cases should be issued according to the same procedures (EIA, public consultations; SEE etc.) as for issuing Environmental Permit.
36. The Ministry of Economic and Sustainable Development as an administrative body issuing a permit ensures the involvement of the MoENPR as a different administrative body in the administrative proceedings initiated for the purpose of permit issuance, in accordance with Georgia's Law on Licenses and Permits.
37. As a rule, EIA permitting conditions contains requirement for informing MoENRP regarding fulfillment of the EIA permit conditions. This basically means giving information regarding implementation of Environmental Management and Monitoring Plans.
38. The Ministry of Culture and Monument Protection of Georgia is responsible for the supervision of the construction activities in order to protect archaeological heritage. In case if construction is to be carried out in a historic sites or zones of cultural heritage, consent of the Ministry of Culture is also required for issuing construction permit (If such is necessary).

C. DESCRIPTION OF THE PROJECT

d. Type of the Project

39. The Urban Services Improvement Investment Program is intended to optimize social and economic development in Georgia. This ADB funded Multitranche Financing Facility Investment Program (MFF-IP) ADB identifies support to developing the country's municipal infrastructure a key contributor to enhancing sustainable economic growth, with the cross cutting themes of governance and regional cooperation. ADB's support can contribute to:

- Sector reforms;

- Strengthening the link between financing local infrastructure projects and decentralization reforms;
- Stimulating local economic development; and
- Improving the quality of life of urban population

40. The Investment Program focuses on investments in improvement of basic urban infrastructure (i.e. water supply and sewerage). This Program will be implemented in tranches over a period of 8 years beginning in 2011. The Executing Agency (EA) is the Ministry of Regional Development and Infrastructure (MoRDI), Government of Georgia; and the Implementing Agency (IA) is the United Water Supply Company of Georgia, a wholly-owned company of Government of Georgia under MoRDI.

41. According to ADB procedures, the impacts of the project were assessed by the Initial Environmental Examination, conducted according to the ADB Safeguard Policy Statement (2009).

42. This IEE relates to the new Head Office of UWSCG is subproject only.

43. This subproject involves structural design and construction of multi-level building for UWSCG.

e. Needs of the Project

44. The New Head Office of UWSCG is required to increase the work space and improve conditions for the staff that will benefit to the institution sustainable development.

f. Location

45. This subproject is located in Tbilisi, at the University street. There is no intensive traffic on University street (no traffic lights and traffic jam). The surrounding objects of the site are as follows:

- East side – Tbilisi State University Building (distance 200 m)
- South-East side -– Tbilisi State University (Faculty of Biology) (distance 180 m)
- South-West side – Inert Materials Facility (distance 180 m)
- West side – Private Residential Buildings (distance 110 m)
- North-West side – Petrol Station “Wissol” (distance 150 m)
- North side – Residential Apartments (Block of Flats) (distance 120-150 m)

Near to the construction site there are central power and water supply system lines currently serving to surrounding objects. The same supply systems will be allocated for the New Head Office building, according to the procedures described in para. 48.

Geographically, it is situated at 41°43'07.06" latitude and 44°43'10.48" longitude, app 547m above the SL.

The location of New Head Office of UWSCG is shown in **Fig.2.** The Fig.2 as well as shows the land plots and its ownerships according to given numbers

Fig.2: Neighbouring objects to the New Head Office of UWSCG

Object Numbers	Owner
1	UWSCG
2	Private/Giorgi Elizbarashvili
3	State property
3*	State property
4	State property
5	Joint-Stock Company “M^{2}”
6	State property
7	Tbilisi State University
8	Tbilisi State University
9	LTD „Combinat 13“
10	LTD „Combinat 13“
11	LTD „Sakhlmsheni“
12	Private/ Tsiuri Sikharulidze
13	Private/Lali Toria
14	Private/Jemal Khmaladze
15	Block of flats (University Street 19) Joint-Stock Company “Diamond Development”
16	Private/Sergei Zudin
17	Private/Giorgi Turkadze; Meri Pavliashvili
18	Private/Merab Nugzarishvili
19	Private/Giorgi Kristesashvili
20	LTD "BUILDERS-GROUP INTERNATIONAL”
21	LTD "BUILDERS-GROUP INTERNATIONAL”
22	Petrol Station Wissol
23	Private/ Apartments Joint Management
24	Joint-Stock Company “Telasi”
25	Private/Zurab Gafrindashvili; Leila Giorgobiani
26	Private/ Giorgi Jincharadze; Malkhaz IremaSvili; Nodar Mrevlishvili

The Fig. 3 shows UWSGC Head Office distances to surrounding objects.

The Fig. 3: Construction site distances to surrounding objects

h. Description of Project design

48. The building of New Head Office is designed as a multi-levelled structure. It consists of 10 floors. The foundation consists of bored piles. Due to the dimensions of the building huge amounts of steel and concrete works are required during construction stage which results in various environmental impacts. Area of influence during construction comprises the construction site exhibiting an area of 7500 m². Impacts arising within these areas during construction activities are described in the chapter impacts and mitigation measures.

49. Power, water supply and wastewater of UWSCG New Office building will be connected to central systems based on contractual agreement with Joint-Stock Company "Telasi" (power distribution to the customers of Tbilisi) and Georgian Water and Power" (GWP) (company delivers drinking water to Tbilisi and its neighbourhood and provides wastewater services to the capital).

50. **Table 2** provides the main technical parameters of the New Head Office building.

Table 2: Main technical parameters of the New Head Office of UWSCG

Number of floors	**10**
Ground (-1) floor	Total area – 435.7m^2
First floor	Total area - 470m^2 Useful area – 240m^2
Meeting Room	8.6m^2
Meeting Room	8.1 m^2
Hall	136.9m^2
Hall	37.0m^2
Security room	3.5m^2
Security Restroom	12.1m^2
Lobby	19.3m^2
Corridor	7.8 m^2
Server	8.0m^2
Cleaners room	16.8m^2
Corridor	4.1m^2
Warehouse	25.0m^2
Head of Informational Technology and Development Department	22.3m^2
Deputy Head of Informational Technology and Development Department	18.1m^2
Informational Technology and Development Department (7 employee)	45.0 m^2
Informational Technology Division (4 employee)	22.0m^2
Number of WC	2
Second floor	Total area – 635m^2 Useful area – 490m^2
Kitchen	120.9m^2
Dining room	313.6m^2
Tambour	51.3m^2
Tambour	19.3m^2
Corridor	4.9m^2
Corridor	4.9m^2
Number of WC	2
Third floor	Total area – 685m^2 Useful area – 500m^2
Fuel Registration Group	20.7m^2
Fuel Registration Group	19.9m^2
Head of Vehicles Management and Logistic Support Department	20.3 m^2
Deputy Head of Vehicles Management and Logistic Support Department	20.3m^2
Vehicles Management Division (9 employee)	50.5m^2
Logistic Support Division (14 employee)	76.9m^2
Conference Hall	87.9m^2
Head of Human Resources Management and Development Department	21.2m^2
Deputy Head of Human Resources Management and Development Department	21.0m^2
Human Resources Selection and Development Division (3 employee) Human Resources Administration Division (7 employee)	50.4m^2
Assistant	21.9m^2
Administrative Director	49.6m^2
Restroom	8.3m^2

Chancellery (4 employee)	23.4m^2
Archive of Chancellery	5.3m^2
Corridor	8.0m^2
Tambour	10.9m^2
Tambour	83.5m^2
Number of WC	3
Fourth floor	Total area – 710m^2 Useful area – 520m^2
Resettlement and Environment Protection Division (4 employee)	21.3m^2
Archive	21.3m^2
Head of Design Department	21.3m^2
Deputy Head of Design Department	21.3m^2
Design Department (7 employee)	38.5m^2
Design Department (14 employee)	85.2m^2
Regions coordination service (5 employee)	40.6m^2
Construction Division (3 employee)	24.8m^2
Water Supply Division (5 employee)	24.5m^2
Central Laboratory (1 employee)	19.7m^2
Water Quality Department (2 employee)	20.9m^2
Technical Director	49.3m^2
Restroom	8.0m^2
Head of Technical Department	18.7m^2
Deputy Head of Technical Department	18.8m^2
Assistant	19.4m^2
Technical Department (12 employee) Sanitation Division (2 employee)	61.0m^2
Tambour	91.4m^2
Tambour	10.9m^2
Corridor	4.9m^2
Number of WC	3
Fifth Floor	Total area – 710m^2 Useful area – 520m^2
Head of Energy Supply Department	21.3m^2
Deputy Head of Energy Supply Department	21.3m^2
Energy Supply Department (6 employee)	37.7m^2
Regions Coordination Service (4 employee)	41.6m^2
Head of Accounting and Reporting Department	21.3m^2
Deputy Head of Accounting and Reporting Department	21.3m^2
Head of Planning and Financial Analysis Department	18.7m^2
Deputy Head of Planning and Financial Analysis Department	18.8m^2
Assistant	19.4m^2
Financial Director	49.3m^2
Restroom	8.0m^2
Financial Reporting Division (5 employee) Financial Planning Division (4 employee)	61.0m^2
Fixed Assets and Stocks Registration Department (13 employee)	73.7m^2
Revenue and Expense Registration Division	31.3m^2
Money Resources and Credit Resources Registration Department	29.8m^2

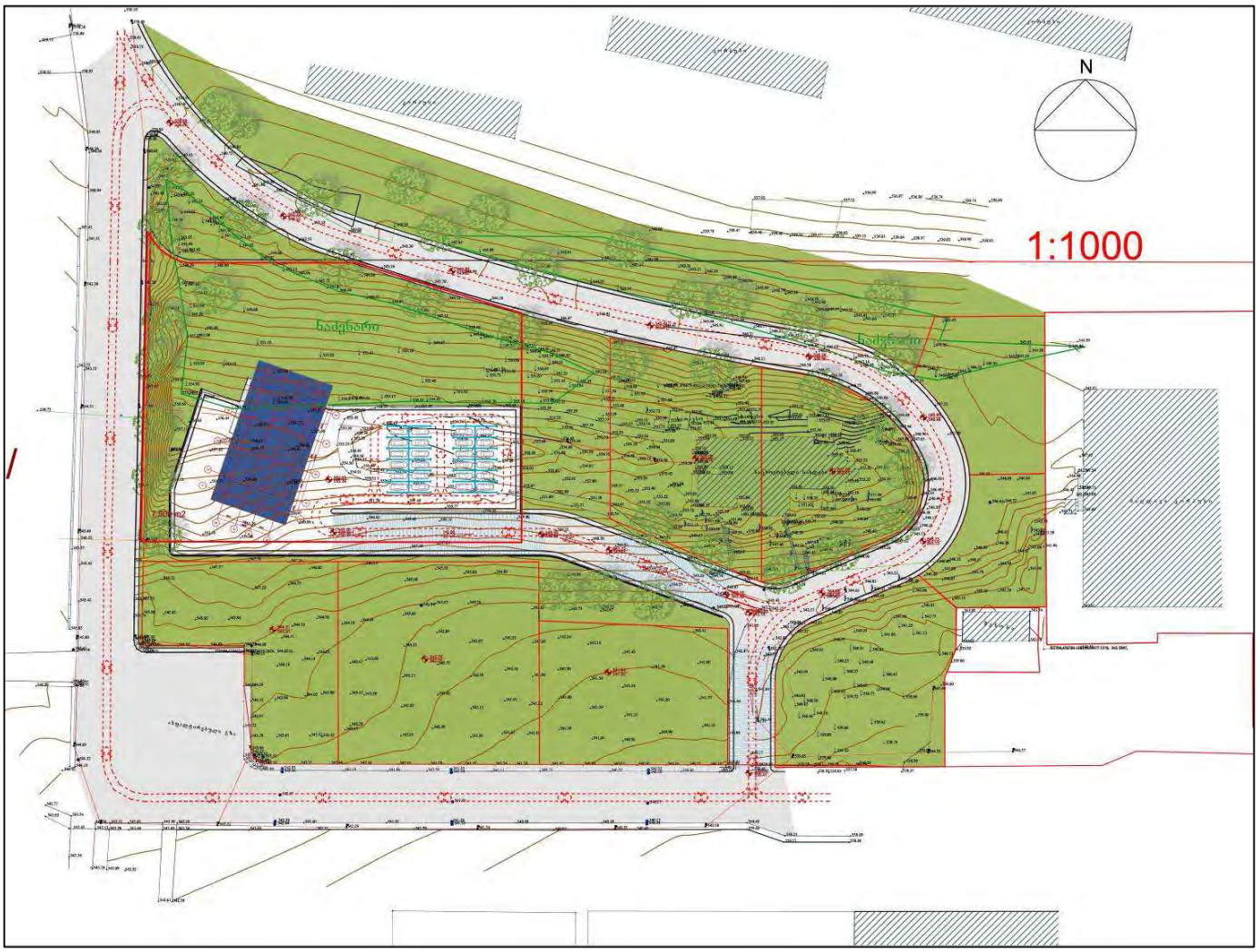
Chief Accountant	21.1m^2
Archive	19.4m^2
Tambour	91.4m^2
Tambour	10.9m^2
Corridor	4.9m^2
Number of WC	3
Sixth Floor	Total area – 685m^2 Useful area – 500m^2
Head of Billing Department	18.9m^2
Deputy Head of Billing Department	18.9m^2
Billing Department Operators Group (8 employee)	38.0m^2
Billing Operations Group	38.0m^2
Billing Department (2 employee)	17.8m^2
Head of Registration and Realization Department	18.4m^2
Deputy Head of Registration and Realization Department	18.4m^2
Revenue Division	74.2m^2
Metrology, Standardization and Water Meter Installation Division (6 employee)	30.5m^2
Call Center (6 employee)	17.8m^2
Commercial Director	48.8m^2
Restroom	8.3m^2
Head of Marketing and Customers Service Department	21.0m^2
Deputy Head of Marketing and Customers Service Department	21.2m^2
Assistant	21.8m^2
Marketing and Customers Service Department (8 employee)	51.1m^2
Tambour	85.7m^2
Tambour	10.9m^2
Corridor	4.9m^2
Number of WC	3
Seventh Floor	Total area – 635m^2 Useful area – 455m^2
Head of Property Department	20.5m^2
Deputy Head of Property Department	19.7m^2
Property Registration and Management Division (7 employee)	37.1m^2
Geographic Information Systems (GIS) Management Division (3 employee)	28.5m^2
Risks Management Division (9 employee)	47.1m^2
Risks Management Division (2 employee)	21.0m^2
Risks Management Division (2 employee)	19.3m^2
Head of Procurement Department	20.5m^2
Deputy Head of Procurement Department	19.7m^2
Contracts and Material Provision Division (9 employee)	61.5m^2
Tender Procedures Provision Division (4 employee)	22.5m^2
Protocol Division (2 employee)	20.3m^2
Diagnostic Analytical Division (7 employee)	27.8m^2
Monitoring Division (9 employee)	47.7m^2
Head of Internal Control and Risk Management Department	20.5m^2
Deputy Head of Internal Control and Risk Management Department	19.7m^2
Tambour	87.2m^2

Tambour	10.9m^2
Corridor	4.9m^2
Number of WC	2
Eighth Floor	Total area – 550m^2 Useful area – 450m^2
Head of Legal Department	18.4m^2
Deputy Head of Legal Department	19.1m^2
Head of Investment Projects Management Department	18.7m^2
Deputy Head of Investment Projects Management Department	18.0m^2
Projects Management Division (7 employee) International Organizations Relation Division (4 employee)	44.3m^2
Construction Supervision Division (9 employee)	45.1m^2
First Deputy	66.7m^2
Restroom	19.1m^2
Assistant	33.1m^2
Head of Construction Supervision and Audit Department	19.2m^2
Deputy Head of Construction Supervision and Audit Department	19.4m^2
Construction Supervision Division (2 employee)	21.7m^2
Legal Support Division (3 employee) Representative and Legal Expertise Division (3 employee)	52.3m^2
Tambour	61.7m^2
Tambour	10.9m^2
Corridor	4.9m^2
Number of WC	3
Ninth Floor	Total area – 415m^2 Useful area – 265m^2
General Director	73.9m^2
Restroom	37.8m^2
Secretary of General Director	34.9m^2
Small Meeting Room	23.0m^2
Public and Media Relations Division	40.3m^2
Warehouse	53.5m^2
Tambour	65.0m^2
Tambour	10.9m^2
Corridor	4.9 m^2
Number of WC	3
Tenth Floor (attic)	Total area – 241.2m^2

51. The following figures (**Fig.4, Fig.5**) show a model and layout plan of the **New Head Office of UWSCG**:

Fig.4: Model of **New Head Office of UWSCG**

Fig.5: Layout Plan of **New Office of UWSCG**



i. Construction Activities

52. There is one main element in the subproject: Construction of the New Office of UWSCG. Earthwork for the building will consist of site clearing, site excavation, grading and embankment, filling and backfilling for structures including trenching, backfilling and compaction of utilities. Excavated soil will be placed alongside. Surplus soil will be used for other construction activities (grading).

53. Water needed for civil works comprises potable water and construction water. Potable water will be taken from the water supply network in Tbilisi and transported to construction site by tank trucks. Construction water and water to be used for dust suppression measures will also be taken from Tbilisi water supply network.

54. Potential impacts during construction activities are presented to stakeholders during public hearing. Concerning required potable water during construction stage the contractor shall conduct consultation with local authorities to make sure that need for potable water for the workforce will not compete with the needs of the local population. Potable water for the workforce shall comply with the national quality standards.

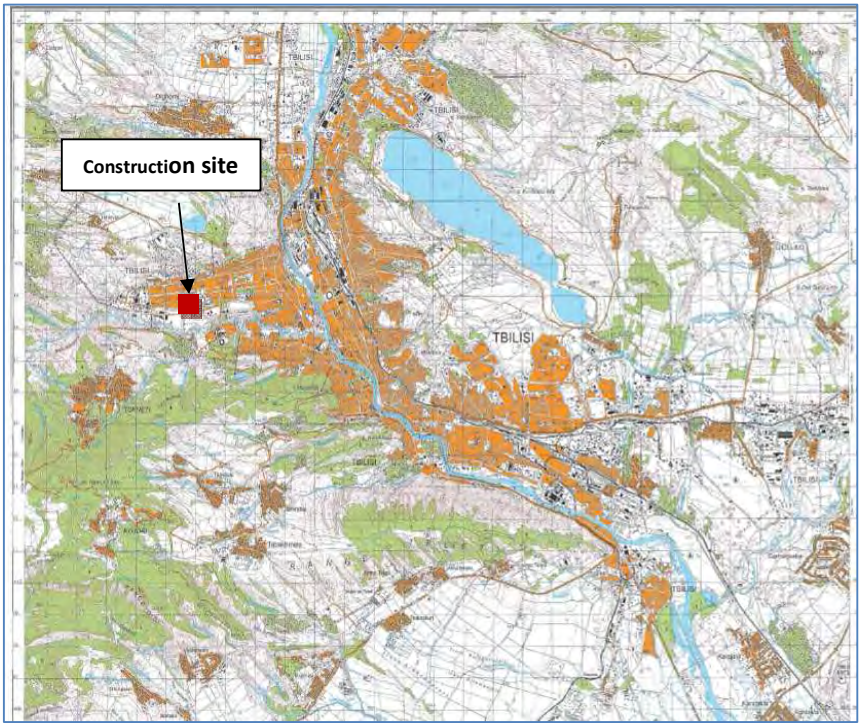
D. DESCRIPTION OF THE ENVIRONMENT (BASELINE DATA)

j. Topography, Geology & Soils

55. *Topography*. Construction site situated at 41°43'07.06" latitude and 44°43'10.48" longitude, app 547 m above the SL.

The construction site area is characterized as a small hilly area with a little slope (without any infrastructure).

Fig.6: Topographic map of Tbilisi area



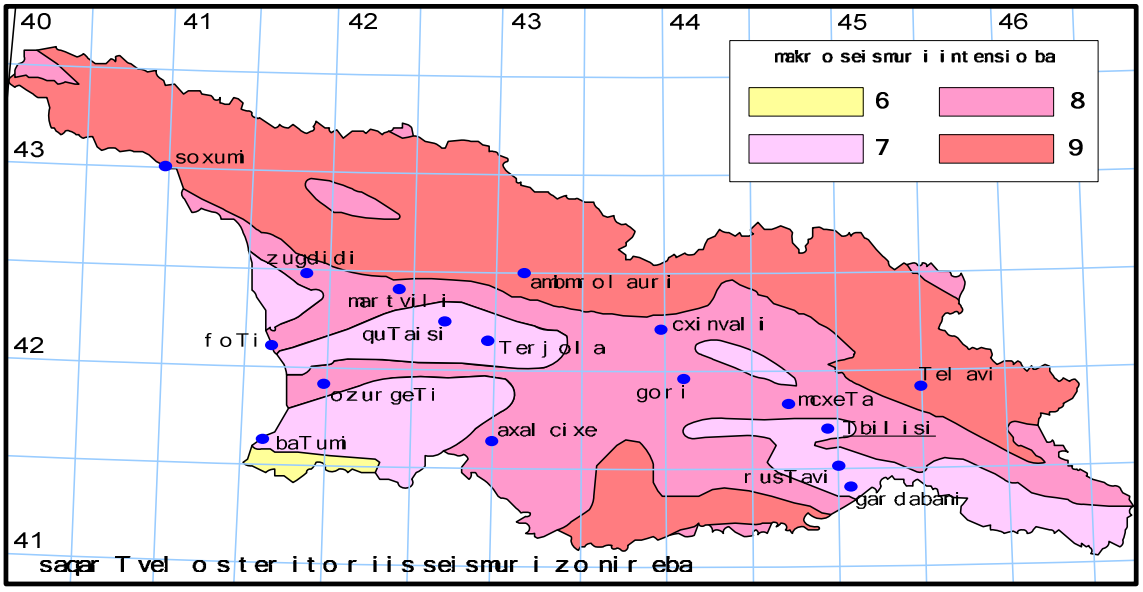
56. *Geology*. The construction territory is located to the Western Part of Tbilisi City within

Saburtalo District area, and to the Southern side of river Vere gorge (distance 250-300m). Site landscape represents hilly place. Investigated territory is located at the 545-547 m above the SL, and surrounding ridges height represents 534-768m. The explored site mainly consists with - sandstones and argillites layers (gray and gray-brown sandstones 60% and thin layer argillites 40%). At the territory during geologic investigations no groundwater presence was detected. Site layers decline is 33-35° to the North.

57. Considering morphological, geological and hydrological conditions, and according to engineering-geological condition's complexity the construction area represents mid complex category (II category).

58. According to valid seismic scheme of Georgia, Tbilisi and the construction field is located in danger of 7 point seismic zone.

Fig.7: Seismic Zones of Georgia



Soil. During geological drilling activities at the construction site, two lithologic type of ground was allocated – sandstones and argillites layers.

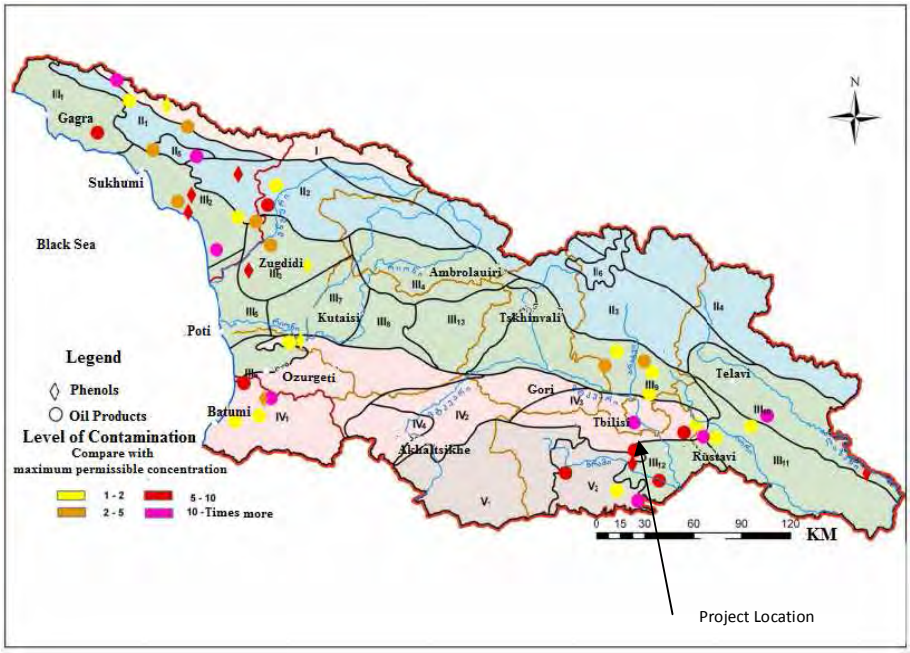
k. Surface Water and Groundwater

59. *Surface Water*. To the Southern side of construction area there is gorge of river Vere (distance 250-300m).

60. The Vere river is a right bank tributary of the Mtkvari (Kura) river. It originates on the southern slopes of the Kartli ridge in the vicinity of the village of Manglisi, at the height 1800.5 m above sea level and runs into the Mtkvari in the center of Tbilisi at the mark 390m (stream gradient 1410.5). The area of the basin is 150.6 km2.

61. *Groundwater*. Based on the groundwater characteristics, Georgia is divided into five hydro-geological zones, which are further defined into sub-zones/districts. Subproject area is in Zone – IV (**Fig.8**).

Fig. 8: Hydro-geological Zones



62. At the territory during geologic investigations no groundwater presence was detected.

I. Air Quality & Climate

63. *Air Quality*. The traffic in Tbilisi is overloaded with vehicle movement that is seen as one of the major air pollution source. The construction site nearby road (University street) is not characterized with heavy traffic or intensive movement (there is no traffic lights and traffic jam). Hence there is relatively low air pollution.

64. The instrumental measurements were conducted at the construction site to define dust and emissions (Nitrogen dioxide, Sulphur dioxide, Carbon monoxide) concentrations. The instrumental measurements were carried out by the experts of the National Environmental Agency (NEA) on 25 June, 2014 (**Annex 3**). The measurements were executed at one point for each component. The instrumental measurements data are included in the below table.

Table 3: Instrumental measurements (baseline data)

Measurement point		Concentration (mg/m3)			
N	Coordinates	Nitrogen Dioxide NO_2	Sulphur dioxide SO_2	Carbon monoxide CO	Dust
1	N 41°43'05.9'' EO 44°43'05.9''	0.002	<0.1	0.5	0.0011
	Maximum permissible level	0.2	0.5	5.0	0.5

65. *Climate.* The climate of Tbilisi can be classified as moderately humid subtropical. The city's climate is influenced both by dry (Central Asian/Siberian) air masses from the east

and humid subtropical (Atlantic/Black Sea) air masses from the west. Tbilisi experiences relatively cold winters and hot summers. Because the city is bounded on most sides by mountain ranges, the close proximity to large bodies of water (Black and Caspian Seas) and the fact that the Greater Caucasus Mountain Range (further to the north) blocks the intrusion of cold air masses from Russia, Tbilisi has a relatively mild micro-climate compared to other cities that possess a similar continental climate along the same latitudes.

66. The average annual temperature in Tbilisi is 12.7 °C. January is the coldest month with an average temperature of 0.9 °C July is the hottest month with an average temperature of 24.4 °C. The absolute minimum recorded temperature is −24 °C and the absolute maximum is 40 °C. Average annual precipitation is 568 mm May and June are the wettest months (averaging 84 mm of precipitation each) while January is the driest (averaging 20 mm of precipitation). Snow falls on average 15–25 days per year. The surrounding mountains often trap the clouds within and around the city, mainly during the spring and autumn months, resulting in prolonged rainy and/or cloudy weather.

Table 4: Climate data for Tbilisi

Climate data for Tbilisi													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Record high °C	19.5	22.4	28.7	31.6	34.9	38.7	40.0	40.3	37.9	33.3	27.2	22.8	40.3
Average high °C	5.9	7.1	12.2	19.3	23.1	27.5	31.0	30.2	26.1	19.4	12.7	7.8	18.6
Daily mean °C	1.5	2.4	6.8	13.0	17.0	21.1	24.5	23.7	19.8	13.6	7.8	3.4	12.9
Average low °C	−1.5	−0.8	3.0	8.1	12.1	16.0	19.4	18.6	15.0	9.4	4.5	0.5	8.7
Record low °C	−24.4	−14.8	−12.8	−3.8	1.0	6.3	9.3	8.9	0.8	−6.4	−7.1	−20.5	−24.4
Precipitation mm	20	29	31	51	84	84	41	43	35	41	35	23	517
Avg. precipitation days (≥ 1 mm)	4.0	4.6	5.9	7.6	9.7	8.7	5.7	5.7	5.0	5.6	4.4	4.0	70.9
Mean monthly sunshine hours	99.2	104.4	142.6	171.0	213.9	249.0	257.3	248.0	207.0	164.3	102.0	93.0	2,05

67. **Fig. 9** and **Fig. 10** provides detail information about the rate of existing monthly average temperature and precipitation in Tbilisi

Fig. 9: Precipitation in Tbilisi

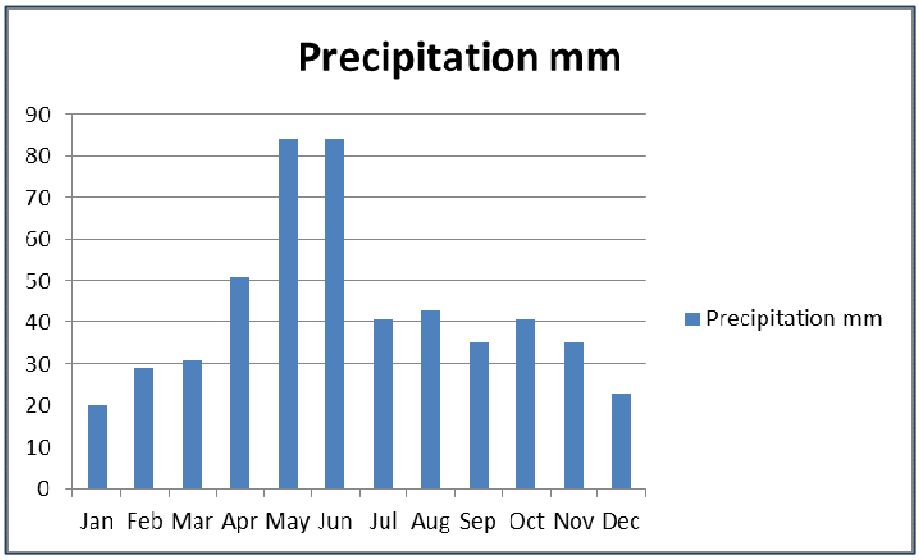
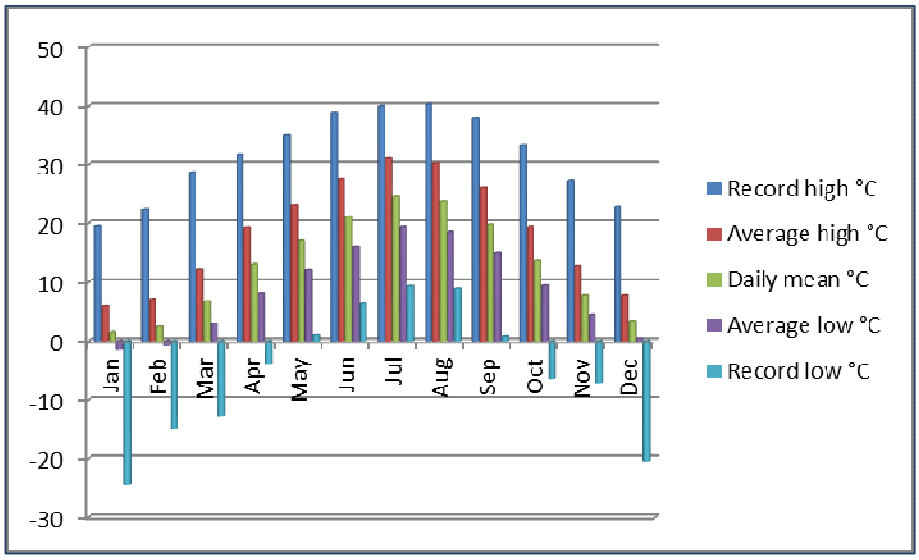


Fig. 10: Average and record monthly temperature in Tbilisi



68. Northwesterly winds dominate in most parts of Tbilisi throughout the year. Southeasterly winds are common as well. Spring is the most windy month. The average annual wind speed totals 3-4 m/seconds, the maximal speed is 40m/seconds. The strong wind blows about 20 days.

m. Biological Environment

69. *Flora and fauna.* Tbilisi is situated in the central floristic region of Transcaucasia. The flora of its surroundings includes 1643 species belonging to 623 genie and 107 families.

70. *Fauna***.** 302 species of birds have been identified in Tbilisi and its surroundings, 10 species of frogs (amphibians), 25 species of reptiles, over 20 species of fish, and 20 species of mammals. Currently there are not more than 50 species of birds, 12 including the Northern Goshawk, Eurasian Sparrowhawk, Kite, Shikra, a very rare Eastern Imperial Eagle, Owl, Hoopoe, Short-eared Owl and others. In the Tbilisi sky, there fly swifts, barn

swallows and house martins. There are many sparrows, hooded crows, rooks in the streets; in parks and gardens there are chaffinch, oriole and jay. During migration there are many migrant birds, including the crane, heron, common greenshank**,** swan etc. The following species of mammals are still found in Tbilisi's environs: Wolf, Fox *(Vulpesvulpes),* Central Asian Stone Marten *(Martesfoina),* Golden Jackal *(Canisaureus),* Wildcat *(Velissilvestris)*, Rabbit *(Lepuseuropeus)*, Squirrel *(Sciurus vulgaris)* and Transcaucasian Squirrel *(Sciurusanomalus)*. Among rodents found widely throughout Tbilisi and its environs there should be noted the Wood Mouse (*Sylvimussilvatcus),* Black Rat *(Rattusrattus)* and Domestic Mouse *(Musmusculus).* Among invertebrates there are many butterflies, around 800 species in all. In the Mtkvari River and its tributaries, as well as in a number of reservoirs of Tbilisi's environs, various types of fish are found

71. *Flora.* The construction area is located within the semi-arid rock vegetation zone of East Georgia. The soil cover is composed of brown, stony and skeletal soils.

With regard to vegetation, the following habitats are distinguished: *Eldari pine plantation on the northern slope; and vegetation of shiblijak and tomillares on the ridgeline and south-facing slopes combined locally with rock xerophytes, components of steppe vegetation and scrub dominated by Christ's thorn and buckthorn.* Each habitat recorded on the study area is described below.

Pine plantation is established on the area of about 0.35 ha on the north-facing slope with inclination reaching 15-200. Coverage of canopy layer is about 60%. Average age of trees is 40-50 years, height – 5m (maximum height is 6 m). Diameter of trees at breast height (DBH) ranges from 15 to 25cm. Trees are healthy, only 2 died back and 3 damaged specimens were recorded. In total, 204 Eldari pines and 2 cedars (reaching heights of 5 and 6m, and DBH 15 and 18cm respectively) were recorded.

Ground vegetation is represented by grass-forb communities. The following species were recorded: *Poa pratensis; Koeleria gracilis; Phleum phleoides; Festuca sulcata; Dactilis glomerata; Falcaria vulgaris; Medicago minima; M. coerulea; Melandrium boissieri; Eryngium campestre; Onobrychis cyri; Euphorbia boisseriana; Salvia nemorosa; Tragopogon graminifolium; Stipa lessingiana; Potentilla recta, etc.*

Hemixerophytic shrubbery with dominance of Christ's thorn (frequently referred as shiblijak) is developed on the south-facing slope. Woody plants are represented by Christ's thorn (Paliurus spina-christi), Pomegranade (Punica granatum), Buckthorn (Rhamnus pallassii), Mulberry (Morus nigra) and Nettle tree (Celtis caucasica). Nettle tree and Mulberry are represented by one or two undersized specimens.

Coverage of shrubbery is about 40%. Herbaceous vegetation is represented by steppes and tomillares similar to the communities described above.

The rest parts of south-facing slopes and ridgeline are covered with steppes and groupings of xeric rock plants on the area of about 0.4ha. Steppes are dominated by Feather grass (Stipa lessingiana) and Beard grass (Botriochloa ischaemum). The following species are associated with the above communities: *Stipa lessingiana; S. capillata; Botriochloa ischaemum; Phleum phleoides; Koeleria gracilis; Festuca sulcata; Dactilis glomerata; bromopsis variegates; Onobrichis cyri; O. kachetica; Potentilla recta; Teucrium polium; T.nuchense; Euphorbia boisseriana; Salvia nemorosa; Scorconera eriosperma; Linum austriacum; Podospermum laciniatum; Asparagus verticilatus; Tragopogon graminifolius; Medicago coerulea; M. minima; M. orbicularis; Centauria ovina; C.iberica; Aegilops cylindrical; Eryngium campestre; Falcaria vulgaris;*

Astrodaucus orientalis; Agrimonium eupatorium; Consolida orientalis;Cirsium vulgare; Dianthus crinitus; Allium atroviolaceum; Alcea rugosa, etc.

Thus, the area supports mosaic communities and rather rich flora. The plants identified on the study area are not of any conservation value. Regarding pine plantation, it is an important component of city's ecosystem and its preservation is desirable.

All recorded habitat are either of secondary origin or heavily modified; their conservation value in terms of biodiversity is low.

No Red List species or other legally protected species were identified.

72. The following figure (**Fig.11**) shows vegetation cover of the construction area of New Head Office of UWSCG:

Fig.11: Vegetation cover of the Construction area

n. Noise & Vibration

73. The only source of noise and vibration at the construction site is the traffic on the site nearby road (University Street). Since the road is not characterized with intensive movement subsequently the noise and vibration level is low. The instrumental measurements were carried out by the experts of the National Environmental Agency (NEA) on 25 June, 2014 (**Annex 3**). The results of baseline instrumental measurements are shown in the below table.

Table 5: Instrumental measurements (baseline data)

Measurement point		Noise (db)	Vibration	
N	Coordinates		vibration acceleration (m/s^2)	vibration speed $m/s*10^{-2}$
1	N 41°43'05.9'' EO44°43'05.9''	56.7	0.015	0.022

E. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

o. Topography, Geology & Soils

Impacts and Mitigation Measures during Construction

74. During the construction, impacts on topography, geology and soils are mainly due to earthworks and implementation of contractor's yard. Earthworks for the New Head Office of UWSCG comprise material excavation foundations. Deep excavation work for the building comprises material excavation, construction of reinforced concrete pad, drilling of bore piles and backfill of material including compaction. Material will be stored temporary alongside the excavation pit for reuse. A gravel layer will be filled and compacted on the bottom of the excavation pit at the site. Impacts associated with earthworks for excavation pit are of temporary nature. Surplus material will be used as embankment fill as far as possible.

75. Surplus material should be utilized for levelling, for raising the ground level and embankment at the same site as far as possible. Surplus soil needs to be disposed properly without causing further physical impacts on topography or soil at the point of disposal. This will require:

- Utilizing surplus soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites
- The excavation and refilling works will disturb the soil characters at the sites. The excavation will lead to disturbance and loss of top soil that amount is quite scarce because of site landscape characterized with sandstone and pathways Therefore the Contractor should implement the following measures:

76. Top soil of about 0.3 m depth shall be removed and stored separately during excavation work, and after construction the same soil shall be replaced for the site reinstatement purposes .Since the subproject is located in high seismic intensity zone, appropriate precautions have to be included in the structural design of facilities:

- Apply design and construction norms of Zone-7 (MSK-64 scale) according to Government of Georgia "Construction in Seismological Regions"
- Select appropriate material and design according to seismic intensity of project area

77. ***Contractor's yard*****:** The establishment of contractor's work camp may cause adverse impacts if various aspects such as liquid and solid waste management, equipment maintenance, materials' storage, and provision of safe drinking water are not addressed properly. The site for the work yard will be selected by the contractor within the

construction area.

78. To ensure that potentially resulting impacts are kept at a minimum the contractor will be required to prepare the following plans or method statements:

- Layout plan of the work camp including a description of all precautionary measures proposed to avoid potential adverse impacts on the receiving environment (surface and ground water, soils, ambient air, human settlement);
- Sewage management plan for provision of sanitary latrines and proper sewage collection and disposal system to prevent pollution of watercourses or groundwater;
- Waste management plan covering the provision of garbage bins, regular collection and disposal in a hygienic manner, as well as proposed disposal sites for various types of wastes (e.g., domestic waste, hazardous waste, used tires, etc.) consistent with applicable national regulations; and
- Description and layout of equipment maintenance areas and lubricant and fuel storage facilities including distance from watercourses. Storage facilities for fuels and chemicals will be located at a safe distance. Such facilities will be bounded and provided with impermeable lining to contain spillage and prevent soil and water contamination.
- These plans will be approved by the Engineer prior to beginning of construction activities.

79. Prior to establishment of the work camp(s) the contractor shall conduct consultations with local authorities to identify sources of potable water for the workforce that will not compete with the needs of the local population. Potable water for the workforce shall comply with the national quality standards. Construction water may be taken from Tbilisi water supply network or from other sources.

80. As already described an additional area of environmental impact during construction activities refers to the excavation sites for construction materials. Materials for construction works (sand and aggregate) is sourced from licensed borrow areas. Thus environmental impacts concerning potential disfigurement of the landscape, vegetation losses and damage to access roads are kept to a minimum. Potential impacts on human and natural environment result from haulage. To minimize impacts the following mitigation measures shall be implemented during construction:

- Secure all required environmental approvals and carry out extraction and rehabilitation activities consistent with the pertinent legal requirements and/or permit conditions;
- Undertake regular dust suppression on all unpaved access roads during the construction period, particularly in sections where critical receptors, such as settlements, are located;
- Locate stockpiles away from watercourses to avoid obstruction of flow and siltation;
- Provide cover on haul trucks to minimize dust emission and material spillage;
- Prior to operation of the borrow areas, submit to the construction supervision a dust management plan which shall include schedule for spraying access roads and the details of the equipment to be used;

Impacts during Operation

81. Regular operation of the building will not affect adjacent soils or geological structures.

p. Surface Water and Groundwater

Impacts and Mitigation Measures during Construction

82. Potential impact arises from implementation and maintenance of contractor's yard, transport, maintenance of vehicles and handling and storage of lubricants and fuel. The required provisions for contractor's yard are described in the chapter on impacts and mitigation measures concerning topography, geology and soils.

83. If not properly compacted the backfilled excavation pit may affect the surface water drainage during rains. To avoid this qualified site supervision is needed.

Impacts during Operation

84. Basically no impacts are envisaged during operation. The New Office Building will be equipped with sewage system that for itself will be connected to urban sewage network. The connection of UWSCG New Office building to central wastewater system will be done based on contractual agreement with "Georgian Water and Power" (GWP) (company provides wastewater services to the capital). Domestic waste should be stored in special dedicated containers and collected regularly for its final disposal. The authorised municipal waste collection company operated in Tbilisi (LTD "Tbilservice Group") is to be contracted for waste daily collection and disposal.

85. Operation of the buildings will not affect ground water.

q. Air Quality & Climate

Impacts and Mitigation Measures during Construction

86. The activities that could cause impact on ambient air quality are (i) dust generation from construction activity and (ii) air emission from construction equipment (like excavators, crane) and material and waste transport vehicles.

87. There is a lot of potential for the creation of dust, from the excavation of dry soil and its storage, and levelling on the ground.. Action will be needed to reduce impacts on air quality at both the construction and disposal sites, by controlling dust and reducing the amount of material to be dumped. The Contractor should therefore be required to:

- Cover or damp down by water spray on the excavated mounds of soil to control dust generation;
- Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process;
- Bring the material (aggregate and sand) when required;
- Ensure speedy completion of work and proper site clearance after completion;

- Damp down ground (bad condition) roads to avoid dust generation while using for material transport;
- Use tarpaulins to cover loose material that is transported to and from the site by truck;
- Control dust generation while unloading the loose material (particularly aggregate and sand) at the site by sprinkling water/unloading inside a barricaded area;
- Clean wheels and undercarriage of haul trucks prior to leaving construction site. The concrete wheels washing place and after washing wastewater collector should be arranged.

Various types of equipment and vehicles would be required for the construction activity. The exhaust emissions from these may degrade the ambient air quality.

88. In compliance to these standards, and to enhance the subproject benefits, the Contractor should implement the following:

- Ensure that all equipment & vehicles used for construction activity are in good condition and are well maintained
- Ensure that all equipment & vehicles confirm to emission and noise norms

Impacts during Operation

89. No impact on air quality is envisaged during operation of the New Office of UWSCG

r. Biological Environment

Impacts and Mitigation Measures during Construction

90. At the site there are no species of trees that are included in the **Red List** of threatened species (**Annex 4**: Biological Assessment of UWSCG Head Office Construction Site). Photos of site are in the **Annex 2**.

91. Installation of utilities will be conducted at the adjacent of the site entry road. Impact on biological environment will therefore only be minor and only concerns the deposition of excavated material. Required width for construction and deposition of excavated material is approximately 5 m.

92. Following measures needs to be implemented to avoid any impacts on flora and fauna:

- Avoid tree cutting, at maximum extend, by local and small change of layout plan/alignment
- In unavoidable cases, plant four trees of same species for each tree that is cut for construction
- Bushes and grasses shall be cleared only in actual construction area; all other preparatory works (material storage) shall be conducted on barren lands where there is no vegetation.

Impacts during Operation

93. The operation and maintenance activities would be conducted within the facilities, and therefore no impacts are envisaged on biological environment.

s. Economic Resources

Impacts and Mitigation Measures during Construction

94. New Office of UWSCG will be located on land that is owned by and belongs to UWSCG.

95. There will be no economic impact since trenches and excavated material are located on the construction site. Customers will not be discouraged from visiting shops and other businesses.

There will be no loss in income as a result. Nevertheless implementation of the following best construction measures should be foreseen:

- Informing all residents and businesses about the nature and duration of any work well in advance so that they can make necessary preparations if necessary;

96. The New Office of UWSCG is located in the suburbs of Tbilisi. Thus no economic losses for existing business and shops are envisaged.

97. Another aspect of the work that has economic implications is the transportation of material to the site and surplus soil from the site to locations where it can be put to beneficial use as recommended. In addition there will be truck movements carrying material. Although this is not significant, considering the narrow roads, it could disrupt traffic in the City. The transportation of material/waste shall be implemented by the Civil Contractor in liaison with the city authorities, and the following additional precautions should be adopted to avoid effects on traffic:

- Plan transportation routes in consultation with Tbilisi Municipality and Police;
- Schedule transportation activities by avoiding peak traffic periods;
- Use tarpaulins to cover loose material that is transported to and from the site by truck;
- Control dust generation while unloading the loose material (particularly aggregate and sand) at the site by sprinkling water/unloading inside a barricaded area;
- Clean wheels and undercarriage of haul trucks prior to leaving construction site and arrangement of proper concrete wheels washing place.

Impacts during Operation

98. As the operation and maintenance activities would be conducted within the existing facility in no impact envisaged on economic resources.

t. Socio-Cultural Resources

Impacts and Mitigation Measures during Construction

99. The construction impact will include noise and dust, and interrupted access due to movement of heavy vehicles transporting material and waste. Mitigation will therefore be needed to protect socio-cultural resources and to enable usage by local people and visitors to continue throughout the construction work. This will be achieved through several of the measures recommended above (under the impacts on air quality), including:

- Limiting dust by removing waste soil quickly; by covering and watering stockpiles, and covering soil with tarpaulins when carried on trucks;
- Avoiding construction work in sensitive times.

100. There is invariably a safety risk when substantial construction such as this is conducted in an urban area, and precautions will thus be needed to ensure the safety of both workers and citizens. The Contractor will be required to formulate and implement health and safety measures at construction sites, which should include such measures as:

- Following standard and safe procedures for all activities;
- Excluding public from the site – enclosing the construction area and provide standard warning and sign boards, and security personnel;
- Providing adequate lighting to avoid accidents;
- Ensuring that all workers are provided with and use appropriate Personal Protective Equipment (PPE) - helmets, hand gloves, boots, masks, safety belts (while working at heights etc.);
- Maintaining accidents records and report regularly;
- Traffic control. Irregular control of trucks by local police (radar control, safety control). Speed limits to be introduced within construction areas and on access roads;
- Yellow / orange warning tape to protect workers from falling into building pits, to prevent unauthorised people from entering the construction site. Warning signs to prevent accidents within the construction site and on access roads.

101. *Site management*. If not properly managed construction sites pose health and safety risks. Transmission of diseases may also occur under conditions with inadequate health and safety facilities and practices. The contractor shall provide or ensure the following: (i)adequate health care facilities (including first aid facilities) within construction sites; (ii) training of all construction workers in basic sanitation and health care issues, general health and safety matters, and on the specific hazards of their workplace; (iii) personal protection gear for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection in accordance with pertinent national regulations; (iv) clean drinking water to all workers; (v) adequate protection of the general public, including safety barriers and marking of hazardous areas in accordance with Safety Regulations for Construction, Rehabilitation and Maintenance, (vi) adequate drainage throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form; and (ix) sanitary latrines and garbage bins in construction site, which will be periodically cleared by the contractors to prevent outbreak of diseases. Where feasible

the contractor will arrange the temporary integration of waste collection from work sites into existing waste collection systems and disposal facilities of nearby communities.

102. *Archaeological heritage*. Since prehistoric times, Georgia, as a part of the Caucasian geopolitical region, has been an area of interest for such great states and empires as Achaemenids and later Iran, classical Greece and Rome Byzantium, Arab caliphates, Tatar Mongolian hordes, and the Ottoman Empire. Due to this, local Georgian and other people's material and spiritual culture have left significant archaeological traces.

103. Tbilisi is an important centre of Georgian history and culture. So there is a risk that any work involving ground disturbance could uncover and damage archaeological and historical remains. Therefore steps should be taken minimize the risk. This should involve:

- Contractor should put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and conserved. This should involve:
  - Having excavation observed by a person with archaeological field training. Supervisory procedures and any other necessary measures shall be agreed with the Ministry of Culture;
  - Stopping work immediately to allow further investigation if any finds are suspected;
  - Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection in situ.

104. In the unlikely event of an archaeological chance find the mitigation measure stipulated in **Table 6** "Environmental Impacts and Mitigation Measures" of the Chapter "Environmental Management Plan" will have to be carried out.

105. *Economic Benefits*. There could be some short-term socio-economic benefits from the construction work if local people gain employment in the workforce. To ensure that these benefits are directed to local people, the Contractor should be required to employ as much of his labour force as possible from the local communities in the vicinity of construction sites.

Impacts during Operation

106. As the operation and maintenance activities would be conducted within the facility, no impacts on socio-cultural resources envisaged.

u. Noise & Vibration

Impacts and Mitigation Measures during Construction

107. Construction activities are likely to generate noise and vibration from usage of equipment and haulage of construction materials/waste. Appropriate personal protection equipment needs to be provided for workers at the site. Haulage of materials/waste, and operation of excavator will generate noise, but will be limited in duration and require no special measures. Sensitivity to noise increases during the night hours in residential neighbourhoods. Following measures therefore shall be

implemented:

- Provide prior information to the local people about the work
- No construction of activities shall be conducted in the night
- Provide personal protection equipment like ear plugs to the workers at the noisy working site

108. Another important activity is haulage of construction material and waste to and from site. Following measures shall be included to avoid nuisance due to haulage of material and waste.

- Schedule material and waste haulage activities in consultation with local authorities;
- No night time haulage activity; limit to day time off peak hours;
- Educate drivers: limit speed between 25-30 km/h and avoid use of horn in the town;
- Earmark parking place for construction equipment and vehicles when idling; no parking shall be allowed on the roads, that may disturb the traffic movement.

109. As for the construction vibration is considered, none of the activities in the project has potential to generate significant vibration, and there are no sensitive structures in the proximity of the site. Therefore there are no likely impacts.

Impacts during Operation

110. No noise/vibration emissions are envisaged for New Head Office of UWSCG during operation phase. No mitigation measures are proposed therefore.

v. Cumulative Impacts

111. The potential negative impacts identified on various environmental parameters, during both construction and operation, in the previous sections of this report, is localized.

112. No cumulative impacts envisaged during the operation stage.

F. ANALYSIS OF ALTERNATIVES

113. Construction site (7500 m^2) is owned by and belongs to UWSCG. Since the facility will be built on privately owned land no alternative locations were investigated.

G. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

114. *Public consultation* The public participation process include:

- Identifying interested and affected parties (stakeholders)
- Informing and providing the stakeholders with background and l information regarding the proposed development
- Creating opportunities and mechanisms whereby they can participate and raise their viewpoints (issues, comments, and concerns) with regard to the proposed

development

- Giving the stakeholders feedback on process findings and recommendations
- Ensuring compliance to process requirements with regards to the environmental and related legislation.

115. The following methodologies have been used for carrying out public consultation:

- Door-to-door consultations with residents of the nearby settlements.

116. Additional and more intensive campaign will be conducted by the UWSCG.

117. During the public hearings information regarding the proposed subprojects were disclosed to the public such as.

118. Public consultation. On 2 July 20014, UWSCG conducted an initial public consultation and formally discussed the proposed subproject with the stakeholders and requested their views. A total of 18 representatives participated. Stakeholders were encouraged to raise their social and environmental issues.

119. All available stakeholders have already been identified and consulted during preparation of this IEE, and any others that are identified during project implementation will be brought into the process in the future. Stakeholders of this subproject include:

- UWSCG as beneficiary and implementing agency
- People who work/live near construction site
- Municipality of Tbilisi

120. Consultation with affected stakeholder was undertaken:

– to ensure its participation and information sharing in the design, implementation and monitoring of the project measures and their impacts on the environment;

– to present the project benefits to the stakeholders that accrue to them as a result of project implementation;

121. At the meeting there was detail discussion about impacts on nearby objects/facilities during construction, such as:

– Air quality (dust and emissions)

– Noise and Vibration

– Waste Management

– Disturbance of transportation etc

122. The meeting participants (stakeholders) were interested with the number of issues related to the construction of new building, particularly their interest included, design of new building, construction schedule and duration, start up and completion dates of construction, and other construction related points.

The minutes of the Public Hearing meeting is attached as an **Annex 5**.

123. The IEE report will be available for review in Tbilisi (at the UWSCG Head Office), and It will also be disclosed to public by making it available on websites of UWSCG, MRDI and ADB.

H. GRIEVANCE REDRESS MECHANISM

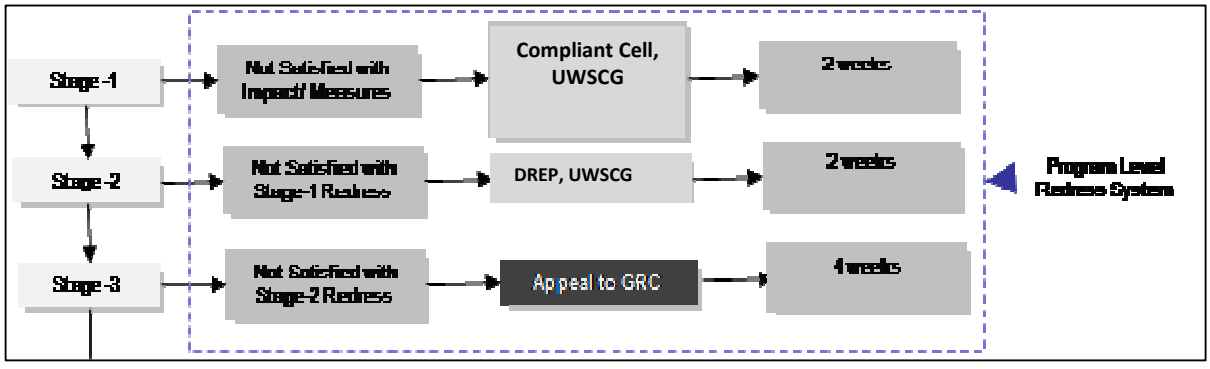
124. The contractor is obliged to implement the environmental management plan during the whole construction period and the supervising consultant will monitor these activities. The consultant will point out any deviations from the EMP and make sure that the contractor addresses all issues of the EMP in a timely and professional manner.

125. A grievance resolution mechanism will be set up to allow an AP appealing any disagreeable decision, practice or activity arising from project implementation. APs will be fully informed of their rights and of the procedures for addressing complaints whether verbally or in writing during planning and implementation of the project. Care will always be taken to prevent grievances rather than going through a redress process. This is achieved by ensuring full AP participation, and consultation, and by establishing extensive communication and coordination between AP, UWSCG, and the local municipality (district office of Tbilisi City Hall). The affected population and stakeholders, if any, may send their grievances, related to the project induced environmental impacts and nuisance to UWSCG or directly to the administrative bodies responsible for the environmental protection. The MoENRP and concerned municipalities are obliged to respond on the grievances, which have been received from population or other interested parties in accordance with the Administrative Code of Georgia.

126. UWSCG on its part, in order to provide a direct channel to the affected and concerned citizens for approaching project authorities and have their grievance recorded and redressed in an appropriate time frame, will establish a Grievance Redress Mechanism. A Complaint Cell and a Grievance Redress Committee will be established for particular investment project at the UWSCG Office, which will function throughout the construction period. The procedures adopted and the responsibilities of various project agencies in grievance redress are discussed in the following paragraph. During the public consultation process, UWSCG (the IA) will inform the stakeholders about the Grievance Redress Mechanism and provide contact details of persons responsible for grievance collection and response. These details will also be made available on UWSCG website. The DREP at the head office of UWSCG will be available for the local complaint cells for establishing direct links to relevant environmental authorities.

127. The Complaint Cell at the UWSCG Office in Tbilisi will accept complaints regarding the environment safeguard issues in implementation of the subproject. A three stage grievance redress mechanism is indicated in **Fig. 12** below. The grievances received and actions taken will be included into the environmental monitoring reports submitted to ADB.

Fig. 12: Grievance Redress Mechanism



- Complaints received (written or oral communication) by the Complaint Cell will be registered in database system, assigning complaint number with date of receipt; informs the complainant the time frame in which the corrective action will be undertaken.
- The Complaint Cell and the Investment Program Management Office (IPMO) which is the Project Management and International Relations Department at UWSCG and DREP of UWSCG, will investigate the complaint to determine its validity, and assess whether the source of the problem is indeed subproject activities; if invalid, the Complaint Cell intimates the complainant and may also provide advice on the appropriate agency to be approached.
- If the complaint is valid, the Complaint Cell will check the environmental management plan (EMP) of the subproject whether this issue was identified and mitigation was suggested; if yes, the Complaint Cell and UWSCG IPMO/DREP will direct the civil works Contractor to take immediate actions as per the EMP.
- If this is an unanticipated issue, the UWSCG IPMO will to identify mitigation measures and advise the civil works Contractor accordingly and a corrective action should be taken and a Corrective Action Plan CAP prepared.
- The Complaint Cell will review the civil works Contractor's response on corrective action and update the complainant within two weeks.
- If the complainant is not satisfied with the action taken by the Contractor within two weeks from the start of corrective action as directed the Complain Cell, the grievance will be directed to the Grievance Redress Committee (GRC, see below) established in the City, at the head office of UWSCG.

128. **Grievance Redress Committee (GRC**). A GRC will be established to resolve the unresolved issues at Stage 2 and this will function throughout the construction period, and will have hearings on need-basis. GRC will have following members:

- Chairman of the GRC – Head of Department of Social issues at Tbilisi Municipality.
- UWSCG/IPMO

  Aleqsandre Devidze, Head of Legal Department

  Address: 76b, Vaja-Fshavela avenue, Tbilisi, Georgia.

  Phone: +995 32 2 91 90 60

  a.devidze@water.gov.ge
- Designated informal leader of sub-project affected community.
- female representative
- Local NGO representative.

129. Considering the anticipated impacts, it is not expected that there is any likely issue which will remain unresolved in the Stage 3 of the process. In the unlikely event of dissatisfaction after Stage 3, the complainant can approach ADB with the complaint. ADB has in place a system under the ADB Accountability Mechanism, where people adversely affected by ADB-assisted projects can voice and find satisfactory solutions to their problems. An affected person can file a complaint (mail, facsimile, electronic mail,

or by hand delivery) with the:

Complaints Receiving Officer, Accountability Mechanism

Asian Development Bank Headquarters

6 ADB Avenue, Mandaluyong City 1550, Philippines

Email: amcro@adb.org, Fax +63-2-636-2086

I. ENVIRONMENTAL MANAGEMENT PLAN

Table 6: Environmental Impacts and Mitigation Measures

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
	Pre-Construction				
1	The possibility to remove terrestrial habitat and loss of the top soil	Sites rehabilitated before contractor leaves site upon completion of construction activities. Planting and stabilization of site, including replacement of any native plant species	Contractor	Construction and temporary labor camps, storage area	Part of construction cost
	Construction				
2	Risk due to high risk seismic intensity zone	▪ Apply design and construction norms of Zone-7 (MSK-64 scale) according to Government of Georgia "Construction in Seismological Regions" ▪ Select appropriate materials and design according to seismic intensity of project area	DC	-	Design Cost
3	Generation of surplus/ waste soil	▪ Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites	Contractor	Construction site	Part of construction cost
4	Safety risks due to deep excavation	▪ Each side of excavation or trench which is deeper than 2 m must be protected by sheeting/bracing shoring or sloped unless it is cut from rock ▪ Regular check the walls of an excavation or trench for cracks, bulgies and spalling. Check the shoring for signs of distress, especially after a rain storm ▪ Do not store spoil, materials or equipment along the edge of an	Contractor	Construction site	Part of construction cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		excavation or trench ▪ Each excavation or trench shall have a way out such as a ladder or ramp ▪ Construction of temporary cut-off drains across the excavated area during earth work for foundation			
5	Impact on ambient air quality due to dust generation	▪ Restricting excavation activities such as topsoil removal during period of high winds ▪ Locating stockpiles away from sensitive receptors ▪ Cover or damp down by water spray on the excavated mounds of soil to control dust generation; ▪ Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process; ▪ Bring the material (aggregate and sand) as and when required; ▪ Damp down unsatisfied /bad condition roads to avoid dust generation while using for transport of waste/material ▪ Use tarpaulins to cover loose material that is transported to and from the site by truck ▪ Control dust generation while unloading the loose material (particularly aggregate and sand) at the site by sprinkling water/unloading inside barricaded area ▪ Clean wheels and undercarriage of haul trucks prior to leaving construction site ▪ Organize proper place for washing of trucks wheels with concrete flooring and separate drainage	Contractor	Construction site	Part of construction cost
			Contractor	Construction site Along materials transportation routes	
6	Noise and Vibration	▪ If vibration levels are monitored and found to exceed the vibration threshold according to relevant criteria the contractor shall modify the construction activities until compliance with the criteria has been achieved	Contractor	Construction site	Part of construction cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		▪ Maintain machinery and vehicle silencer units to minimize noise ▪ Keeps noise generating activities associated with construction activities to a minimum and within working hours ▪ Notify all surrounding stakeholders prior to commencement of the construction phase. ▪ Vehicles and machinery that are used intermittently should not be left idling condition for long period of time. ▪ Equipment used on site will be quietest reasonably available ▪ Ensure that all equipment & vehicles used for construction activity are in good condition ▪ Haul routes for construction traffic entering and leaving the site will be selected to ensure noise levels at noise sensitive receptors are kept at a minimum.		Along materials transportation routes	
7	Impact on surface water bodies due to construction	▪ In case of heavy rain, protect open trenches from entry of rain water by raising earthen bunds with excavated soil or organize drains ▪ Confine construction area including the material storage (sand and aggregate) so that runoff from upland areas will not enter the site ▪ Ensure that drains are not blocked with excavated soil	Contractor	Construction site	Part of construction cost
8	Soil Contamination	▪ The contractors will be required to instruct and train their workforce in the storage and handling of materials and chemicals that can potentially cause soil contamination. ▪ Solid waste generated during construction and at temporary campsites will be properly treated and safely disposed of only in demarcated waste disposal sites ▪ Construction chemicals will be managed property ▪ Clearly labelling all dangerous products ▪ Allocation of fuel and lubricants spill elimination items (sand,	Contractor	Construction site Temporary Campsite Storage aria	Part of construction cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		sawdust, special containers) at the construction site ▪ Ensure that all equipment & vehicles used for construction activity are in good condition (non-leaking) and are well maintained ▪ Fuel tanks (diesel or oil) should be placed in a concrete pool which its perimeter walls will be at least 1.0 m high with the concrete or plastered masonry wall			
9	Impact on Flora and Fauna	▪ The removal of vegetation shall be restricted to the development footprint, which should encompass areas that are already relatively disturbed in preference to cleaning vegetation. Any additional clearing for construction will compound the impacts, so ancillary facilities outside the footprint shall be avoided ▪ Avoid tree cutting ▪ In unavoidable cases, plant four trees of same species for each tree that is cut for construction ▪ Bushes and grasses shall be cleared only in actual construction area all other preparatory works (material storage) shall be conducted on barren lands where there is no vegetation. ▪ The Contractor shall ensure that the work site be kept clean, tidy and free of rubbish that would attract animals.	Contractor	Construction site	Part of construction cost
10	Impact on Traffic	▪ Plan transportation routes in consultation with Municipality and Police ▪ Informing all surrounding stakeholders about the nature and duration of any work ▪ The contractor is to be responsible for repairing any damage to public roads resulting from the passage of site vehicles along roads ▪ Schedule transportation activities by avoiding peak traffic periods ▪ Use tarpaulins to cover loose material that is transported to and from the site by truck	Contractor	Construction site Access Road	Part of construction cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		▪ Control dust generation while unloading the loose material at the site by sprinkling water ▪ Clean wheels and undercarriage of haul trucks prior to leaving construction site ▪ Arrange proper concrete wheels washing place and after washing wastewater collector ▪ Educate drivers: limit speed between 25-30 km/h and avoid use of horn in the town ▪ Earmark parking place for construction equipment and vehicles when idling; no parking shall be allowed on the roads, that may disturb the traffic movement ▪ No night time construction activities including material/waste haulage ▪ Temporary traffic signals ▪ One way scheme ▪ General traffic diversion routes where roads are closed.			
11	Hazardous Materials	▪ Comply with all national legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials. ▪ Establish an emergency procedure for dealing with spills or releases of petroleum. ▪ Storage of all hazardous material to be safe, tamper proof and under strict control. ▪ Petroleum, chemical, harmful and hazardous waste throughout the site must be stored in appropriate, well maintained containers. ▪ Any accidental chemical / fuel spills to be corrected immediately.	Contractor	Constructio n site Storage Area	Part of constructio n cost
12	Solid Waste	▪ The waste must not have access to drainage water ▪ Waste must be immediately removed from the working area	Contractor	Constructio	Part of constructio

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		▪ Waste must be placed properly with clear labelling notes ▪ This waste can be transferred only to a authorised contractor ▪ The personnel dealing with the hazardous and non-hazardous waste should undergo specific training in waste handling, waste treatment and waste storage ▪ Accumulated construction waste should be allocated in a special place and should be transported and disposed based on agreement with Tbilisi City Hall		n site	n cost
13	Loss of top soil	▪ Top soil of about 0.3 m shall be removed and stored separately during excavation work ▪ Top soil is to be stockpiled for final site rehabilitation and landscaping works	Contractor	Constructio n site	Part of constructio n cost
14	Erosion due to excavation/refilling	▪ Ensure proper compaction of refilled soil and there shall not be any loose soil particles on the top; the material shall be refilled in layers and compacted properly layer by layer	Contractor	Constructio n site	Part of constructio n cost
15	Impact on air quality due to emissions from construction equipment/vehicles	▪ Ensure that all equipment & vehicles used for construction activity are in good condition and are well maintained ▪ Ensure that all equipment & vehicles confirms to emission and noise norms	Contractor	Tbilisi	Part of constructio n cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
16	Socio-economic benefits from employing local people in construction work	▪ To the extent possible labour force should be drawn from the local community	Contractor	Construction site	Part of construction cost
17	Safety risk – public and worker	▪ Follow standard and safe procedures for all activities ▪ Exclude public from the site – enclose construction area, provide warning and sign boards, security personnel ▪ Provide adequate safety fencing of construction site ▪ Provide adequate lighting to avoid accidents ▪ Signs are to be installed in the vicinity of the works to ensure that works and passersby are guided away from dangerous areas ▪ Ensure that all workers are provided with and use appropriate Personal Protective Equipment - helmets, hand gloves, boots, masks, safety belts (while working at heights etc.); ▪ Consider using aerial lifts or elevated platforms to provide safer elevated working surfaces ▪ Erect guardrail systems with toe boards and warning lines or install control line systems to protect workers near the edges of floors and roofs ▪ Make sure that ladders are long enough to safely reach the work area ▪ Be sure the load rating can support the weight of the user, including materials and tools ▪ Maintain accidents records and report regularly	Contractor	Construction site	Part of construction cost
18	Historical, archaeological chance finds during excavation	▪ Contractor shall put in place a protocol for conducting any excavation work, to ensure that any chance finds are recognized and measures are taken to ensure they are protected and	Contractor	Construction site	Part of construction cost

No.	Potential Negative Impacts	Mitigation measures	Responsibility	Location	Cost
		conserved. This should involve: – Having excavation observed by a person with archaeological field training; – Stopping work immediately to allow further investigation if any finds are suspected; – Calling in the state archaeological authority if a find is suspected, and taking any action they require to ensure its removal or protection in situ.			
19	Cumulative impacts – repeated disturbance to roads and people	▪ Schedule the construction activities in harmony with the other on-going works ▪ Schedule works before road work	Contractor, SC	Construction site	Part of construction costs
	Operation				
20	Municipal and Construction waste generation	▪ Accumulated waste should be placed in a common containers dedicated for municipal waste collection ▪ Authorised municipal waste collection company operated in Tbilisi (LTD "Tbilservice Group") is to be contracted for waste daily collection and disposal	UWSCG	UWSCG new Head Office	Part of UWSCG annual budget
21	Wastewater	▪ Wastewater of UWSCG New Office building will be connected to central systems based on contractual agreement with and Georgian Water and Power" (GWP) (company provides wastewater services to the capital)	UWSCG	UWSCG new Head Office	Part of UWSCG annual budget
22	Power supply	▪ Power supply of UWSCG New Office building will be connected to central systems based on contractual agreement with Join-Stock Company "Telasi" (power distribution to the customers of Tbilisi)	UWSCG	UWSCG new Head Office	Part of UWSCG annual budget

w. Monitoring and Reporting

130. Monitoring describes (a) monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations that will signal the need for corrective actions; and (b) monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

131. Most of the mitigation measures are fairly standard methods of minimizing disturbance from building in urban areas (maintaining access, planning work to minimize public inconvenience and traffic disruptions, finding uses for waste material, etc.). Monitoring of such measures normally involves making observations in the course of site visits, although some require more formal checking of records and other aspects.

132. DC will be responsible for incorporation of mitigation measures in design and construction.

133. All mitigation measures during construction have to be implemented by the contractor that will be monitored by the supervision consultant (SC). Implementation of EMP of this project requires an experienced Environmental Management Specialist (EMS), employed by the SC, conducting regular monitoring and preparing quarterly reports.

Table 7: Environmental Monitoring Plan for New Head Office of UWSCG

Item	Parameters	Location	Action Level	Frequency	Responsibility
Pre-Construction Phase					
Tender documentation	Environmental Issues		Bidding documents to be included IEE/EMP in relevant sections	Once	DC, UWSCG
Contract documentation for contractor				Once	DC, UWSCG
Baseline Study	Noise, vibration, air quality (dust, emission)	Construction site	Instrumental measurements for collection of necessary baseline data	Once	DC, UWSCG
Construction Phase					
All construction related mitigation measures	Implementation on site	Construction site	Observations on/off site; Contractor records; Monitoring of environmental compliance	Regularly	EMS (Contractor) EMS (SC) ES (DREP/USIIP)

Item	Parameters	Location	Action Level	Frequency	Responsibility
All design related mitigation measures	Inclusion in the project design		Design review	As needed	DREP DC
Site conditions	Noise Vibration Air quality (dust and emission levels)	Construction site	Monitoring Measurement of dust, noise, vibration air emissions (Nitrogen (IV), dioxide, sulphur dioxide, Carbon monoxide)	Quarterly	Contractor

134. Most of the mitigation measures require the contractors to adopt good site practice, which should be part of their normal construction contract, so there are no additional costs to be included in the EMP. Costs of design-related mitigation measures are included in the budgets for the civil works.

135. The Contractor has the following obligations:

- To employ full time Environmental consultant responsible for developing and implementing the construction phase EMP, conducting routine daily environmental monitoring within construction site, and for provision of corresponding information to UWSCG and SC
- To prepare and implement SEMP (the SEMP implementation costs should be included into the construction budget). SEMP should be endorsed by SC and approved by UWSCG

136. The review of design and contract to check the inclusion of all design related mitigation measures will be conducted by Environmental Specialist (ES) of DREP under USSIP. The Environmental Specialist assists and advises the Division of Resettlement and Environmental Protection (DREP) of the UWSCG in USSIP implementation in compliance with the, ADB Safeguard Policy Statement, 2009 and National Legislation, and oversee the work of DCs and SCs in safeguard compliance. The ES prepares and submits bi-annual reports to ADB for review.

137. UWSCG/DREP will monitor EMP implementation (mainly by contractors) when the subprojects are constructed. The status of implementation and outcome of monitoring will be submitted to ADB regularly through biannual Environmental Monitoring Reports (EMR).

x. Institutional Arrangements

138. Following agencies will be involved in implementing the Investment Program:

- Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI will have overall responsibility for compliance with loan covenants
- United Water Supply Company of Georgia (UWSCG) is the implementing agency (IA),

which will be responsible for administration, implementation (design, construction and operation) and all day-to-day activities under the loan. An, Investment Program Management Office (IPMO), which is Department of Investment Projects Management (From 2014) is established within the UWSCG for all Investment Program related functions. The IPMO coordinates construction of subprojects, and ensure consistency of approach and performance

- The IPMO is assisted by (a) Detailed Engineering Design Consultants (DC), who design the infrastructure, and (b) Supervision Consultant (SC), who supervises infrastructure works. Contractors build the infrastructure.
- ADB is the donor financing the Investment Program.
- UWSCG bear the responsibility of implementing the Investment Program in compliance with the Georgian environmental law and ADB SPS, 2009 throughout planning, design and implementation stages. Specifically, the Department of Resettlement and Environment Protection (DREP) of UWSCG, that is responsible for implementation of the EARF (Organization Chart is in **Annex 1**)

139. Specific tasks to be conducted by DREP to comply with EARF include:

- Project selection in compliance with the environmental subproject selection guidelines
- Project categorization using REA checklists as per the ADB SPS, 2009 and ADB EAG, 2003
- Conducting appropriate level of environmental assessment (for IEE and EIA as the case may be) including public consultation and disclosure as per ADB SPS, 2009
- Obtaining Environmental Impact Permit from MoEPNR for projects notified by Law on Environmental Impact Permit, 2008
- Obtaining clearances other regulatory agencies (MESD and Forest Division of MoEPNR, etc.) on need basis
- Review and approval of IEE and EIA reports and coordination with ADB for approvals
- Implementation of Environmental Management Plan including an appropriate response provided to any unexpected impacts that may occur, and redressal of grievances
- Implementation of EMP/SEMPs and Monitoring Plans
- Preparation of Resettlement Plans and its implementation
- Review and update of EARF.
- Periodic compliance reporting to ADB and coordinating throughout with ADB's Central and West Asia Department (CWRD).

140. For the projects that require EIA study and Environmental Impact Permit (EIP) from MoEPNR under the Law on Environmental Impact Permit (2008), both the ADB and MoEPNR approval processes need to be followed. EIA Reports prepared by the DC, after review by DREP, will be submitted to MoEPNR for EIP. The MoEPNR and its regional offices (within their competence and in cases determined by the Law on Environmental Impact Permit), will be responsible for reviewing EIA documents and environmental permit applications and issuing permits for projects when all conditions are met. The

conditions imposed by MoEPNR as part of EIP, if any, will be included in the EIA and EMP by the DC, and the revised report will be submitted to DREP, which will approve and further submit to ADB. MoEPNR will also participate in the environmental monitoring conducted by UWSCG during project implementation, with the purpose of ensuring compliance with any conditions imposed by the permit.

141. For projects not requiring EIP from MoEPNR, UWSCG/DREP will review and approve the IEE Reports submitted by DC and will submit to the ADB for approval. During the EMP implementation, DREP will conduct the monitoring as per the ADB procedures.

142. Currently DREP is staffed with a Head of Division, who is responsible for both resettlement and environmental issues, and senior Environmental Specialist.

143. The scope of work of SC and DC shall cover environmental safeguard compliance related tasks. DC will conduct IEE or EIA studies and will also be responsible for: incorporation of mitigation measures in design and, baseline environmental quality monitoring.

144. SC will supervise the implementation of EMP/SEMPs during construction and conduct environmental monitoring. The contractor will implement mitigation measures during construction.

145. DREP is supported by consultant (Environmental Management Specialist) in EARF implementation in general, but in particular reviewing IEE/EIA Reports and overseeing implementation of EMP/SEMPs. In training and capacity building activities.

146. *Costs of EMP Implementation.* The implementation of a typical EMP requires expenditures described in **Table 8**

Table 8: Environmental Management Cost of Office Building (for one year period)

Item	Quantity	Unit Cost /USD	Total Cost /USD	Remarks
Environmental Management Specialist (EMS/SC)				Supervision Consultant Team The costs are included in the contract signed between UWSCG and SC
Environmental Specialist (ES/DREP)				ES to DREP under USIIP The contract is signed between ES and UWSCG, and the cost is already included in PMU within USIIP
Environmental Management Specialist (Contractor)	12 Month	2000	24000	Contractor has to assign full time EMS during whole Construction period
Monitoring measurement of environmental quality	4	200	800	Monitoring measurements to be conducted by the Contractor on quarterly bases
Miscellaneous			2500	10% for above Items

Subtotal			27500	Total for above
Contingency			3300	12% of Subtotal
GRAND TOTAL			30800	For the entire construction period

y. Performance Indicators

147. Based on the identified impacts of the project the performance indicators can be established. The objective of the EMP is to eliminate, avoid, minimize and if not possible, compensate the affected entities or individuals by the project. During the initial stage of the project, there should be established the baseline parameters of the construction site and make appropriate parametric measurements which shall be the basis for comparison during project implementation. This shall include physical parameters on noise, dust, air emissions and etc. Mitigation measures shall be implemented or improved based on the level of non-conformance to the identified performance indicators. The environmental monitoring and management shall focus on the Contractor's conformance to these performance indicators throughout the entire duration of the project.

148. In establishing the performance indicators local as well as international standards and guidelines are used as reference. In addition, local social and community concerns should also be utilized as performance indicators of the project. These performance indicators are shown below:

Table 9: Environmental performance indicators

Environmental Aspect	Parameter	Performance Indicator	
Air Emission[1]	Nitrogen (IV) Dioxide	0.2 (mg/m^3) max	0.04 (mg/m^3) Daily Average
	Sulphur Dioxide	0.5 (mg/m^3) max	0.05 (mg/m3) Daily Average
	Carbone Monoxide	5 (mg/m^3) max	3 (mg/m^3) Daily Average
Dust	PM10 (WHO Guidelines[2])	20 $\mu g/m^3$ annual mean	50 $\mu g/m^3$ 24-hour mean
Noise[3]	Noise Levels for residential areas at 7am – 11 pm	55 Indicative Level L_a dBA	70 Maximum Admissible Level L_a max dBA
	Noise Levels for for residential areas at 11pm – 7am	45 Indicative Level La dBA	60 Maximum Admissible Level La max dBA
Social and Community Concerns[4]	Traffic	Number or Complaints	
	Impairment of Access	Number or Complaints	
	Public Safety	Number or Complaints	
	Disruption to Utilities	Number or Complaints	
	Curtailment of Social and Business Activities	Number or Complaints	

[1] Environmental Quality Norms approved by the Order #297N (16.08.2001) of the Ministry of Labour, Health and Social Protection (as amended by the Order No 38/n of the same Ministry of 24.02.2003). The quality of atmospheric air (pollution with hazardous matter) is also defined by the order of the Minister of Environment Protection and Natural Resources (#89, 23 October 2001) on approval of the rule for calculation of index of pollution of atmospheric air with hazardous pollution

[2] http://www.who.int/mediacentre/factsheets/fs313/en/

[3] The Georgian standards for noise control as approved by the Decree of the Minister for Health, Labour and Social Affairs (297n of August 16, 2001) upon the 'Approval of Environmental Quality Standards', which specify the tolerable and maximum admissible levels of noise for different zones

[4] From the EMP Table

J. RECOMMENDATIONS & CONCLUSION

Recommendation

149. The environmental impacts of all infrastructure elements proposed in the project on construction of New Head Office of UWSCG has been assessed and described in the previous sections of this document. Potential negative impacts were identified in relation to design, location, construction and operation of the improved infrastructure. Mitigation measures have been developed to reduce all negative impacts to acceptable levels.

150. Mitigation measures were discussed with engineering specialists, and some measures have already been included in the designs. This means that the number of impacts and their significance has already been reduced by the design. These include:

- Locating the utilities on existing roads and public land, no private land acquisition and related resettlement issues are required
- Locating future New Head Office of UWSCG on its own private land

151. No mitigation measures are required after construction of the building during operation stage.

152. During the construction phase, impacts mainly arise from generation of dust from soil excavation and refilling; and from the disturbance to residents and traffic caused by the construction work. These are common impacts associated with the construction processes, and there are well developed methods for their mitigation. Various measures are suggested including:

- Avoiding construction work during heavy rainfall
- Utilizing surplus soil for beneficial purposes
- Storage of top soil and replacement after construction
- Measures to reduce/control dust generation (cover/damp down by water spray; cover during transport etc.)
- Providing prior public information and planning the work in consultation
- Avoiding night time construction activities
- Following standard and safe procedures for public and workers safety
- Planning transport routes/schedule carefully; awareness creation in drivers

153. Although limited, this environmental assessment process also identified opportunities for environmental enhancement. Certain measures suggested in this regard include:

- Employing nearby district people in operation and maintenance of New Head Office of UWSCG
- Avoiding the use of electrical equipment with PCBs and SF6

154. Mitigation will be assured by a program of environmental monitoring conducted during construction to determine whether the environment is protected as envisaged and to ensure that all measures are provided as intended. No mitigation measures are needed during operation phase.

155. The recommendation of this IEE process is that all mitigation, enhancement and monitoring activities proposed here shall be implemented in full. This is essential to ensure that the environmental impacts are successfully mitigated; this is the responsibility of UWSCG.

Conclusion

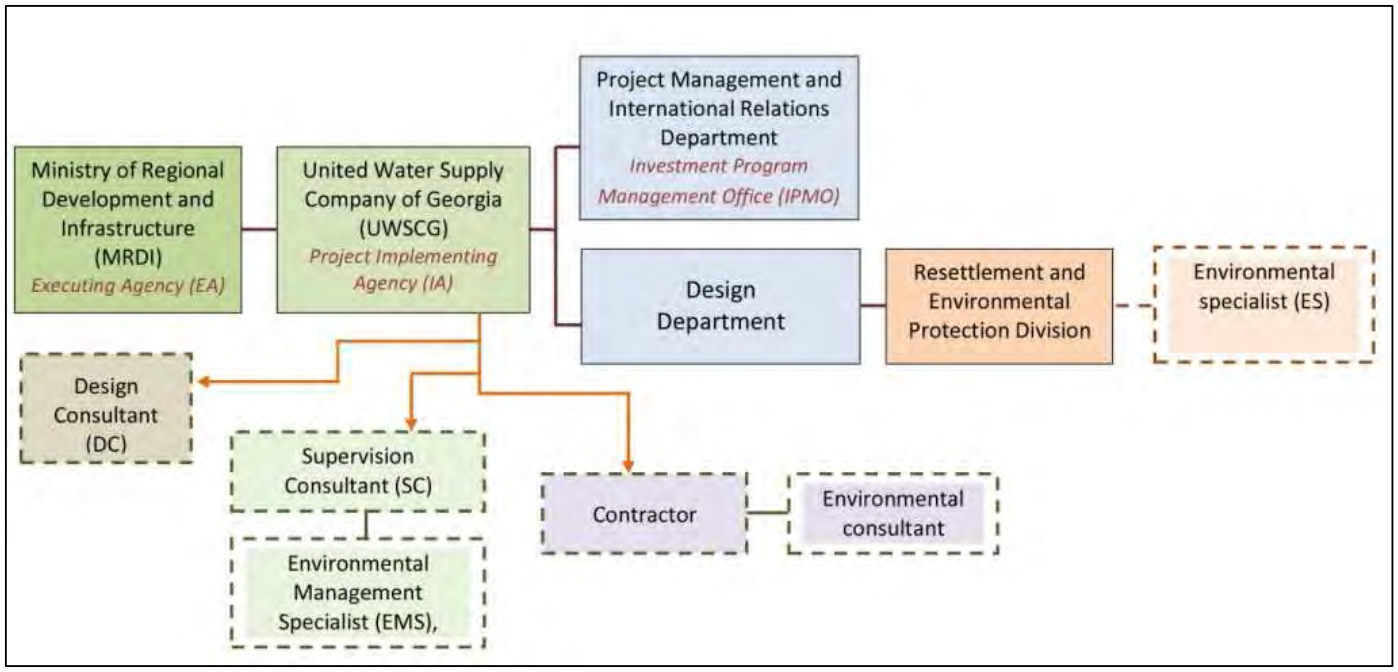
156. The environmental impacts of the proposed construction project in Tbilisi have been assessed by this document.

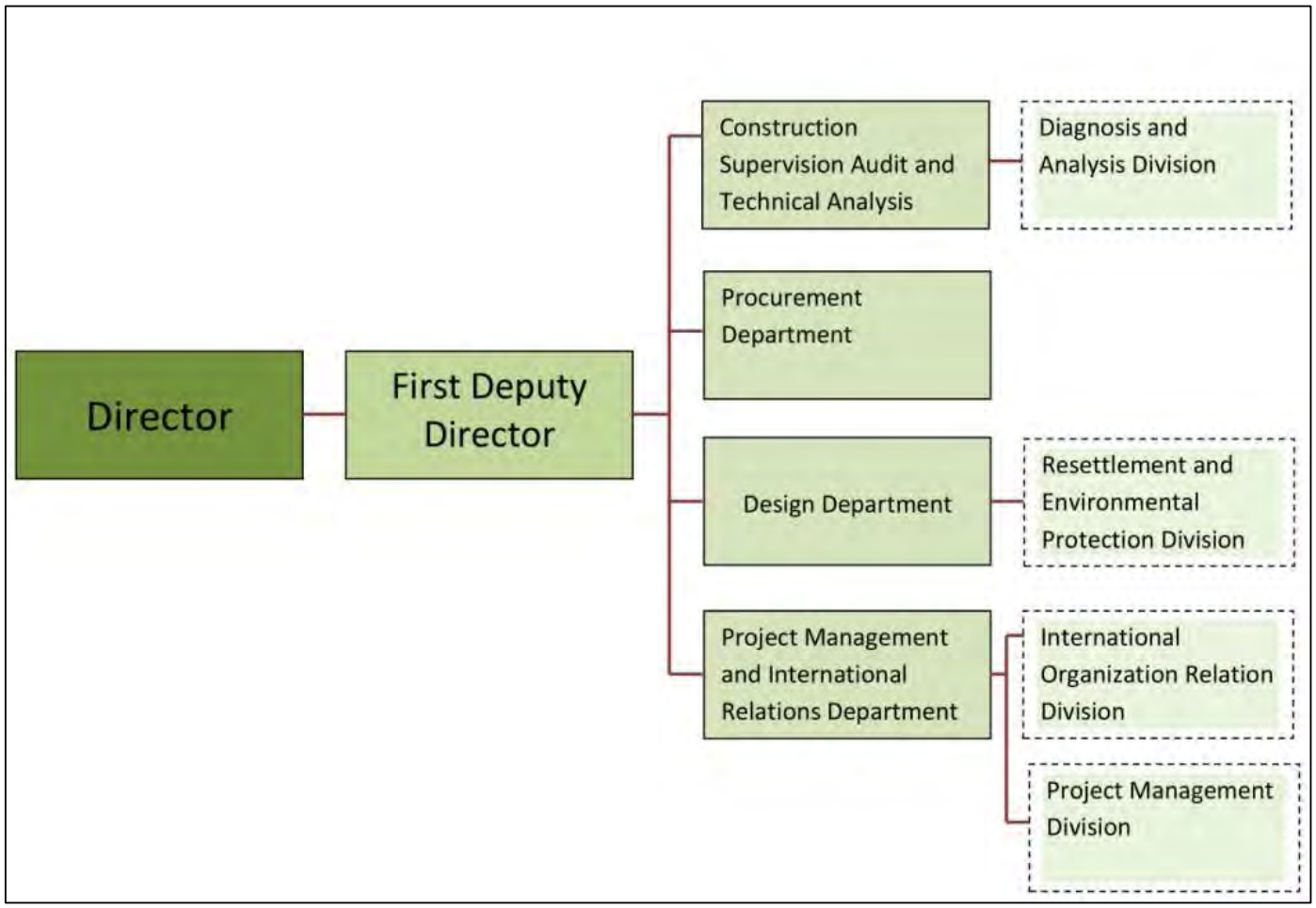
157. The overall conclusion of the IEE is that provided mitigation and enhancement measures are implemented in full, there should be no significant negative environmental impacts as a result of location, design, construction or operation of the project.

158. There are no uncertainties in the analysis; thus there is no need for further study such as EIA.

ANNEXES

ANNEX 1. Organization Chart



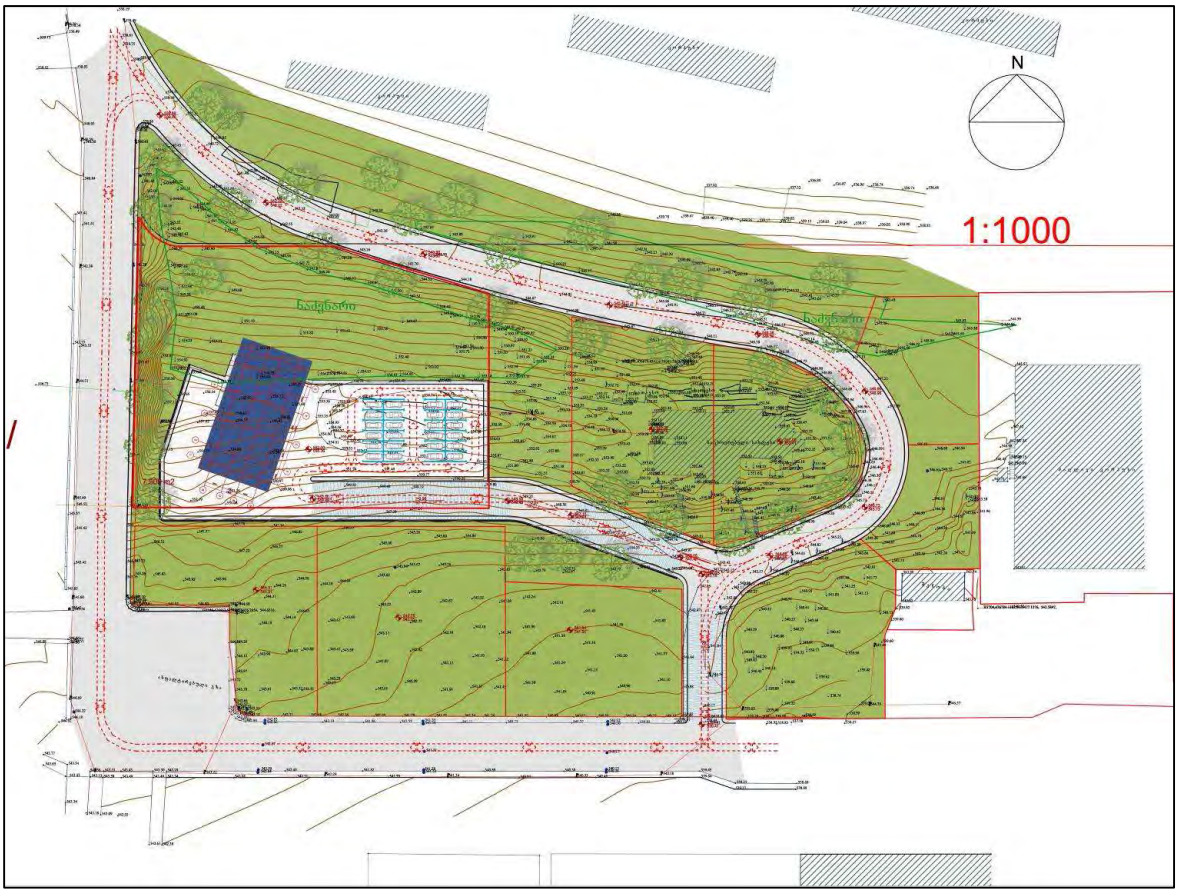


ANNEX 2: Photos of construction site and model of head office building

New Head Office of UWSCG – model




New Head Office of UWSCG – construction site layout



ANNEX 3. Official results of baseline instrumental measurements

ქ. თბილისი, უნივერსიტეტის ქ.№2-ის მიმდებარე ტერიტორიაზე

ჩატარებული გაზომვების შედეგები 25.06.2014წ.

(ხელშეკრულება №3/379)

ქუჩა

№	გაზომვის ადგილი	კოორდინატები	CO მგ/მ³	მტვერი მგ/მ³	SO_2 მგ/მ³	NO_2 მგ/მ³	ხმაური დბ	ვიბრაცია	
								ვიბრ.სიჩქ.	ვიბრ.აჩქ.
1	უნივერსიტეტის ქუჩა №2	N 41°43′05.9′′ EO 44°43′05.9′′	0.5	0.011	<0.1	0.002	56.7	0.00022	0.015
	ზღვრულად დასაშვები ნორმები		5.0	0.5	0.5	0.2	70		

შემსრულებლები: ო.ყენია

გ.ხაჩიშვილი

შეთანხმებულია:

გარემოს დაბინძურების მონიტორინგის დეპარტამენტის უფროსი მ.არაბიძე

Unofficial translation

Results of conducted measurements in Tbilisi nearby to #2 University street
25.06.2014

(Contract №3/379)

Measurement point	Coordinates	Carbon monoxide CO (mg/m^3)	Dust (mg/m^3)	Sulphur dioxide SO2 (mg/m^3)	Nitrogen Dioxide NO2 (mg/m^3)	Noise (db)	Vibration	
							vibration acceleration	vibration speed
University Street	N 41°43'05.9'' EO 44°43'05.9''	0,5	0,011	<0,1	0,002	56,7	0.015	0.00022
Maximum permissible level		5,0	0,5	0,5	0,2	70		

Experts: O. Kenia

G. Khachishvili

Agreed with the

Head of Environmental Pollution Department: M. Arabidze

Photos of Instrumental measurements

ANNEX 4. Biological assessment of UWSCG head office construction site

Prepared by: Grigol Deisadze

Tbilisi

June, 2014

TABLE OF CONTENTS

INTRODUCTION

This report deals with the findings of biological assessment of the territory selected for the construction of Head Office of United Water Supply Company of Georgia carried out by independent botanist expert - Mr. Grigol Deisadze in June, 2014.

KEY OBJECTIVES

Key objectives of the biological survey were as follows:

- Identification of major habitats/vegetation units within the study area;
- Inventory of flora of study area;
- Identification of legally protected species;
- Development of mitigation measures to avoid/minimize impacts on sensitive receptors.

SURVEY FINDINGS

The study area is situated in Tbilisi, adjacent to University Street on the hill between the University and Sandro Euli streets. Study area comprises about 7500 m^2 547 m above sea level.

The study area is located within the semi-arid rock vegetation zone of East Georgia. The soil cover is composed of brown, stony and skeletal soils.

The study area is located on the slightly elevated (15-20m) ridge stretched from east to west; study area divides the ridge into the north- and south-facing slopes and flat plateau.

With regard to vegetation, the following habitats are distinguished: Eldari pine plantation on the northern slope; and vegetation of shiblijak and tomillares on the ridgeline and south-facing slopes combined locally with rock xerophytes, components of steppe vegetation and scrub dominated by Christ's thorn and buckthorn. Each habitat recorded on the study area is described below.

Pine plantation is established on the area of about 0.35 ha on the north-facing slope with inclination reaching 15-20^0. Coverage of canopy layer is about 60%. Average age of trees is 40-50 years, height – 5m (maximum height is 6 m). Diameter of trees at breast height (DBH) ranges from 15 to 25cm. Trees are healthy, only 2 died back and 3 damaged specimens were recorded. In total, 204 Eldari pines and 2 cedars (reaching heights of 5 and 6m, and DBH 15 and 18cm respectively) were recorded.

Ground vegetation is represented by grass-forb communities. The following species were recorded: *Poa pratensis; Koeleria gracilis; Phleum phleoides; Festuca sulcata; Dactilis*

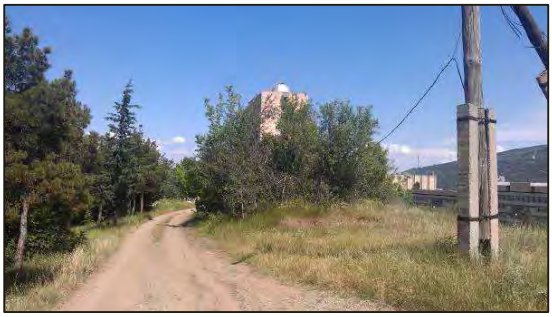
glomerata; Falcaria vulgaris; Medicago minima; M. coerulea; Melandrium boissieri; Eryngium campestre; Onobrychis cyri; Euphorbia boisseriana; Salvia nemorosa; Tragopogon graminifolium; Stipa lessingiana; Potentilla recta, etc.

Hemixerophytic shrubbery with dominance of Christ's thorn (frequently referred as shiblijak) is developed on the south-facing slope. Woody plants are represented by Christ's thorn (*Paliurus spina-christi*), Pomegranade (*Punica granatum*), Buckthorn (*Rhamnus pallassii*), Mulberry (*Morus nigra*) and Nettle tree (*Celtis caucasica*). Nettle tree and Mulberry are represented by one or two undersized specimens.

Coverage of shrubbery is about 40%. Herbaceous vegetation is represented by steppes and tomillares similar to the communities described above.

The rest parts of south-facing slopes and ridgeline are covered with steppes and groupings of xeric rock plants on the area of about 0.4ha. Steppes are dominated by Feather grass (*Stipa lessingiana*) and Beard grass (*Botriochloa ischaemum*). The following species are associated with the above communities: *Stipa lessingiana; S. capillata; Botriochloa ischaemum; Phleum phleoides; Koeleria gracilis; Festuca sulcata; Dactilis glomerata; bromopsis variegates; Onobrichis cyri; O. kachetica; Potentilla recta; Teucrium polium; T.nuchense; Euphorbia boisseriana; Salvia nemorosa; Scorconera eriosperma; Linum austriacum; Podospermum laciniatum; Asparagus verticilatus; Tragopogon graminifolius; Medicago coerulea; M. minima; M. orbicularis; Centauria ovina; C.iberica; Aegilops cylindrical; Eryngium campestre; Falcaria vulgaris; Astrodaucus orientalis; Agrimonium eupatorium; Consolida orientalis;Cirsium vulgare; Dianthus crinitus; Allium atroviolaceum; Alcea rugosa*, etc.

Thus, the study area supports mosaic communities and rather rich flora. The plants identified on the study area are not of any conservation value. Regarding pine plantation, it is an important component of city's ecosystem and its preservation is desirable.



All recorded habitat are either of secondary origin or heavily modified; their conservation value in terms of biodiversity is low.

No Red List species or other legally protected species were identified.

CONCLUSIONS AND RECOMMENDATIONS

According to topographic plan and project design drawings, the Head Office and facilities will be constructed outside the pine plantation and on areas covered with rock and shrubbery habitats. Therefore, if appropriate construction practices will be employed, pine plantation will not be threatened. For the purpose of construction, it may be necessary to remove about 10 pine specimens. Remaining habitats are common in Georgia and are of secondary origin (developed on areas once covered with natural vegetation which being gradually degraded and lost). At the same time, the floristic composition of above habitats is infested with invasive species and is heavily degraded.

Taking into the consideration the aforesaid, it should be conclude that the construction will have a very minor impact on the existing environment and will not pose a threat to local biodiversity.

ANNEX 5: Minutes of public hearing meeting

Construction of a New Head Office of United Water Supply Company of Georgia

Minutes of Public Hearing Meeting

July 2, 2014

Venue: Tbilisi State University Block 11 (Biologists Building)
Tbilisi, Georgia

On July 2, 2014 there was organized public hearing on Construction of a New Head Office of United Water Supply Company of Georgia.

The meeting was attended by the representatives of the United Water Supply Company of Georgia, Construction Supervision Consultant EPTISA, Tbilisi State University, Residents of nearby houses and other stakeholders.

The purpose of the meeting was to present the information about construction of UWSCG New Head Office to relevant stakeholders. Moreover, present information about environmental impact and mitigation measures during construction.

The meeting was opened by Environmental Specialist of Eptisa - Mr. Irakli Legashvili. He presented information regarding environmental impacts and mitigation measures during the construction of Head Office of UWSCG.

Mr. Irakli Legashvili briefly informed meeting participants about:

- Asian Development Bank (ADB) Investment Programme that funded the Head Office construction
- Construction site location
- Head Office Building characteristics (10 floors, total area – 5495 m2, useful area 3940m2, height approximately 30-40 meters and etc.)

- Start date and duration of construction activities (end of 2014 or beginning 2015, duration approximately 1year)

Then, potential impacts on nearby objects during construction were introduced in details:

- Damage of vegetation during construction site clearance
- Lose of topsoil

- Generation of waste/surplus soil during excavation works
- Dust generation
- Noise and vibration
- Disturbance related with transportation of materials
- Waste generation
- Safety issues

Additionally, there was presented the following mitigation measures to all possible impacts:

- Limits of clearing will be marked with high visibility means and fencing of trees located at the construction site to avoid its damaging
- Clearing of shrub, bushes and grass shall only be limited to actual construction area
- Top soil of about 30 cm depth shall be removed and stored separately in appropriate location

- Remove/utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites
- Provide prior information to local people about work
- Temporary termination of excavation works during heavy wind
- Watering site during construction activities
- Watering bad condition roads
- Speed limit 30 km/h
- Use tarpaulins to cover loose material that is transported to and from the site by truck
- Clean wheels and undercarriage of haul trucks prior to leaving construction site

- Control dust generation while unloading the loose material at the site by sprinkling water
- Clearly defined working hours
- No night time construction activities
- Ensure that all equipment & vehicles used for construction activity are in good condition
- Proper waste management

- Construction area proper fencing and information sheets
- Warning and sign boards
- Strict limits of access to the site for unauthorized people
- Adequate lighting to avoid accidents

The meeting participants (stakeholders) got promise that all impact and mitigation measures will be defined for the contractor that will be operating at construction works.

Then the meeting was continued in active discussion mode. The meeting participants (stakeholders) were interested in the number of issues related to the construction of Head Office.

The discussion points with its responses are summarized in the below table:

1.	Period of Project Implementation (its starting and ending dates)	Approximately 1 year (starting date – at the end of 2014 or beginning 2015)
2.	Characteristics of the building (its height, number of floors, overall space, etc.)	Building will be approximately 30-40 meters in height, with 10 floors, total area – 5495 m^2, useful area 3940 m^2.
3.	Impact on roads of the nearby area (whether they will be damaged during construction process)	The Construction Company will be responsible for maintenance of road conditions during construction processes
4.	Noise and dust generation issues	All relevant mitigation measures will be ensured. The baseline study and estimation of noise and dust levels had been undertaken and therefore construction company will be obliged to do regular monitoring measurements
5.	Disposal of surplus/waste soil	Surplus/waste will be removed from the site based on agreement between Construction Company and Tbilisi Municipality
6.	Construction territory fencing	Proper fence will be installed with relevant information signs
7.	Public consultations during construction process	Consultation meetings with nearby population will be held on a regular basis and prior information about construction work will be provide
8.	Information about geological survey and Initial Environmental Examination	This information will be provided on the web-site of UWSCG – www.water.gov.ge
9.	Construction site reinstatement	Construction Company will be responsible for site full reinstatement
10.	Supervision and control of the Construction Company	Supervision will be provide by Company - EPTISA
11.	Access road to the Head Office building	To be defined by Construction Company with agreement to UWSCG
12.	Municipal Waste management	The municipal waste will be collected in a special dedicate waste containers that is served by municipal waste management company (LTD “Tbilservice Group”). Regular cleaning of construction site will be provided
13.	Nearby residents movement implication	Construction company will have consultation with population about materials transportation routes and frequency
14.	Impact on the environment	The impact on environment will be brought to minimum with all relevant mitigation measures
15.	Relevant authority to address in case of complaints from the side of population	Special GRM (grievance redress mechanism) committee will be established to deal with all complaints related to particular construction

The population expressed their high interest to the presented issues and the discussion was very productive. Further meetings will be held on a regular basis, in order to discuss any problematic issues with the population and assist them accordingly. In the future, as soon as Construction Company is selected the meetings will be held with them regularly.

Special GRM (grievance redress mechanism) committee will be established by the UWSCG to address all the complaints of the population.

At the end of meeting participants supported new project implementation and expressed readiness to cooperate closely during construction process.

List of participants

ADB eptisa

Construction of a New Head Office of United Water Supply Company of Georgia

Meeting of Public Hearing

2 July, 2014

Venue: Tbilisi State University
Tbilisi, Georgia

№	Name/სახელი, გვარი	Institution/ორგანიზაცია	Contact/საკონტაქტო ინფორმაცია (ტელეფონი,მისამართი)	Signature/ხელმოწერა
1.	[illegible]	თსუ	577 211-322 [illegible] 593 61-30-61 [illegible] 2	[illegible]
2.	[illegible]	[illegible]	577 380309	[illegible]
3.	[illegible]	Eptisa	577 177 056	[illegible]
4.	[illegible]	Eptisa	593 20 00 85	[illegible]
5.	[illegible]	[illegible]	577 17 70 27	[illegible]
6.	[illegible]	[illegible]	577 241405 [illegible] 19	[illegible]
7.	[illegible]	[illegible]	595 22 19 04 [illegible] W19	[illegible]

№	Name/სახელი, გვარი	Institution/ორგანიზაცია	Contact/საკონტაქტო ინფორმაცია (ტელეფონი,მისამართი)	Signature/ხელმოწერა
8.	[illegible]	[illegible]	595609079 თბილისი, [illegible]	[illegible]
9.	[illegible]	[illegible]	558 07 50 50 [illegible] 41	[illegible]
10.	[illegible]	EPTISA	577574004	[illegible]
11.	[illegible]	UWSCG	577117711	[illegible]
12.	[illegible]	მოქალაქე	593 219685 [illegible] ქ. N2	[illegible]
13.	[illegible]	მოქალაქე	558212036 [illegible]	[illegible]
14.	[illegible]	მოქალაქე	577 65-10-30 ო. [illegible] N4	[illegible]
15.	[illegible]	მოქალაქე	593.63.77.55 ო. [illegible] ქ. N29	[illegible]
16.	[illegible]	მოქალაქე	574 809-237	[illegible]
17.	[illegible]	შპს "საქართველოს გაერთიანებული წყალმომარაგების კომპანია"	555-90-30-10	[illegible]
18.	[illegible]	მოქალაქე	591-402824	[illegible]