Initial Environmental Examination

Project Number: 53118-002
September 2022

Georgia: Livable Cities Investment Project for Balanced Regional Development

Package LCIP-CW-18 Construction of Zviad Gamsakhurdia Youth Center, Presidential Library and Museum in the City Zugdidi, Zugdidi Municipality

Prepared by the Municipal Development Fund (MDF), Ministry of Regional Development & Infrastructure (MRDI), Government of Georgia for the Asian Development Bank (ADB)

CURRENCY EQUIVALENTS

(as of 11 June 2021)

Currency units	–	United states Dollars (USD)
USD 1.00	=	GEL 3.1559

WEIGHTS AND MEASURES

ha	–	hectares
km	–	kilometers
km²	–	square kilometers
m	–	meters
m3	–	cubic meters
mm	–	millimeters

NOTE

In this report, "$" refers to US dollars

ABBREVIATIONS

AASHTO	-	American Association of State Highway and Transportation Officials
ADB	-	Asian Development Bank
AM	-	Accountability Mechanism
AP	-	Affected Person
CC	-	Construction Company
CH	-	Cultural Heritage
Covid-19	-	Coronavirus Disease 2019
CSC	-	Construction Supervisory Consultant
CWUW		Urban Development and Water Division, Central and West Asia Department
dB	-	Decibels
DED	-	Detailed Engineering Design
DIN	-	Deutsches Institut für Normung
EA	-	Executing Agency
EAC	-	Environmental Assessment Code
EARF	-	Environmental Assessment and Review Framework
EBRD		European Bank for Reconstruction and Development
EHS	-	Environmental, Health and Safety
EIA	-	Environmental Impact Assessment
EM	-	Environmental Manager
EMoP		Environmental Monitoring Plan
EMP	-	Environmental Management Plan
ERP	-	Emergency Response Plan
EU	-	European Union
GEO	-	Georgia
GIS	-	Geographic Information System
GIZ	-	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNERC	-	Georgian National Energy and Water Supply Regulatory Commission
GoG	-	Government of Georgia
GRC	-	Grievance Redress Commission
GRM	-	Grievance Redress Mechanism
HSP	-	Health and Safety Plans
IA	-	Implementing Agency
IBA	-	Important Birds Area
IEE	-	Initial Environmental Examination
IFC	-	International Finance Corporation
IUAP	-	Integrated Urban Action Plans
IUAP	-	Integrated Urban Action Plan
IUCN	-	International Union for Conservation of Nature
KfW)	-	Kreditanstalt für Wiederaufbau
LARF	-	Land Acquisition and Resettlement Policy Framework
LARP	-	Land Acquisition and Resettlement Plan

LCIP	-	Livable Cities Investment Program
MDF	-	Municipal Development Fund
MESD	-	Ministry of Economy and Sustainable Development
MoEPA	-	Ministry of Environmental Protection and Agriculture
MPC	-	Maximum Permissible Concentrations
MPC	-	Maximum Permissible Concentration
MRDI	-	Ministry of Regional Development and Infrastructure
NACHP	-	National Agency for Cultural Heritage Preservation
NEA	-	National Environmental Agency
PCRs	-	Physical Cultural Resources
PM	-	Particulate Matter
PWD	-	People with Disabilities
REA	-	Rapid Environmental Assessment
SAEMR		Semi-annual Environmental Monitoring Report
SanN&R	-	Sanitarian Norms and Rules
SanN&R		Sanitarian Norms and Rules
SEAH	-	Sexual Exploitation, Abuse and Harassment (SEAH)
SOP	-	Standard Operating Procedures
SPA		Special Protected Areas
SPS	-	Safeguard Policy Statement
SSEMP	-	Site-Specific Environmental Management Plan
STP	-	Sewage Treatment Plant
SWM	-	Solid Waste Management
SWMCG	-	Solid Waste Management Company of Georgia
TRTA	-	Transaction Technical Assistance
TSP		Total Suspended Particulates
USIIP	-	Urban Services Improvement Investment Program
WMP	-	Waste Management Plan
WWTP	-	Wastewater Treatment Plant
µg	-	Microgram

Contents

LIST OF TABLES

LIST OF FIGURES

I. EXECUTIVE SUMMARY

1. Since November 2016, the Asian Development Bank (ADB) has supported the Government of Georgia (GoG) to mainstream an integrated and participatory approach to urban development by improving strategic planning of selected urban area clusters to achieve a more balanced regional development by preparing Integrated Urban Action Plans (IUAPs). Building on this, the government has prioritized crucial urban investments for ADB to take forward through feasibility studies and safeguards due diligence. These include integrated solutions that bring co-benefits to the citizens in the development of urban clusters including water supply, sewerage and sanitation (including off-network solutions), urban transport and mobility (including non-motorized and public transport), solid waste management, economic corridors, cultural and historical heritage conservation, flood control and drainage, urban safety and resilience and others.

2. To expedite balanced regional development, support for basic urban services and transport has been prioritized, particularly in small towns and regional cities that are potential hubs for tourism, agribusiness, and regional trade as key drivers of economic growth. Governance and capacity building will need to be integrated into the ensuing projects to achieve more robust results and to ensure operational and financial sustainability of infrastructure projects.

3. The government has proposed to process the Livable Cities Investment Program (LCIP) to improve urban and tourism infrastructure and services across Georgia. LCIP will help improve the livability of urban area clusters through the following interlinked outputs:

(i) Improved adequacy and efficiency of urban infrastructure and services,

(ii) Improved accessibility, connectivity and attractiveness of regional tourism clusters, and

(iii) Enhanced institutional capacity for implementing and managing urban infrastructure and services,

(iv) Improved access to quality pre-school infrastructure, improved environment: new playgrounds increasing gross motor skills of children, safe building - considering fire alarm and safety systems, clean and updated sanitary infrastructure including water closet and kitchen,

(v) Improved planning of the kindergarten building; increased space per child and per teacher; energy efficient kindergarten buildings;

(vi) Improvement of educational and working conditions for children and teachers in kindergarten;

(vii) Improved access to inclusive child-friendly quality education;

(viii) Social impact – increased income of population during implementation of the project (employment of workers), and after the construction phase.

4. Construction of Zviad Gamsakhurdia Youth Center, Presidential Library and Museum in city Zugdidi is one of the (sub-) projects implemented under the Livable Cities Investment Program (LCIP).

5. The project site is located in Zugdidi city, Zviad Gamsakhurdia Street #7, Cadastral code of the land plot allocated for construction is 43.31.49.608 and area - 2400 m^2. The land plot is property of the Zugdidi Municipal Government.

6. The project envisages construction of new three-story building with on ground area 980 m^2. Overall internal area of the new building will be 2640 m^2 and dimensions 44,3 m X 44,3 m, Height from the ground is 9.3 m and underground - 5.7 m. Main entrance of the

building is located from Dadiani Palace parks and second entrance from M. Kostava street. Building functions is redistributed in 3 levels. On the first level with the area 980 m^2 reception, info point, ridding area, café, terrace auditorium and cinema will be located. Archive and back office, tourist center back office, security and service rooms, corridor, water closets, including WC for disabled persons will be located on the first floor as well. On the second level (+4.500 level) exposition area, terrace, corridors, ridding area, temporary exhibition area, staff rooms auxiliary and technical rooms, water closets (including for disabled persons) will be located. Area of the second floor is 720 m^2. Museum, foundation and quarantine spaces, storages (spaces for air quenching and climate control, wind-porches will be located on the -1 level (-5.167 level) with the area 940 m^2. Taking into consideration climatic conditions of the region, the façade of the building will be thermally insulating, low-emission glass-packs will be installed as well to ensure reduction of energy consumption. Fire safety, water supply, sewage, air ventilation, heating and cooling systems will be arranged as well.

7. The new building will be connected to the Zugdidi city water, wastewater, drainage, electricity and natural gas network.

8. The project will be implemented on the municipal owned territories. Therefore, no land acquisition and involuntary resettlement is required.

9. The project does not envisage civil works or any other interventions on the CH monuments. However, the site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex. Due to its location (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building) (see Figure 8) within the visual protection zone for the protection of national importance, the project triggers ADB SPS environmental policy principle on physical cultural resources. However, considering the nature and size of the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment (HIA) is not required in accordance with the EARF. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

10. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.

11. According to the legislative provisions, rules, and regulations in Georgia, project activities are not included in Annex I and II of Environmental Assessment Code of Georgia do not require environmental screening, conducting of an environmental impact assessment (EIA) or seek environmental clearance from the government.

A. Project Rationale, Impact, Outcome and Outputs

12. The project envisages construction of new three-story building with on ground area 980 m^2. The site is located in Zugdidi city, at Z. Gamsakhurdia Street #7, Cadastral code of the land plot allocated for construction is 43.31.49.608.

13. The selection of the proposed site for the library and youth center building seems reasonable because it is located in the residential area and appropriate because in the existing plot there is enough space to build a new infrastructure for library and youth center, including building and green areas. The area allocated for the construction is 2400m^2.

14. The land plot allocated for the construction is registered as municipal property. There will be no involuntary resettlement.

B. Environmental Categorization and Environmental Due Diligence

15. All projects funded by ADB must comply with ADB's Safeguard Policy Statement (SPS), 2009. ADB SPS aims to help developing member countries address environmental and social risks in development projects and minimize and mitigate, if not avoid, adverse project impacts on people and the environment. The SPS applies to all ADB-supported projects. ADB works with borrowers to put policy principles and requirements into practice through project review and supervision, and capacity development support. The SPS also provides a platform for participation by affected people and other stakeholders in project design and implementation.

16. The Livable Cities Investment Program (LCIP) has been classified as Category B as per ADB SPS; thus, an Initial Environmental Examination (IEE) is required for activities to be considered under the project. This IEE for construction of Zviad Gamsakhurdia youth center, presidential library and museum in the city Zugdidi, was prepared based on site visits, desk review of project design and available materials describing the baseline environment and based on site visits and consultation with specialists and stakeholders from the project area.

17. As part of the preparation of this IEE, consultations with stakeholders were undertaken to solicit views and feedback on the project. Due to limitations of face-to-face interactions during the COVID-19 pandemic, initial public consultation meetings were conducted on 2 April, 2021 at 14:00, using Zoom application. Minutes of the meeting are attached to this IEE report (0). The consultations focused on informing the stakeholders on the scope of the project activities, potential environmental impacts as a result of the proposed activities, along with the required measures that will be implemented to ensure any potential impacts are limited to the site and do not impact the communities.

18. The executing agency (EA) for this project is the Ministry of Regional Development and Infrastructure of Georgia while the implementing agency (IA) is the Municipal Development Fund (MDF) under the Ministry of Regional Development and Infrastructure of Georgia). The IA will ensure environmental safeguard requirements are considered in the bid and contract documents, project budget, and overall implementation of the project. During the construction phase, the IA will have overall responsibility for safeguard compliance at project sites, addressing community-level complaints (if any), and ensuring Construction Company (CC) perform mitigation measures as outlined in the approved Site-Specific Environmental Management Plan (SSEMP). The IA will ensure non-conformances with safeguards requirements are corrected in a timely manner.

19. The IA will be supported by a supervision consultant. In addition, the CC will be required to engage a full time Environment, Health and Safety (EHS) Staff member that will remain engaged until the completion of all works and will ensure implementation of the SSEMP(s) in true letter and spirit. The construction company will be responsible for envisaging the implementation cost of the Environmental Management Plan (EMP), including the proposed mitigation measures and additional activities (if any), and surveys (if required by the IA and IEE), in their project budget. Implementation of the IEE/EMP is obligatory for the CC. CC shall be made aware that the IEE will be updated.

20. Mitigation of construction impacts will be assured by an environmental monitoring program to ensure all measures in the EMP are implemented and to determine whether the environment and communities around the project sites (if any) are protected as intended. This will include observations on and off-site, document checks, instrumental monitoring of environmental parameters such as noise levels, air quality etc. Any requirements for remedial action will be reported in an environmental monitoring reports.

C. Alternatives

21. The construction site for the Youth Center, Presidential Library and Museum was selected by the local municipality taking into account the following circumstance: convenient location within the cultural center of the city taking into consideration the existing infrastructure of the district, transport links, residential areas, and enough area for construction of the Youth Center, Presidential Library and Museum. All required communications for Youth Center, Presidential Library and Museum operation are already provided. The selected area is registered as a municipal property and no resettlement is required.

22. No action or a zero alternative implies refusal to the project implementation, therefore the problem related to providing above-mentioned public services for local population of city Zugdidi will remain unresolved. Additionally, declining urban population experienced in secondary cities of the regions, deteriorating livability in cities and peri-urban areas will remain as a problem. That will cause unbalanced economic growth, limited employment opportunities and poor livability of the project region, deficient regional connectivity and public transport, limited tourism development, inadequate infrastructure and inefficient services, limited accessibility, safety and sensitive design of public spaces and buildings for differently abled, senior citizens, women and children, inadequate disaster risk reduction measures, deteriorated heritage structures and ecological sites, insufficient vocational and recreational facilities, unattractive and limited public open spaces, low energy efficiency in buildings and utility facilities, limited municipal revenue and resources. Eventually, stagnant and unbalanced regional growth, high level of out-migration from regions and in-migration to Tbilisi environmental degradation and climate risk and untapped tourism potential will be affected.

D. Existing condition

23. The project site is located in Zugdidi western part of the country, Georgian historical province of Samegrelo (Mingrelia), approximately 346 km west of Tbilisi, the capital of Georgia and 30 km east of Black sea coast. The city is an administration center of Samegrelo-Zemo Svaneti region, the fifth largest city of Georgia and is located on the left bank of the Enguri River.

24. The project site is located at Zviad Gamsakhurdia Street #7. The site is bounded to the west by Merab Kostava Street, to the northwest by Dadiani Park and Dadiani Palace, to the south-east by Zugdidi Public School #2 and Skate Park.

25. The project does not envisage civil works or any other interventions on the CH monuments. However, the site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building). Due to its location within the visual protection zone for the protection of national importance, the project triggers ADB SPS environmental policy principle on physical cultural resources. However, considering the nature and size of the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required in accordance with the EARF. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

26. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.

27. Zugdidi Public School #2 is located approximately 37 meters south of the project area.

28. Cultural heritage sites, Dadiani Museum staff and visitors, staff and students of the

public school are most likely to be impacted by the project's development activities, which is related to the noise and emissions generation and traffic influx. However, impact of this adverse effects can be minimized by proper implementation of mitigation measures.

29. Water bodies, endangered species of flora and fauna aren't presented on the project site. City Zugdidi is located approximately 25 km away from the nearest protected area (Kolkheti National Park).

30. The project area is situated in the Central Caucasus and in Kolkheti depression. In terms of tectonic development, the major part belongs to Kolkheti tectonic depression, which is bordered with the Black Sea basin to the west and Fanavi and Samagrelo (Egrisi) ridges to the north. Poti-Askhi and Kurzu-Khikhadziri deep faults are located within this area. Erosive forms of mezo and micro relief riverine accumulative terraces are widely spread. According to seismic zoning map, Georgia is classified into Zone 6 to Zone 9 (in increasing order of se ismic intensity, Map 5) and Zugdidi falls under Zone 8 (high seismic intensity zone). There has been no history of major earthquakes in Zugdidi[1].

31. Regarding the hydrological conditions of the project sire, it should be noted that groundwater was not revealed in the holes at the research area. Well water level in the yard is at 11.2 meters[2].

32. Zugdidi lies on the banks of river Chkhoushi, which originates on the southern slopes of Samegrelo ridge and joins the river Jumi (the left tributary of the Enguri) from the right site near the village Nedzi. Source of the river Jumi is located near village Chkondobera at 310 m above sea level. R. Jumi falls to river Inguri. Length of the river is 61 km, with average slope 4.98%. Area of watershed is 379 km^2. During the whole year river is characterized with flashfloods.

33. The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m (direct distance) from it. Impact on water body due to the project implementation is less expected. [3]

34. The impacts on vegetation during the construction phase will be minor. There are several trees at the project area. During the site vegetation assessment activity following species were identified: Caucasian hackberry (Celtis Caucasica), Aspen (Populus Tremula), Cedar (Cedrus Libani), Common privet (Ligustrum vulgare), Fig (Ficus carica), Oriental plane (Platanus digitifolia). No red list species are presented on the project site. No trees cutting at the project site is envisaged by the project design.

35. There are several protected areas in the Samgrelo-Zemo Svaneti region, including Kolkheti National Park, Martvili Canyon Natural Monument, Motena Cave Natural Monument, Balda Canyon Natural Monument, Toba Waterfall and Arsen Okrojanashvili Cave Natural Monuments. Kolkheti National Park is located approximately 26 km south-west from city Zugdidi. No impacts on protected areas, Emerald sites or forest areas are expected due to the construction and operation of the library and youth centre building. Nearest special protected areas for birds, (SPA) Churia is located 29 km southwest from the city Zugdidi[4]. Nearest important birds area (IBA) Kolkheti is located approximately 20-25 km southwest from the city Zugdidi[5].

1 Project Site Engineering-Geological Survey and Engineering-Geological Conclusion developed for the project, 2020

2 Project Site Engineering-Geological Survey and Engineering-Geological Conclusion developed for the project, 2020

3 Art Studio Project LLC; Gamma Consulting LLC. 2020. Strategic Environmental Assessment of the General Plan of the City of Zugdidi and the Development Plan of the Central Part.

4 http://aves.biodiversity-georgia.net/

5 BirdLife International. 2021. Important Bird Areas factsheet: Kolkheti.2021. http://www.birdlife.org

E. Key Impact Identification

36. The project will have positive impact on economic development of the city Zugdidi by contributing to tourism sector. The project will facilitate improvement of local resident's living conditions.

37. The potential environmental effects of the pre-construction activities, such as CC office set ups, necessary equipment stacks, sites preparation, and the adequacy of the accesses have been considered and all these activities will not deteriorate the existing conditions of the environment.

38. Environmental effects likely to occur during the construction of the Project are noise, vibration, dust, solid and liquid wastes. Effects likely to occur during the construction phase are short term (tentative project duration -15 months) effects and they cannot deteriorate the existing conditions.

39. Construction activities involves the use of machinery, bulldozers, excavators, graders needed for land clearance and other earthworks, vehicles and equipment to transport construction materials, workers. The operation of machinery, vehicles and other construction equipment result in exhaust emissions of carbon monoxide, NOx, SO2, hydrocarbons, and particulate matter. Emissions and dust generation may affect buildings located close to the construction site and residential areas along the material transportation routes.

40. Noise and vibration level will be increased due to the construction works and operation of machinery, bulldozers, excavators, graders, vehicles and equipment for transportation. Engineering machinery and vehicles are featured by their intermittent nature with mobility and high noise level (which is 80~90 dB from a distance of 5 meters).

41. The noise and vibration will cause nuisance of the staff and students of public school, local residents and visitors of the Dadiani Garden and Palace Complex. Noise and vibration generation may affect residential areas along the material transportation routes. Noise generated due to the vehicle and equipment operations are typical for any construction activities.

42. During implementation of the project the risk of surface and ground water contamination is of minimum level. The project site is located 200 m away from river Chkhoushi. It should be noted that groundwater was not revealed in the holes at the research area. Based on the detailed design report developed for the project, level of well water located in the yard of the project site, is at 11,2 meters.

43. The impacts on vegetation during construction phase will be minor. Currently, project design does not envisage cutting down of tress due to construction works.

44. The project does not envisage civil works or any other interventions on the CH monuments. However, the site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building). However, considering the nature and size of the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required in accordance with the EARF. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

45. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.

46. Possible environmental effects during operational phase arise from maintenance of

arranged infrastructure and will be related to generation of solid wastes, and wastewater pollution.

F. Key Management and Mitigation Actions

47. The executing agency (EA) for this LCIP is the Ministry of Regional Development and Infrastructure of Georgia (MRDI) while the implementing agency (IA) is the Municipal Development Fund (MDF) under the MRDI. The IA will ensure environmental safeguard requirements are considered in the bid and contract documents, project budget, and overall implementation of the project. During the construction phase, the IA will have overall responsibility for safeguard compliance at project sites, addressing community-level complaints (if any), and ensuring contractors perform mitigation measures as outlined in the Environmental Assessment and Review Framework (EARF), Initial Environmental Examinations (IEEs), Site-Specific Environmental Management Plans (SSEMPs) and their sub-plans. The IA will ensure non-conformances with safeguards requirements are corrected in a timely manner.

48. The IA is being supported by a Construction Supervisory Consultant (CSC) "Eptisa. The CSC is the IA's legal representative, and assumes the overall responsibility to professionally supervise the Contractors' activities and works – on behalf of the MDF. It ensures strict adherence of Contractors to the requirements of detailed designs, technical specifications, Environmental, Social and Gender Documentation and administers the construction contracts and ensure that the works are constructed in accordance with the provisions of the construction contracts.

49. The Construction Company, prior to the onset of construction, is obliged to develop environmental plans, including: Site-Specific Environmental Management Plan (SSEMP),Traffic Management Plan, Noise and Vibration Management Plan, Inventory of the trees to cut down (if relevant), Waste Management Plan (WMP), Asbestos-Containing Waste Management Plan (if relevant), Health and Safety Management Plan, Emergency Response Plan (ERP), Camp Site Management Plan, Topsoil Management Plan (if relevant) and Report of stationary sources of harmful substances emitted into air (if relevant).

50. The CC is obliged to develop and update regularly (as needed) any other document/plan and conduct any other relevant survey per the employer's requirement in the process of civil works.

51. The CC will furthermore be required to employ full time Environment, Health and Safety (EHS) staff responsible for preparing the SSEMP, compliance with safeguard requirements, implementation of the SSEMP and other contractual provisions related to EHS, addressing site-level complaints/grievances from communities, implementation of any corrective action, coordination with and corresponding information to MDF and the Construction Supervisory Consultant (CSC).

52. The CC will also be required to document pre-works conditions of sites, address field- and/or site-level complaints/grievances, submit monthly monitoring reports to IA provide engineering and administrative control to ensure safety and health of workers and communities, support IA/CSC in raising awareness on safeguards, health and safety and labor standards, and to follow any recommendations of the project supervision consultants.

53. Relatively moderate impact is connected with the dust emissions. This is temporary impact, and should be mitigated by following measures: damping down using water bowsers with spray bars or other technical means; Materials transported to site will be covered/ wetted down to reduce dust; Ensure proper state of maintenance of buildings, machinery and vehicles to minimize exhaust emissions; Smoke emitting vehicles and equipment shall not be allowed

and shall be repaired or removed from the project and etc.

54. In order to minimize noise levels, the following mitigation measures shall be implemented: implement works that cause noise during the daytime only; Limit implementation of noisy works simultaneously; if necessary, equip personnel with proper protective equipment; Give notice as early as possible to sensitive receptors for periods of noisier works such as excavation and etc.

55. The CC is obliged to specify routes for construction machines in advance and reflect them in the Traffic Management Plan. The machines have to be moved along the specified ways as far as possible from the monuments.

56. If trees cutting will become necessary during the project implementation, plantations should be carried out in the ration of at least 1:3 for ordinary trees and 1:10 for red listed trees. The same replacement ratio of 1:10 for near threatened or vulnerable species as defined by the IUCN Red List will also apply. Cutting of endangered or critically endangered species will not be allowed. The compensation fees will be paid within the scope of the project as well as compensation activities will be implemented by the construction contractor. The trees shall be cut under supervision of designated specialist.

57. The CC shall coordinate schedule of construction works with the residents living in nearby buildings, with administration of Dadiani Garden and Palace Complex, public offices, public school and etc.

58. Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.

59. The construction contractor shall provide instrumental measurement and monitoring of noise and vibration levels during the construction and implement mitigation measures to ensure that noise and vibration levels are within the national and international standards.

60. The construction contractor will be required for post-construction clean-up and reinstatement of worksites to pre-works condition or better. The IA's confirmation notice that all works and clean-up have been satisfactory shall be part of "Acceptance of Works" and condition for payment.

61. Special dust prevention nets shall be installed to reduce air pollution around the project site.

62. Permanent monitoring of the construction works shall be provided to detect and avoid any adverse impacts on Dadiani Garden and Palace Complex Cultural Heritage Site in a timely manner.

63. There is invariably of safety risks when substantial construction works are conducted in an urban area, adjacent to the school and precautions will thus be needed to ensure the safety of both workers and citizens. The CC shall manage health and safety risks for local community in accordance with IFC's EHS Guidelines for the Community Health and Safety.

G. Monitoring Actions

64. The following are subject to the regular observation and evaluation in the course of environmental monitoring:

(i) Dust propagation, exhaust fumes (NOx, SO2, CO) in construction camp and site, transportation routes, the nearest buildings, CH monuments and other sensitive receptors during the intense operations and vehicle movement, particularly in dry and windy weather, at the start of the working day and/or in case there are complaints;

(ii) Noise and vibration propagation at the sensitive receptors including CH monuments, public school and residential buildings;

(iii) Traffic along the materials and waste transportation routes;

(iv) Soil and ground quality at areas adjacent to the construction camps and sites, materials and waste storage areas, with visual observation at the end of the working day and laboratory examination - in case of large spills;

(v) Temporal storage of the removed ground at construction sites and ground storage areas every day following the completion of ground works;

(vi) Waste management and oils and oil products at construction camps and sites, temporal waste storage areas at the end of each working day and checking of documents on amounts of produced and disposed wastes;

(vii) Technical state of the access road, possibility of free movement at corridors of the transportation routes during the intense transport operations;

(viii) Labor safety at working area with visual observation - before the onset of each working and checking documents on site trainings and daily toolbox on health and safety.

H. Conclusions and Recommendations

65. The sub project was assessed against the laws of Georgia and ADB's safeguard. At the stage of the document preparation, possible environmental impacts were identified and relevant mitigation measures were developed.

66. The Construction of Zviad Gamsakhurdia Youth Center, Presidential Library and Museum in the city Zugdidi is unlikely to cause significant adverse impacts. The potential impacts that are associated mainly with construction can be mitigated to standard levels without difficulty through incorporation or application of recommended mitigation measures and procedures in the EMP. Possible environmental effects during operational phase arise from the maintenance of arranged infrastructure, and will be related to the generation of solid waste and wastewater.

67. As the area within the project is located within the visual security zones of cultural heritage monument, the project design is agreed with the National Agency for Cultural Heritage Preservation of Georgia (NACHP) (see Appendix C) and compliance with the requirements set for the visual security zone of the heritage properties will be ensured in accordance with guidance and conclusion provided by the NACHP. Furthermore, it is recommended to engage a Heritage Expert/Architect to examine the final design and CC's documents.

68. Mitigation of construction impacts will be assured by an environmental monitoring program to ensure all measures in the EMP are implemented and to determine whether the environment and communities around the project sites (if any) are protected as intended. This will include observations on and off-site, document checks, instrumental monitoring of environmental parameters such as noise and vibration levels, air quality etc. Any requirements for remedial action will be reported in environmental monitoring reports.

69. None of the works within the project will be implemented through or close to protected areas, Emerald sites and forest areas.

70. The following are recommendations applicable to the project to ensure no significant impacts:

(i) Include this IEE with the EMP in bid and contract documents;

(ii) Update/revise the IEE based on, CC's working methodology, and/or if there are unanticipated impacts, change in scope, alignment, or location;

(iii) Require CC to submit SSEMP prior to the start of works and do not allow works to commence until the SSEMP has been cleared by IA ;

(iv) Ensure that the existing materials to be demolished/dismantled are tested for hazardous contents and action plan for handling, storage, transport, and disposal of the wastes is prepared, informed to the CC, and strictly monitored during project implementation.

(v) Ensure that wastes (solid and liquid) should be stored and disposed at the appropriately designated site/facility (dumping on vacant lot is not allowed);

(vi) Conduct safeguards induction to the CC upon award of contract;

(vii) Strictly supervise EMP implementation;

(viii) Ensure CC have appointed qualified EHS officers prior to the start of works;

(ix) Documentation and reporting take place on a regular basis as indicated in the IEE;

(x) Ensure continuous consultations with stakeholders;

(xi) Ensure timely disclosure of information and establishment of the GRM;

(xii) Involvement of CC, including subcontractors, in first-level GRM; and

(xiii) Ensure commitment from IA, supervision consultants, and CC to protect the environment and the people from any impact during project implementation.

II. INTRODUCTION

A. Background

71. The Asian Development Bank (ADB) and the Government of Georgia (GoG) reoriented urban sector operations to provide integrated and programmatic solutions for developing livabel cities in Georgia that are economically competitive, socially inclusive, and environmentally resilient[6]. Since November 2016, ADB has supported the government to

[6] ADB's Urban Operational Plan 2012-2020 fosters the growth of Competitive, Inclusive, and Green Cities to improve the performance of cities on the Economic, Equity, and Environment (3Es) fronts. It focuses on 3 innovative approaches to guide the development of livable cities, which is a long-term process, achieved best through integrated planning and implementation of investment.

mainstream an integrated and participatory approach to urban development. It has done so by improving strategic planning of selected urban area clusters to achieve a more balanced regional development through preparation of Integrated Urban Action Plans (IUAPs). Building on this, the government has prioritized crucial urban investments for ADB to take forward through feasibility studies and safeguards due diligence. These include integrated solutions that bring co-benefits to citizens in the development of the urban clusters. This can include improvements to water supply, sewerage and sanitation (including off-network solutions), urban transport and mobility (including non-motorized and public transport), solid waste management, economic corridors, cultural and historical heritage conservation, flood control and drainage, kindergartens, sport complexes, urban safety and resilience, and more.

72. To expedite balanced regional development, support for basic urban services and transport has been prioritized, particularly in small towns and regional cities that are potential hubs for tourism, agribusiness, and regional trade as key drivers of economic growth. Governance and capacity building will need to be integrated into the ensuing projects to achieve more robust results and to ensure operational and financial sustainability of infrastructure projects.

73. The government has proposed to process the Livable Cities Investment Program (LCIP) to improve urban and tourism infrastructure and services across Georgia. LCIP will help improve the livability of urban area clusters through the following interlinked outputs:

(i) Improved adequacy and efficiency of urban infrastructure and services,

(ii) Improved accessibility, connectivity and attractiveness of regional tourism clusters, (iii) enhanced institutional capacity for implementing and managing urban infrastructure and services,

(iv) Improved access to quality pre-school infrastructure, improved environment: new playgrounds increasing gross motor skills of children, safe building - considering fire alarm and safety systems, clean and updated sanitary infrastructure including water closet and kitchen;

(v) Improved planning of the kindergarten building; increased space per child and per teacher; energy efficient kindergarten buildings;

(vi) Improvement of educational and working conditions for children and teachers in kindergarten;

(vii) Improved access to inclusive child-friendly quality education;

(viii) Social impact – increased income of population during the implementation phase (employment of workers), and after the construction phase;

(ix) Implementation of a healthy lifestyle for the population, which will also reduce youth drug addiction and alcoholism;

(x) New sports complexes, which will lead to increased success of athletes. This will be especially important for young people living in regions, as the representatives of the communities often have significant success in the international arena in various types of sport, including water polo, synchronized swimming, and more.

74. Construction of Zviad Gamsakhurdia Youth Center, Presidential Library and Museum in city Zugdidi is one of the projects implemented under the Livable Cities Investment Program.

B. Purpose of the Initial Environmental Examination

75. The Initial Environmental Examination (IEE) of the Library and Youth Center Project in city Zugdidi, Zugdidi Municipality (Samegrelo-Zemo Svaneti region) was conducted as part of the preparation of the proposed the Livable Cities Investment Program (LCIP). It was conducted to meet the requirements of ADB's Guidelines and Safeguard Policy Statement (SPS 2009), as well as to comply with environmental legislation within Georgia. The IEE

covers all proposed physical activities under the project.

76. According to the Environmental Assessment Code of Georgia, the civil works envisaged by the project do not require an environmental screening or an Environmental Impact Assessment (EIA).

77. A Rapid Environmental Assessment (REA) (**Error! Reference source not found.**) as well as review of the location vicinities were used to assign the category of the project. Based on the existing ADB Safeguards Policy Statement (2009), this project falls under ADB's project Category B and an Initial Environmental Examination (IEE) is required.

78. This IEE has been prepared under a TRTA (Transaction Technical Assistance) for the borrower, in this case the Government of Georgia, in accordance with tADB requirements for the LCIP. The methodology included a combination of methods and data collection tools. In particular, the IEE was prepared based on the results of: (a) review of background documents and information available in the public domain; (b) in person and online meetings with representatives from city Zugdidi, Zugdidi Municipality, consultants, the design institute and other stakeholders; (c) review of technical standards and norms; (d) analysis of baseline information and planned construction activities in order to identify potential impact, measure their significance and identify mitigation measures.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. Country Environmental Safeguard Policies

79. Implementation of LCIP will be governed by applicable Government of Georgia environmental acts, rules, policies, and regulations as shown in Table 1. The applicable environmental standards for air, surface water, groundwater, emissions, noise, vehicular exhaust and disposal to land/agricultural use of sludge and bio-solids are shown in Table 2 to

80. Sanitary ***Wastewater***

81. Sanitary wastewater from industrial facilities may include effluents from domestic

sewage, food service, and laundry facilities serving site employees. Miscellaneous wastewater from laboratories, medical infirmaries, water softening etc. may also be discharged to the sanitary wastewater treatment system. Recommended sanitary wastewater management strategies include:

(i) Segregation of wastewater streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage);

(ii) Segregation and pre-treatment of oil and grease containing effluents (e.g. use of a grease trap) prior to discharge into sewer systems.

82. If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges shown in **Error! Reference source not found.**.

83. If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sanitary wastewater discharges is required. Sludge from sanitary wastewater treatment systems should be disposed of in compliance with local regulatory requirements. In its absence, disposal has to be consistent with protection of public health and safety, and conservation and long-term sustainability of water and land resources. It should be mentioned also that the most stringent standards will apply during construction.

84. Construction-phase water quality monitoring will be assessed against national standards. Wastewater discharge from construction sites and camps shall be assessed against IFC values (for any treated sanitary sewage discharge).

85. ***Table 12***. In general, Georgian standards for environmental quality correspond to international IFC/WB standards, however in case of differences more stringent standards are applicable.

Table 1 Applicable GoG Environmental Legislation and Specific Requirements for LCIP

Law	Description	Requirement for LCIP
The Constitution of Georgia [adopted in 1995]	While the Constitution of Georgia does not directly address environmental matters, it does lay down the legal framework that guarantees environmental protection and public access to information with regard to environmental conditions. Article 37, Part 3 states that "any person has the right to live in a healthy environment, use the natural and cultural environment. Any person is obliged to take care of the natural and cultural environment." Article 37, Part 5 states that: "an individual has the right to obtain full, unbiased and timely information regarding his working and living environment." Article 41, Part 1 states that "a citizen of Georgia is entitled to access information on such citizen as well as official documents available in State Institutions provided it does not contain confidential information of state, professional or commercial importance, in accordance with the applicable legal rules.	This means that conditions of the legal agreement between Georgia and ADB for the project prevail over the national legislation in case of contradiction. It also means that in case requirements of the national environmental and social legislation differ from any statement made in the present EARF and IEEs included in it, the latter shall prevail, because legal agreement between Georgia and ADB makes implementation of IEE is mandatory.

Law	Description	Requirement for LCIP
Environmental Assessment Code (EAC) [adopted in June 2017]	The new Code replaced the law on Environmental Impact Permit and Ecological Expertise. The Environmental Assessment Code sets up regulations and procedures for Environmental Impact Assessment, Strategic Environmental Assessment, Trans-boundary Environmental Assessment, Public Participation and Expertise in the Decision-Making Process. The EIA shall be subject to the activities envisaged by the Annex I of this Code and the activities envisaged by the Annex II of the same Code, which will be subject to EIA on the basis of screening procedure set out in Article 7 of this Code (Article 5 of Chapter 2).	The law will help the Municipal Development Fund determine what additional permits or licenses will be required under the subprojects.
The Law of Georgia on Licenses and Permits [adopted in 2005]	The law defines the list of activities needing licenses or permits, including so called "Environmental Decision". 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. It gives a thorough list of licenses and permits and establishes the rules to issue the licenses and permits, makes amendments to them or abolish 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 law will help the IAs to determine what additional permits or licenses will be required under the subprojects.
The Law of Georgia on Water [adopted in 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. 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. Under the law, purification of the wastewater discharged in a water body	The law regulates the water intake and water discharge processes. In order to meet the requirements of the said Law the actions which will help avoid, reduce or manage the pollution or strong negative impact on the rivers in the project zones under LCIP must be identified.

Law	Description	Requirement for LCIP
	is required up to the fixed standard. In order to protect the quality of water resources, the law requests creation of sanitary protection zone that consists of three belts, each having a special regime. The procedure fixing the water quality standards, the maximum permissible rates of emission of harmful substances (including microorganisms) into ambience, the water abstraction quotas, and the temporary rates (limits) of emission of harmful substances (including microorganisms) into water is also defined under the Law. Article 20 (River water protection zone) defines protection zone of a river shall be its adjacent territory, where a special regime is established to protect water resources from pollution, littering, fouling, and depletion. This zone may include its dry bed, adjacent terraces, natural elevated and steep riversides, as well as gullies directly adjacent to riversides. The width of a river water protection zone shall be measured in meters from the edge of a riverbed to both sides under the following procedure: • 10 meters - in the case of a river up to 25 km long, • 20 meters - in the case of a river up to 50 km long, • 30 meters - in the case of a river up to 75 km long, • 50 meters - in the case of a river over 75 km long.	
Waste Management Code [adopted in January 2015]	Law provides the legal conditions for implementation of measures aiming at prevention of generation of waste and increased re-use, environmentally-sound treatment of waste (including recycling and extraction of secondary raw materials, energy recovery from waste, as well as safe disposal). The objective of this Law is to protect the environment and human health: by preventing and reducing the adverse impacts of the generation of waste; by introducing effective mechanisms of management of waste; by reducing damage caused by resource use and improving the efficiency of such use. In accordance with the new Waste Management Code in Georgia, natural persons who annually produce more than 1 000 tons of inert waste, or legal persons who annually produce more than 400 tons of inert waste, or more than 120 kg hazardous waste shall prepare a company waste management plan that must be submitted to Ministry of Environmental Protection and Agriculture of Georgia for approval. It is also necessary to identify an environmental manager and provide	In line with the requirements of the said law, the Construction Contractor(s) must hire a duly qualified environmental manager(s) who will be obliged to develop Waste Management Plan and submit it to MEPA for approval. In line with the requirements of the Waste Code, the Construction Company is obliged to control the process of managing the originated waste through the final disposal of the waste.

Law	Description	Requirement for LCIP
	information to MEPA. The rule for collecting and processing municipal waste is determined by the Code, as well as the prohibitions related to the management of hazardous waste. The Code obliges to develop a system of segmentation and collection of hazardous waste in the case of the production of more than 2 tons of hazardous waste during the year. Article 17 provides general obligations for hazardous waste management, and Article 18 provides special obligations for hazardous waste management.	
The Law of Georgia on Cultural Heritage [adopted in 2007]	Article 14 of the Law specifies the requirements for 'large-scale' construction works. According to this Article, a decision on career treatment and or 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 and Monument Protection of Georgia. The basis for the conclusion is the archaeological 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 archaeological research of the territory in question. The preliminary research should include field-research and laboratory works. In case of identifying an archaeological object on the territory to study, the conclusion of the archaeological research should contain the following information: (a) a thorough field study of the archaeological 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 archaeological research.	This law obliges the design consultant to study the project area and in case the project will have an impact on the cultural heritage sites during the construction or operation phase to develop additional mitigation measures. Also, the law defines what procedure the construction contractor must go through if during the construction works such archaeological objects have been found that may belong to the cultural heritage.
Law on atmospheric air protection [adopted in 1999]	The Law regulates the protection of atmospheric air from the harmful anthropogenic influence on the entire territory of Georgia. The objective of the law is to ensure the safe environment for the atmospheric air of human health and the natural environment. Four types of pollution are considered (Part II, Chapter IV, and Article II.2): (i) Pollution of environment with hazardous matter; (ii) Radiation pollution of atmospheric air; (iii) Pollution with microorganisms and biologically active matter of microbial origin; and (iv) Noise,	At the stage of construction and rehabilitation under LCIP, the requirements of the said law will regulate the level of noise, vibration and emissions on the territory of project zones.

Law	Description	Requirement for LCIP
	vibration, electromagnetic fields, and other physical impact. Maximum permitted limits for concentration of hazardous substances into the atmospheric air are defined for each contaminant and represent maximum concentration of hazardous pollutants, in averaged time span, recurring action of which has not have negative impact on human health and environment. In compliance with the law (Clause 28), in order to restrict pollution from the stationary sources of hazardous emissions the limits of emissions are to be set. The limit of pollution from the stationary source of emission is permitted quantity (mass) of emitted hazardous matters (Clause 29). Maximum annual emission level means the maximum permitted limit of discharge. This is annual permitted quantity of emission predetermined by technology in conditions of standard permitted capacity of discharge. Annual maximum capacity is defined for each hazardous substance and is calculated so that for each stationary source of emission cumulative emission from all registered sources of discharge does not exceed relevant maximum permitted value. Discharge of hazardous emissions from the stationary sources of emission without approved limits of discharge is forbidden. Emission which has not been recorded in self-monitoring record is considered illegal. As mentioned in the Clause 51 results of the monitoring and information on pollution of the air with hazardous substances is transparent and accessible for the public.	
Law of Georgia on Public Health [adopted in 2007]	The Law regulates 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	The law regulates all actions that may affect the local population during the construction and operation of subprojects under LCIP.

Law	Description	Requirement for LCIP
	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.	
Law on Soil Protection [adopted in 1994]	The law provides the policy requirements and principles of the protection and preservation of fertility soil resources against negative impacts. Soil protection is the state problem since correct and rational use of all types of soil, including barren soil, saline soils, swamped soil, alkali soil, and aqueous soil are the main reserve of dynamic development of agriculture and of the national economy as a whole. The purpose of the present Law is to establish the rights and the duties of landholders, landowners, and the state in the field of soil protect. The law defines soil protection measures and methods and prohibits certain activities, e.g. use of fertile soil for non-agricultural purposes; implementation of non-agricultural activity without topsoil removal and conservation; any activity, which results in deterioration of soil properties, etc. In addition to this law soil protection issues are regulated by order #2-277 (25.11.2005) of the Minister of Agriculture on approving Recommendations for Complex Measures for Soil Protection from the Erosion.	Within the scope of the LCIP project, the requirements of the said law regulate the rules of topsoil removal, storage and further management in the process of construction or rehabilitation.
Labor Code	The code regulates employment relations, unless such relations are otherwise regulated by international treaties that have been implemented in Georgia. Employers are obliged to comply with requirements and clauses of the document for the purpose of ensuring that the rights of employees are protected.	The rights of all employees engaged in the construction of LCIP will be protected in line with the requirements of these law.
Law of Georgia on Labor Safety	The Law defines basic requirements and preventive measures in terms of workplace safety for the employers. The Law applies to jobs considered to be of increased danger, hard, harmful, and hazardous. The employer's compliance with the labor safety regulations in Georgia are overseen by the Ministry of Health, Labor and Social Affairs of Georgia through its respective departments.	The rights of all employees engaged in the construction of LCIP will be protected in line with the requirements of these law.

B. Environmental Regulations and Standards

86. **Error! Reference source not found.** shows the threshold values of the major air pollutants as defined by the GEO, IFC and EU legislation.

Table 2 *Ambient Air Quality Standards*

Parameter	Averaging Period	Limit (µg/m³)			Applicable to LCIP
		Maximum Permissible Concentration (MPC) for Air Quality	IFC Guideline Value	EU Ambient Air Quality Guidelines	
Nitrogen Dioxide (NO_2)	30 minutes	200	-	-	200 **µg/m³**
	1 Hour	200 µg /m³	200	200	200 **µg/m³**
	24 Hours	40	-	-	
	1 Year	40 µg /m³	40	40	
Sulphur Dioxide (SO_2)	10 minutes	-	500	-	
	30 minutes	500	-	-	500
	1 Hour	-350 µg /m³	-	350	-350 µg /m³
	24 Hours	125 µg /m³	20	125	
Carbon Monoxide (CO)	30 minutes	5,000	-	-	5,000
	24 Hours	3,000	-	-	
	8 hours	10 mg/m³	-	-	10 mg/m³
Total Suspended Particulates (TSP) / Dust	24 Hours	150	-	-	
	30 minutes	500	-	-	500
PM10	1 year	40 µg /m³	20	40	20
	24 hours	50 µg /m³	50	50	50
PM2.5	1 year	25 µg /m³	10	25	10
	24 hours		25	-	25
Ozone	8-hour daily maximum	120 µg /m³	100	120	

Note: World Health Organization (WHO) Air Quality Guidelines Global Update, 2005. PM 24-hour value is the 99th percentile. Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines.

Noise Standards

87. Admissible noise standards of the IFC and Georgian national standards for residential areas are similar. The national standards for noise are set according to the Technical regulation – Acoustic noise limits for rooms/premises in residential houses and public establishments (Document #300160070.10.003.020107, Date 15/08/2017) (see **Error! Reference source not found.**).

88. According to IFC, noise impacts should not exceed the levels presented in Table 4 and **Error! Reference source not found.** or result in a maximum increase in background levels of 3 decibels (dB) at the nearest receptor location off site. This program will comply with both IFC Guidelines and Georgian Standards. Note that Georgian standards refer to the allowable limits indoors, not at the building façade.

89. For baseline monitoring, and construction and operational phase noise assessment, IFC guideline limits will be followed. For workplace noise, IFC guidelines shall be followed.

Table 3 *Georgian Standards for Noise Levels*[7]

Purpose/use of area and premises	Allowable limits (A-Weighted Decibels (dBA))		
	L_{day}		23:00 – 08:00 L_{night}, Night
	08:00 – 19:00, Day	Evening 19:00-23:00	
Educational facilities and library halls	35	35	35
Medical facilities/chambers of medical institutions	40	40	40
Living quarters and dormitories	35	30	30
Hospital chambers	35	30	30
Hotel/motel rooms	40	35	35
Trading halls and reception facilities	55	55	55
Restaurant, bar, I halls	50	50	50
Theatre/concert halls and sacred premises	30	30	30
Sport halls and pools	55	55	55
Small offices (≤100m^3) – working rooms and premises without office equipment	40	40	40
Small offices (≤100m^3) – working rooms and premises without office equipment	40	40	40
Conference halls /meeting rooms	35	35	35
Areas bordering with houses residential, medical establishments, social service and children facilities (<6 story buildings)	50	45	40
Areas bordering with houses residential, medical establishments, social service, and children facilities (>6 story buildings)	55	50	45
The areas bordering with hotels, trade, service, sport, and public organizations	60	55	50

Note: 1. In case noise generated by indoor or outdoor sources is impulse or tonal, the limit must be 5dBA les than indicated in the table. 2. Acoustic noise limits given above are set for routine operation conditions of the 'space', i.e. windows and door are closed (exception – built-in ventilation canals), ventilation, air conditioning, lighting (in case available) are on; functional (baseline) noise (such as music, speech) not considered.

90. Acoustic noise limits given above are set for routine operation conditions of the 'space', i.e. windows and door are closed (exception – built-in ventilation canals), ventilation, air conditioning, lighting (in case available) is on; functional (baseline) noise (such as music, speech) not considered.

Table 4 *Applicable Noise Level Guidelines per IFC EHS Guideline*

Receptor	One-hour L_{aeq} (dBA)	
	Daytime 07.00-22.00	Night-time 22.00 – 07.00

[7] Allowable Limits Indoors, Not at the Building Façade

Residential; institutional; educational	55	45
Industrial; commercial	70	70

Table 5 *Applicable Work Environment Noise Limits per IFC EHS Guidelines*

Type of Work, workplace	IFC General EHS Guidelines
Heavy Industry (no demand for oral communication)	85 Equivalent level Laeq,8h
Light industry (decreasing demand for oral communication)	50-65 Equivalent level Laeq,8h

Vibration Standards

91. The Georgian Standards for vibration are designed for human comfort. These are shown in **Error! Not a valid bookmark self-reference.**. Note that no standards for building damage exist.

Table 6 *Georgian General Admissible Vibration Values*[8]

Average Geometric Frequencies of Octave Zones (Hz)	Allowable Values X0, Y0, Z0			
	Vibro-acceleration		Vibro-speed	
	m/sec^2	dB	$m/sec\ 10^{-4}$	dB
2	4.0	72	3.2	76
4	4.5	73	1.8	71
8	5.6	75	1.1	67
16	11.0	81	1.1	67
31.5	22.0	87	1.1	67
63	45.0	93	1.1	67
Corrected and equivalent corrected values and their levels	4.0	72	1.1	67

Note: It is allowable to exceed vibration normative values during daytime by 5 dB during daytime. In this table of inconstant vibrations, a correction for the allowable level values is 10dB, while the absolute values are multiplied by 0.32. The allowable levels of vibration for hospitals and rest houses must be reduced by 3dB. Note that no standards for building damage exist.

92. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures. Table 7 summarizes the maximum levels. AASHTO standard will be followed during the construction phase.

Table 7 *AASHTO Maximum Vibration Levels for Preventing Damage*

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2-0.3

[8] In Residential Houses, Hospitals and Rest Houses (Sanitary Norms 2001)

Residential buildings in good repair with gypsum board walls	0.4-0.5
Engineered structures, without plaster	1.0-1.5

Soil Quality

93. In Georgia, soil quality evaluation criteria are determined by instructions on "Level of Chemical Contamination of Soil" (MM 2.1.7. 004-02). Information on maximum admissible concentrations of various substances and elements in soils are given in **Error! Not a valid bookmark self-reference.**.

Table 8 *Max. Admissible Concentrations of Various Substances and Elements in Soils*

Component	Unit	Level
Arsenic	mg/kg	2-10
Copper	mg/kg	3
Mercury	mg/kg	2.1
Nickel	mg/kg	4
Lead	mg/kg	32
Zinc	mg/kg	23
Compound Hydrocarbons	mg/kg	0.1
Phenol (Compound)	mg/kg	-
Cyanide	mg/kg	-
Sulphate	mg/kg	-
Chloride	mg/kg	-
Ammonium Nitrogen	mg/kg	-
Evaporable Organic Compounds		
Benzoyl	mg/kg	0.3
Toluene	mg/kg	0.3
Ethylbenzene	mg/kg	-
Compound Xylene (ortho, meta, para)	mg/kg	0.3
semi-Evaporable Compounds		
Benzopyrene	mg/kg	0.02
Isopropylen-benzol	mg/kg	0.5
Pesticides		
Atrazine	mg/kg	0.5
Linden	mg/kg	0.1
DDT (and its metabolite)	mg/kg	0.1

Groundwater quality standards

94. Georgian legislation does not regulate quality standards for groundwater. Quality of groundwater is regulated by norms set for potable water. Potable water quality criteria are determined by technical regulations on potable water (Government Regulation N 58 from 15 January, 2014). Potable water quality criteria are given in **Error! Not a valid bookmark self-**

reference..

Table 9 *Potable Water Criteria*

Index	Measuring unit	Standard not more than:
Common characteristics		
Hydrogen index	PH	6-9
Permanganate oxidation	mg O2 /L	3,0
Nonorganic substance		
Barium (Ba 2+)	mg/L	0.7
Boron (B, total)	mg/L	0.5
Arsenic (As, total)	mg/L	0.01
Quicksilver (Hg, nonorganic),	mg/L	0.006
Cadmium (Cd, total)	mg/L	0.003
Mangan (Mn, total)	mg/L	0.4
Molybdenum (Mo, total)	mg/L	0.07
Nickel (Ni, total)	mg/L	0.07
Nitrate (short impact by NO^{-3})	mg/L	50
Nitrite (long impact by NO^{-2})	mg/L	0.2
Selenium (Se, total)	mg/L	0.01
Copper (Cu, total)	mg/L	2.0
Lead (Pb, total)	mg/L	0.01
Fluorine (F)	mg/L	0.7
Chromium (Cr6+)	mg/L	0.05
Antimony (Sb)	mg/L	0.02
Cyanide (CN-	mg/L	0.07
Organic substance		
Total content of pesticides	mg/L	0.05

Note: Georgian legislation does not regulate quality standards for groundwater. Quality of groundwater is regulated by norms set for potable water.

Surface Water Quality Standards

95. The values of Maximum Admissible Concentrations of the harmful substances in surface water are provided in the Environmental Quality Norms approved by the Order #297N (16.08.2001) of the Ministry of Labor, Health and Social Protection (as amended by the Order No 38/n of the same Ministry of 24 February 2003). The admissible level of pollutants in surface water is given in **Error! Not a valid bookmark self-reference.**. All effluent shall comply with the Georgian National Standards. However, certain parameters are not specified in the national standards; for these, IFC Guidelines are being used.

Table 10 *Applicable Standards for Surface Water Quality*

Parameter	MPC	Source
pH	6.5-8.5	National
Diluted Oxygen, mg/l	4-6	National
BOD5, mg/l	30	IFC
COD, mg/l	125	IFC
Total Nitrogen, N, mg/l	10	IFC
Total Phosphate, mg/l	2	IFC
Chlorides, mg/l	350	National
Oil Products, mg/l	0.3	National
Zinc (Zn^{2+})	1g/kg	National
Lead (Pb total)	23.0	National
Chrome (Cr^{6+})	32.0	National
Cadmium (Cd, total)	6.0	National
Total Suspended Solids, mg/l	50	IFC

Note: certain parameters are not specified in the national standards for these IFC Guidelines are being used

96. Quality requirements depend on category of water body (ref. Technical regulations of protection of surface water from pollution, approved by decree #425 of the government of Georgia, 31 December 2013). The categories are: (a) household water use; (b) domestic water use; and (c) fisheries. The latter, in its turn, splits in highest, first and second categories.

Table 11 *Water Quality Requirements by Water Use Category*

<table>
<tr><th rowspan="3"></th><th colspan="4">Water use category</th></tr>
<tr><th rowspan="2">Household water use</th><th rowspan="2">Domestic water use</th><th colspan="2">Fisheries</th></tr>
<tr><th>Highest and first</th><th>Second</th></tr>
<tr><th></th><th colspan="4">Increase not higher that listed below is allowed</th></tr>
<tr><td rowspan="3">Suspended solids</td><td>0.25 mg/l</td><td>0.75 mg/l</td><td>0.25mg/l</td><td>0.75 mg/l</td></tr>
<tr><td colspan="4">For rivers with natural content of suspended solids 30mg/l, around 5% increase is allowed</td></tr>
<tr><td colspan="4">If wastewater contains suspended particles with deposition rate above 0.2mm/sec discharge in water reservoirs is not allowed. Discharge of effluents containing suspended particles with deposition rate above 0.4mm/sec is prohibited.</td></tr>
<tr><td>Floating matter</td><td colspan="4">Patches and films of oil, petroleum products, fats must not be detectable</td></tr>
<tr><td rowspan="2">Colour</td><td colspan="2">Must not be visible in water column</td><td colspan="2">Water must not have unusual colour</td></tr>
<tr><td>20 cm</td><td>10 cm</td><td colspan="2">-</td></tr>
<tr><td rowspan="2">Odour, taste</td><td colspan="2">Water must not have odour and taste of higher than 1-unit intensity</td><td colspan="2">Water must not result in unusual odour and taste in fish</td></tr>
<tr><td>After chlorination</td><td>Without treatment</td><td colspan="2">-</td></tr>
</table>

	Water use category			
	Household water use	Domestic water use	Fisheries	
			Highest and first	Second
	Increase not higher that listed below is allowed			
	of other treatment			
Temperature	After discharge of wastewater, temperature in water reservoir must not exceed by more than 5 percent compared to the natural value		For water bodies, representing an habitat for cold water fish such as *Acipenseridae, Coregonidae*, maximum allowable temperatures in summer and winter are 20°C and 5°C respectively, while for other water bodies - 28°C (in summer), 8°C (in winter).	
pH	Must be in 6.5 - 8.5 interval			
Water mineralisation	<1000mg/l, Incl. chlorides – 350mg/l; sulphates - 500mg/l	To comply with requirement given in section related to taste (see above)	In accordance with taxation	
Dissolved oxygen	Must not be lower than			
	4 mg/l	4 mg/l	6 mg/l	6 mg/l
Biological oxygen demand	At 20°C must not exceed			
	3 mg/l	6 mg/l	3 mg/l	6 mg/l
Chemical oxygen demand	Must not exceed			
	15 mg/l	30 mg/l	-	-
Chemical substances	Must not exceed maximum permissible limits			
Pathogens	Must be free for pathogens, including viable helminth eggs, tenia oncosperes and viable cysts of pathogen organisms			
Toxicity	-	-	At the point of discharge and control section of the river toxic impact must not be observed.	

Sanitary Wastewater

97. Sanitary wastewater from industrial facilities may include effluents from domestic sewage, food service, and laundry facilities serving site employees. Miscellaneous wastewater from laboratories, medical infirmaries, water softening etc. may also be discharged to the sanitary wastewater treatment system. Recommended sanitary wastewater management strategies include:

(i) Segregation of wastewater streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage);

(ii) Segregation and pre-treatment of oil and grease containing effluents (e.g. use of a grease trap) prior to discharge into sewer systems.

98. If sewage from the industrial facility is to be discharged to surface water, treatment to

meet national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges shown in **Error! Reference source not found.**.

99. If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sanitary wastewater discharges is required. Sludge from sanitary wastewater treatment systems should be disposed of in compliance with local regulatory requirements. In its absence, disposal has to be consistent with protection of public health and safety, and conservation and long-term sustainability of water and land resources. It should be mentioned also that the most stringent standards will apply during construction.

100. Construction-phase water quality monitoring will be assessed against national standards. Wastewater discharge from construction sites and camps shall be assessed against IFC values (for any treated sanitary sewage discharge).

Table 12 *Indicative Values for Treated Sanitary Sewage Discharges*

Pollutant	Unit	Standards			Applicable to LCIP
		GEO	WB	EU	
pH	pH	6-9	6-9		6-9
Biochemical oxygen demand (BOD)	mg/l	35	30	25	30
Chemical Oxygen Demand (COD)	mg/l	125	125	125	125
Total Phosphorus	mg/l	2	2	2	2
Total Nitrogen	mg/l	15	10	15	10
Total Suspended Solids	mg/l	60	50	35	35
Coliform bacteria	[1]MPN[b]/100ml		400[a]		400[a]

101. IFC Environmental, Health, and Safety Guidelines for Water and Sanitation Water quality of potable water supply systems include information relevant to the operation and maintenance of:

(i) Potable water treatment and distribution systems, and

(ii) Collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities. The IFC guidelines recommend measures to prevent, minimize and control environmental impacts associated with all stages of drinking water supply and sewerage management, including water withdrawal and protection of water quality, drinking water treatment, water distribution, and wastewater collection and treatment.

Clearances to be obtained prior to the start of construction Under LCIP

102. IA will ensure all necessary regulatory clearances and approvals are obtained prior to commencement of works. IA, with support of project consultants and CC, are responsible for obtaining the clearances/permits and ensuring the conditions/specifications/provisions are incorporated in the subproject design, costs, and implementation. The IA shall report to ADB

the status of compliance to clearances/permits as part of the regular project progress reporting.

103. Sanitary ***Wastewater***

104. Sanitary wastewater from industrial facilities may include effluents from domestic sewage, food service, and laundry facilities serving site employees. Miscellaneous wastewater from laboratories, medical infirmaries, water softening etc. may also be discharged to the sanitary wastewater treatment system. Recommended sanitary wastewater management strategies include:

(i) Segregation of wastewater streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage);

(ii) Segregation and pre-treatment of oil and grease containing effluents (e.g. use of a grease trap) prior to discharge into sewer systems.

105. If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges shown in **Error! Reference source not found.**.

106. If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sanitary wastewater discharges is required. Sludge from sanitary wastewater treatment systems should be disposed of in compliance with local regulatory requirements. In its absence, disposal has to be consistent with protection of public health and safety, and conservation and long-term sustainability of water and land resources. It should be mentioned also that the most stringent standards will apply during construction.

107. Construction-phase water quality monitoring will be assessed against national standards. Wastewater discharge from construction sites and camps shall be assessed against IFC values (for any treated sanitary sewage discharge).

108. ***Table 12***3 shows the list of clearances or permissions required for the subprojects. This list is indicative, and the CC shall ascertain the requirements prior to the start of the construction and obtain all necessary clearances/permission prior to the start of construction.

Table 13 *Clearances and Permissions Required*

Construction Activity	Clearance Required	Implementation	Supervision
Land for Project Activity	Allotment and approval for specific land use in pre-construction stage	Implementing Agency	Executing Agency
Construction in heritage areas	Relevant conclusion of the National Agency for Cultural Heritage Preservation of Georgia	Implementing Agency	Executing Agency
Construction of new or rehabilitation of STP	For construction of new STP to serve more than 50000 population, preparation of EIA and obtaining relevant permit from MoEPA is required. For rehabilitation of existing STP EIA permit is not required.	Implementing Agency	Executing Agency

Tree Cutting[9]	Relevant conclusion of the National Forestry Agency under the MoEPA; Local Municipality; National Agency of State Property; Government of Georgia	Implementing Agency/Construction Company	Executing Agency
Hot mix plants, crushers, batching plants	Relevant conclusion of the MoEPA	Construction Company	Implementing Agency
Generator sets			
Storage, handling, and transport of hazardous materials	Relevant conclusion of the MoEPA	Construction Company	Implementing Agency
Sand mining, quarries and borrow areas	Relevant conclusion of the MoEPA	Construction Company	Implementing Agency
Temporary traffic diversion during construction	Relevant conclusion off the Ministry of Internal Affairs of Georgia (Patrol Police Department)	Implementing Agency/Local Municipality	Implementing Agency/Executing Agency
Establishment of construction camps	Relevant conclusion of the MoEPA[10] if a project under LCIP is subject to EIA	Construction Company	Implementing Agency
Disposal of Construction waste and demolition debris	Relevant conclusion of the MoEPA in accordance with requirements of the legislation of Georgia	Construction Company	Implementing Agency
Pipe laying and other construction works	For sewerage pipes laying with a length of 2 km or more with development area of 5 hectares or more Or Laying of pipelines longer than 5 km for the transportation of oil, gas or carbon dioxide It is necessary to prepare screening reports for submission to MoEPA.	Implementing Agency	Executing Agency
Construction of new tube wells or any new extraction of ground water	Relevant conclusion of the MOEPA	Recipient Municipality	National Environmental Agency

[9] In accordance with the Organic Law of Self-Government of Georgia (Article 16), local self-government body is responsible for management of local natural resources, including water and forest resources, and land resources owned by the municipality. Thus, the trees to be cut down locate on a land plot registered as municipal property, the permit for tree cutting shall be obtained from local self-government body. However, in case of Red listed species, the inventory of trees needs to be submitted to the MoEPA and tree-cutting permission shall be obtained from the Government of Georgia (in accordance with the Law of Georgia on Red List and Red Data Book of Georgia, Article 24). In accordance with the resolution # 221, when the territory belongs to the Forest Fund, relevant permit shall be obtained National Forestry Agency. In case of state-owned area, the National Agency of State Property shall be applied (based on the Law of Georgia on State Property, Article 291) for obtaining of tree-cutting permit

[10] In accordance with the Georgian legislation, if activities under the project are not subject of EIA, there is no need of obtaining conclusion on establishment of construction camp from MoEPA.

C. International Environmental Agreements and Applicability to LCIP

109. Georgia is a party to various international agreements and conventions related to environment, which include the following:

Table 14 *International conventions and treaties and Applicability to LCIP*

International Agreement	Description	Applicability to LCIP and Specific Requirements
Ramsar Convention, 1971	The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international co-operation for the conservation and wise use of wetlands and their resources. Georgia is one of the signatories to the treaty. The Ramsar convention made it mandatory for the signatory countries to include wetland conservation in their national land use plans.	Not applicable as no Ramsar sites in any of the project towns. If in future any of the activities are undertaken in the proximity of Ramsar wetlands shall follow the guidelines of the convention (The Ramsar Convention Handbooks for the wise use of wetlands, 4th ed. (2010), (http://www.ramsar.org/cda/en/ramsar-pubs-handbooks/main/ramsar/1-30-33_4000_0)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973	Georgia is a signatory of this convention which aims to control international commercial trade in endangered species.	Recommendations of critical habitat to be considered if listed species are found on-site.
Basel Convention on Trans-boundary Movement of Hazardous Wastes, and their Disposal,1989	Georgia is a signatory of this convention which aims to reduce trans-boundary movement and creation of hazardous wastes.	Sludge/rejects generated from tertiary treatment process likely to have heavy metals and may fall in hazardous waste category. The sludge/rejects will be disposed within the country, and therefore will not attract this convention. CC to follow the provisions of Hazardous Waste Rules 2016 for storage, handling, transport and disposal of hazardous waste emerged during construction works.
Agreement on The Conservation of Populations of European Bats, 1991	Georgia is a signatory of this agreement which aims to prohibit the deliberate capture, keeping or killing of bats except for research purposes for which a special permit is required. Furthermore, the member states identify important sites for bat conservation, survey the status and trends of bat populations and study their migratory patterns.	Based on the result of the monitoring activities the CCshould develop and review recommendations and guidelines that shall be implemented on national levels.
Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 1998	Georgia is a signatory of this agreement which aims to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the	EA/IA to follow GoG, ADB and Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

International Agreement	Description	Applicability to LCIP and Specific Requirements
	rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention.	

D. ADB Safeguard Policy Statement's Environmental Requirements

110. **ADB SPS requires** the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB SPS, 2009. This states that ADB requires environmental assessment of all ADB investments.

111. **Screening and Categorization.** ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed subproject is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories:

(i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.

(ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.

(iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.

(iv) **Category FI.** A proposed project is classified as category FI (Financial Intermediary) if it involves investment of ADB funds to or through a FI.

112. Environmental screening and preliminary categorization of the project was carried out in accordance with ADB's Safeguard Policy Statement, 2009 (SPS, 2009) under the TRTA (Transaction Technical Assistance), using ADB REA Checklist (**Error! Reference source not found.**). The project is classified as "Category B".

113. **Environmental Audit of Existing Facilities.** For subprojects involving facilities that already exist or are under construction or proposed, environmental compliance audit will be conducted. The environmental audit will include on-site assessment to identify past or present environmental concerns, whether actions were in accordance with ADB's safeguard principles and requirements for executing and implementing agencies and identify and plan appropriate measures to address outstanding compliance issues. A corrective action plan in the IEEs will be agreed on by ADB and IA. The plan will define the necessary remedial actions, the budget for such actions, and the timeframe for resolution of non-compliance. The environmental audit report (including the corrective action plan, if any) will be made available to the public in accordance with the information disclosure requirements of ADB SPS. If a subproject involves

an upgrade or expansion of existing facilities that has potential impacts on the environment, the requirements for environmental assessments and planning specified in the EARF will apply in addition to compliance audit.

114. **Physical Cultural Resources (PCR**). ADB SPS environmental safeguard policy principles require conservation of physical cultural resources and avoid destroying or damaging them by using field-based surveys employing qualified and experienced experts during environmental assessment. It also emphasizes the use of chance find procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.

115. **Environmental Management Plan (EMP).** An EMP, which addresses the potential impacts and risks identified by the environmental assessment, shall be prepared. The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the project's impact and risks. A copy of the EMP or approved site-specific EMP (SSEMP) will be always kept on-site during the construction period. Non-compliance with, or any deviation from, the conditions set out in the EMP or SSEMP constitutes a failure in compliance and will require corrective actions. The EARF and the IEEs specify responsibilities in EMP implementation during design, construction, and O&M phases.

116. **Public Disclosure.** ADB will post the safeguard documents on its website as well as disclose relevant information in accessible manner in local communities:

(i) For environmental category A projects, draft EIA report at least 120 days before Board consideration;
(ii) Final or updated EIA and/or IEE upon receipt; and
(iii) Environmental monitoring reports submitted by the implementing agency during project implementation upon receipt.

117. **ADB SPS's environmental principle** 6 states that a draft environmental assessment (including the EMP) should be disclosed in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. The final environmental assessment, and its updates if any should be disclosed to affected people and other stakeholders. The IEE should be publicly available at reasonable period beforehand the public consultations.

118. **Consultation and Participation**. Meaningful consultation shall be carried out with affected people and other concerned stakeholders including civil society and facilitate their informed participation. The consultation process and its results are to be documented and reflected in the environmental assessment report.

119. **Grievance Redress Mechanism.** The IA shall establish a mechanism to receive and facilitate resolution of affected people's concerns, complaints and grievances about the subproject's environmental performance. The grievance mechanism shall be scaled to the risks and adverse impacts of the subproject.

120. **Occupational Health and Safety**. ADB requires that the borrowers ensure that the workers are provided with a safe and healthy environmental, considering risks inherent to the sector and specific classes of hazards in the subproject areas including physical, chemical, biological and radiological hazards.

121. **Unanticipated Environmental Impacts.** Where unanticipated environmental impacts become apparent during the implementation, The IA shall update the EMP to assess the potential impacts, evaluate the alternatives and outline mitigation measures and resources to address those impacts.

122. **Biodiversity Conservation and Sustainable Natural Resource Management.** The borrower/client will assess the significance of project impacts and risks on biodiversity and natural resources as an integral part of the environmental assessment process. The assessment will focus on the major threats to biodiversity, which include destruction of habitat

and introduction of invasive alien species, and on the use of natural resources in an unsustainable manner. The borrower/client will need to identify measures to avoid, minimize, or mitigate potentially adverse impacts and risks and, as a last resort, propose compensatory measures, such as biodiversity offsets, to achieve no net loss or a net gain of the affected biodiversity.

123. **ADB SPS International Best Practice Requirements**. Following requirements of ADB SPS, IA shall apply pollution prevention and control technologies and practices consistent with international good practice. When the Government of Georgia regulations differ from these levels and measures, IA shall achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific subproject circumstances, IA will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS.

124. **Exclusion Criteria for Subproject Selection.** LCIP will not include and/or involve any activities listed in ADB's Prohibited Investment Activities List.[11] Subsequent subprojects shall comply with the exclusion criteria for subproject selection[12] to exclude subprojects which may cause impacts that are significant, irreversible, diverse, unprecedented, or larger than the sites or facilities subject to physical works. Rehabilitation works of existing projects/facilities located in the environmentally sensitive areas (wildlife sanctuaries, national parks, core zones of biosphere reserves, critical habitats, etc.), shall be excluded if the following criteria are not met:

(i) Proposed rehabilitation works will be confined to the existing footprint, and within the right of way of existing infrastructure;

(ii) Proposed rehabilitation works will not require any new clearance/permissions. A written confirmation to that effect from the local office of the respective protected area regulatory agency shall be obtained;

(iii) The proposed rehabilitation work can proceed if it is outside areas of critical habitat. If it is in areas of critical habitats, if can proceed if

a. There are no measurable adverse impacts on the critical habitat that could impair its ability to function,
b. There is no reduction in the population of any recognized endangered or critically endangered species, and
c. Any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless alternatives are not available,
d. The overall benefits from the project substantially outweigh the environmental costs, and
e. Any conversion or degradation is appropriately mitigated. (From page 16 of the SPS).

125. Projects likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works (i.e. category A projects as per ADB SPS 2009) will be excluded from LCIP.

E. Compatibility between Country's and ADB Safeguard Policy

126. While ADB SPS is in line with the multilateral development financing institutions, government's policies are also comparable to international environmental framework including that of ADB. Table 15 provides the comparison per ADB SPS policy principles, gaps, and

[11] ADB SPS Appendix 5.
[12] EARF for the Livable Cities Investment Project for Balanced Development

measures to be implemented by the project to address the gaps.

Table 15 *Comparative Analysis of Government and ADB Safeguard Requirements*

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
Commensurate environmental screening of impacts and risks	1. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.	Project screening is done at early stage of the project. Environmental Assessment Code provides list of I and II category activities. For category II project need of EIA is defined based on the scoping procedure by MoEPA.	EIA notification is applicable only to the projects listed in EIA act, and components of water supply and sewerage projects are exempted for EIA act.	Implement ADB SPS requirements and tools on screening and categorization, identification of risks and mitigation measures Requirements of the National Environmental Standards are compared with international standards and adapt the more stringent requirements.
Asses potential impacts and risks to physical, biological, socio-economic and physical cultural resources of the project affected area	2. Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential transboundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.	According to GOG requirements there are the same requirements for assessing potential impacts and risks risks to physical, biological, socio-economic and physical cultural resources of the project affected area.	There is no gap between ADB and GoG legislation.	Subproject selection criteria and environmental assessment process and categorization be implemented with alignment with the SPS.
Examine alternatives for project's	3. Examine alternatives to the project's location,	Alternative assessments are to be carried out	There is no gap between ADB	N/A

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
location, design, technology and potential environmental impacts	design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.	for the project location and design and among them zero alternative/no project alternative.	and GoG legislation.	
Preparation of Environmental Management Plan	4. Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.	EIA report is required for Annex 1 listed projects. For Annex 2 project need of EIA is decided based on the screening procedure. The content of the EIA report is structured so to cover requirements indicated in the Environmental Assessment Code. The EMP is a part of the EIA document.	There is no gap between ADB and GoG requirements.	In line with the general guidance, conduct the preparation of the environmental management plan using ADB tools (e.g. REA checklist). The level of detail and complexity of the EMP and the priority of the identified measures and actions will be commensurate with the project's impact and risks.
Carrying out Public Consultations and concerns	5. Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation	Publication of information in national and regional mass-media. Arrange two public meetings – one at	According to GoG requirements conducting of public consultations with	Adapt the ADB requirements on meaningful consultation and documentation carried out with

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
	in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment.	the scoping stage, another not later that at 55th date from submission of the draft EIA report to MoEPA. All stakeholders are invited for the meetings. One two one meetings and consultations with stakeholders during EIA process. Consultation not later than 60 days from the date of publication.	stakeholders are not required throughout project implementation.	affected people and other concerned stakeholders including civil society and facilitate their informed participation.
Grievance redress mechanism	Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.	Implementing Agency to facilitate resolution of affected people's concerns.	No specific government regulation on addressing grievances.	Component of Environment Assessment report on Grievance Redress Mechanism should be addressed in accordance with ADB requirement.
Disclose a draft and final IEE report	6. Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.	The scoping document is available for public review for 45 days before public consultations. The EIA Report is available for public review for 50-55 days before public consultations.	According to GoG requirements MoEPA is responsible to send electronic version of EIA report to local municipalities for disclosure in GEO language only.	Conduct public disclosure in accordance to ADB requirements such as posting the safeguard documents on its website as well as disclose relevant information in accessible manner in local communities.

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
	Draft EIA will be published in ADB website for 120 days before Project approval by the Board.			
Implementation of monitoring effectiveness	7. Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.	Implementation of monitoring plan is the responsibility of Construction Contractor and IA.	According to GoG legislative base there is no requirement to prepare and submit to IA monitoring reports and also there is no requirement to disclose the mentioned reports.	ADB's monitoring and reporting requirements shall be implemented.
Protection of critical habitats and protected flora and fauna	8. Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any			Adapt the SPS requirements for natural, modified and critical habitat

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
	conversion or degradation is appropriately mitigated. Use a precautionary approach to the use, development, and management of renewable natural resources.			
Application of pollution prevention and control technologies	9. Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials subject to international bans or phaseouts. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.	According to GoG legislative base there are the same requirements for application of pollution prevention and control technologies	There is no gap between ADB and GoG requirements.	ADB requires the adaptation of the more stringent requirements between the international standard and government regulations.

ADB SPS Requirement	ADB SPS Policy Principle	Government of Georgia Regulation	Gap	Measures to Address Gap
	10. Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.			ADB requires the consideration of site-specific hazards such as the presence of asbestos materials.
Conserve physical cultural resources and avoid destroying or damaging them	11. Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of "chance find" procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.	According to GoG legislative base during EIA preparation stage it is required to prepare archaeological survey report and submit to the National Agency for Cultural Heritage Preservation of Georgia for obtaining permission.	There is no gap between ADB and GoG requirements.	ADB SPS environmental safeguard policy principles require conservation of physical cultural resources and avoid destroying or damaging them by using field-based surveys employing qualified and experienced experts during environmental assessment.

F. Administrative Framework

127. **Municipal Development Fund of Georgia (MDF)** – The Municipal Development Fund of Georgia is responsible for elaboration of policy and strategic plans related to construction, rehabilitation, and reconstruction of the project. Thus, the MDF is responsible for ensuring compliance with Georgian legislation and environmental and social requirements of the relevant donor organizations. Control of the implementation of the Environmental Management Plan (EMP) is the direct responsibility of the MDF. Within the MDF there is Environmental and Resettlement Division dealing with environmental issues. This division is supposed to review the IEEs and EMPs related to the MDF projects and to perform monitoring of compliance of the CC's performance with the approved EMPs, IEEs, environmental standards and other environmental commitments of the CC.

128. **Ministry of Environment Protection and Agriculture (**MEPA) - According to the Environmental Assessment Code of Georgia (Article 4) MEPA is responsible for all environmental protection issues and agriculture in Georgia. The responsibilities of MEPA as the competent authority are: a) to intermit, limit, or stop any activity having or likely to have an

adverse impact on the environment, b) to carry out screening of planned development, c) to implement scoping, d) to issue environmental decisions for projects subject to an EIA procedure, e) to control the execution of mitigation measures by the developer, f) to organize public meetings and discussion of an estimation of influence on environment and g)to prepare the documentation (the project of the order of the minister) to permit influence to environment. MEPA is responsible for supervising the adherence by the construction company to relevant environmental standards during project implementation process. The MEPA is responsible for implementation of Bern Convention on the Conservation of European Wildlife and Natural Habitats at national level and development of Emerald Network in Georgia.

129. **Ministry of Culture, Sport and Youth of Georgia** - is responsible for issuing permit for execution of restoration works at the monuments of cultural heritage and supervise ongoing works. The ministry is responsible for the supervision of construction activities in order to protect cultural and archaeological heritage. In case construction is to be carried out on a historic site, or within a security zone of cultural heritage, consent, by the National Agency for Cultural Heritage Preservation of Georgia (LEPL under the Ministry of Culture, Sport and Youth of Georgia) is required for issuing a construction permit (if necessary).

130. **Local Government of Zugdidi** – Local government of Zugdidi municipality is responsible authorizing certain construction works within the city, as well as issuing acceptance acts for new buildings. For project implementation, a construction permit from the local authority is required. Relevant permission for tree cutting (not included in Red List species), if required, should be issued also by Zugdidi Municipality city hall.

IV. DESCRIPTION OF THE PROJECT

131. The project envisages construction of new building for Presidential Youth Center, Library and Museum in city Zugdidi, Zugdidi Municipality (Samegerlo - Zemo Svaneti region).

132. The area of the land plot allocated for construction is 2 400 m^2, Cadastral code: 43.31.49.608. It is a property of Zugdidi Municipal Government. The site is bounded to the west by Merab Kostava street, to the northwest by Dadiani Park and Dadiani Garden and

Palace complex (Cultural property of National Importance), to the south-east by Zugdidi Public School #2 and Skate Park. The area selected for the project is free of buildings.

133. The new building for Presidential Youth Center, Library and Museum will be three-story with on ground area 980 m^2 and dimensions 44.3 m X 44.3 m. Height above the ground 9.3 m and below ground 5.7 m. The main entrance of the building is arranged from Dadiani Park. Also, it will be possible to get to the building from two additional entrances from Merab Kostava Street. The building is reflected on the urban area context in its form of a cross, focuses on views in all four directions (Dadiani Palace, Niko Dadiani Palace, City, and Skate Park).

134. The new building is structurally a mixed construction. The first floor carrier elements are reinforced concrete 700X700mm cross-section columns, and outer walls are 300 mm monolithic, reinforced concrete walls. The ground floor is arranged on a 400 mm high reinforced concrete tile that overlaps the first floor and will move in the console on the terrain on the west side. All abovementioned carrier elements are metal structures, and between floor covering and the roof of the building are reinforced concrete tile arranged on a profiled metal plate. Arrangement of the green roof with vegetation cover is envisaged by the project.

135. The interior of the building is divided into 3 floors. Overall internal area of the new building will be 2640 m^2. On the first level with the area 980 m^2 reception, info point, ridding area, café, terrace (64,4m2) and cinema will be located. Archive and back office, tourist center back office, security and service rooms, corridor, water closets, including WC for disabled persons will be located on the first floor as well. On the second level (+4.500 level) exposition area, terrace (83,1 m2), corridors, ridding area, temporary exhibition area, staff rooms auxiliary and technical rooms, water closets (including for disabled persons) will be located. Area of the second floor is 720 m^2. Museum, foundation and quarantine spaces, storages (spaces for air quenching and climate control, wind-porches will be located on the -1 level (-5.167 level) with the area 940 m^2.

136. The project includes following civil works: ground excavation and arrangement of the monolithic reinforced concrete foundation, arrangement of the drainage around foundation, arrangement of the monolithic reinforced concrete walls, staircases and roofing tile, arrangement of the block and plaster partitions, wall insulation with a thick blanket and rock wall, arrangement of floors and their thermal insulation, arrangement of the suspended ceilings and internal stairs, wall facing and painting, façade insulation, arrangement of the green roof and terrace roof, arrangement of the yard path.

137. Whole territory of the Presidential Youth Center, Library and Museum will be fenced. Video surveillance system and security alarm system will be installed.

138. The project envisages thermal insulation of the building, low emission glass package will be used, which will further reduce energy consumption and save budget.

139. Fire safety, water supply, sewage, air ventilation and heating systems will be arranged as well. Fire water reservoir and pumping station, gas extinguishing and climate control spaces will be arranged on the -1 level of the building.

140. Water will be provided from the local network.

141. Sewage system will be connected to the existing local network.

Figure 1. *Location of project site*

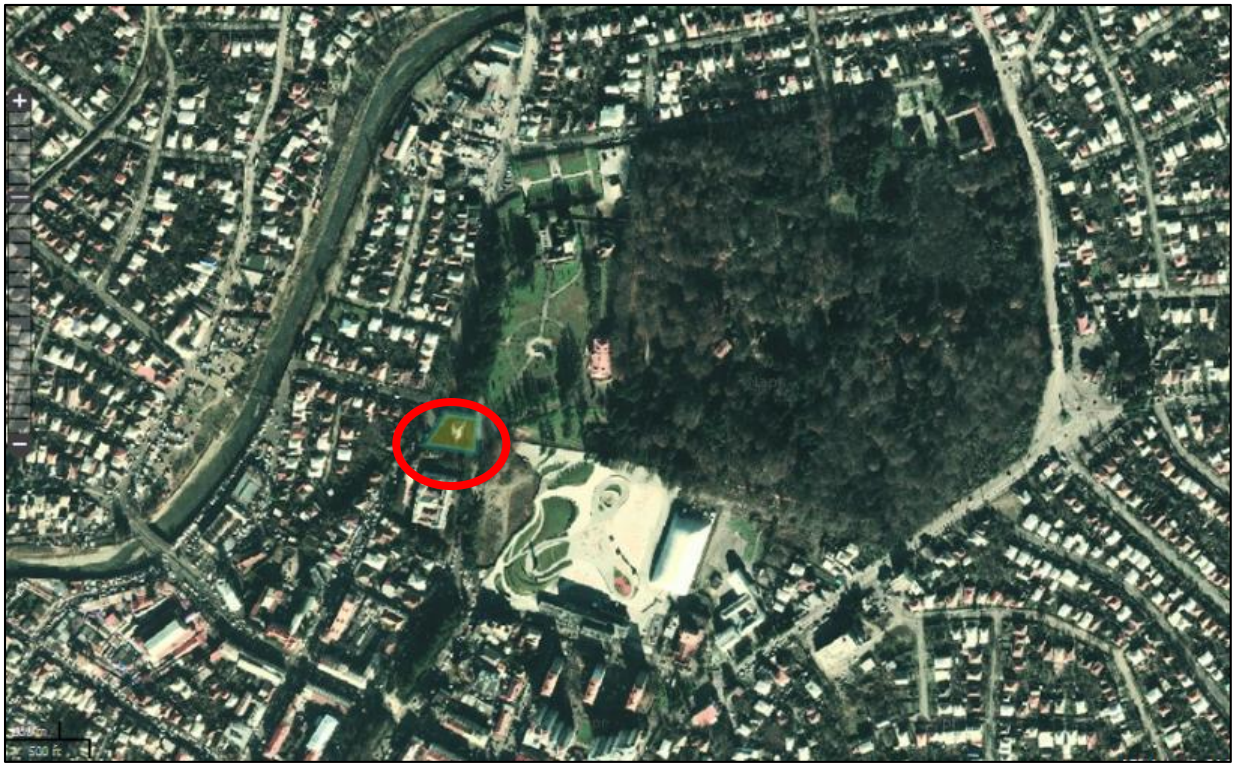
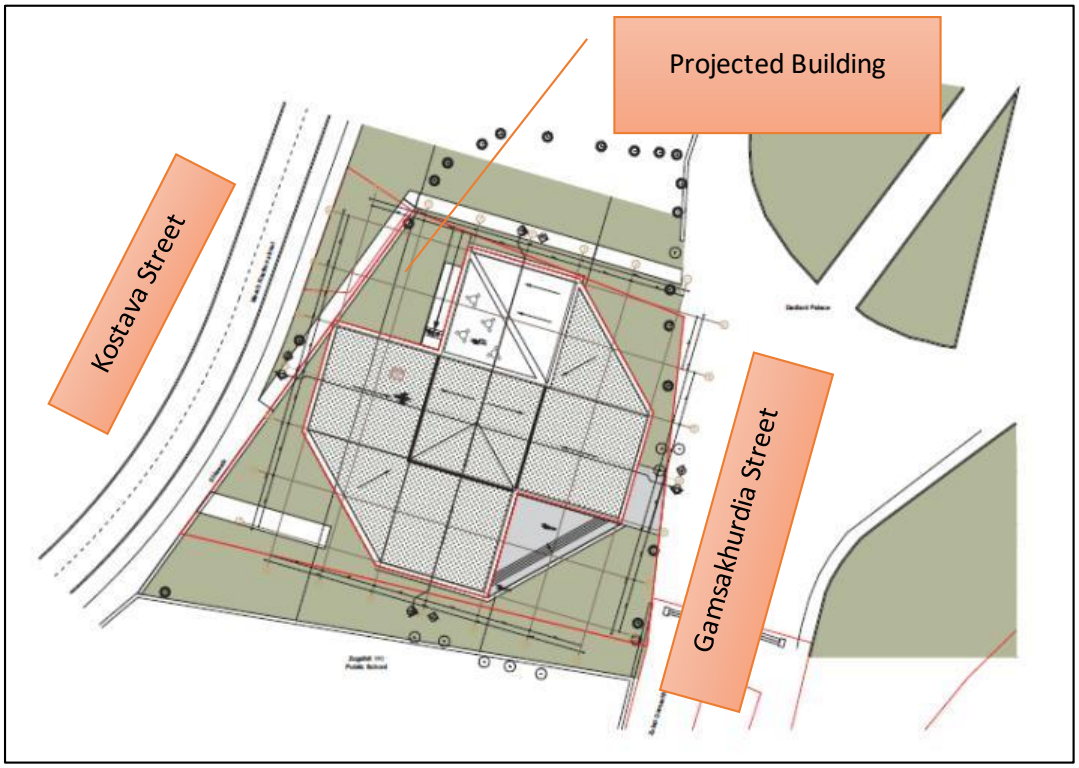


Figure *2.* *Current situation on the project site*

Coordinates of the Land Plot intended for the Project	
1. X 242996 Y 4711125	2. X 243061 Y 4711114
3. X 243067 Y 4711186	4. X 243034 Y 4711183

Figure *3*. *Layout Plan of the project area*[13]



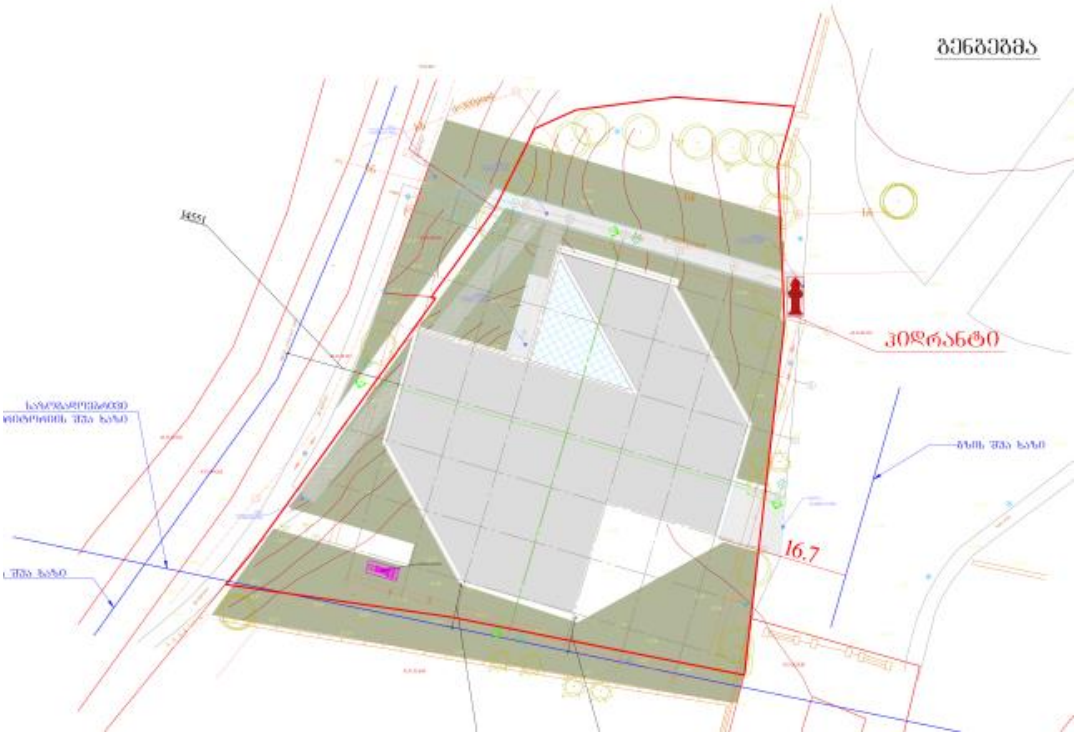


Figure *4.* *Structure of the building*

[13] The red line indicates the cadastral boundaries of the project site and the green circles – projected trees and brushes. Campsite layout plan will be prepared by the civil works contractor and reflected in the Campsite Management plan.

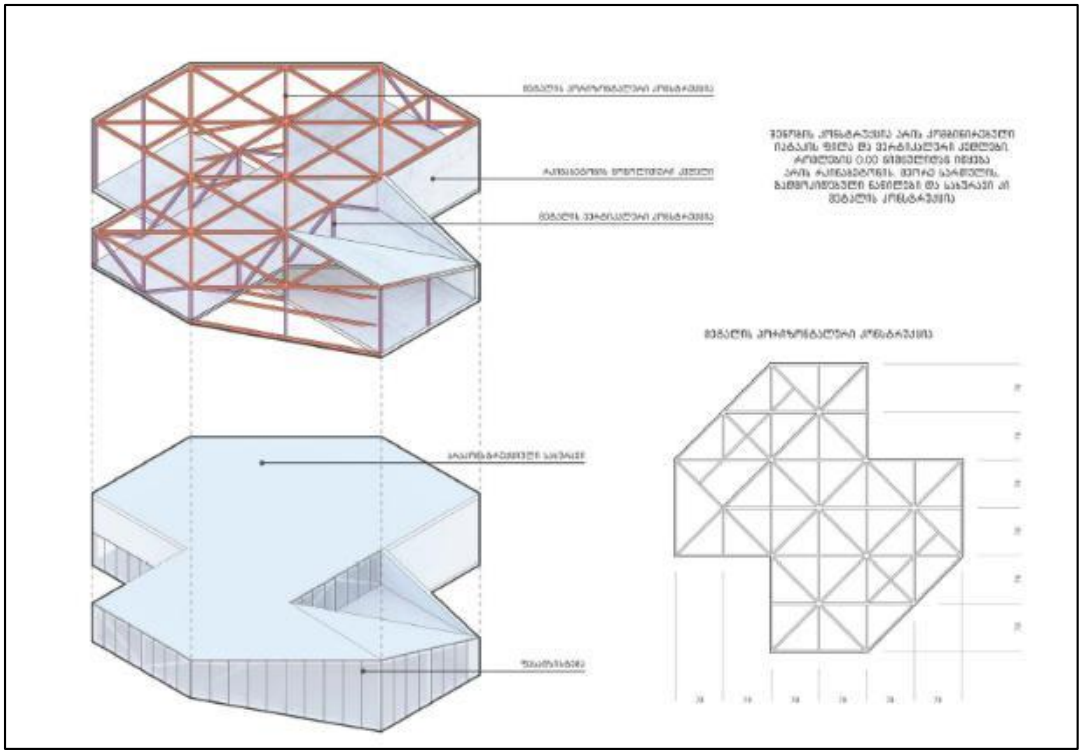


Figure *5.* *Renders of the building*

A. Indicative Implementation Schedule

142. Prior to the onset of the core works, the organization and technical issues will be solved to provide a field of construction operations. Preparatory works envisage temporary fencing of the construction area and arrangement of temporary buildings (construction camp).

143. Temporary power and water supply are to be provided to site from local networks.

144. For construction following machines/mechanisms will be mobilized –concrete mixer trick, concrete pump, bulldozer, and excavator.

145. During the preparation period should be processed following works: enclose of the project site, arrangement of water- and power supply, construction of temporary facilities, such as security both, open warehouse, dressing rooms for workers, toilets.

146. The civil works duration is defined as 15 months.

147. An important stage of the project implementation is the management of different types of waste originated in the course of the construction. After the construction works are complete, the construction camps and other temporary facilities will be demobilized, the cultivation works will be done and the landscape will be harmonized.

B. Dumpsites

148. Construction Waste will be disposed on the municipal solid waste landfill, managed by the Ltd "Solid Waste Management Company of Georgia", located in Zugdidi Municipality near village Didi Nedzi (C/C: 43.26.42.004). The dumpsite is about 30 km south of the project site. The dumpsite is being upgraded to a sanitary landfill serving the entire Samegrelo-Zemo Svaneti region under a KfW-financed project.

C. Access Roads

149. The land plot has an access from Zviad Gamsakhurdia, as wells as from Merab Kostava streets. The abovementioned streets are in good condition. As already mentioned, the project area is located in urban area: Detailed Traffic Management Plan shall be developed by CC in accordance with his proposed working methodology and submitted to the CSC for approval. In case of damage the CC is obliged to recover/reinstate these roads and/or other local infrastructure, and agricultural lands.

150. Construction machineries will move from the Kostava street to avoid transportation of materials from the pedestrian part of Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site (see figure 6).

Figure 6. Access roads to the Project Area[14]

Figure 7. Photos of the Access Roads to the Project Site

[14] Access road N 1 indicates Gamsakhurdia Street and the road N2 – Kostava Street. The Construction machineries will move from the Kostava Street (N2) to avoid transportation of materials from the pedestrian part of Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.

	
Gamsakhurdia Street	Kostava Street

D. Disposal of Spoil Material

151. Approximately 10 036 tones excess ground will be generated due to the earthworks. According to the waste management code of Georgia inert waste can be used for backfilling activities according to written agreement with local authority.

152. CC should ensure materials and wastes to be removed are disposed in proper manner and disposal sites are authorized by the government. No dumping of materials/wastes will be allowed.

E. Quarries and Borrow Pits

153. The exploitation of borrow pits and quarries (if needed) will be conducted by licensed companies and licensed sites.

154. The exact locations of quarry and borrow sites (if required) to be used for the Project will be determined by the CC and specified within the SSEMP. The Project will not implement any exploration activities from illegal sources.

155. In case any new borrow pit is opened and operated by the CC for the project, the CC is responsible for being in compliance with the requirements of the national legislation, including developing of re-cultivation plan and submitting it to the National Agency of Mines for approval.

F. Camp and Storage Areas

156. Camp and storage areas will be arranged on the project site. Camp site management plan will be prepared by the construction contractor before commencement of construction activities.

157. In order to adequately assess the potential environmental and social impacts of all temporary roads/temporary storage areas and to manage any potential impacts, SSEMP, Camp site Management Plan and traffic management plan shall be prepared by the environmental and HS specialists of theCC and then be reviewed and approved by the MDF and Construction Supervision Company (CSC) before commencement of any works.

158. The care must be taken to ensure that the construction camps are not used for living. Warehouses, offices, parking area, plant and equipment needed for the construction works, etc. will be provided at the camps.

159. In order to keep construction materials safe and retain their usefulness, CC shall ensure proper handling and storage of construction materials at the campsite. Both the workers and materials shall be remained safe throughout the construction process, that includes undertaking of the following activities:

(i) Conducting continuous safety training programs to ensure workers are equipped with enough knowledge about handling all the materials within the construction site;
(ii) Storing materials and chemicals in different places;
(iii) Putting safety installations (fencing, barricading, signage, illumination,) in place before the commencement of construction works for keeping unauthorized persons off the site;
(iv) Requiring the security personnel to act within the applicable laws and any requirements set out in the Specification;
(v) Developing safe working procedures at construction sites, include these procedures into the Occupational Health and Safety Plan for construction workers, and enforcing adherence to the Manual;
(vi) Establishing procedures for prevention, preparedness, and response to emergency situations;

160. The CC will provide the following basic facilities in the construction camps:

(i) Safe and reliable water supply.

(ii) Hygienic sanitary facilities and sewerage system.

(iii) Facilities for sewerage of toilet and domestic wastes.

(iv) Storm water drainage facilities.

(v) Sickbay and first aid facilities.

(vi) Recreational areas.

161. The CC is encouraged to engage local labors to the extent possible

162. The following are general construction activities that will be undertaken:

(i) Land works including excavation for building foundation

(ii) Building construction works including arrangement of the monolithic reinforced concrete plate of the foundation, monolithic reinforced concrete walls, roofing;

(iii) Interior and exterior finishing works of the buildings, including walls insulation, arrangement of floors, internal stairs, windows and doors, arrangement of green roof; Installation of internal and external water supply, wastewater, heating and cooling, electricity and ventilation, security alarm, fire alarm and video surveillance systems and elevator;

(iv) Arrangement of the yard path and installation of the outdoor lighting system.

G. Construction Process

163. Prior and in the process of construction phase the following activities will be done by the CC:

(i) Designation of Environment, Health and Safety (EHS) staff responsible for preparing the SSEMP, compliance with safeguard requirements, implementation of the SSEMP and other contractual provisions related to EHS, addressing site-level complaints/grievances from communities, implementation of any corrective action, coordination with and corresponding information to MDF and the Construction Supervisory Consultant (CSC);

(ii) Identifying sensitive receptors adjacent to the project sites and conduct instrumental measurement, particularly noise and vibration, soil contamination, air pollution;
(iii) Prior civil-works commencement, preparation and submission to IA and CSC of the required plans[15]:
   a. Pre-construction Information;
   b. Site Specific Environment Management Plan (SSEMP);
   c. Site-Specific Health and Safety Plan including Covid-19;
   d. Traffic Management Plan;
   e. Noise and Vibration Management Plan;
   f. Waste Management Plan;
   g. Emergency Response Plan;
   h. Camp Site Management Plan;
   i. Asbestos-Containing Waste Management Plan (as needed);
   j. Inventory of the trees to cut down (if required);
   k. Technical report of the stationary sources of harmful substances emitted into the atmospheric air (if required);
   l. Post-construction Audit Report.
(iv) Obtaining of all required permits, licenses and approvals: licenses for inert material extraction (if applicable); Approval of Waste management plan by the MEPA; Approval of Technical report on inventory of atmospheric air pollution stationary source by the MEPA (if required); Agreement on construction waste disposal on the nearest landfill; Agreement on hazardous waste (if any) disposal; Trees inventory report and permit for tree cut issued by local authority or by the MEPA in case of Red listed species (if required) and etc;
(v) Notification of local population (including the public school and the administration of Dadiani Palace) on civil works commencement and arrangement of information banner regarding project and indicate contact persons; dissemination of information regarding duration of upcoming works;
(vi) Preparatory works: mobilization of the temporal infrastructure, transport and construction appliances and equipment and mechanisms needed for construction;
(vii) Addressing any grievances in a timely manner as per the GRM;
(viii) Mitigate personnel safety risks and implement anti-COVID measures;
(ix) Conduct instrumental measurement and submit monthly reports to IA/CSC during construction;
(x) Establishing and maintaining site records of: (i) weekly site inspections using checklists based on the SSEMP; (ii) environmental accidents/incidents including resolution activities; (iii) environmental monitoring data including instrumental environmental monitoring if needed; (iv) non-compliance notifications issued by the CSC; (v) corrective action plans issued to the CSC in response to non-compliance notices; (vi) community relations activities including maintaining complaints register; (vii) monitoring reports; (viii) monthly reporting of SSEMP compliance and community liaison activities (see below); and (ix) ad-hoc reporting to the CSC of environmental incidents/spillages including actions taken to resolve issues of Site-Specific Environmental Management Plan (SSEMP); (x) plan and schedule of the works to accomplish; (xi) List of machines and equipment needed for construction; (xii) records related to the occurring environmental problems; (xiii) records about waste management issues; (xiv) written marking of areas of waste disposal and waste transportation instructions issued by the local authority; (xv) records about the supplies of necessary materials and their consumption; (xvi) complaints log books; (xvii)

[15] CC is obliged to develop any other document/plan and conduct any other relevant survey per the employer's requirement in the process of civil works. No works are allowed until approval of SSEMP.

Incident registration logs; (xviii) reports about the correction actions; (xix) logs of equipment control and technical maintenance; and (xx) reports about the personnel training.

(xi) Implementing site clean-up measures after civil works finalization and reinstatement to pre-works condition or better;

(xii) Developing post-construction Audit Report.

V. ANALYSES OF ALTERNATIVES

164. The following section provides an assessment of different alternatives including the 'no action' alternative.

165. The construction site for the Youth Center, Presidential Library and Museum was selected by the local municipality taking into account the following circumstance: convenient location within the cultural center of the city taking into consideration the existing infrastructure of the district, transport links, residential areas, and enough area for construction of the Youth Center, Presidential Library and Museum. All required communications for Youth Center, Presidential Library and Museum operation are already provided. The selected area is registered as a municipal property and no resettlement is required.

166. Development of Presidential library and youth center in Zugdidi will stimulate establishment of new educational and recreational area for the city. Newly constructed building will provide social and educational services to locals and visitors. The project will benefit approximately 43 000 inhabitants and 70 000 number visitors of Zugdidi city.

167. The project is expected to have long-term positive impact on the population and visitors of Zugdidi city, especially young people who will access to well-planned high quality service provided by the Youth Center, Presidential Library and Museum.

168. **No action or a zero alternative** implies refusal to the project implementation, therefore the problem related to providing abovementioned public services for the local population of city Zugdidi will remain unresolved. Additionally, declining urban population experienced in secondary cities of the regions, deteriorating livability in cities and peri-urban areas will remain as a problem. That will cause unbalanced economic growth, limited employment opportunities and poor livability of the project region, deficient regional connectivity and public transport, limited tourism development, inadequate infrastructure and inefficient services, limited accessibility, safety and sensitive design of public spaces and buildings for differently abled, senior citizens, women and children, inadequate disaster risk

reduction measures, deteriorated heritage structures and ecological sites, insufficient vocational and recreational facilities, unattractive and limited public open spaces, low energy efficiency in buildings and utility facilities, limited municipal revenue and resources. Eventually, stagnant and unbalanced regional growth, high level of out-migration from regions and in-migration to Tbilisi environmental degradation and climate risk and untapped tourism potential will be affected.

VI. BASELINE ENVIRONMENT

A. General Description

169. The project site is located in the city Zugdidi, western part of the country in the Georgian historical province of Samegrelo (Mingrelia), approximately 346 km west of Tbilisi, the capital of Georgia and 30 km east of Black sea coast. The city is an administration center of Samegrelo-Zemo Svaneti region, the fifth largest city of Georgia and is located on the left bank of the Enguri River.

170. The project site is located at Zviad Gamsakhurdia Street #7, the site is bounded to the west by Merab Kostava Street, to the northwest by Dadiani Park and Dadiani Palace, to the south-east by Zugdidi Public School #2 and Skate Park.

171. The project does not envisage civil works or any other interventions on the CH monuments. However, the site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building). Due to its location within the visual protection zone for the protection of national importance, the project triggers ADB SPS environmental policy principle on physical cultural resources. However, considering the nature and size of the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required in accordance with the EARF (see Figure 8, Red circle: project site; dark blue circles: the perimeter of physical security of the cultural property; light blue circles: the perimeter of visual security of the cultural property). However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

172. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.

Figure 8. Location of the project site regarding to PCRs [16]

173. Zugdidi Public School #2 is located approximately 37 meters south of the project area.

174. Cultural heritage sites, Dadiani Museum staff and visitors, staff and students of the public school are most likely to be impacted by the project's development activities, which is related to noise and emissions generation and traffic influx. However, the impact of these adverse effects can be minimized by proper implementation of mitigation measures.

175. No sensitive receptors such as water bodies, endangered species of flora and fauna are presented on the project site. City Zugdidi is located approximately 20-25 km away from the nearest protected area (Kolkheti National Park).

B. Geology, Geomorphology and Hazardous Geological Processes [17]

176. The project area is situated in the Central Caucasus and in Kolkheti depression. In terms of tectonic development, the major part belongs to Kolkheti tectonic depression, which is bordered with the Black Sea basin to the west and Fanavi and Samagrelo (Egrisi) ridges to the north. Poti-Askhi and Kurzu-Khikhadziri deep faults are located within this area. Erosive forms of mezo and micro relief riverine accumulative terraces are widely spread. According to seismic zoning map, Georgia is classified into Zone 6 to Zone 9 (in increasing order of seismic intensity, Map 5) and Zugdidi falls under Zone 8 (high seismic intensity zone). There has been no history of major earthquakes in Zugdidi.

177. By geomorphological viewpoint, the site is located at South-West extreme of Odishi plateau, at the border of Kolkheti lowland and terrace-like surface from North-East. Here high terrace step sets against marshy surface of Kolkheti lowland by steep precipice slope. Terrace step is represented by planar surface, with slight cut slope in South-West direction, with absolute elevations within 86-103m. The surface is slightly dismembered by small water conduits of local hydrographic network, such as: the rivers Chkhoushi, Sintsa, Jumi and others. On the mentioned surface the city Zugdidi and surrounding villages are located.

[16] Source: https://memkvidreoba.gov.ge/objects/immovable

17 Project Site Engineering-Geological Survey and Engineering-Geological Conclusion developed for the project, 2020

178. The project site is located on high third terrace surface of the Enguri River. The area is lithological represented by a quaternary (aLQ1-3) ages, with friable river and marine genesis terraces, clayey and sand-filled pebbles, which are covered from above with deluvial-proluvial, reddish-brown lateral genesis clays. First layer up to 0.0-0.4 m is presented by clay and gravel. Second layer up to 0.4-2.0 m consists of clay with pebble and gravel inserts. Third layer (1.8-7.0 m) consists of stony ground with sandstone filler.

179. The area is characterized by plain terrain, which is very small (Virtually unnoticed) tilted in a south-westerly direction. The markings are 100-115 m.

180. Regarding the hydrological conditions of the project sire, it should be noted that groundwater was not revealed in the holes at the research area. Well water level in the yard is at 11.2 meters.

C. Climate and Air Quality[18]

181. Zugdidi is located in humid subtropical area. Spring comes early here. The summers are generally hot while the winters are wet and cool. Average annual temperature in the city is 13.70C. January is the coldest month with an average temperature of 4.90C while August is the hottest month with an average temperature of 22.70C. Average annual precipitation is around 1 600 mm. Monsoon winds are common in the area. Average speed of the wind is 1.3m/sec. Snowfall is rare.

182. Air pollution automatic monitoring is not conducted in Zugdidi. Indicative measurements are carried out for different pollutants (nitrogen and sulfur dioxides, ozone) by the National Environmental Agency. According to the National Environmental Agency data air quality in Zugdidi varies from moderate to good index **(http://air.gov.ge/).** For example, in June 2020, as a result of indicator measurements conducted at the Zugdidi Botanical Garden, the concentration of NO2 did not exceed 6.65µg/m3 and ozone concentration was 95,29µg/m^3.[19]

183. Baseline measurement of air quality was conducted within the IEE and results are presented below.

Table 16 *Air quality measurement results*

	Sampling location	Concentration of measured pollutants, mg/m^3			
		Dust	NO_2	CO	SO_2
1	**#7 Zviad Gamsakhurdia Street**	0.016	0.033	0.29	<0,01
2	**Project site**	0.019	0.002	0.19	<0,01
3	**Access road to the project site**	0.017	0.001	0.34	<0,01
Maximum permissible concentration of pollutants in the ambient air in populated areas[1] mg/m^3		0.5	0.2	5.0	0,5

184. Analysis of the results of instrumental measurements and laboratory tests of the samples taken in the study area revealed that at all three points of the study area the values

[18] Art Studio Project LLC; Gamma Consulting LLC. 2020. Strategic Environmental Assessment of the General Plan of the City of Zugdidi and the Development Plan of the Central Part.

[19] National Environmental Agency. 2021. Air Quality Portal. **http://air.gov.ge/.**

of pollutants (NO2, CO, SO2) and dust concentration measured in the ambient air are within the permissible norms.

D. Noise and Vibration

185. Baseline noise surveys was conducted within the IEE and results are presented below[20].

Table *17* *Noise Measurement Results*

	Sampling location	Coordinates	Noise level Amax, dB				
			8:00	11:00	14:00	17:00	20:00
1	#7, Zviad Gamsakhurdia street, at #3 public school	37T0735970 4710350	49.1	54.7	56.4	57.1	53.4
2	Project site	370735990 4710400	48.7	52.6	55.1	56.9	53.8
3	Access road to the project site	37T0736020 4709360	46.9	53.4	54.8	55.4	52.5
Maximum permissible level, LAeq,dB			50				

186. The average equivalent noise level during the twelve-hour uninterrupted noise level test exceeded the permissible level at all three measurement points, as the measurement points were located in the city centre and are busy with traffic and people as well.

187. The CC will develop a site-specific noise and vibration management plan. The plan will include results of a baseline survey, noise level assessment and appropriate mitigation measures (if any) to be introduced based on the results. The CC will conduct monitoring of the noise and vibration level during the construction. Based on monitoring results, the site-specific noise and vibration management plan will be updated and appropriate mitigation measures defined and implemented (if needed).

188. Baseline vibration surveys was conducted within the IEE and results are presented below.

Table 18 *Vibration Measurement Results*

#	Sampling location	Coordinates	Noise level Amax, dB			
			Vibro speed		Vibro acceleration	
			mm/sec	dB	m/sec^2	dB
1	At Dadiani Palace	370736087 4710620	<0.1	<66	<0.1	<100
2	Project site	370735990 4710400	<0.1	<66	<0.1	<100

189. Analysis of the results of vibration instrumental measurements carried out in the study area revealed that vibration level at all points of the study area is within the permissible norms.

[20] The baseline noise, vibration, air quality and soil pollution measurements was carried out in December, 2020 by the LTD ``NaSeTo Group``

E. Hydrology[21]

190. Zugdidi lies on the banks of river Chkhoushi, which origantes on the southern slopes of Samegrelo ridge and joins the river Jumi (the left tributary of the Enguri) from the right site near the village Nedzi. Source of the river Jumi is located near village Chkondobera at 310 m above sea level. R. Jumi falls to river Inguri. Length of the river is 61 km, with average slope 4.98%. Area of watershed is 379 km^2. During the whole year river is characterized with flashfloods.

191. The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m (direct distance) from it. Impact on water body due to the project implementation is less expected.

F. Soils[22]

192. Alluvial soils, developed on clays and loamy sands of river origin, dominate the Colchic lowland, Samegrelo zone, at an altitude of about 100-200 m, including the watersheds of Enguri, Chanistskali, Khobi, Rioni, Tskhenistskali, Jumi, Tsivi and Abasha. Alluvial soils in the Colchic lowlands contain less humus and therefore are less fertile, with the exception of marshy soils covered with forest.

193. According to the results of soil pollution monitoring on the territory of Georgia ***(NEA, 2017),*** the condition of soil contamination with heavy metals in city Zugdid is as follows:

Table 19 *Soil pollution by heavy metals (Source: National Environmental Agency)*

Sampling location	Cu, (Mg/Kg)	Zn (Mg/Kg)	Pb (Mg/Kg)	Mn (Mg/Kg)	Fe (Mg/Kg)	PH
Central square	44.54	49.05	10.26	454.20	2.85	7.99
Technopark	46.55	45.05	22.02	276.53	1.82	8.13
Lagidze street	32.60	29.59	4.51	341.52	2.09	8.64
Kostava street	56.92	70.96	4.26	299.65	1.38	6.08
Near petroleum station ``Lukoil``	36.57	56.61	8.77	565.38	2.05	7.61

194. Survey to reveal baseline soil contamination with heavy metals was conducted within the IEE and results are presented below.

#	Sampling location	Coordinates	Concentration, mg/kg				
			Cu	Zn	Pb	Mn	Fe
1	Project site	370735990 4710400	68.43	76.18	20.52	456.28	0.41

[21] Art Studio Project LLC; Gamma Consulting LLC. 2020. Strategic Environmental Assessment of the General Plan of the City of Zugdidi and the Development Plan of the Central Part.

[22] Art Studio Project LLC; Gamma Consulting LLC. 2020. Strategic Environmental Assessment of the General Plan of the City of Zugdidi and the Development Plan of the Central Part.

G. Biological Environment

195. The Youth Center, Presidential Library and Museum will be constructed in the urban modified area. Existence of the significant components of biodiversity is less expected on the project site. Additional measures (if needed) to protect flora and fauna species will be defined and included in the SSEMP.

196. The impacts on vegetation during the construction phase will be minor. There are several trees at the project area. During the site vegetation assessment activity following species were identified: Caucasian hackberry (Celtis Caucasica), Aspen (Populus Tremula), Cedar (Cedrus Libani). Common privet (Ligustrum vulgare), Fig (Ficus carica), Oriental plane (Platanus digitifolia). No red list species are presented on the project site. No trees cutting at the project site is envisaged by the project design. If trees cutting are required, the CC will carry out the inventory of trees and submit all required documentation to Zugdidi City Hall or, in case of Red listed species to the MoEPA to obtain relevant permit. CC will be required to implement compensation measures for tree cutting as defined by the permit and ADB policy requirements.

197. The project area is located within the urban area the following fauna representatives can be observed onsite: rodents (mouse, squirrels), as well as common birds (Passer sp., Hirundo rustica, Pica pica, Corvus corone, Poecile sp., Troglodytes troglodytes and etc.), among the reptiles: lizards mostly. During the project implementation impact on wildlife is less expected.

198. There are several protected areas in the Samgrelo-Zemo Svaneti region, including Kolkheti National Park, Martvili Canyon Natural Monument, Motena Cave Natural Monument, Balda Canyon Natural Monument, Toba Waterfall and Arsen Okrojanashvili Cave Natural Monuments. Kolkheti National Park is located approximately 26 km south-west from city Zugdidi. No impacts on protected areas, Emerald sites or forest areas are expected due to the construction and operation of the library and youth centre building. Nearest special protected areas for birds (SPA) Churia is located 29 km southwest from the city Zugdidi[23]. Nearest Important Birds Area (IBA) Kolkheti is located approximately 20-25 km southwest from the city Zugdidi[24].

H. Socio-Economic Environment

Population[25]

199. Based on the data of the National Statistics Office, according to 2017, 42.7 thousand persons live in city Zugdidi, 54% women and 46% man among them. The current population of Zugdidi municipality is 100.2 thousand people. The population of the overall region fell during 2007-2017 as people migrated to seek improved opportunities elsewhere.

200. The area's proximity to Abkhazia resulted in a relatively large number of IDPs moving to the city following the conflict with Russia, which remains an important social issue. There

[23] http://aves.biodiversity-georgia.net/

[24] BirdLife International. 2021. Important Bird Areas factsheet: Kolkheti. Downloaded from http://www.birdlife.org on 23/03/2021.

[25] Art Studio Project LLC; Gamma Consulting LLC. 2020. Strategic Environmental Assessment of the General Plan of the City of Zugdidi and the Development Plan of the Central Part.

were also IDPs 21 248 recorded in the region with the majority living in Zugdidi town[26].

Economics[27]

201. As elsewhere in the country agricultural production and agro-processing are important industries with significant potential for growth. Nut production is particularly important in the municipality with the region accounting for most of hazelnut production in the country. Other agricultural products such as fruit and vegetables are also important. In recent years some agro-processing businesses have been developed in the municipality, and there is significant potential for further development of the whole agricultural supply chain. Tourism is less well developed in the municipality but there are important tourist assets within or close to the municipality, making it potentially viable as a tourist hub.

202. The close relationship between the people and land coupled with a desire to avoid more urban drift, translates into a need for more supporting services to be provided in these settlements. This would improve overall livability and, together with efforts to increase employment opportunities, would help to discourage more outward migration.

203. Outward migration in the past decade has improved local employment with unemployment dropping from to 8.6% (2007 – 2017) in Samegrelo-Zemo Svaneti. In a similar period, Regional Gross Value Added for Samegrelo-Zemo Svaneti (Georgian Lari (GEL) million at current prices) increased from 918 to 2 065 (2006 – 2016) with significant increases in Industry and Education. In 2016, the Gross Value Added per capita was $2 674. Tourism has increased dramatically for both Georgian and Foreign visitors.

Education[28]

204. Fifty-one public schools and six private schools are registered in Zugdidi municipality. Zugdidi Municipality has a state university and a vocational school. There are also two professional colleges.

205. There are 62 kindergartens in Zugdidi municipality. Despite the rehabilitation works carried out in the past years, some of them are still in poor condition.

I. Infrastructure

Transportation

206. The development of a deep-sea port at Anaklia will require improved communications, including road, rail and air, to the rest of the country. Short-term road plans to 2020 show a 90 km link from Anaklia to Samtredia and an additional spur north to Zugdidi. However, following discussions with the Roads Department it is likely that only the first part of the road, from Anaklia to Khobi, would be an immediate priority. The remaining roads would await timing of completion of the deep-sea port. A rail link (18 km) is planned to connect Anaklia from the existing railway (which runs from Tbilisi to Zugdidi) once the deep-sea port is developed. However, Zugdidi is currently served by a spur from the old railway, which used to run through Abkhazia and the line now terminates in the center of Zugdidi. Consequently, the new Anaklia to Tbilisi line would by-pass Zugdidi.

207. It is likely that the new Anaklia port and associated city would need to be served by a regional airport, the nearest current ones being in Kutaisi and Batumi, both of which serve international destinations. The only existing, (but currently abandoned), site is north-west of

[26] National Statistics Office of Georgia. Statistical information by Regions of Georgia. 2020. https://www.geostat.ge/regions/.

[27] Local Economic Development Plan. 2020-2021

[28] LEPL Education Management Informational System.2021. Catalog of Educational Institutions. 2021. https://www.mes.gov.ge/higher_edu.php?id=2&lang=geo.

Zugdidi at Ingiri. The current runway is 1.75 km long but could be extended, although the site is currently crossed by the main Zugdidi – Anaklia road. Its potential advantage is that the site lies alongside the railway to Zugdidi and might therefore have a role as a transshipment center for air cargo.

Water supply

208. The availability of piped, treated drinking water supply varies in Zugdidi Municipality, according to location in the urban center or rural locations as follows. The Town of Zugdidi, the urban center, plus the suburb of Ingiri (north-west of the town with a population of 4 049 in 2017) is on track to attain 100% connection for the 47 047 inhabitants (and businesses) by the end of 2018 – and has sufficient coverage for the tourist season for the next 20 years (design year 2040). The villages and rural areas of Zugdidi Municipality remain without piped water supply for the remaining 58 462 inhabitants; they rely on private wells and improvised municipal systems.

209. The Government of Georgia (GoG)/ ADB's USD 4 million Urban Services Improvement Investment Program (USIIP), is almost 80% complete to establish new water resources (spring), transmission pump station and pipeline, distribution network and balancing reservoir for the Zugdidi urban center. Once customer connections are made in 2018, numerous private wells will be retired and thus eliminating the cross-contamination public health risk in the town.

Wastewater

210. The connection to sewage collection - treatment system varies in Zugdidi Municipality, according to urban or rural location. The Town of Zugdidi is on track to attain 100% connection for inhabitants (and businesses) in the urban center to a new separate Wastewater Treatment Plant (WWTP) by the end of 2020. The WWTP site must be re-selected/ re-designed. The villages and rural areas of Zugdidi Municipality will remain with informal household sanitation to rely on private latrines/ cesspools and improvised municipal systems.

211. For the Zugdidi urban center, USIIP, is about 30% complete with the new piped sewerage system and the procurement of the new wastewater treatment plant is ongoing (completion date 2020). Once customer connections are made in 2020, the public health risk from sanitation will be eliminated in the town.

Drainage and Flood Control

212. Zugdidi Municipality lies in the Enguri River Basin; Zugdidi town is located south-east of the Enguri Dam and on the smaller Chkhousi River (which runs through the town). The latter joins the Enguri River upstream of Anaklia and both flow into the Black Sea. The river morphology is consistent with a low-gradient river flowing through a coastal plain. Snow-glacial melt, from the upstream Greater Caucasus Mountains and foothills, and precipitation lead to seasonal spring floods (or even flashfloods) in the watershed, with the last major flood reported in 2014. At the town some measures for bank stabilization have been undertaken, but more are required, reports the Municipality. No major flood control facilities (weirs, dams, detention ponds) are present in the town.

Solid Waste Management

213. Zugdidi Municipality is performing waste management (waste collection, transport and street cleaning) services through its Communal Services Department. The entire municipality is served (100% coverage). Collected waste is transported to a dumpsite about 30 km south of the city. The dumpsite is being upgraded to a sanitary landfill serving the entire Samegrelo-Zemo Svaneti region under a KfW-financed project. Citizens pay GEL 0.5/cap/month with a maximum of GEL 2 per household. Fee collection rate is about 70%. The yearly budget allocated to Solid Waste Management (SWM) is GEL 4.2 M. Zugdidi has recently been ranked as one of the cleanest municipalities in Georgia.

214. There is practiced use of livestock wastes for biogas production at a few rural

households / farms. These are small-scale initiatives for own production (cooking) but there is some potential for upgrading.

Electricity

215. Overall, Zugdidi Municipality residents and entities are 100% connected to the electricity grid - and receive service year-round 24 hours per day. On the supply-side: service interruptions do occur – as exceptions - and the cause is generally attributed to failures in the antiquated distribution network, especially dilapidated transformers. On the demand-side: the Georgian Energy Department prioritizes conservation measures to support domestic self-sufficiency and thus maintain sufficient production capacity for exportation of electricity.

Gas and Heating

216. The natural gas network extends throughout Zugdidi Municipality. However, municipal representatives indicate about 50% of the population is connected to the gas network. The key barrier is economic (400 GEL fee for each physical connection, plus the usage fee at an average of 25 GEL/month). The remaining 50% rely on electric heating (including space heaters) or firewood. On the supply-side: Georgian National Energy and Water Supply Regulatory Commission (GNERC) reports a "vicious" economic cycle maintains higher gas usage fees; if over 90% of the population were connected to the network, bulk gas supply would then be cheaper per km of distribution network. Instead, continued use of cheap firewood, keeps overall gas consumption lower and prices high. On the demand-side: Several grant programs (from the European Bank for Reconstruction and Development (EBRD), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and Kreditanstalt für Wiederaufbau (KfW)) are ongoing to reduce heating demand: building quality standards, home insulation (roof, windows) and energy efficient wood stoves.

J. Cultural heritage

217. Zugdidi municipality with ancient history is distinguished by its beautiful nature and important cultural monuments. Here you will find ancient settlements, historic fortresses and medieval temples. The most famous sightseeing of Zugdidi is the Dadiani Garden and Palace complex, which impresses the visitor with the architecture and exhibits. The palace complex is bordered on the west by a Zugdidi Botanical Garden. The project area is situated approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building. Therefore, the project site is situated within the visual protection zone for the protection of cultural property of national importance – Dadiani Garden and Palaces complex.

218. However, considering the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

219. Among the medieval monuments, located in the area, the most noteworthy are the structures belonging to Georgian Christian Architecture, such as the ensemble of Martvili monasteries (the 7th-12th centuries), the Khobi Monastery (the 13th-14th centuries), the churches of Tsaishi (the 13th century), Kortskheli (the 17th century), Gulevli (the 16th century) and some others.

220. In case of finding any artefacts of potential archaeological value, following steps are taken:

(i) Construction workers are obliged to stop works and immediately report to the Supervision Company.
(ii) Archaeological supervisor executes first checking of the finding and the site

where finding was made;

(iii) In case the finding has no potential archaeological value, the Archaeological Supervisor reports to the Chief Engineer and the works are restarted. Appropriate record regarding the case is made in record book.

(iv) In case if the finding is estimated as potential archaeological relic, the Archaeological Supervisor reports to Chief Engineer of the Construction Contractor and to MDF Environmental Specialist (and supervising company / Engineer) requesting to stop construction activities and to inform the Ministry of Education, Science, Culture and Sport of Georgia about the incident.

(v) Chief Engineer of the Construction Contractor also reports to MDF informing about the stopped operations and requesting immediate engagement of Agency of Cultural Heritage Preservation of Georgia;

(vi) Agency will assign expert or group of experts and conduct necessary archaeological works at the site to identify the problem.

(vii) In simpler cases, after removal of the movable artefacts, fixing materials and conducting other required works, the experts of the Agency will issue decision on recommencement of stopped construction works.

(viii) In exclusive cases of valuable and spatially spread findings, agency may issue request to relocate the project works on a safe distance from the archaeological site.

VII. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Methodology

221. The IEE process consisted of six main activities that are common for similar studies conducted according to the international standards:

(i) Collection of baseline data describing biophysical and social environment within the study area, desk studies to address identified gaps in the existing data and update of information on topics and areas where significant negative impacts are expected;

(ii) Identification of the expected positive and negative impacts of the proposed works, assessment of the likelihood and significance of the potential negative impacts and development of mitigation measures;

(iii) Analysis of alternatives in terms of location, technology, design and operation, including the "no-project" alternative;

(iv) Development of the Environmental Management Plan (EMP);

(v) Drafting of the IEE report; and

(vi) Information disclosure and stakeholder consultation.

222. The description of each impact will have the following features: (i) type of activities (ii) scale of activities; and (iii) project area.

223. The general methodology (criteria) used for impact assessment is include under 0. It describes the process of impact identification and definition, significance rating, and mitigation, management and good practice measures. Wherever the Project is likely to result in an unacceptable impact on the environment, mitigation measures are proposed (over and above the inherent design measures included in the Project description). In addition, good practice measures may be proposed however these are unlikely to change the impact significance. In

the case of positive impacts, management measures are suggested to optimize benefits to be gained.

224. The following mitigation hierarchy will be utilized in selecting practical mitigation measures for unacceptable impacts as follows (in order of preference):

(i) Avoid the impact wherever possible by removing the cause(s);

(ii) Reduce the impact as far as possible by limiting the cause(s);

(iii) Ameliorate the impact by protecting the receptor from the cause(s) of the impact; and

(iv) Providing compensatory measures to offset the impact, particularly where an impact is of high significance and none of the above are appropriate.

B. Summary of Activities and Anticipated Impacts

225. This project will have a positive impact on population of city Zugdidi through improved access to quality educational infrastructure.

226. Some temporary impacts associated with construction works will occur. To deal with these impacts during pre-construction, construction and operation phases, mitigations are proposed as necessary and described in this chapter. Activities to be performed within the scope of the Project were examined in the three phases:

Phase 1: Pre-Construction activities

227. The potential environmental effects of the pre-construction activities, such as CC office set ups, necessary equipment stacks, sites preparation, and the adequacy of the accesses have been considered and all these activities will not deteriorate the existing conditions of the environment.

228. A number of pre-construction surveys, including noise and vibration, soil contamination, air pollution, field survey of flora and fauna species has been carried out. The construction CC is obliged to submit recording and photo-documentation of all worksites prior to construction.

229. Contractor shall ensure materials and wastes to be removed are disposed in proper manner and disposal sites are authorized by the government. No dumping of materials/wastes will be allowed.

Phase 2: Construction works

230. Environmental effects likely to occur during the construction of the Project are noise, vibration, dust, solid and liquid wastes. Community health and safety will be an important issue during construction phase as residential buildings, public school and tourism infrastructure are located near the project site. Effects likely to occur during the construction phase are short term effects and they cannot deteriorate the existing conditions. The construction contractor will be required to execute works in compliance with applicable environmental standards and to restore and re-instate any disturbed areas to pre-works conditions or better.

Phase 3: Operation

231. Possible environmental effects during the operational phase arise from maintenance of arranged infrastructure and will be related to generation of solid wastes and wastewater.

232. This paragraph provides a brief description of anticipated site-specific impacts related to the different phases of the project (see Table 20).

Table 20 *Anticipated site-specific impacts of the project*

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
Pre-construction Stage						
Project site	Development of required plans: Site Specific Environment Management Plan (SSEMP); Site Specific health and safety plan including Covid-19.; Traffic management plan; Noise and vibration management plan; Waste management plan; Asbestos containing waste management plan (if needed); Emergency response plan; Camp site management plan; Inventory of the trees to cut down (if required);Technical report of the stationary sources of harmful substances emitted into the atmospheric air (if necessary)	Damage to environment and workers health due to the absence of the required plans	Moderate	Moderate	Moderate	Preparation and submission to IA of the required plans prior civil-works commencement, no works are allowed until approval of SSEMP
	Obtaining of all required permits, licenses and approvals	Damage to environment due to unauthorized use of natural resources, waste disposal, pollution	Moderate	Moderate	Moderate	Obtaining :Licenses for inert mat[29]erial extraction (; Approval of Technical report on inventory of atmospheric air pollution stationary source by the MEPA (if required); Agreement on construction waste disposal on the nearest landfill; Agreement on hazardous waste disposal;
	Designation of safeguards staff and providing of required trainings	Environmental, social and HS non-compliances	Moderate	Moderate	Moderate	Designation of Environmental and HS specialists; Providing of trainings as defined in the SSEMP

[29] if CC wishes to open quarries or extract inert material rather than purchasing it from other providers, then the contractor must obtain licenses for extraction

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
	Notification of local population on civil works commencement	Potential conflicts with local residents	Moderate	Minimal	Moderate	Arrangement of information banner regarding project and indicate contact persons; Dissemination of information regarding duration of upcoming works
	Generation of different potential environmental impacts due to changes in design, layout	Environmental, social and HS non-compliances	Moderate	Minimal	Moderate	If any changes in the project design will take place, the IEE has to be updated accordingly
Construction stage						
Project site	Earthworks	Excessive soil	Moderate	High	Moderate	Excessive soil will be disposed at preliminary selected and agreed sites
	Construction works	Dust, noise, vibration	Moderate	Moderate	Moderate	Zugdidi Public School #2 is located approximately 37 meters south of the project area; Project Area is located 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building. To avoid transportati

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
						on of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces, the access road to the project site is from the Kostava Street
		Pollution of surface water	not expected	not expected	not expected	The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m
		Impacts on Archaeological and CH Sites	Moderate	Moderate	Moderate	Project Area is located 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building
		Flora and Fauna	Minimal	Minimal	Minimal	Nearest Special Protected Areas (SPA) for birds Churia is located 29 km

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
						southwest from the city Zugdidi. Nearest Important Birds Area (IBA) Kolkheti is located approximately 20-25 km southwest from the city Zugdidi
		Infrastructure and Transport	Moderate	Moderate	Moderate	The project site is located in the urban area
		Waste	Moderate	Moderate	Moderate	Approximately 10 036 tons excess ground will be generated due to the earthworks
		OHS / Community Health and safety	Moderate	Moderate	Moderate	Zugdidi Public School #2 is located approximately 37 meters south of the project area
		Emergencies	Moderate	Moderate	Moderate	The project site is located in an urban area, surrounded by Zugdidi Public School #2, CH monument, residential buildings

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
		Landscape visual change	Moderate	Moderate	Moderate	According to the conclusion of the NACHP the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property
Operation stage						
Project Site	Operation	Generated traffic	Minimal	Moderate	Minimal	Zugdidi Public School #2 is located approximately 37 meters south of the project area; Project Area is located 150 meters away from Niko Dadiani Palace and

Site	Activity	Environmental Aspect	Impact	Probability	Risk	Notes
						225 meters away from the main palace building
		Risk related to the waste and wastewater pollution	Minimal	Minimal	Minimal	The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m
		Emissions	Minimal	Minimal	Minimal	Not expected
		Noise and vibration	Minimal	Minimal	Minimal	Not expected

C. Required Environmental Documents

233. At least 10 working days before commencement of civil works, the CC is obliged to develop plans to submit for review and approval to the IA and CSC. The required plans includes:

(i) Pre-construction report, including information about pre-works condition and photo-documentation;

(ii) Site-Specific Environmental Management Plan (SSEMP)

(iii) Traffic Management Plan

(iv) Noise and Vibration Management Plan

(v) Inventory of the trees to cut down (if required)

(vi) Waste Management Plan (WMP)

(vii) Asbestos-Containing Waste Management Plan (if relevant)

(viii) Health and Safety Management Plan including COVID-19 prevention at worksites

(ix) Emergency Response Plan (ERP)

(x) Camp Site Management Plan

(xi) Report of stationary sources of harmful substances emitted into air (if relevant)[30];

(xii) Post-Construction Audit Report.

234. The construction contractor will furthermore be required to employ full time Environment, Health and Safety (EHS) staff responsible for preparing the SSEMP and other

[30] To be submitted to the MoEPA for approval

plans, compliance with safeguard requirements, implementation of the SSEMP and other contractual provisions related to EHS, addressing site-level complaints/grievances from communities, implementation of any corrective action, coordination with IA and corresponding information to MDF and the Construction Supervisory Consultant (CSC).

235. The construction contractor will also be required to document ***pre-works conditions of sites,*** address field- and/or site-level complaints/grievances, submit monthly monitoring reports to IA/CSC provide engineering and administrative control to ensure safety and health of workers and communities, support IA/CSC in raising awareness on safeguards, health and safety and labor standards, and to follow any recommendations of the project supervision consultants (particularly the Heritage/Archaeological/PCR Expert when working on sites near the PCRs).

236. The CC is required for ***post-construction clean-up and reinstatement of worksites*** to pre-works condition or better. The IA's confirmation notice that all works and clean-up have been satisfactory shall be part of "Acceptance of Works" and condition for payment.

237. The audit report shall include the following information but not limited to:

(i) Main executed civil works under this Project;

(ii) Project organization and management team;

(iii) Environmental audit and its methodology;

(iv) Audit findings;

(v) Conclusion and Recommendations.

D. Air quality

Impact at Construction Stage

238. Construction activities involve the use of machinery, bulldozers, excavators, graders needed for land clearance and other earthworks, vehicles and equipment to transport construction materials, workers. The operation of machinery, vehicles and other construction equipment may result in exhaust emissions of carbon monoxide, NOx, SO2, hydrocarbons, and particulate matter.

239. Dust generation during the construction works is associated with:

(i) Earthworks, including excavations in cuts;
(ii) Transportation and storage of excavated ground (subsoil to the storage locations; spoil to the disposal sites);
(iii) Transportation of fine materials (sand, gravel, cement etc.);
(iv) Storage of construction materials.

240. Several sensitive territories are situated near the project area (Dadiani palace, botanical garden, secondary public school and Skate Park). The mentioned territories are attractive to locals and visitors and are constantly occupied by them.

241. During the project implementation, it is expected that dust particles, noise and combustion gases (from technical equipment) will be released into air, which will have a negative impact on environmental components. From the abovementioned territories, to a high level of sensitivity of the negative impacts there should be distinguished Zugdidi public school N2 and Dadiani Garden and Palace Complex Cultural Heritage Monument.

242. Emissions and dust generation may affect buildings located close to the construction site and residential areas along the material transportation routes. Vehicle and equipment

emissions and dust are typical for any construction activities. The main receptors are representatives' offices, shops, and residential houses located within and near the project site. This impact is temporary and is estimated to be medium scale if not properly mitigated. In case of the application of good construction practices the impacts could be minimized to minor and acceptable levels.

Mitigation

243. Relatively high impact is connected with dust emissions, which are hard to quantify. However, it is obvious that the earth as well as transportation of gravel and other inert materials from borrow-pits and construction waste to landfill, will impose a nuisance related with dust. This is a temporary impact, and should be mitigated by the following measures:

(i) Coordination schedule of construction works with the school and administration of Dadiani Palace;

(ii) Damping down using water bowsers with spray bars or other technical means;

(iii) Sheeting of construction materials and storage piles;

(iv) Materials transported to site will be covered/ wetted down to reduce dust;

(v) The construction site will be watered as appropriate;

(vi) Protective equipment will be provided to workers as necessary;

(vii) Instrumental measurements of ambient air pollution quality as defined in the Table 2;

(viii) Instruction of staff in environmental, occupational health and safety issues;

.

244. If deemed necessary in dry conditions or where significant quantities of dust are being or are likely to be produced additional mitigation measures will be arranged with the Construction Manager.

245. Emissions of machinery involved in the construction should be managed by proper engine maintenance practice and usage of good quality fuel. Turn off equipment/vehicles when not in use and limit engine idling to 5 minutes. Vehicle refueling will be undertaken so as to avoid fugitive emissions of volatile organic compounds through the use of fuel nozzles and pumps and enclosed tanks (no open containers will be used to stored fuel). All vehicles will be checked and repaired in case of need to eliminate increased emission due to damaged parts; Defined haulage routs will be used and vehicle speed will be reduced where required. Materials will be transported to site in off peak hours.

Impact at operation Stage

246. As the building will be equipped with the electric heating boiler and system, in the operaton phase, minimal impact on ambient air quality is expected.

E. Noise and Vibration

Impact at Construction Stage

247. Noise and vibration levels will increase due to construction works and operation of machinery, bulldozers, excavators, graders, vehicles and equipment for transportation. Engineering machinery and vehicles are featured by their intermittent nature with mobility and high noise levels (which is 80~90 dB from a distance of 5 m).

248. Noise and vibration will cause nuisance to the staff and students of public school, local residents and visitors of the Dadiani Garden and Palace Complex. Noise and vibration generation may affect residential areas along the material transportation routes. Noise generated due to vehicle and equipment operations are typical for any construction activities. The main receptors are residents, a public school and Dadiani Palace locating adjacent to the project site. This impact is temporary and is estimated to be medium scale if not properly mitigated. In case of application of good construction practices (developing and implementing the required plans, employing full time Environment, Health and Safety (EHS) staff,, addressing field- and/or site-level complaints/grievances, submitting monthly monitoring reports to IA/CSC, providing engineering and administrative control to ensure safety and health of workers and communities, supporting IA/CSC in raising awareness on safeguards, health and safety and labor standards, conducting regular instrumental measurement) the impacts could be minimized to minor and acceptable levels.

249. The construction contractor will be required to prepare a noise and vibration management plan prior to construction activities, which includes appropriate mitigation measures and monitoring plan. Potential impacts of vibration on Dadiani Palace Complex cultural heritage monument shall be envisaged.

Mitigation

250. Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.

251. The construction contractor shall provide instrumental measurement and monitoring of noise and vibration levels during the construction phase and implement mitigation measures to ensure that noise and vibration levels are kept at the acceptable range as it will be defined in the Noise and vibration Management Plan.

252. Source control is, in general, the most effective form of noise mitigation and involves controlling a noise source before it is able to emit potentially offensive noise levels. Construction noise is typically generated by two source types: (i) Stationary equipment; and (ii) Mobile equipment.

253. Less noisy equipment: One of the most effective methods of diminishing noise impacts caused by individual equipment is to use less noisy machinery. By specifying and/or using less noisy equipment, the impacts produced can be reduced or, in some cases, eliminated. Source control requirements may have the added benefits of promoting technological advances in the development of quieter equipment.

254. Mufflers: Most construction noise originates from internal combustion engines. A large part of the noise emitted is due to the air intake and exhaust cycle. Specifying the use of adequate muffler systems can control much of this engine noise.

255. Shields: Employing shields that are physically attached to the particular piece of equipment is effective, particularly for stationary equipment and where considerable noise reduction is required.

256. Aprons: Sound aprons generally take the form of sound absorptive mats hung from the equipment or on frames attached to the equipment. The aprons can be constructed of rubber, lead-filled fabric, or PVC layers possibly with sound absorptive material covering the side facing the machine. Sound aprons are useful when the shielding must be frequently removed or if only partial covering is possible.

257. Enclosures: Enclosures for stationary work may be constructed of wood or any other suitable material and typically surround the specific operation area and equipment. The walls could be lined with sound absorptive material to prevent an increase of sound levels within the structure. They should be designed for ease of erection and dismantling.

258. In some situations, such as in urban areas or on isolated sections of a project it may be beneficial and necessary to construct barriers adjacent to the work area or at the right-of-way. These can take the form of natural shielding, temporary shielding, and/or permanent shielding.

259. Temporary abatement techniques include the use of temporary and/or movable shielding for both specific and nonspecific operations. Some mobile shielding is capable of being moved intact or being repeatedly erected and dismantled to shield a moving operation. An example of such a barrier utilizes noise curtains in conjunction with trailers to create an easily movable, temporary noise barrier system.

260. Special training can be provided by Supervision Company related to project-specific noise requirements, specifications, and/or equipment operations, including measurement of construction-related noise levels that may be required to meet the contract specifications.

261. The working time and construction schedule must be arranged rationally, and all engineering entities shall make reasonable arrangements for working time, and engineering activities after 22:00 hours through 8:00 hours the next day shall be strictly prohibited, except as required by the sub-project. Construction works should be coordinated with the school and administration of Dadiani Palace;

262. As for implementation of the works near sensitive receptors including residential, educational and tourist facilities, if the noise, vibration and dust level exceeds the permissible level, the construction works must be stopped and additional mitigation actions must be executed. The construction works will not be resumed unless the noise level reaches the norm.

Impact at Operation Stage

263. No noise and vibration propagation is expected in the operation phase.

F. Water quality

Impact at Construction Stage

264. Since the project is located 200 m away from the Chkhoushi River, there is no risk of surface water contamination. However, in a well, located in the project yards, water level is at 11.2 meters and improper placement of the excavated soil, poor management of construction camps, and improper storage of construction materials and leakage of fuel and lubricates from construction machinery may lead to the ground water contamination.

Mitigation

265. In order to avoid ground water contamination, lubricants, fuels and other hydrocarbons, solid waste will be stored and disposed properly.

266. Construction Machines shall be checked on a daily basis to prevent leaks and oil spillage; construction equipment (as needed) shall be equipped with drip pans.

267. During the construction phase, the Construction Contractor will be required to construct, maintain, remove and reinstate as necessary temporary drainage works and take all other precautions necessary for the avoidance of damage to properties and land by flooding and silt washed down from the works.

268. The Construction Contractor will be responsible for ensuring that no construction materials or construction waste block existing drainage channels within the project site.

269. Wastewater will be connected to the existing sewage network.

Impact at Operation Stage

270. No risks of surface water contamination is expected during operational phase.

G. Soil Quality Management

Impact at Construction Stage

271. Soil pollution may occur as a result of spills, improper waste management, oil leakages from the old outdated techniques or other actions.

272. Soil pollution may also occur due to the relocation or replacement of the underground infrastructure on the project sites, as a result of an accidental damage of the pipe(s) or improper management of the polluted soil.

Mitigation

273. The following practices will be adopted to minimize the risk of soil contamination:

(i) Use of non-faulty construction techniques and vehicles;

(ii) In case of spills of oil/lubricants, the spilled product will be localized/cleaned in the shortest possible time;

(iii) The appliances creating the risk of ground water pollution when in operation will be equipped with drip pans;

(iv) The vehicles must be preferably washed at private car washing areas;

(v) Using temporal water diversion channels;

(vi) Filling the holes in a timely manner.

Impact at Operation Stage

274. No risks for soil contamination is expected during operational phase.

H. Biological Environment

Impacts at Construction Stage

275. The impacts on vegetation during construction phase will be minor. No tree cutting is planned on the project site according to the project design.

Mitigation

276. If trees cutting or replanting will become necessary during the project implementation. Re plantations ratio shall be of at least 1:3 for ordinary trees and 1:10 for the tree species included in the Red List of Georgia. The same replacement ratio of 1:10 for near threatened or vulnerable species as defined by the IUCN Red List shall also apply. Cutting of endangered or critically endangered species will not be allowed. The Construction contractor is responsible for planting and maintenance scope of the trees until the IA confirms acceptance of the works. The trees shall be cut under supervision of designated specialist.

Impact at Operation Stage

277. No risk of damage of biological environment is expected.

I. Waste Management

Non-hazardous waste

278. **Non-hazardous construction** waste will be generated in the construction area and will be collected by CC's workers. Storage of such waste in an area close to settlement and untimely or improper disposal may affect air quality, dust generation and disturbance of neighboring settlements. In addition, waste from packing materials and wood also will be generated.

279. Inert construction waste will be accumulated during the earth works. Such waste include approximately **10 036 tons of excess ground**. According to the waste management code of Georgia inert waste can be used for backfilling activities according to written agreement with local authority. Construction Waste will be disposed on the municipal solid waste landfill, managed by the Ltd "Solid Waste Management Company of Georgia", located in Zugdidi Municipality near village Didi Nedzi (C/C: 43.26.42.004). The dumpsite is about 30 km south of the project site. The dumpsite is being upgraded to a sanitary landfill serving the entire Samegrelo-Zemo Svaneti region under a KfW-financed project.

280. Non-hazardous construction waste shall be managed according to the requirements of the waste management code of Georgia. Inert construction waste can be used for backfilling activities according to a written agreement with local authority. All other types of non-hazardous waste must be disposed of in the landfill according to the written agreement with landfill management unit.

281. Disposal of construction wastes from the sites and at the temporary storage facilities has to meet the following requirements:

(i) Place of disposal of the waste must be enclosed;

(ii) The waste must not have access to drainage water;

(iii) Waste must be immediately removed from the working sites;

(iv) Waste can be transferred only to a certified construction contractor.

282. The construction contractor will be required for **post-construction clean-up and reinstatement of worksites to pre-works condition or better.** The IA's confirmation notice that all works and clean-up have been satisfactory shall be part of "Acceptance of Works" and condition for payment.

283. **Waste Management on Project Site.** Solid municipal waste generated at the construction and campsite, mainly is rubbish, plastic or glass bottles, glasses, waste food, etc.

284. Since improper waste management may cause the spread of infectious diseases, and the emergence of insects and parasites in construction campsite and may lead to conflict with the local population.

285. Waste on site shall be managed as follow: waste should be collected by both the specially assigned personnel and the workshop workers in the area. The waste will be placed into plastic containers and further a local Sanitary Service will take it to a landfill. The following should be taken into account:

(i) Generation of dust should be avoided;

(ii) Plastic containers should be closed to prevent spread of the smell and to avoid contact of rodents and insects with the waste.

(iii) The personnel involved in the handling of hazardous and non-hazardous waste will undergo specific training in waste handling, treatment and storage;

(iv) Burning of waste on any construction site is forbidden.

Hazardous waste

286. No large amounts of hazardous waste (solid and liquid oil-contaminated waste, oil-contaminated ground, paint packing material, lead containing accumulators) are expected to originate in the project construction phase. This waste must be handed over to the construction contractor having the relevant license. During the construction phase, hazardous wastes may be generated from vehicle operation and maintenance, as well as in construction camp.

287. Hazardous waste should be stored, transferred to licensed companies, transported, and disposed in compliance with legislative requirements and by following the rules for hazardous waste management.

288. On project site hazardous waste shall be managed as follow:

(i) Such Waste must be collected and temporarily placed in the pre-selected, agreed area with consideration of requirements applicable to each waste type;
(ii) The area allocated for temporary storage of hazardous waste shall have special preventive measures implemented, in particular, containers shall have secondary containment and no mixing of hazardous waste with any other waste shall be allowed.
(iii) Hazardous waste containers shall be checked for tightness.
(iv) The staff involved in hazardous waste management shall be trained in waste management and safety issues.
(v) The waste shall be removed every 3 days.

289. Since there are no landfills for hazardous waste available in Georgia, this category of waste must be handed over to an authorized contractor for utilization. For hazardous waste agreement with a company authorized for treatment (deactivation, incineration) or re-use in other technological processes will be signed.

290. Soil polluted with petroleum hydrocarbons because of accidental small-scale fuel/oil spills (leakages) can be remediated onsite (e.g. in situ bioremediation). Larger spills (less likely to be the case from experience with other similar projects) must be localized, contaminated soil removed by authorized contractor for remediation. New, clean soil must be introduced, followed by re-cultivation. It is recommended to involve an authorized company for this service.

291. Construction Company before the start of construction activities shall prepare project specific waste management plan. The plan shall generally include:

(i) Information about waste generated (in particular about its origin, and types, composition and amount of waste defined in the List of Waste);

(ii) Information on the measures to be taken for the prevention of waste generation and its recovery, especially in the case of hazardous waste;

(iii) Description of the method for separation of waste generated, in particular of hazardous waste, from the other waste;

(iv) Methods and conditions for the temporary storage of waste;

(v) Waste treatment methods applied and/or information on persons to whom waste is transferred for further treatment.

Asbestos-Containing waste

292. According to the detailed engineering design, generation of ACM is not expected.

293. If ACM will be found in the process of earthworks, CC will engage an Asbestos/Waste Management Specialist, thru the project consultant teams to prepare subproject-specific AMP.

294. ACM shall be managed on site as follow:

(i) If asbestos is identified, the Site Operator shall report the asbestos load to the Site Supervisor.
(ii) The Site Workers will then be required to remove the asbestos from site, wrap or

contain appropriately.

(iii) If suspect asbestos is identified during the construction phase but is not able to be easily removed, the load will be assumed to be contaminated, isolated and wet down.

(iv) The contaminated load is to be bagged and sealed in accordance with wrapping requirements.

(v) If the suspect material is able to be removed it will either be assumed to be asbestos, put into an appropriate container or wrapped. Contaminated loads must be kept isolated and barricaded/demarcated and wet down with a fine mist and managed by trained personnel only.

295. Generally, it is normal practice in Georgia to leave existing ACMs in case when the diameter of asbestos containing pipes is small (<25cm), as it is, in the ground and construct new facilities adjacent location/alignment to not disturb existing ACMs. However, if complete avoidance may not be possible, an Asbestos Management Expert is required to undertake assessment of ACM conditions and to check whether it is in friable form or in a condition in which it can release fibers before it is subjected any disturbance or removal. Appropriate measures are required to identify hazards, use of proper safety gear and disposal methods are necessary to avoid health impacts on workers and people living close to work sites.

296. The following actions are necessary to manage the ACMs if to be found in the subproject zone:

(i) Engage Asbestos Management Expert to undertake inventory, prepare standard operating procedures and asbestos management plan, recommend actions for the CC, monitor and report ACM-related activities to MDF.

(ii) Prepare Asbestos Management Plan (refer to EARF for suggested outline), monitoring checklists, and implementation reports to MDF

(iii) Ensure the CC is qualified to handle and manage ACMs

(iv) The amount and content of the waste shall be identified;

(v) The asbestos containing waste management plan shall be developed and included in the SSEMP[31];

(vi) The waste is to be removed from the area and safely disposed under the prepared plan.

(vii) Hire CC for removal-disposal of asbestos/asbestos containing material to a licensed waste management facility.

(viii) Engaging certified and competent asbestos service provider to transport the asbestos materials and encountered in the project sites;

(ix) Adopting good practices per EHS Guidelines[15] to minimize the health risks associated with asbestos materials by avoiding their use in new construction and renovation, and, if installed asbestos-containing materials are encountered, by using internationally recognized standards and best practices to mitigate their impact;[16]

(x) Training of workers and supervisors, possession of (or means of access to) adequate equipment and supplies for the scope of envisioned works, and a record of compliance with regulations on previous work;

(xi) Removal, repair, and disposal of ACM shall be carried out in a way that minimizes worker and community asbestos exposure, and require the selected CC to develop

[31] The asbestos management plan will be included in the waste management plan of the SSEMP. It will also specify mitigation measures in the event that the ACMs will be left in-situ or stored on-site when there are no available landfills capable of accepting ACM or the CC has not capacity to transport the ACMs from the subproject site to the disposal facility.

and submit a plan, subject to the IA's acceptance, before doing so;

(xii) Providing adequate protection to its personnel handling asbestos, including respirators and disposable clothing

297. CSC will provide training and awareness, and to coordinate with various stakeholders on the risks, management, and mitigation measures required for the identification, safe handling, transport and disposal of the asbestos materials.

Medical Waste

298. Medical waste may be generated in the Medical Care and Control Point and belongs to the hazardous waste category. This waste is collected in special plastic boxes, which shall be hermetically closed, labelled and transferred to a certified contractor for further incineration.

J. Traffic

Impacts and Mitigations at Construction Stage

299. A traffic control and operation plan will be prepared together with the local traffic management authority prior to any construction. The plan shall include provisions for diverting or scheduling construction traffic to avoid morning and afternoon peak traffic hours, regulating traffic at road crossings with an emphasis on ensuring public safety through clear signage, controls and planning in advance.

300. Traffic Management Plan shall ensure that construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.

301. The plan should address:

(i) How traffic moves in and around the school

(ii) Where vehicles can park

(iii) How pedestrians are kept safe.

302. Involve the community in developing the plan. It will get school and Dadiani palace Administration thinking about the ways to reduce the risks.

303. For construction sites: clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations and raising awareness on safety issues.

304. Machinery will not be used after daylight and all such equipment will be returned to its overnight storage area/position before night. All sites will be made secure, discouraging access by members of the public through appropriate fencing whenever appropriate.

Impacts at Operation Stage

305. The impacts during the operation phase may be related to the increase in traffic on access road to youth center, library and museum area, which shall be regulated by installation of clear signs.

K. Archaeological and Cultural Heritage Sites

306. The project does not envisage intervention on the CH monuments. However, the site

is located within the buffer of the visual protection zone of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building).

307. Due to its location within the buffer of the visual protection zone of the cultural property, the project triggers ADB SPS environmental policy principle on Physical Cultural Resources (PCRs). However, considering the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not prepared. However due to the presence of these PCRs and potential for the indirect impacts, it is recommended to engage an Architect Expert, as part of the supervision consultancy, who will do the following:

(i) Examine the final design and contractor's construction works methodology to ensure no impacts on physical cultural resources;

(ii) Review and finalize the draft Chance Find Procedure, to be provided to the CC for consideration in its site-specific EMP; and

(iii) During implementation continuously assess and monitor the potential impacts on the cultural heritage monuments.

308. Moreover, the project design has been agreed with the National Agency for Cultural Heritage Preservation (NACHP) and confirmation letter on approval of the works to be undertaken within the visual security zone of the cultural property has been obtained. NACHP has reviewed the revised sketch design and it was noted that the works can be executed based on the documents submitted. NACHP has also reviewed the detailed design and provided the confirmation letter (22.07.2020 N12/2298) on approval of the envisaged works. The relevant correspondence from the NACHP is attached to this document.

309. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.

310. The following measures shall be implemented to avoid and mitigate adverse impacts on cultural heritage monuments:

(i) According to the requirements of Georgian legislation the project design shall be agreed with the National Agency for Cultural Heritage Preservation of Georgia (NACHP);
(ii) Consultations shall be provided with relevant stakeholders including national and local regulatory agencies (Ministry of Culture, Sport and Youth of Georgia, National Agency for Cultural Heritage Preservation of Georgia).and LEPL – Historical-Architectural Museum of Dadiani Palaces;
(iii) Provide permanent monitoring of the construction works to detect and avoid any adverse impacts on Dadiani Garden and Palace Complex Cultural Heritage Site in a timely manner.
(iv) All construction activities shall be priory consulted and agreed with Dadiani Garden and Palace Complex Cultural Heritage Sites administration.
(v) Special dust prevention nets shall be installed to reduce air pollution around the project site.
(vi) Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.
(vii) The construction contractor shall provide instrumental measurement and monitoring of noise and vibration levels during the construction and implement mitigation measures to ensure that noise and vibration levels are within the national and international standards.

(viii) All workers will be strictly prohibited from damaging activities around the construction territory.

311. Land clearance works, grading and excavations are associated with the risks of damaging underground archaeological remnants. Such kind of impact is minimal on the project site.

Chance finding procedures

312. In case of finding any artefacts of potential archaeological value, the following steps are required to be taken:

(i) Construction workers are obliged to stop works and immediately report to the Archaeological Supervisor.

(ii) Archaeological supervisor reports to the Chief Engineer at site and requests to stop activities at the site of finding. Archaeological supervisor executes first checking of the finding and the site where the finding was made;

(iii) In case the finding has no potential archaeological value, the Archaeological Supervisor reports to the Chief Engineer and the works are restarted. Appropriate record regarding the case is made in record book.

(iv) In case the finding is estimated as a potential archaeological relic, the Archaeological Supervisor reports to the Chief Engineer of the Construction Contractor and to the MDF (and supervising company / Engineer) requesting to stop construction activities and to inform the Ministry of Education, Science, Culture and Sport of Georgia about the incident.

(v) Chief Engineer of the Construction Contractor also reports to MDF informing about the stopped operations and requesting immediate engagement of Ministry of Education, Science, Culture and Sport of Georgia.

(vi) Ministry of Education, Science, Culture and Sport of Georgia will assign expert or group of experts and conduct necessary archaeological works at the site to identify the problem.

(vii) In simpler cases, after removal of the movable artefacts, fixing materials and conducting other required works, the experts of the of Ministry of Culture, Sport and Youth of Georgia will issue decision on recommencement of stopped construction work;

(viii) In exclusive cases of valuable and spatially spread findings, the Ministry may issue request to relocate the project works on a safe distance from the archaeological site.

313. Chance find procedure will be reviewed by the project supervision consultants' Heritage/Archaeological/PCR Expert prior to the start of works and to be shared to the CC for consideration in the site-specific EMP.

L. Health and Safety Risks for Local Community

314. Since the public school and Dadiani Palace located near the project area, there are invariably safety risks and precautions will thus be needed to ensure the safety of both workers, citizens, visitors and students.

315. The CC shall manage health and safety risks for the local community in accordance

with IFC's EHS Guidelines for the Community Health and Safety.[32]

316. The planned activities will not interrupt the teaching process and operation of the public school located adjacent to the project site. The available best practice will be applied at the project implementation stages.

317. All construction activities shall be priory consulted and agreed with Dadiani Garden and Palace Complex Cultural Heritage Sites administration.

318. The civil works contractor will be required to develop a health and safety management plan prior to construction works. The management plan will also cover occupational health and safety risks. Furthermore, the CC will allocate a special field person (HSE specialist) responsible for safety and environmental monitoring measures. Construction and Supervision Company HSE specialist will permanently supervise construction activities.

319. Safety measures will be developed and implemented to ensure safe access of school students and teachers.

320. There shall be adequate protection to the public, including safety barriers and fences and marking of hazardous areas with warning signs and information banners. Warning signs will be installed around project site and access roads in Georgian and English languages.

321. All construction activities will be priory consulted and agreed with administration of the public school and Dadiani Palace.

322. Construction crane will be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia avenue bordering with public school, Skate Park and Dadiani palace and garden.

323. During construction the CC shall ensure that all power lines be kept operational, this may include the provision of temporary transmission lines while existing poles and lines are moved. The only exception to this item will be during periods of blasting when HV power lines will be switched off for safety.

324. Community safety has to be maintained during construction and a program for traffic safety needs to be continued during its operations.

Table 21 *Project Potential Impacts on Community Safety*

Project Potential Impacts on Community Safety	**Recommended Mitigation Measures and Monitoring Activities**
Pre-Construction:	
Community awareness for Safety – Local people's safety should be upheld and maintained	For community wealth and safety, it shall be made sure that: (i) drinking water demand will not compete with adjacent communities; and (ii) there shall be adequate protection to the public, including safety barriers and fences and marking of hazardous areas with warning signs and information banners.
Construction Phase:	
Traffic Safety	It is important that truck drivers and equipment operators understand the importance of maintaining road safety especially at road junction points. Safety traffic signs and warning

[32] https://www.ifc.org/wps/wcm/connect/eeb82b4a-e9a8-4ad1-9472-f1c766eb67c8/3%2BCommunity%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=ls62Ga

	lights should be installed at appropriate locations.
Electrical Systems – Safety in relocating them is important	During construction the CC shall ensure that all power lines be kept operational, this may include the provision of temporary transmission lines while existing poles and lines are moved. The only exception to this item will be during periods of blasting when HV power lines will be switched off for safety.

M. Occupational Health and Safety Risks

325. Worker's safety during construction is important. Health and safety at the workplace and during execution of work should be among the CC's work policy. The following items address overall worker's safety, which is necessary to be considered by the Project (Table 22).

326. The CC shall manage occupational health and safety risks in accordance with IFC's EHS Guidelines for the Occupational Health and Safety[33].

327. Safety measures and regulations associated with Covid-19 prevention and its spread out shall be implemented. General recommendations for the construction sector regarding the infection (COVID 19) caused by the new corona virus (SARS-CoV-2) approved the order #01-227/o of the Minister of Internally Displaced Persons From the Occupied Territories, Labour, Health and Social Affairs of Georgia shall be strictly followed.

***Table 22** Worker's Safety Aspect*

Project Potential Impacts on Worker's Safety	Recommended Mitigation Measures and Monitoring Activities
Pre-Construction	
Provision of PPE – Workers should be adequately protected when performing work at the site	For health and safety protection of workers the following shall be provided: • First aid facilities within construction sites; • Training of all construction workers in basic sanitation and health care issues, general health and safety matters, and on the specific hazards of their work; • PPE for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection in accordance with legal legislation;
Workers Safety Awareness – Workers should know the risks and hazards of the job and should be advised and reminded accordingly	• Construction Contractor has to prepare Health and Safety Plan (HSP) and Emergence Response Plan (ERP) as per ADB requirements before commencement of construction activities reflecting anti COVID-19 measures. • The CC shall hire a qualified health and safety expert who will provide safety training to the staff according to the requirements of the individual work place. Prior to the commencement of works, the work site personnel shall be instructed about safety rules for the handling and storage of hazardous substances (fuel, oil, lubricants, bitumen, paint etc.) and also the cleaning of the equipment. In

[33] https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=ls62x8l

	preparation of this, CC shall establish a short list of materials to be used (by quality and quantity) and provide a rough concept explaining the training / briefing that shall be provided for the construction personnel.
Construction	
Worker Health and Safety – Risks and hazards of work are real day-to-day occurrence. Hence, health and safety should be taken seriously for the general welfare of the workers.	• The CC shall be responsible for provision of: (i) Safety Training Program. A Safety Training Program is required and shall consist of an Initial Safety Induction Course. All workmen shall be required to attend a safety induction course within their first week on Site and Periodic Safety Training Courses (ii) Safety Meetings. Regular safety meetings will be conducted on a monthly basis and shall require attendance by the safety representatives of Subcontractors unless otherwise agreed by the CSC; (iii) Safety Inspections. The CC shall regularly inspect, test and maintain all safety equipment, scaffolds, guardrails, working platforms, hoists, ladders and other means of access, lifting, lighting, signing and guarding equipment. Lights and signs shall be kept clear of obstructions and legible to read. Equipment, which is damaged, dirty, incorrectly positioned or not in working order, shall be repaired or replaced immediately; and (iv) Safety Equipment and Clothing. Safety equipment and protective clothing are required to be available on the Site at all material times and measures for the effective enforcement of proper utilization and necessary replacement of such equipment and clothing, and all construction plant and equipment used on or around the Site shall be fitted with appropriate safety devices. The CC shall coordinate with local public health officials and shall reach a documented understanding with regard to the use of hospitals and other community facilities. • CC will undertake measures to reduce sexual exploitation, abuse and harassment (SEAH) during construction.
Sub-contractor's / Suppliers EMP Compliance – As part of the work force in the project, the sub-contractors should be instructed and contractually compelled to comply with the EMP.	• All sub-contractors/ suppliers will be supplied with copies of the SSEMP. Provisions will be incorporated into all sub-contracts to ensure the compliance with the SSEMP at all tiers of the sub-contracting. All sub-contractors will be required to appoint a safety representative who shall be available on the Site throughout the operational period of the respective sub-contract unless the CSC's approval to the contrary is given in writing. In the event of the CSC approval being given, the CSC, without prejudice to their other duties and responsibilities, shall ensure, as far as is practically possible, that employees of subcontractors of all tiers are conversant with appropriate parts of the SSEMP.

328. CC shall provide safe and healthy workplace for workers and take their welfare needs (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account. This also includes the establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.

329. The Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc.

330. Suitable and sufficient sanitary conveniences and facilities should be provided at readily accessible places. They and the rooms containing them should be kept clean and be adequately ventilated.

331. An adequate supply of high-quality drinking water, with an upward drinking jet or suitable cups, should be provided. Changing facilities should also be provided for workers who change into special work clothing. Seats should be provided for workers to use during break.

332. The CC shall inform the Personnel about the work to be performed, the type of employment contract, terms, the working conditions and legal rights of the employee.

333. The Contractor shall Establish working hours for staff 8 am -7pm and engineering activities after 22:00 hours through 8:00 hours the next day shall be strictly prohibited, except as required by the proposed project.

N. Construction Camps

334. The establishment of a CC'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.

335. Considering the scale of the project, work camp will be arranged in the project site. According to the legislation of Georgia, agreeing the campsite area with the relevant authorities is not required.

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

(i) Camp Site Management Plan; (ii) Layout plan of the work camp including a description of all precautionary measures proposed to avoid potential adverse impacts on the receiving environment (ground water, soils, ambient air, human settlement);

(ii) 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, used tires, etc.) consistent with applicable national regulations; and

(iii) Description and layout of equipment maintenance areas and lubricant and fuel storage facilities. Such facilities will be bounded and provided with impermeable lining to contain spillage and prevent soil and water contamination.

337. Above plans will be approved by the CSC prior to the beginning of works.

O. Impact assessment due to COVID-19

338. The projects' construction/civil works will involve the work force, together with suppliers and supporting functions and services. The work force may comprise workers from national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different CC permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, and water). As such there will also be regular flow of parties entering and exiting the site: support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

339. Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, and have implications for local

emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

340. The Government of Georgia has adopted the special procedure on acting in conditions of the pandemic - the Temporary Sanitarian Norms and Rules (SanN&R) # 0372-20 "On organization of performance of state agencies and other organizations, commercial entities in limited measures condition due to pandemic COVID-19". The document was approved by the Agency on Sanitarian Epidemiological Well-Being (3rd edition), 11 May, 2020. The SanN&R provides general requirements and specific requirements for different sectors: pharmacy, public transport, markets, construction sites etc.

341. According to GoG, the managers of organizations are personally responsible for compliance with the SanN&R. All works have to be organized in order to ensure:

(i) Preventing the introduction of infection into the organization;

(ii) Taking measures to prevent the spread of coronavirus infection (COVID-19) in teams and organizations;

(iii) Implementation of organizational and technical measures to prevent infection of workers; and

(iv) Other organizational measures to prevent infection of workers.

342. The rules present requirements for safe transportation of workers, organizing medical examination at the entrance points, provision with disinfection equipment and disinfectants, catering facilities, construction camps, etc. Also, the document describes requirements on organizing an isolator in medical centers (if any) in case a patient is identified with a high fever or with individual symptoms of an acute respiratory viral infection (lack of smell, dry cough, malaise, etc.) and isolating them from the work team.

343. All managers have to conduct introductory training for new workers and routine training for working staff. The rules provide an action plan for cases when workers have COVID-19 symptoms.

344. GoG provides specific norms for construction sites. The section pays special attention to dust and provides recommendations for dust generation mitigation and protection. The rules provide a list of Personal Protection Equipment for COVID-19.

345. The document also provides instruction on communication with local health care institutions for organizing regular medical examination of workers and mobilization in case of identification of infections.

Mitigation measures

346. During pandemic risk works must be organized in accordance with the pending Temporary Sanitarian Norms and Rules. Cases of infection and undertaken actions must be properly recorded and reported.

347. The main mode of transmission, which is through the air, will be considered in the Health and Safety Management Plan and CC's SSEMP. Disinfection and containment will follow WHO's interim guidance on water sanitation, hygiene and waste management for the COVID19 virus and to be considered in the DED to avoid and risks of diseases or illnesses to the workers and the community. Operators should be trained on the guidance on water, sanitation and hygiene risks and practice to avoid and minimize the exposure of the work area and the community to biological hazards. For example, the document provides discussions on how to protect against viruses in sewage and drinking water by understanding:

(i) COVID19 transmission,

(ii) Persistence of the COVID19 virus on drinking water, feces and sewage and on surfaces,

(iii) Keeping water supplies safe and

(iv) Safely managing wastewater and fecal waste. Focus should be also be given on ventilation in indoor spaces, masking, and physical distancing. Special attention should be paid to eating – if possible, workers should eat outdoors, in a well-ventilated indoor space, or at different times.

P. Cumulative and Transboundary Impact

348. There are no cumulative and transboundary effects associated with the project due to the nature and size of the civil works to be implemented which are directed on construction of medium size building in the central part of city Zugdidi. The project will have positive impact on economic development of the city Zugdidi by contributing to tourism sector. The project will facilitate improvement of local resident's living conditions.

VIII. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. Stakeholder Consultations

349. As confirmed by social due diligence findings, there are no LARP impacts identified and subsequently the current project has no AP`s. The main stakeholders are Public school and Dadiani Palace administrations, public school students, local resident(s) living near the subproject site and Zugdidi municipality local government. All these stakeholders have already been contacted using distant communication channels (via personal computer, mobile phone).

350. Due to circumstances formed throughout the world related to the virus outbreak (COVID 19), social distancing has been applied amongst the population and public consultations in the course of infrastructural projects implementation may become the source of virus spreading. Therefore, it is essential alternative sources of communication with the stakeholders be found in order not to violate the recommendations issued by the World Health Organization (WHO) and the Government of Georgia (GoG). On 2 April , 2021 at 14:00, public and direct consultations with all stakeholders was held in order to have the stakeholders and other locals, residing at the Municipality to be thoroughly informed of current and planned infrastructural projects and social and environmental matters related to the reference projects. Due to the COVID 19 outbreaks and related restrictions, public consultation meeting was conducted in the social network (via Facebook). Applying of that method enabled them to not only receive the information by means of various sources, but also to participate directly in discussions, ask questions and be involved in ongoing processes. Due to the general development of the internet network and its availability in many resided areas throughout Georgia, people have access to many social networks and apply them successfully in their everyday lives.

351. Draft and final IEE reports in Georgian and English Languages will be disclosed on MDF made available to Project stakeholders upon ADB's approval.

352. As part of preparation of this IEE, consultations with stakeholders were undertaken to solicit views and feedback on the project. Due to limitations of face-to-face interactions during the COVID-19 pandemic, initial public consultation meetings were conducted on 2 April 2021,

using online program. Minutes of the meeting is attached to this IEE report. The consultations focused on informing the stakeholders on the scope of the project activities, potential environmental impacts as a result of the proposed activities along with the required measures that will be implemented to ensure any potential impacts are limited to the site and do not impact the communities. The consultation process will be continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and can participate in its development, finalization, and implementation. Any comments and/or concerns raised by these stakeholders were reflected in the minutes. The IEE report under consideration should be made available to the stakeholders in a timely manner to ensure their effective participation in the consultations. Therefore, draft and final IEE reports shall be posted on MDF and ADB websites and hardcopies be available at Municipality and MDF offices. IEEs should be posted for in a timely manner before consultations to allow the public time to read, look for information or consult experts, and form opinions.

B. Grievance Redress Mechanisms

ADB's accountability and grievance redress mechanism

353. ADB's website presents the Accountability Mechanism (AM) as a forum where people adversely affected by ADB-assisted projects can voice and seek solutions to their problems and report alleged non-compliance of ADB's operational policies and procedures. ADB remains firmly committed to the principle of being accountable for complying with its operational policies and procedures and solving problems of project-affected people and ensures high standards of accountability, transparency, openness, and public participation. The AM policy of 2012 which, as presented on the website (http://www.adb.org/documents/accountabilitymechanism-policy-2012), is designed to:

(i) Enhance ADB's development effectiveness and project quality;

(ii) Be responsive to the concerns of project-affected people and fair to all stakeholders;

(iii) Reflect the highest professional and technical standards in its staffing and operations;

(iv) Be as independent and transparent as possible; and

(v) Be cost-effective, efficient, and complementary to the other supervision, audit, quality control, and evaluation systems at ADB. ADB executes the tasks via the problem-solving function, which assists people who are directly, materially, and adversely affected by ADB-assisted projects to find solutions to their problems. CC shall inform the affected persons on ADB as an alternative opportunity for solving of problems.

354. Public participation, consultation and information disclosure undertaken as part of the IEE process have discussed and addressed major community concerns. Continued public participation and consultation has been emphasized as a key component of successful project implementation. As a result of this public participation and safeguard assessment during the initial stages of the project, major issues of grievance are not expected. However, unforeseen issues may occur. In order to settle such issues effectively, an effective and transparent channel for lodging complaints and grievances should be established, inspired by the problem-solving function of ADB's guidelines and policies.

355. In the event of a grievance, the basic stages established for redress are (to be further refined during the detailed design stage):

Stage 1: If a concern arises during construction, the Affected Person (AP) tries to resolve the issue of concern directly with the Contractor/Operator. If successful, no further follow-up is required.

Stage 2: If the AP is not satisfied with the reply in Stage 1, he/she can appeal to the government after receiving the reply in Stage 1 and the government must give a clear reply within 2 weeks.

Stage 3: If again a solution cannot be reached, each party can take the case to court according to applicable legislation. The court verdict will be final and binding for all parties.

Georgian grievance redress process

356. In projects implemented by the MDF, a grievance resolution is viewed as a two-stage process. The first stage involves locally available means, such as discussing the concern with Deputy Resident Engineer or Contractor, on site focal point from Supervision Consultant / Contractor, or/and writing to local municipality for resolution of grievances on the spot. The grievance redress mechanism shall deal with the issues such as the amount of compensation,

loss of access roads, etc. as well as the losses and damages caused by construction works, e.g. temporary or permanent occupation of land by the contractor. Therefore, the grievance redress mechanism shall be in place by the time the MDFG starts negotiations with the APs and shall function until completion of construction.

357. The grievance redress procedure of Stage 1 is an informal tool of dispute resolution allowing the complainants and project implementation team to resolve any disagreement without formal procedures, procrastination and impediments. The experience of resettlement in projects implemented by MDF shows that such informal grievance redress mechanisms help solve most of the complaints without formal procedures (i.e. without using the procedures specified in the Administrative Code or litigation). This mechanism enables unimpeded implementation of the Project and timely satisfaction of complaints. At this stage, complaints shall be reviewed by the contractor company who should notify the supervision company and IA about the case. If the complaint is not resolved at the field-level stage, a committee body of Local Self-Government will discuss and address the complaints accordingly. If the complainant is not satisfied, the grievance redress mechanism should assist them in lodging an official compliant in accordance with the procedures of Stage 2 (the plaintiff should be informed of his/her rights and obligations, rules and procedures of making a complaint, format of complaint, terms of complaint submission, etc.).

358. Stage 2 – review of complainant's complaint. Within the MDF a Grievance Redress Commission (GRC) has already been established for the whole period of the project implementation. GRC shall review written complaints of complainants, which were not satisfied at Stage 1. At stage 2 the complainant's complaint will be resolved. The above mentioned GRM procedures do not deprive the plaintiff the right to sue in the court directly. The maximum time allowed for the procedure is 5 months.

359. The present procedures are developed specifically for the purposes of Stage 2 process of grievance resolution by the GRC. The purpose of these GRC Procedures is to make MDF more accessible to project-affected communities and to help ensure efficient resolution of project-related complaints.

360. Upon receipt of the complaint it will be registered at the reception of MDF. The complainant shall be given a receipt evidencing submission of his/her complaint with the MDF. The receptionist will direct the complaint to the Director of MDF, who shall screen all incoming claims and within 5 working days of receipt of such claim by the reception office, direct the appropriate claims to the Safeguards Unit. The Safeguards unit will register the complaint in its electronic database. Upon registration in the database the complaint will be assigned a number.

361. After registration of the complaint in the database of Safeguards Unit, the Safeguards unit will notify the complainant in writing (letter, and/or email) that the complaint has been received, registered, and forwarded to the project team for action as well as the number assigned to the complaint and the contact information for further queries and clarifications.

362. Within 15 working days of registration of the complaint in the database, the Safeguards unit will:

(i) Determine if additional information and/or documents necessarily need to be provided by the complainant, and if so, request the complainant in writing to submit additional information/documents;

(ii) Obtain relevant and necessary information internally, from MDF's various departments or from project partners;

(iii) Decide on the date when the complaint shall be presented to the GRC for hearing;

(iv) Inform the complainant of such date, if necessary; and

(v) Update the status of the complaint in the database.

363. GRC Hearings shall be held at least once a month. Any complaint must be heard within two months after its registration at MDF reception. The agenda of the GRC hearing, with a list of complaints to be reviewed at that hearing, shall be set in advance. Such an agenda, together with a short brief/summary on each complaint, shall be sent to each member of the GRC at least 3 working days prior to the date of the GRC hearing.

364. The staff member responsible for each complaint shall first present a short description/summary of the complaint, and then answer any questions the GRC members may have. Final decisions based on the deliberations and discussions are made by the Committee by the majority of votes. If needed, the complainant may be invited to the hearing to present evidence related to the case. Copies of the minutes from the hearing shall be provided to the relevant IFI.

365. The decision adopted by the committee shall be signed by the Executive Director within 5 working days of such hearing. The final decision shall contain a timeline of its implementation. If MDF's decision fails to satisfy the aggrieved APs, they can pursue further action by submitting their case to the appropriate court of law.

366. The complaints and grievances will be addressed through the process described below in Figure 9 and Figure 10 includes the Grievance Form. Complaints will also be accepted by any ADB office such as a resident mission, regional office or representative office, which will forward them unopened to the CRO.

Complaints Receiving Officer, Accountability Mechanism
Asian Development Bank Headquarters
6ADB Avenue, Mandaluyong City 1550, Philippines
E-mail: amcro@adb.orgFax+63-2-636-2086

Figure 9. *Grievance Redress Mechanism*[34]

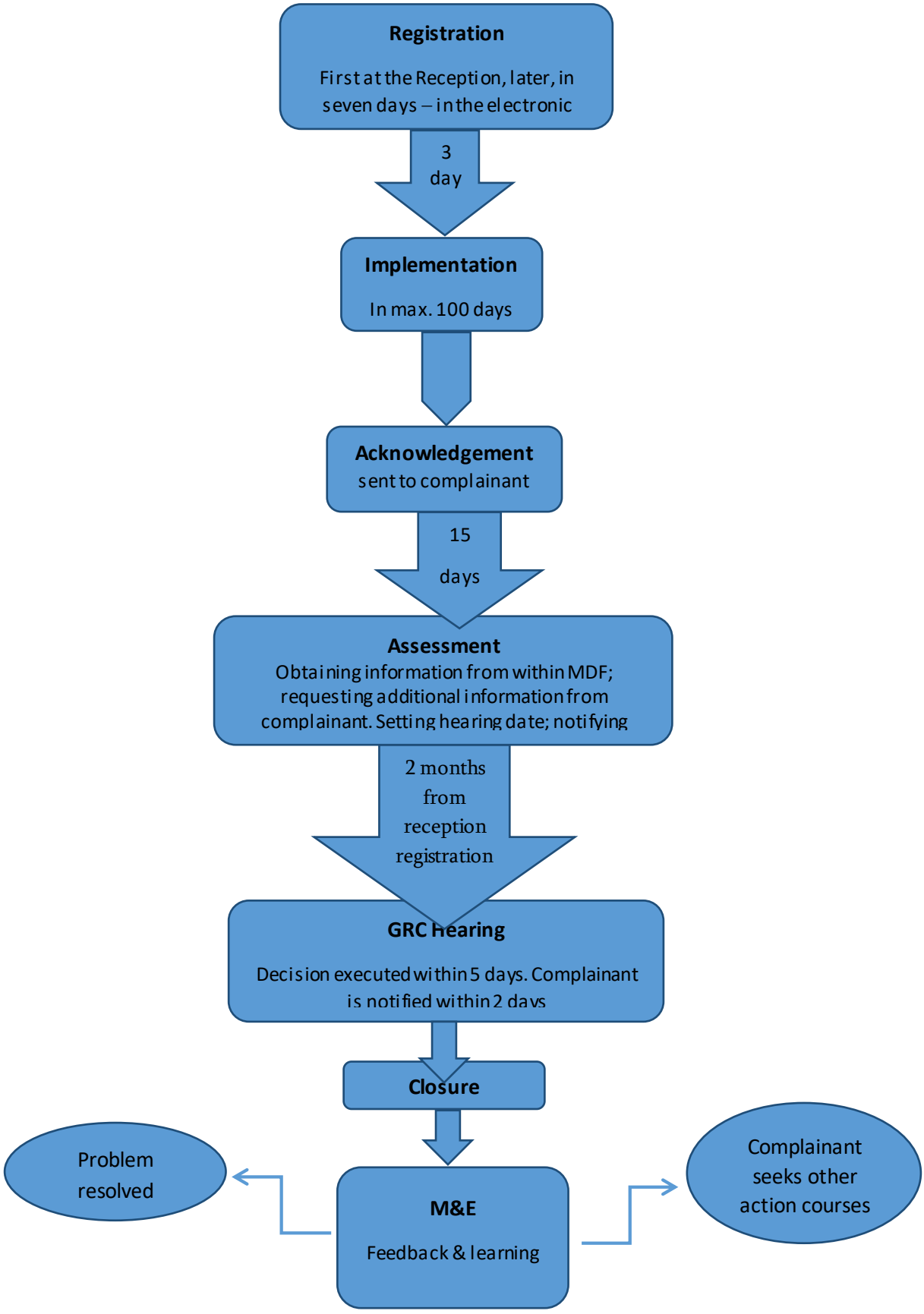


Figure 10.*Grievance Form*

#	
Full Name, Surname	
Contact Information **Please, fill in how you want to be contacted (post, telephone, e-mail)**	☐ **Post: please indicate your postal address:** _____ _____ _____ ☐ **Telephone:** _____ ☐ **E-mail:**_____
Preferred contact language	☐ **Georgian** ☐ **English** ☐ **Russian**
Description of Grievance/ Claim:	What happened? What you claim?
Negotiation Date:	Decision after the negotiation:
What is the reason of your claim?	
Signature: _____ Date: _____	

34 The Figure reflects the procedures at the Stage 2 within MDF

IX. ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

A. Environmental Management Plan

367. The Environmental Management Plan (EMP) documents the impacts identified in the report, the actions required to mitigate those impacts to acceptable levels in accordance with the Georgian legal requirements and ADB safeguard policy, and the monitoring activities that are to be undertaken as part of the project to confirm that the mitigation actions have been effective in achieving their objectives or to initiate corrective actions required.

368. The EMP also details the institutional arrangements and capacities that currently exist, or that will be put in place as part of the project implementation, to ensure that the environmental due diligence (including the EMP) has comprehensively considered both the national and ADB requirements for environmental protection, has identified all likely environmental impacts and proposed appropriate mitigation measures, and has the systems in place to ensure that effective procedures for environmental monitoring and control of the project impacts and mitigation measures are implemented throughout the life of the project.

369. The environmental impacts associated with the project have been detailed above.

370. Mitigation measures required to address the impacts identified in the IEE have been summarized in each of the relevant sections covering the physical, biological and socio-economic environment affected by the project. The impacts identified and the specific mitigation measures proposed to address them have been consolidated into the environmental mitigation plan presented in the **Table 24** in the form of a matrix, which includes time frames, responsibilities and where applicable, estimated costs for each measure.

371. The environmental mitigation plan specifies the need for the civil works Contractor to provide their own detailed Site-Specific Environmental Management Plan (SSEMP) and its sub-plans based on the current EMP, but supplemented with the description of the schedule of planned activities, persons responsible for implementation of the EMP and monitoring, as well as method statements for spillage control and construction waste management:

372. The required plans includes:

(i) Pre-construction report, including information about pre-works condition and photo-documentation;

(ii) Site-Specific Environmental Management Plan (SSEMP);

(iii) Traffic Management Plan;

(iv) Noise and Vibration Management Plan;

(v) Waste Management Plan (WMP);

(vi) Health and Safety Management Plan including COVID-19 prevention at worksites;

(vii)Emergency Response Plan (ERP);

(viii) Camp Site Management Plan;

(ix) Post-Construction Audit Report.

373. The construction contractor will furthermore be required to employ full time Environment, Health and Safety (EHS) staff responsible for preparing the SSEMP and other plans, compliance with safeguard requirements, implementation of the SSEMP and other contractual provisions related to EHS, addressing site-level complaints/grievances from communities, implementation of any corrective action, coordination with IA and corresponding information to MDF and the Construction Supervisory Consultant (CSC).

374. The construction contractor will also be required to document pre-works conditions of

sites, address field- and/or site-level complaints/grievances, submit monthly monitoring reports to IA/CSC provide engineering and administrative control to ensure safety and health of workers and communities, support IA/CSC in raising awareness on safeguards, health and safety and labor standards, and to follow any recommendations of the project supervision consultants.

375. Following approval of the SSEMP by the IA, the CC will be required to attend a site induction meeting with the CSC's Environmental Specialist whereby the SSEMP is confirmed with the CC to ensure that all compliance conditions are clearly understood and conditions of the sites based on detailed engineering design are verified. Following confirmation of the SSEMP with the CC, the CSC's Environmental Specialist advises the CSC Team Leader that the CC is now cleared to take possession of the Site and may commence moving equipment to the Site.

376. Since the project is located 200 m away from the Chkhoushi River, there is no risk of surface water contamination. However, a well, located in the project yards, water level is at 11.2 meters and improper placement of the excavated soil, poor management of construction camps, and improper storage of construction materials and leakage of fuel and lubricates from construction machinery may cause ground water contamination. In order to avoid ground water pollution, mitigation measures provided in the Table 24 shall be implemented by the CC.

377. The project does not require striping the topsoil, however to minimize the risk of pollution existing layer of the ground, the CC is obliged to implement measures as defined in the Table 24 below.

378. Inert construction waste will be accumulated during the earth works. Such waste include approximately 10 036 tons of excess ground. According to the waste management code of Georgia inert waste can be used for backfilling activities according to written agreement with local authority. Construction Waste will be disposed on the municipal solid waste landfill, managed by the Ltd "Solid Waste Management Company of Georgia", located in Zugdidi Municipality near village Didi Nedzi (C/C: 43.26.42.004). The dumpsite is about 30 km south of the project site. In addition, the contractor is obliged to develop project-specific WMP.

379. Since the public school and Dadiani Palace located near the project area, there are invariably safety risks and precautions will thus be needed to ensure the safety of both workers, citizens, visitors and students. The traffic management Plan shall be developed and that will address: how traffic moves in and around the school and Dadiani Palace, where vehicles can park and how pedestrians are kept safe. Additionally, construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces.

380. Notification of local population on civil works commencement and arrangement of information banner regarding project and indicate contact persons is required.

381. CC shall provide safe and healthy workplace for workers and take their welfare needs (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account. This also includes the establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.

382. Construction activities involve the use of machinery, bulldozers, excavators, graders needed for land clearance and other earthworks, vehicles and equipment to transport construction materials, workers. The operation of machinery, vehicles and other construction equipment may result in exhaust emissions of carbon monoxide, NOx, SO2, hydrocarbons, and particulate matter, increase vibration and noise levels. Instrumental measurements of ambient air pollution quality, noise and vibration levels is required.

383. CC shall provide safe and healthy workplace for workers and take their welfare needs (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account. This also includes the establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.

384. The Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc.

385. Suitable and sufficient sanitary conveniences and facilities should be provided at readily accessible places. They and the rooms containing them should be kept clean and be adequately ventilated.

386. An adequate supply of high-quality drinking water, with an upward drinking jet or suitable cups, should be provided. Changing facilities should also be provided for workers who change into special work clothing. Seats should be provided for workers to use during break.

387. The CC shall inform the personnel about the work to be performed, the type of employment contract, terms, the working conditions and legal rights of the employee.

388. The Contractor shall Establish working hours for staff 8 am -7pm and engineering activities after 22:00 hours through 8:00 hours the next day shall be strictly prohibited, except as required by the proposed project.

389. The impacts on vegetation during construction phase will be minor. No tree cutting is planned according to the project design.

390. Solid municipal waste generated at the construction and campsite, mainly is rubbish, plastic or glass bottles, glasses, waste food, etc.

391. Since improper waste management may cause the spread of infectious diseases, and the emergence of insects and parasites in construction campsite and may lead to conflict with the local population.

392. Waste on site shall be managed as follow: waste should be collected by both the specially assigned personnel and the workshop workers in the area. The waste will be placed into plastic containers and further a local Sanitary Service will take it to a landfill. The following should be taken into account:

(i) Generation of dust should be avoided;
(ii) Plastic containers should be closed to prevent spread of the smell and to avoid contact of rodents and insects with the waste.
(iii) The personnel involved in the handling of hazardous and non-hazardous waste will undergo specific training in waste handling, treatment and storage;
(iv) Burning of waste on any construction site is forbidden.

393. The following hazardous waste are expected to originate in the project construction phase: solid and liquid oil-contaminated waste, oil-contaminated ground, paint-packing material, lead-containing accumulators. This waste must be handed over to the construction contractor having the relevant license.

394. On project site hazardous waste shall be managed as follow:

(i) Such Waste must be collected and temporarily placed in the pre-selected, agreed area with consideration of requirements applicable to each waste type;
(ii) The area allocated for temporary storage of hazardous waste shall have special preventive measures implemented, in particular, containers shall have secondary containment and no mixing of hazardous waste with any other waste shall be allowed.
(iii) Hazardous waste containers shall be checked for tightness.

(iv) The staff involved in hazardous waste management shall be trained in waste management and safety issues.
(v) The waste shall be removed every 3 days

395. According to the detailed engineering design, generation of ACM is not expected.

396. The CC shall manage health and safety risks for the local community in accordance with IFC's EHS Guidelines for the Community Health and Safety.35

397. The planned activities will not interrupt the teaching process and operation of the public school located adjacent to the project site. The available best practice will be applied at the project implementation stages.

398. The civil works contractor will be required to develop a health and safety management plan prior to construction works. The management plan will also cover occupational health and safety risks.

399. Considering the scale of the project, work camp will be arranged in the project site. According to the legislation of Georgia, agreeing such campsite area with the relevant authorities is not required. However, the CC shall apply all the measure for camp site management presented in the Table 24.

400. The CC is required for post-construction clean-up and reinstatement of worksites to pre-works condition or better. The IA's confirmation notice that all works and clean-up have been satisfactory shall be part of "Acceptance of Works" and condition for payment.

401. Prior final acceptance of works, the CC shall develop post-construction audit report, that includes the following information but not limited to:

(i) Main executed civil works under this Project;

(ii) Project organization and management team;

(iii) Environmental audit and its methodology;

(iv) Audit findings;

(v) Conclusion and Recommendations.

Implementation Arrangements and Responsibilities

402. The main institutions that will be involved in implementation of the SSEMP and monitoring are the Implementing Agency (IA), the Construction Supervisory Consultant (CSC) the CC and to a lesser extent the Ministry of Environmental Protection and Agriculture. The IA and CSC are responsible for ensuring monitoring of the project implementation at the construction stage. Ministry of Environmental Protection and Agriculture has the authority for periodic audits but should not be considered as a party responsible for monitoring.

403. **MDF** as the IA will be responsible for the day to day management of the project including monitoring implementation of the SSEMP. Management of environmental issues is carried out by the MDF through Environmental and Resettlement Unit, established in October 2014. From that time, number of Environmental and Resettlement team members has been increased from 6 to 11 and currently consists of: Head of Unit, 3 environmental safeguards specialists, one social safeguards and gender specialist, one Beneficiary Relations Specialist, one resettlement and GIS specialist, 2 resettlement specialists and two ADB's individual consultants (one on resettlement issues and the other for communication matters), who also are the members of Environmental and Resettlement Unit.

[35] https://www.ifc.org/wps/wcm/connect/eeb82b4a-e9a8-4ad1-9472-f1c766eb67c8/3%2BCommunity%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=ls62Ga

404. **MDF's Environmental and Social Specialists** responsibilities are as follows:

(i) Review REA checklists and assign categorization based on ADB SPS 2009 and EARF;

(ii) Submit IEE to ADB for approval and disclosure in ADB website;

(iii) Ensure IEEs are updated/revised based on Detailed Engineering Design (DED) and recommendations of technical studies;

(iv) Ensure approved IEEs are disclosed in IA websites and relevant information posted in public areas accessible and understandable by local people;

(v) Ensure the draft IEE/EMP will be disclosed locally in a timely manner prior to consultations in an accessible place;

(vi) Ensure IEEs and EMPs are included in the bid documents and contracts;

(vii) Ensure all necessary clearances, permits, consents, NOCs, etc. are obtained prior to commencement of works and compliance to the provisions and conditions during implementation;

(viii) Organize an induction course for contractors preparing them on EMP implementation, environmental monitoring requirements related to mitigation measures; and taking immediate actions to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation;

(ix) Assist in addressing any grievances brought about through the GRM;

(x) Direct/instruct project consultants to document and develop good practice construction guidelines to assist the contractors in implementing the provisions of IEE and EMP;

(xi) Direct/instruct project consultants the review of the contractors' implementation plans (including SSEMPs and Corrective Action Plan [CAP]) to ensure compliance with ADB SPS and applicable government rules and regulations;

(xii) Coordinate the conduct of technical studies such as but not limited to HIAs, inventory of asbestos-containing materials (ACMs) if found in subproject sites, vibration studies, noise level studies and/or biodiversity assessment;

(xiii) Conduct periodic public consultation and information dissemination campaigns;

(xiv) Address any grievances in a timely manner as per the GRM; and

(xv) Issue clearance for contractor's post-construction activities as specified in the EMP.

(xvi) Coordinate with national and state level government agencies;

(xvii) Coordinate with consultants and contractors on mitigation measures involving the community and affected persons and ensure that environmental concerns and suggestions are incorporated and implemented. Review monthly monitoring reports submitted by project consultants and contractors, and prepare and submit SAEMR to ADB; and

(xviii) If necessary, prepare CAP and ensure implementation of corrective actions to ensure no environmental impacts and non-compliances to ADB SPS requirements and loan assurances.

405. **Environment Specialist** in CSC. The CSC will include an Environmental Specialist with the following main responsibilities:

(i) Prepare REA Checklists, baseline environmental surveys to support screening and categorization per EARF for submission to IA;

(ii) Prepare IEEs and technical studies of subsequent subprojects;

(iii) Oversee day-to-day implementation of EMPs by contractors, including compliance with all government rules and regulations;

(iv) Support IA in the review and clearance of contractor's SSEMP, including but not limited to sub-plans, EHS personnel, budget, constructions methodology, and implementation schedule;

(v) Conduct field-level verification of the contractor's pre- and post-work site conditions and submit confirmatory report to IA;

(vi) Conduct inspections on contractor's implementation of SSEMP and compliance with government rules and regulations;

(vii) Ensure contractors comply with health and safety requirements per approved SSEMP's Health and Safety Management Plan;

(viii) Conduct investigations on grievances/complaints, incidents and accidents;

(ix) Assist IA in addressing any grievances in a timely manner as per the GRM;

(x) Address field-level grievances/complaints and prepare report to IA;

(xi) Monitor corrective actions as required in CAPs, and ensure non-compliances are resolved immediately and are not occurring repeatedly;

(xii) Prepare recommendations for CCs repeated non-compliances on safeguards and EHS requirements;

(xiii) Organize an orientation workshop for IA and all staff involved in the project implementation on (a) ADB SPS, (b) Government of Georgia national, state, and local environmental laws and regulations, (c) core labor standards, (d) occupational health and safety (OHS), (e) EMP implementation especially spoil management, working in congested areas, public relations and ongoing consultations, grievance redress, etc.;

(xiv) Undertake tasks as mutually agreed with the IA.

406. The CSC also will include a Heritage/Archaeological/PCR expert who will responsible for: (i) Reviewing the final design of the project and coordinating with the design team to ensure no impacts on the PCRs in the indirect impact zones; (ii) Monitor civil works and prepare confirmatory report to be included in the monitoring reports to be submitted to ADB; and (iii) Provision support to MDF in addressing project concerns/issues on PCRs per ADB SPS and government laws and regulations.

407. The CSCs will finalize the capacity building program and ensure it is designed to be participatory to the extent possible so it is more effective, with a large amount of learning by doing, role playing, group exercise, etc. rather than lectures. The program will include assessments pre- and post-training activities to measure the effectiveness of the program.

408. The construction contractor is obligated to follow the IEE/EMP and good construction practice. In order to meet this obligation, a construction contractor shall establish an environmental management team and procedures. The CC will appoint a full time Environmental Manager (EM) to be a senior member of the construction management team based on site for the duration of the contract.

409. Key responsibilities of the CC (through the EM) are as follows:

(i) Preparing the Specific Environmental Management Plan (SSEMP) for endorsement by Supervision Consultant and approval by the Employer (IA) prior to the Contractor taking possession of the construction site (see below) including pre-works recording and photo-documentation;

(ii) Ensuring the SSEMP is implemented effectively throughout the construction period. (iii) Coordinating community relation issues through acting as the Contractor's community relations focal point (proactive community consultation, complaints investigation and grievance resolution)

(iii) Establishing and maintaining site records of:

a) Weekly site inspections using checklists based on the SSEMP;
b) Environmental accidents/incidents including resolution activities;
c) Environmental monitoring data including instrumental environmental monitoring if needed;
d) Non-compliance notifications issued by the CSC;
e) Corrective action plans issued to the CSC in response to non-compliance notices;
f) Community relations activities including maintaining complaints register;
g) Monitoring reports;
h) Monthly reporting of SSEMP compliance and community liaison activities (see below);
i) Ad hoc reporting to the CSC of environmental incidents/spillages including actions taken to resolve issues of Specific Environmental Management Plan (SSEMP);
j) Ensure instrumental environmental monitoring if needed
k) Ensure appointment of a full time qualified EHS officer prior to the start of works; and
l) Ensuring reinstatement of the project site to pre-works condition or better.

(iv) Implement occupational Health and safety requirements, including COVID 19 prevention measures.

(v) Implement site clean-up measures after civil works finalization; Ensure that there is sufficient budget allocation for environmental safeguards, subcontractors are aware and follow EHS requirements and reporting.

410. The CCs shall undertake measures will be taken to reduce sexual exploitation, abuse and harassment (SEAH) during construction. The CCs are encouraged to engage local labours to the extent possible.

411. Following the award of the contract and prior to construction commencing the CC will review the EMP and develop this into a detailed Specific Environmental Management Plan (SSEMP) that amplifies the conditions established in the EMP that are specific for the project, the tasks involved and schedule of construction activities. The SSEMP will identify persons who will be responsible for supervising the work within the contractor's team. The SSEMP will include a matrix of mitigation measures corresponding to specific activities. As a stand-alone document the SSEMP will be supplemented with method statements for spillage control and construction waste management. The spillage control method statement includes proper location and organization of fuel storage, filling stations and vehicle washing sites.

412. The SSEMP will also include a monitoring plan and a reporting program corresponding to the requirements of the EMP. The SSEMP will be submitted to IA for approval at least 10 working days before taking possession of work site.

413. In addition to creating the SSEMP additional topic specific EMPs will be developed by the CC (e.g. waste management plan, traffic management plan, camp management plan, etc.).

414. Prior to the onset of construction, the Construction Contractor must hire a consultant or a group of consultants to prepare a Traffic Management Plan. The CC shall take into consideration that Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site. The developed traffic management plan must be agreed on with the supervising company. The construction permit will be issued only if the plan developed by the CC is approved by the CSC and MDF. In case of absence of such a plan, the Construction Contractor will not be allowed to start the work.

415. Following approval of the SSEMP by the IA, the CC will be required to attend a site induction meeting with the CSC's Environmental Specialist whereby the SSEMP is confirmed with the Contractor to ensure that all compliance conditions are clearly understood. Following confirmation of the SSEMP with the CC, the CSC's Environmental Specialist advises the CSC Team Leader that the CC is now cleared to take possession of the Site and may commence moving equipment to the Site.

416. The CC will be responsible for ensuring that all sub-contractors abide by the conditions of the SSEMP.

Reporting

417. Semi-annual Environmental Monitoring Reports (EMRs) are to be submitted within 1 month at the end of each reporting period by the IA to ADB. Semi-annual EMRs should be a concise report with respect to compliance with EMP/SSEMP requirements that will be submitted by the IA with assistance from the CSC. The report will contain the following sections:

(i) Details of any environmental incidents;

(ii) Status of all non-conformances identified during audits and inspections that are identified by non-compliance notices;

(iii) Complaints from the public and proactive community relations activities;

(iv) Monthly Accident Report;

(v) Waste volumes, types and disposal;

(vi) Details of any contaminated areas that have been identified and rehabilitated;

(vii) Details of any archaeological discoveries;

(viii) Details of any ecological issues;

(ix) Other relevant environmental issues; and

(x) Action plan for corrective measures.

418. The CC will have a duty to immediately report to the CSC if any serious environmental breach has occurred during construction e.g. clearing of sensitive areas, serious oil spills, etc.

419. The CSC provides the IA with monthly reports including review of the environmental and social aspects of the Contractor's performance, as well as any HSE issues (see Appendix E for sample of inspection checklists, which will be updated based on the SSEMP). In case of any serious accident or repeated violation requiring immediate reaction of the IA and authorities, the CSC will send appropriate notice to the IA immediately.

420. MDF as the Implementing Agency will submit semi-annual monitoring reports to ADB reflecting project progress and compliance with the safeguards requirements. The quarterly reports will include CSC monthly reports and short explanatory note of MDF specialists.

421. ADBs responsibilities in regard to implementation of environmental safeguards requirements for the project include: undertaking occasional auditing of the SSEMP implementation and due diligence as part of an overall project review mission; and if required,

provide advice to the MDF in carrying out its responsibilities to implement the SSEMP for the project.

422. Within MDF, there are the environmental and social specialists and several monitoring officers included in staffing. Although day-to-day quality control of works will be outsourced to the engineering supervisor of works, the MDF should have in-house human resources staff member to oversee performance of such technical supervisors and to work out decisions to address issues which the supervisor may bring up for the MDF's attention.

Environmental documents and records

423. After identifying the Construction Contractor and issues of construction organization, the construction contractor, in line with the national legislation, is obliged to develop the following environmental documents and submit them to the MoEPA for approval: (i) Technical Report of the stationary sources of harmful substances emitted into the atmospheric air (if necessary); (ii) Waste Management Plan (if necessary); and (iii) Inventory of trees (if tree cutting of Red listed tree species will be required)

424. The construction contractor is obliged to submit and agree on the following documents and records to the supervision consultant:

(i) Pre-construction report, including information about pre-works condition and photo-documentation;

(ii) Site-Specific Environmental Management Plan (SSEMP)

(iii) Traffic Management Plan

(iv) Noise and Vibration Management Plan

(v) Waste Management Plan (WMP)

(vi) Health and Safety Management Plan including COVID-19 prevention at worksites

(vii) Emergency Response Plan (ERP)

(viii) Camp Site Management Plan

(ix) Post-Construction Audit Report.

425. In addition, the Construction Contractor shall keep and use the following records in practice during the construction: (i) Plan and schedule of the works to accomplish; (ii) List of machines and equipment needed for construction; (iii) Records related to the occurring environmental problems; (iv) Records about waste management issues; (v) Written marking of areas of waste disposal and waste transportation instructions issued by the local authority; (vi) Records about the supplies of necessary materials and their consumption; (vii) Complaints log books; (viii) Incident registration logs; (ix) Reports about the correction actions; (x) Logs of equipment control and technical maintenance; and (xi) Reports about the personnel training.

Costs of Implementation

426. Waste Management. According to the "Waste Management Code" (Article 14-Waste Management Plan of the Company), legal persons who annually produce more than 400 tons of inert waste, or more than 120 kg hazardous waste shall prepare **a company waste management plan (WMP)** that must be submitted to Ministry of Environmental Protection and Agriculture of Georgia for approval. In addition, according to the same law (article 15) – the CC should hire an Environmental Manager and submit contact information to the MoEPA.

427. In accordance with Waste Management Code, if the legal person is not required to

develop a company WMP and have an environmental manager, under the project the CC is still obliged to prepare project-specific WMP and engage full time environmental manager for project duration. Under the project the contractor is obliged to develop project-specific WMP.

428. All types of waste must be managed according to the approved waste management plan. Waste must be transported for disposal on identified landfill or transferred to licensed companies. Transportation, waste disposal on landfill, as well as transfer of hazardous waste to licensed companies is associated with certain costs. Considering the amount of waste generated. Construction Waste will be disposed on the municipal solid waste landfill, managed by the Ltd "Solid Waste Management Company of Georgia", located in Zugdidi Municipality near village Didi Nedzi (C/C: 43.26.42.004). The dumpsite is about 30 km south of the project site.

429. Monitoring. The Construction Contractor must undertake permanent noise, vibration and emissions monitoring at the sensitive receptors. Monitoring results should be included in the monthly and quarterly reports. Occupational and Community HS. The CC shall hire a qualified health and safety specialist who will provide safety training to the staff according to the requirements of the individual workplace. Prior to commencement of works, the work site personnel shall be instructed about safety rules for the handling and storage of hazardous substances (fuel, oil, lubricants, bitumen, paint etc.).

430. CC shall provide safe and healthy workplace for workers and take their welfare needs (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account. The Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc.

431. An adequate supply of high-quality drinking water, with an upward drinking jet or suitable cups, should be provided. Changing facilities should also be provided for workers who change into special work clothing. Seats should be provided for workers to use during break.

432. Staff. The CC will appoint a full time Environmental Manager (EM) to be a senior member of the construction management team based on-site for the duration of the contract. The CSC will also appoint an Environmental Specialist.

433. The construction company will be responsible for envisaging the implementation cost of the EMP, including the proposed mitigation measures (and additional activities, if any), and surveys (if required by the MDF and IEE) in their project budget. Table 23 represents the information about the tentative environmental management costs (as available at this stage).

434. Implementation of the IEE/EMP is obligatory for the CC. The CC shall be aware that the IEE will require updating. The CSC will finalize the capacity-building program and ensure it is designed to be participatory to the extent possible so it is more effective, with a large amount of learning by doing, role-playing.

Table 23 *Tentative Environmental Management Costs*

Item	Unit Cost	Total Cost	Remarks
Development Required Plans	$ 1875-2500	$ 15 000 - $ 20 000	CC is obliged to develop any other plan and conduct additional surveys, if it is required in the process of construction works

Full time Environmental Specialist (CC) [36]	$ 1 500	Monthly for the entire construction period (Project duration is about 15 months)	The costs will be included in the contract signed between MDF and CC.
Full time HS Specialist (CC)	$ 1 000	Monthly for the entire construction period (Project duration is about 15 months)	The costs will be included in the contract signed between MDF and CC.
Providing Required Trainings	-	-	CSC experts along with the CC experts are responsible for arrangement of capacity development and trainings. The costs are included in their contracts.
Environmental Management Specialist (CSC)	$ 2 500	Monthly for the entire construction period	The costs are included in the contract signed between MDF and CSC and no additional costs will occur.[37]
Notification of local population on civil works commencement: Installation of information banner regarding project and indicate contact persons	$ 500	Once, prior commencement of civil works	EHS and Social specialists of CC along with MDF and CSC are responsible for information dissemination regarding duration of upcoming works and conducting periodic public information campaigns via different communication channels. The costs are included in the contract signed between MDF and CC.
Installing the safety signs along the perimeter of the territory	-	$ 500	The cost is included in the contract signed between MDF and CC.
Equipping the camp with first aid kits	-	$ 100	CC shall provide safe and healthy workplace for workers and take their any other welfare needs into account
Facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink	$ 7 000	$ 7 000	Once prior of commencement of civil works

[36] CC is required to engage a full time Environment, Health and Safety (EHS) Staff, with certification on applicable GEO health and safety laws/rules/regulations, knowledge of international and local regulations for Environmental protection and HS environmental legislation. As it is defined in the employer requirements, the staff shall have at least 5-year work experience and 3 years similar works experience. EHS shall remain engaged until the completion of all works.

[37] The environmental specialists of CSC are actively engaged in the monitoring of the ongoing projects and will be provide close monitoring and on-site presence as needed.

Parametric Measurements (at least 3 points)	$ 100	$ 300	To be conducted by the CC as defined in the SSEMP, noise and vibration management plan for noise-vibration, air emissions, dust measurements at the sensitive receptors, including but not limited to public school, Dadiani palace and the nearest residential building as required in the Chapter III.
Watering the working surfaces in dry weather	$ 100-150	-	To be conducted by CC the total cost depends on the precipitations.
Disposal of construction waste on the Municipal landfill located in the village Didi Nedzi	1 tone - $ 3	-	The total cost depends on the amount of waste generated in the course of civil works. Additionally, it should be noted that some amount of inert waste will be used for backfilling works.
Containers intended for municipal waste	$ 66	$ 200	-
Containers intended for hazardous waste	$ 90	$ 90	No large amounts of hazardous waste (solid and liquid oil-contaminated waste, oil-contaminated ground, paint packing material, lead-containing accumulators) are expected to originate in the project construction phase
Demobilization of the temporal infrastructure	$ 10 000	$ 10 000	Once, after completion of civil works. The costs are included in the contract signed between MDF and CC.
Re-cultivation Works of the project Area	$ 15 000	$ 15 000	Once, after completion of civil works. The costs are included in the contract signed between MDF and CC.
Preparing of Post construction Audit Report	-	$ 2 000-2 500	After completion of civil works.
Anti-COVID measures (hiring of doctor and nurse for the regular check-ups and establishing designated quarantine area, purchasing of necessary PPEs, sanitizers,	$ 400	$ 6 000	Training should be conducted for all persons involved in construction process Monthly for the entire construction period (depending on COVID situation in the country and globally) (Tentative duration of Project is 15 months)

handwashing facilities, face masks, etc.)			

Table 24 *Environmental Management Matrix*

Pre-Construction Phase

Type of work	Potential negative impact	Mitigation Measures	Responsibility	Supervision
Pre-construction survey of project site	Disruption of construction works and damage to environment due to unforeseen circumstances on project sites revealed at construction phase	(i) Survey of all new infrastructure locations including camp, construction yard. Prioritize areas within or nearest possible vacant space in the project location; If it is deemed necessary to locate elsewhere, consider sites that will not promote instability and result in destruction of property, vegetation, and drinking water supply systems; (ii) Do not consider residential areas, public school and areas within or adjacent to the Dadiani Garden and Palace Complex cultural heritage site.	Construction Contractor	Supervision Company, MDF
Development of required plans	Damage to environment and workers health due to the absence of required plans	(i) Pre-construction report, including information about pre-works condition and photo-documentation; (ii) Site-Specific Environmental Management Plan (SSEMP) (iii) Traffic Management Plan (iv) Noise and Vibration Management Plan (v) Waste Management Plan (WMP) (vi) Health and Safety Management Plan including COVID-19 prevention at worksites (vii) Emergency Response Plan (ERP) (viii) Camp Site Management Plan.	Construction Contractor	Supervision Company, MDF
Obtaining of all required permits, licenses and approvals	Damage to environment due to unauthorized use of natural resources, waste disposal, pollution	(i) Licenses for inert material extraction (ii) Agreement on construction waste disposal on the nearest landfill (iii) Approval from the local municipality on the using of the excess ground generated due to the earthworks for backfilling activities;	Construction Contractor	Supervision Company, MDF
Designation of safeguards staff and providing of required trainings	Environmental, social and HS non-compliances	(i) Designation of Environmental and H&S specialists; (ii) Providing of trainings as required by the CSC	Construction Contractor	Supervision Company,

		(iii) Undertaking measures to reduce Sexual Exploitation, Abuse and Harassment (SEAH) during construction		MDF
Notification of local population on civil works commencement	Potential conflicts with local residents	(i) Installation of information banner regarding project and indicate contact persons; Dissemination of information regarding duration of upcoming works. (ii) Periodic Public information campaigns via different communication channels, (iii) Prior to the start of construction, issuing notification on the start date of implementation in information banners placed public places (A board showing the details of the project will be displayed at the construction site for the information of public (iv) Coordination schedule of construction works with the school and administration of Dadiani Palace.	Construction Contractor	Supervision Company, MDF
Improper assessment of bidders' environmental capacity	Environmental, social and HS non-compliances	(i) Bids evaluation needs to be done with consideration of: capacity of bidders to meet EMPs requirements, proposing adequate budget efficient for implementation EMP, existence of good practice in environmental performance within other similar projects.	MDF	
Generation of different potential environmental impacts due to changes in design, layout	Environmental, social and HS non-compliances	(i) If any changes in the project design will take place, the IEE has to be updated accordingly.	MDF	
The relevance of the project design to its location within the visual security zone of the cultural heritage site	PCRs non-compliances	(i) The project design shall be agreed with the National Agency for Cultural Heritage Preservation of Georgia (NACHP). The conclusion of the NACHP shall be provided that the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property. (ii) Consultations shall be provided with relevant stakeholders including national and local regulatory agencies (Ministry of Culture and Sport of Georgia, National Agency for Cultural Heritage Preservation of Georgia and LEPL – Historical-Architectural Museum of Dadiani Palaces). The findings shall be reflected in the updated IEE report and project design. (iii) The experienced expert shall be hired by the supervision companies to provide permanent monitoring of the construction works to detect	MDF MDF Construction	National Agency for Cultural Heritage Preservation of Georgia (NACHP)

		and avoid any adverse impacts on Dadiani Garden and Palace Complex Cultural Heritage Site in a timely manner.	Contractor, Supervision Company	

Construction Phase

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
Preparatory works: mobilization of the temporal infrastructure, transport and construction appliances and equipment and mechanisms needed for construction.	Emissions of harmful substances into the atmospheric air, propagation and noise propagation	(i) Ensure proper state of maintenance of buildings, machinery and vehicles to minimize exhaust emissions. Smoke emitting vehicles and equipment shall not be allowed and shall be repaired or removed from the project; (ii) Earthwork operation to be suspended when the wind speed exceeds 20 km/h in areas within 500 m of any community; (iii) Undertake immediate repairs of any malfunctioning construction vehicles and equipment.	Construction Contractor	Supervision Company, MDF
	Risks of pollution ground water and soil	(i) Use of non-faulty construction techniques and vehicles (ii) Limiting the perimeter of the oil products supply reservoirs to prevent the propagation of the pollutants in case of emergency spills (iii) Making the waterproof layers over the surfaces of the storing areas; (iv) Checking Construction Machines on a daily basis to prevent leaks and oil spillage; (v) Equipping construction equipment (as needed) with drip pans; (vi) Constructing, maintaining, removing and reinstating as necessary temporary drainage works and take all other precautions necessary for the avoidance of damage to properties and land by flooding and silt washed down from the works;		

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(vii) Ensuring that no construction materials or construction waste block existing drainage channels within the project site; (viii) Localized/cleaned the spilled product in the shortest possible time.		
	Negative visual-landscape change	(i) Temporal structures, materials and waste will be placed at locations far and not visible from the visual receptors. (ii) The color and design of the temporal structures will be chosen to suit the environment. (iii) Demobilization of the temporal infrastructure and re-cultivation works following the completion of the works (iv) Protecting the project perimeter to prevent excess harm to the plants.		
	Risks of safety of local people and personnel	(i) Use of non-faulty construction techniques and vehicles (ii) Fencing the camp territories right at the initial stage of the construction (iii) Installing the safety signs along the perimeter of the territory (iv) Protecting the perimeter of territory and controlling the movement of foreign people in the area (v) Equipping the personnel with PPE (vi) Equipping the camps with first aid kits (vii) Ensuring electrical safety (viii) Keeping an incident registration log (ix) Personnel training at the initial stages	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
	Noise and Vibration propagation, emissions of dust and combustion products	(i) Use of non-faulty construction techniques and vehicles; (ii) Accomplishing the noisy works during the day as far as possible; (iii) Running the vehicle drives at minimal speed. (iv) Give notice as early as possible to sensitive receptors for periods of noisier works such as excavation. Describe the activities and how long they are expected to take. Keep affected neighbors informed of progress (v) Arranging working time and construction schedule rationally, and all engineering entities shall make reasonable arrangements for working time, and engineering activities after 22:00 hours through 8:00 hours the next day shall be strictly prohibited, except as required by the sub-project; (vi) If vibration persists for some time at a location (but below the threshold), mitigation in the surrounding properties should be done in terms of regular consultations and disseminating information leaflets consisting of construction activities schedule (vii) Coordinating schedule of construction works with the residents living in nearby buildings, with administration of Dadiani Garden and Palace Complex, public offices, etc (viii) Conducting instrumental measurement (air, noise, vibration and etc) and submit monthly reports to IA/CSC during construction.	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
	Accidental damage to the cultural heritage monuments and archaeological objects	(i) All construction activities shall be priory consulted and agreed with National Agency for Cultural Heritage Preservation of Georgia. (ii) Construction and Supervision Company HSE specialists shall permanently supervise all construction activities. (iii) All workers will be strictly prohibited from damaging activities of the cultural heritage monuments. (iv) In case of finding any artefacts, stopping the works immediately and informing the technical supervisor or the Client; (v) Renewing the works only after the formal instruction is received from the technical supervisor or the Client (vi) Specifying routes for construction machines in advance and reflect them in the Traffic Management Plan. The machines have to be moved along the specified ways as far as possible from the monuments (vii) Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site (viii) Construction contractor shall provide instrumental measurement and monitoring of noise and vibration levels during the construction and implement mitigation measures to ensure that noise and vibration are at the acceptable levels; (ix) All construction activities shall be priory consulted and agreed with Dadiani Garden and Palace Complex Cultural Heritage Sites administration.	Construction Contractor	Supervision Company, MDF National Agency for Cultural Heritage Preservation of Georgia (NACHP)
	Camp Management	(i) Ensuring compliance with the SSEMP and the Construction Camp Site Plan	Construction Company	Supervision Company,

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(ii) Ensuring that potable water for construction camps and workers meets the necessary water quality standards of the GoG. If groundwater is to be used it will be tested to ensure that the water quality meets the GoG drinking water standards (iii) Developing Camp site Management Plan (iv) 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); (v) Description and layout of equipment maintenance areas and lubricant and fuel storage facilitiesSuch facilities will be bounded and provided with impermeable lining to contain spillage and prevent soil and water contamination; (vi) Provide safe and healthy workplace for workers and take their welfare needs (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account; (vii) Suitable and sufficient sanitary conveniences and facilities should be provided at readily accessible places. They and the rooms containing them should be kept clean and be adequately ventilated. (viii) An adequate supply of high-quality drinking water, with an upward drinking jet or suitable cups, should be provided. Changing facilities should also be provided for workers who change into special work clothing. Seats should be provided for workers to use during break. (ix) Lining to contain spillage and prevent soil and water contamination.		MDF
	Personnel safety risks	(i) Contractors including subcontractors are required to carry out COVID-19 risk assessment and update the SEMPs, health and safety plans (HSP) and emergency response plans (ERP)	Construction Contractor	Supervision Company,

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
	and anti-COVIDD measures	to be aligned with any relevant government regulations and guidelines on COVID-19 prevention and control, or in the absence of these, aligned with international good practice guidelines as issued by World Health Organization (ii) Using relevant ventilation system during digging (iii) Observing labor safety rules during the drilling (iv) Equipping the personnel with PPE (v) Develop an emergency action plan outlining the measures to be taken to prevent the spread of the virus, as well as the measures to be taken in case of suspicion of the virus (vi) Post information about COVID-19 prevention measures in the workspace; (vii) Place de-barriers at the entrance of the living room / dining room, as appropriate (viii) Ensure hand hygiene in the workplace and inform employees (ix) Periodically, several times a day, provide natural ventilation of enclosed spaces / storerooms (x) Disinfect frequently used work equipment, inventory, work tools and workplaces at regular intervals (xi) Ensure that the workspace is arranged in such a way that employees and / or other persons in the workspace do not encounter any obstacles during the work (including timely cleaning of the facility and timely removal of construction waste) (xii) Placement of containers for wipes or other hygienic waste used by employees and visitors; Include Construction site Standard Operating Procedures (SOP) in health and safety plan		MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(xiii) Disinfection and containment shall follow WHO's interim guidance on water sanitation, hygiene and waste management for the COVID19 virus; (xiv) Consider in the DED and Contractors' SSEMPs the main mode of transmission (by air) and mitigation measures to focus on ventilation in indoor spaces, masking, and physical distancing. (xv) Special attention should be paid to eating – if possible, workers should eat outdoors, in a well-ventilated indoor space, or at different times. (xvi) The SSEMP must discussions on how to protect against viruses in sewage and drinking water by understanding: (i) COVID19 transmission, (ii) persistence of the COVID19 virus on drinking water, feces, and sewage and on surfaces, (iii) keeping water supplies safe and (iv) safely managing wastewater and fecal waste. (xvii) Operators should be trained on the guidance on water, sanitation and hygiene risks and practice to avoid and minimize the exposure of the work area and the community to biological hazards. (xviii) The main mode of transmission, which is through the air, will be considered in the DED and Contractors' SSEMPs. Focus should be also be given on ventilation in indoor spaces, masking, and physical distancing. (xix) Special attention should be paid to eating – if possible, workers should eat outdoors, in a well-ventilated indoor space, or at different times.		
Transportation	Noise propagation, emissions of dust and combustion products	(i) Use of non-faulty construction techniques and vehicles (ii) Limiting the driving speeds	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(iii) Maximally limiting the use of public roads and searching for and using alternative routes (iv) Watering the working surfaces in dry weather (v) Duly covering the vehicle body during the transportation of dusty materials (vi) Informing the population about the forthcoming intense vehicle movement (vii) Sheeting of construction materials and storage piles; (viii) Construction site will be watered as appropriate; (ix) Protective equipment will be provided to workers as necessary; (x) Instrumental measurements of ambient air pollution quality as defined in the Table 2; (xi) Instruction of staff in environmental, occupational health and safety issues; (xii) Coordinating schedule of construction works with the residents living in nearby buildings, with administration of Dadiani Garden and Palace Complex, public offices, etc. (xiii) Using less noisy machinery and specifying the use of adequate muffler systems; (xiv) Employing shields that are physically attached to the particular piece of equipment; (xv) Training on project-specific noise requirements, specifications, and/or equipment operations, including measurement of construction-related noise levels		
	Damage to the local road surfaces	(i) Limiting the movement of heavy techniques along the public road as much as possible (ii) Restoring all damaged road sections as much as possible to make the roads available to the people.	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
	Overloaded transport flows, limited movement	(i) Selecting an optimal bypass to the working area (ii) Installing road signs and barriers at necessary locations; (iii) limiting the movement of heavy techniques along the public road as much as possible (iv) Using flagmen adjacent to the school; (v) Making temporal bypasses (vi) Informing the population, school and Dadiani Palace Administrations about the time and periods of intense transport operations (vii) Including the necessary safety procedures regarding traffic diversion or temporary road closures that are needed in execution of the works (viii) Including in costing of works, any temporary works or diversion that are needed during the construction period. The contractor in consultation with the CSC, local authorities (such as traffic police), and local communities (if required) will come up with an appropriate traffic management plan (ix) Designing all traffic diversion or temporary road for the safety of both the motoring public and the men at work. It shall ensure the uninterrupted flow of traffic for traffic diversions and minimum inconvenience to the public for temporary road closures during the period concerned. As such, adequate warning signs, flagmen and other relevant safety precautionary measures shall be provided as approved by the CSC to warn motorists well ahead of the intended diversion or road closure (x) Informing and seeking approval from all the relevant authorities and providing adequate closure notices in accordance with the timing laid out by the relevant authorities or regulations for temporary road closures; (xi) Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.		
	Risks of safety of local people and personnel	(i) Use of non-faulty construction techniques and vehicles (ii) Driving the vehicles with admissible speeds (iii) Minimizing the use of the roads crossing the settled areas (iv) Limiting the traffic on holidays (v) Placement of a flagman adjacent to the school (vi) Safety measures will be developed and implemented to ensure safe access of school students and teachers. (vii) There shall be adequate protection to the general public, including safety barriers and fences and marking of hazardous areas with warning signs and information banners. Warning signs will be installed around project site and access roads in Georgian and English languages. (viii) All construction activities will be priory consulted and agreed with administration of the public school and Dadiani Palace; (ix) Drinking water demand will not compete with adjacent communities; (x) Ensure that all power lines be kept operational, this may include the provision of temporary transmission lines while existing poles and lines are moved; (xi) manage occupational health and safety risks in accordance with IFC's EHS Guidelines for the Occupational Health and Safety; (xii) For health and safety protection of workers the following shall be provided: (xiii) First aid facilities within construction sites;	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(xiv) Training of all construction workers in basic sanitation and health care issues, general health and safety matters, and on the specific hazards of their work; (xv) PPE for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection in accordance with legal legislation; (xvi) Hire a qualified health and safety expert who will provide safety training to the staff according to the requirements of the individual work place. Prior to the commencement of works, the work site personnel shall be instructed about safety rules for the handling and storage of hazardous substances (fuel, oil, lubricants, bitumen, paint etc.) and also the cleaning of the equipment. (xvii) The Contractor shall Establish working hours for staff 8 am -7pm and engineering activities after 22:00 hours through 8:00 hours the next day shall be strictly prohibited, except as required by the proposed project.		
	Sub-contractors	(i) All sub-contractors/ suppliers will be supplied with copies of the SSEMP. Provisions will be incorporated into all sub-contracts to ensure the compliance with the SSEMP at all tiers of the sub-contracting. (ii) All sub-contractors will be required to appoint a safety representative who shall be available on the Site throughout the operational period of the respective sub-contract unless the CSC's approval to the contrary is given in writing. (iii) In the event of the CSC approval being given, the CSC, without prejudice to their other duties and responsibilities, shall ensure, as far as is practically possible, that employees of subcontractors of all tiers are conversant with appropriate parts of the SSEMP.	Sob-contractors of CC	Construction Contractor

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
Construction works	Deterioration of ambient air; Noise and vibration	(i) Use water spray or install dust screen enclosures (ii) Timely removal of all debris and construction waste from the site (iii) Watering or cover temporary storage waste (iv) Development and implementation of Noise and Vibration management and monitoring plans; implementation of appropriate measurement in accordance with the plan; apply mitigation measures (if needed) (v) Use of non-faulty construction techniques and vehicles (vi) Accomplishing the noisy works during the day as far as possible (vii) If vibration persists for some time at a location (but below the threshold), mitigation in the surrounding properties should be done in terms of regular consultations and disseminating information leaflets consisting of construction activities schedule (viii) Turn off equipment/vehicles when not in use and limit engine idling to 5 minutes	Construction Contractor	Supervision Company, MDF
Waste management	Irregular propagation of waste, environmental pollution	(i) Delivering the construction and other necessary materials only in needed quantities; (ii) Re-using the waste as much as possible, including the use of inert materials for make the roadbed; (iii) Arranging the temporal waste storage areas and equipping them with relevant signs; (iv) Assigning the duly qualified personnel for waste management; (v) Instructing the personnel; (vi) Identification of dump sites for inert waste disposal and ensuring proper permissions;	Construction Contractor	Supervision Company, MDF

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		(vii) Disposing of construction waste on the municipal solid waste landfill, managed by the Ltd "Solid Waste Management Company of Georgia", located in Zugdidi Municipality near village Didi Nedzi; (viii) Ensuring waste management is adequately controlled during the construction phase of the Project and the waste hierarchy is followed including prevention, minimization, reuse and recycling; (ix) Timely removal of unusable waste to agreed location according to national waste management regulations; (x) Providing regular training of staff in waste management issues; (xi) No dumping of materials/wastes will be allowed. (xii) Disposal of construction wastes from the sites and at the temporary storage facilities has to meet the following requirements: Place of disposal of the waste must be enclosed; waste must not have access to drainage water; waste must be immediately removed from the working sites; waste can be transferred only to a certified construction contractor. (xiii) Plastic containers should be closed to prevent spread of the smell and to avoid contact of rodents and insects with the waste. (xiv) The personnel involved in the handling of hazardous and non-hazardous waste will undergo specific training in waste handling, treatment and storage; (xv) Burning of waste on any construction site is forbidden (xvi) Hazardous Waste must be collected and temporarily placed in the pre-selected, agreed area with consideration of requirements applicable to each waste type; (xvii) The area allocated for temporary storage of hazardous waste shall have special preventive measures		

Type of work	Potential negative impact	Mitigation measure	Responsible entity	Supervision
		implemented, in particular, containers shall have secondary containment and no mixing of hazardous waste with any other waste shall be allowed; (xviii) Hazardous waste containers shall be checked for tightness; (xix) The staff involved in hazardous waste management shall be trained in waste management and safety issues; (xx)The waste shall be removed every 3 days; (xxi) Medical waste shall be collected in special plastic boxes, which shall be hermetically closed, labelled and transferred to a certified contractor for further incineration.		
Post-Construction Activities	Reinstatement of disturbed Areas	(i) Reinstatement the disturbed area to pre-works condition or better (ii) Confirmation from IA/CSC on satisfactory reinstatement and no pending actions to address non-compliances (iii) Confirmation from IA/CSC on compensation for damage to persons or property.	Construction Contractor	MDF , CSC
	Audit	(i) Developing of Post-construction Audit Report that includes the following information but not limited to: a. Main executed civil works under this Project; b. Project organization and management team; c. Environmental audit and its methodology; d. Audit findings; e. Conclusion and Recommendations.	Construction Contractor	MDF , CSC

Operation phase

Type of work	Expected negative impact	Mitigation measure	Responsible entity
Exploiting the rehabilitated infrastructure in a common mode	Noise propagation	**(i)** Implementing relevant noise standards and requirements in populated areas	Zugdidi Municipality
	Waste propagation; propagation of oil products.	(i) Regular cleaning of the rehabilitated infrastructure (ii) Regular cleaning and repairing of water channels and pipes	Zugdidi Municipality
	Emergency risks	(i) Permanent control of the technical state of the infrastructure and accomplishing the relevant rehabilitation measures immediately after any damage. (ii) Equipping the access road with relevant road signs	Zugdidi Municipality
	Vegetation	(i) Replacing the damaged/weathered plants within the rehabilitated public parks and recreational zones with new ones	Zugdidi Municipality

B. Environmental Monitoring Plan

435. As the previous chapters of the IEE report note, there are risks of certain impacts on some environmental receptors during certain activities. One of the preconditions for reducing the negative nature and value is the correct management of strict and well-planned activities under strict supervision (environmental monitoring).

436. An Environmental Monitoring Plan (EMoP) is presented in Table 25, which outlines the activities and responsibilities associated with monitoring. The effectiveness of the proposed mitigation plan and ensuring compliance depends on the recommendations of the IEE.

437. The monitoring methods incorporate visual observation and measurements (if needed). The monitoring program describes monitoring parameters, time and frequency of monitoring, and collection and analysis of monitoring data. The size of monitoring depends on the value of the expected impact/risk.

438. The environmental monitoring plan must cover issues such as:

(i) Assessment of the baseline of environment;

(ii) Identification of the reasons for changes in the environment and evaluation of the outcomes; (iii) Identification of correction measures when the target values cannot be reached;

(iv) Regular supervision over the degree and dynamics of the impact of the activity on the environment;

(v) Compliance with legal requirements for impact intensity;

(vi) Control over set parameters associated with significant ecological aspects;

(vii) Prevention and timely identification of possible violations related to ecological aspects or emergencies during activities.

439. The following are subject to regular observation and evaluation in the course of environmental monitoring:

(i) Atmospheric air
(ii) Vibration and noise;
(iii) Soil;
(iv) Labor conditions and meeting the safety standards, etc.

Table 25 *Environmental Monitoring Plan*

What? (Is the parameter to monitor)?	**Where?** (Is the parameter to monitor)?	**How?** (Must the parameter be monitored)?	**When?** (Frequency or duration of monitoring)	**Who** (Is responsible for monitoring)?
Required plans	• CC's Office and Documentation	Checking, the following plans are developed: • Pre-construction report, including information about pre-works condition and photo-documentation; • Site-Specific Environmental Management Plan (SSEMP) • Traffic Management Plan • Noise and Vibration Management Plan • Waste Management Plan (WMP) • Health and Safety Management Plan including COVID-19 prevention at worksites • Emergency Response Plan (ERP) • Camp Site Management Plan	• Prior commencement of civil works	Contractor EHS/ environmental specialist; CSC
Required permits, licenses and approvals	• CC's Office and Documentation	Checking the following permits are obtained: • Licenses for inert material extraction • Agreement on construction waste disposal on the nearest landfill • Approval from the local municipality on the using of the	• Regularly	Contractor EHS/ environmental specialist; CSC

		excess ground generated due to the earthworks for backfilling activities;		
Designation of safeguards staff and providing of required trainings	• CC's Office and Documentation	• Environmental and H&S specialists are designated; • Trainings as required by the CSC are provided	• Regularly	Contractor EHS/ environmental specialist; CSC
Notification of local population on civil works commencement	• CC's Office and Documentation	• Information banner regarding project and indicate contact persons is placed; • Information regarding duration of upcoming works is disseminated; • Periodic Public information campaigns via different communication channels are conducted; • Prior to the start of construction, notification on the start date of implementation in information banners are placed public places (A board showing the details of the project will be displayed at the construction site for the information of public • Schedule of construction works with the school and administration of Dadiani Palace is coordinated.	• Prior Commencement of civil works • Regularly	Contractor EHS/ environmental specialist; CSC
Noise propagation	• Sensitive receptors: PCRs, Public school, Nearest Residential Buildings	• Instrumental measurement	• Regularly • Once a week in case there are complaints	Contractor EHS/ environmental specialist; CSC

Dust propagation, exhaust fumes NO_x, SO_2, CO	• Construction site; • Sensitive receptors: PCRs, Public school, Nearest Residential Buildings	• Instrumental measurement	• Checking dust propagation – during the intense operations and vehicle movement, particularly in dry and windy weather • Checking the technical state - at the start of the working day • Instrumental measurement - in case there are complaints	Contractor EHS/ environmental specialist; CSC
Vibration propagation	• The cultural heritage monuments • Public school • Residential Houses • Other sensitive receptors	• Instrumental measurement	• Regularly • Once a week in case there are complaints	Contractor EHS/ environmental specialist; CSC
Traffic	• Along the materials and waste transportation routes • Adjacent to the Public school and Residential buildings • PCRs	• Visual observation	• Permanently	Contractor EHS/ environmental specialists; CSC
Negative visual-landscape change	• Project area and surrounding	• Visual observation	• Permanently	Contractor EHS/ environmental specialists; CSC
Soil and ground quality	• Areas adjacent to the construction camps • Construction sites • Materials and waste temporary storage areas	• Visual observation: • No significant oil spills are observed; • Laboratory control	• Visual observation - at the end of the working day; • Laboratory examination - in case of large spills	Contractor EHS/ environmental specialists; CSC
Waste management	• Construction camps • Construction sites • Temporal waste storage areas	Visual observation: • The sites of temporal waste disposal are assigned in the construction area and are duly marked	• Visual observation - at the end of each working day; • Checking of documents on amounts of produced and disposed wastes	Contractor EHS/ environmental specialists; CSC

		• The storage areas for hazardous waste are protected against the penetration of strangers and against the weather impact • On the territory, at due locations, there are marked containers to collect domestic waste • The sanitary condition of the territory is satisfactory – no dissipated waste is observed • The waste is not stored on the territory for long		
	• Construction Contractor's office	• Checking the waste registration log • Checking the documented agreement about waste disposal	• Document check - once a month	Contractor EHS/ environmental specialists; CSC
Oils and oil products management	• Construction camps • Warehousing facilities	Visual observation: • The protected areas for oils, oil products and other liquid products marked in a due manner;	• Visual observation - at the end of each working day; • Document check on amounts and types of oil products	Contractor EHS/ environmental specialists; CSC
Technical state of the access road, possibility of free movement	• Corridors of the transportation routes	Visual observation: • The vehicles move along the routes specified in advance, bypassing the settled areas as far as possible. • The state of the driving routes is satisfactory • Free movement is not limited • Driving speeds are observed	• During the intense transport operations	Contractor EHS/ environmental specialists; CSC
Labor safety	• Working area	Visual observation: • The territory is fenced and protected against the illegal penetration of strangers • The personnel are equipped with PPE	• Visual observation- before the onset of each working; • Documents on site trainings and daily toolbox on health and safety Unscheduled control (Inspection):	Contractor EHS specialist; CSC

		• The technical state of the exploited equipment and mechanisms is satisfactory • Electrical and fire safety is ensured • The safety, prohibiting and information signs are installed on the territory and along its perimeter • There is a banner on the territory with the basic safety rules • Smoking areas are specially assigned • Facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink are provided; • Suitable and sufficient sanitary conveniences and facilities are provided at readily accessible places. • An adequate supply of high-quality drinking water, with an upward drinking jet or suitable cups, are provided. • Changing facilities are provided for workers who change into special work clothing. • Seats are provided for workers to use during break; • Anti-Covid 19 measures are implemented;	• The personnel observe the safety rules and use the PPE.	

PCRs safety	• Cultural heritage monument	Visual observation/Instrumental Monitoring: • The area around the cultural heritage monuments is free of debris and mud; • No waste is disposed around the cultural heritage monuments • Construction crane is used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site. • Construction contractor provides instrumental measurement and monitoring of noise and vibration levels during the construction and implement mitigation measures to ensure that noise and vibration levels are within the national and international standards.	• Inspection - regularly • Visual observation- before the onset of each working	Contractor EHS specialist; CSC
Campsite Management	• Camp site	Visual observation • Camp is in compliance with the requirements of the SSEMP and the Construction Camp Site Plan • Potable water for construction camps and workers meets the necessary water quality standards of the GoG.	• Inspection - regularly • Visual observation- before the onset of each working	Contractor EHS specialist; CSC

		• Layout plan of the work camp includes 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); • Safe and healthy workplace for workers is provided (facilities e.g. those that are necessary for the well-being of workers, such as washing, toilet, rest and changing facilities, and somewhere clean to eat and drink) into account; • Suitable and sufficient sanitary conveniences and facilities are provided at readily accessible places. They and the rooms containing them are kept clean and be adequately ventilated.		
Post-Construction Activities	• Project Area	• disturbed area is reinstated to pre-works condition or better • no pending actions to address non-compliances are revealed • Post-construction Audit Report is developed	• After completion of civil works	Contractor EHS specialist; CSC

Operation				
Waste Management	• Project area	Visual Observation • Rehabilitated infrastructure is regularly cleaned • Water channels and pipes are regularly cleaned and repaired	• Regularly	Local Municipality/ Library Administration
Vegetation Cover	• Project area	Visual Observation • In recreational zones damaged/weathered plants are replaced with new ones	• Regularly	Local Municipality/ Library Administration
Management of Emergency Situation	• Project area	Visual Observation: • Technical state of the infrastructure is being permanently controlled and relevant rehabilitation measures are accomplished immediately after any damage • The access road are equipped with relevant road signs	• Regularly	Local Municipality/ Library Administration
Propagation of polluting substances (water, soil pollution) during the repairs and replacement	• Project area	Visual Observation: • The buildings facades is repaired in dry weather to avoid the pollution of the surface flow • In order to avoid the dissipation of the materials used to reparation, the relevant works are planned in an expedient manner	• Regularly	Local Municipality/ Library Administration

X. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

440. Based on results of the conducted IEE the following conclusions could be done:

441. The sub-project was assessed against the laws of Georgia and ADB's Safeguards Policy Statement 2009. At the stage of document preparation, possible environmental impacts were identified and relevant mitigation measures were developed.

442. The methodology to undertake and complete an IEE included a combination of methods and data collection tools. In particular, the IEE was prepared based on the results of: (a) review of background documents and information available in the public domain; (b) online meetings with representatives of Zugdidi city hall, consultants, design Institute and other stakeholders; (c) review of technical standards and norms; (d) analysis of the baseline information and planned construction activities in order to identify potential impacts, measure their significance and identify mitigation measures. Several field visits have been conducted at the preparation stage of the IEE, including sampling of air and soil and measurement of noise and vibration to obtain baseline data.

443. The project will be implemented on the municipal owned territories (cadastral code: 43.31.49.608). Therefore, no land acquisition and involuntary resettlement is required.

444. The project design does not envisage intervention on CH monument. The project site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex[38]. Due to its location within the visual protection zone for the protection of national importance, the project triggers ADB SPS environmental policy principle on physical cultural resources. However, considering the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained.

445. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property. However, due to the presence of these PCRs and potential for the indirect impacts, the following are considered:

(i) Final design and contractor's construction works methodology will be examined by the project supervision consultants' Heritage/Archaeological/PCR Expert to ensure no impacts on physical cultural resources;

(ii) the subproject's draft Chance Find Procedure will be reviewed and finalized by the project supervision consultants' Heritage/Archaeological/PCR Expert and will be provided to the CC for consideration in its site-specific EMP; and

(iii) During implementation, the potential impacts on cultural heritage monuments will be continuously assessed and monitored by an Heritage/Archaeological/PCR Expert to be engaged as part of the project supervision consultant.

446. The following measures shall be implemented to avoid any adverse impacts of Dadiani

[38] The project area is situated approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building

Garden and Palace Complex Cultural Heritage Site:

(i) According to the requirements of Georgian legislation the project design shall be agreed with the National Agency for Cultural Heritage Preservation of Georgia (NACHP). The conclusion of the NACHP shall be provided that the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property;

(ii) Consultations shall be provided with relevant stakeholders including national and local regulatory agencies (Ministry of Culture and Sport of Georgia, National Agency for Cultural Heritage Preservation of Georgia and LEPL – Historical-Architectural Museum of Dadiani Palaces). The findings shall be reflected in the updated IEE report and project design.

(iii) Provide permanent monitoring of the construction works to detect and avoid any adverse impacts on Dadiani Garden and Palace Complex Cultural Heritage Site in a timely manner;

(iv) All construction activities shall be priory consulted and agreed with Dadiani Garden and Palace Complex Cultural Heritage Sites administration;

(v) Special dust prevention nets shall be installed to reduce air pollution around the project site;

(vi) Construction crane shall be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site;

(vii) The construction contractor shall provide instrumental measurement and monitoring of noise and vibration levels during the construction and implement mitigation measures to ensure that noise and vibration levels are within the national and international standards;

(viii) All workers will be strictly prohibited from damaging activities around the construction territory;

(ix) In case of finding any artefacts, the construction contractor and supervision company shall strictly follow chance finding procedures described in EMP.

447. No sensitive receptors such as water bodies, endangered species of flora and fauna are presented on the project site. City Zugdidi is located approximately 20-25 km away from nearest protected area (Kolkheti National Park).

448. The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m (direct distance) from it. Impact on water body due to the project implementation is less expected.

449. Adjacent to the project area there are several sensitive receptors. The project area is surrounded only by residential houses and the public school. Zugdidi Public School #2 is located approximately 37 meters south of the project area. Additionally, The project area is situated approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building

450. The potential environmental effects of the pre-construction activities, such as contractor office set ups, necessary equipment stacks, sites preparation, and the adequacy of the

accesses have been considered and all these activities will not deteriorate the existing conditions of the environment.

451. Temporary disturbance of local population is expected during the construction works, which will be connected with the construction activities and transportation of the construction materials and equipment. In other cases, the impact on the social environment shall be positive, because temporary employment of the local population is expected.

452. Possible environmental effects during operational phase arise from maintenance of arranged infrastructure and will be related to generation of solid wastes and wastewater pollution.

453. The Construction Contractor is obliged to conclude the contract only with the companies holding the license to extract inert materials. The exact locations of quarry and borrow sites (if needed) to be used for the Project will be determined by the CC and specified within the SSEMP. The Project will not implement any exploration activities from illegal sources. If the company decides to extract the inert materials itself and opens a quarry, it is obliged to obtain the license from the National Agency of Mines.

454. Technical characteristics and decision about dumpsites have not been made currently. Municipal solid waste landfill, managed by the Ltd “Solid Waste Management Company of Georgia”, is located near Zugdidi, where it is possible to transport and dispose construction waste. Excess ground generated due to the earthworks can be used for backfilling activities according to written agreement with local authority. Detail characteristics of these infrastructures will be provided in the SSEMP.

455. As temporary disturbance of local population, students and employees of the Zugdidi public school N2, visitors and employees of the Dadiani Garden and Palace Complex Cultural Heritage Monument is expected (such as: dust, noise, vibration, generated waste, movement of machinery, limited access to their properties and etc.) during the construction works, which shall be connected with the construction activities and transportation of the construction materials and equipment. Appropriate mitigation measures are identified and included in the EMP.

456. During the functioning of the Youth Center, Presidential Library and Museum the negative impacts on the physical environment and biological systems are not expected;

457. Only positive impacts on the social system are expected during the Construction of Youth Center, Presidential Library and Museum functioning, The Project is expected to have long-term positive impact on the population of city Zugdidi, especially young people who will get access to well planned, high quality service. In other cases, the impact on the social environment shall be positive, because temporary employment of the local population is expected.

458. Project implementation will support the improvement of local touristic potential, which will enable the government to further develop tourist infrastructure in the area.

459. Mitigation of construction impacts will be assured through an environmental monitoring program to ensure all measures in the EMP are implemented and to determine whether the environment and communities around the project sites are protected as intended. This will include observations on and off-site, document checks, instrumental monitoring of environmental parameters such as noise and vibration levels, air quality etc. Any requirements for remedial action will be reported in environmental monitoring reports.

B. Recommendations

460. The following are recommendations applicable to the project to ensure no significant adverse environmental impacts are irreversible, diverse, or unprecedented; and remain within the sites or facilities subject to physical works:

(i) Include this IEE with the EMP in bid and contract documents;

(ii) Update/revise the IEE based on CC's working methodologies, and/or if there are unanticipated impacts, changes in scope, alignment, or location;

(iii) Require CC to submit SSEMP prior to the start of works and do not allow works until SSEMP has been cleared by MDF

(iv) Ensure that the existing materials to be removed from the site are tested for hazardous contents and ensure an action plan for handling, storage, transport, and disposal of the wastes is prepared, informed to the CC, and strictly monitored during project implementation.

(v) Ensure that wastes (solid and liquid) should be stored and disposed at designated site/facility (dumping on vacant lot is not allowed);

(vi) Conduct safeguards induction to the CC upon award of contract;

(vii) Strictly supervise EMP implementation;

(viii) Ensure contractor appointed qualified EHS officers prior to the start of works;

(ix) Documentation and reporting on a regular basis as indicated in the IEE;

(x) Continuous consultations with stakeholders;

(xi) Timely disclosure of information and establishment of GRM;

(xii) Involvement of CC, including subcontractors, in first-level GRM; and

(xiii) Commitment from MDF, supervision consultants, and CC to protect the environment and the people from any impact during project implementation.

461. The EMP, its mitigation and monitoring programs, contained here within, will be included within the Bidding documents for project works for all Project components. The Bid documents state that the CC will be responsible for the implementation of the requirements of the EMP through his own SSEMP which will adopt all of the conditions of the EMP and add site specific elements that are not currently known, such as the Contractors borrow pit locations. This ensures that all potential bidders are aware of the environmental requirements of the Project and its associated environmental costs.

462. The EMP and all its requirements will then be added to the CC'ss Contract, thereby making implementation of the EMP a legal requirement according to the Contract. He will then prepare his SSEMP, which will be approved and monitored by the CSC. Should the CSC note any non-conformance with the SSEMP (and the EMP) the Contractor can be held liable for breach of the contractual obligations of the EMP. To ensure compliance with the SSEMP the CC should employ an Environmental Manager to monitor and report Project activities throughout the Project Construction phase.

463. The management of the Construction Contractor will provide periodic training and testing regarding the observance of the environmental protection and job safety rules by the personnel engaged in project implementation activities.

464. A strict control over the observance of the safety requirements and hygienic norms by the personnel will be introduced and upheld.

465. Prior to the commencement of the construction works, the Construction Contractor is obliged to prepare the following environmental plans: (i) Site-specific environmental plan. (ii) Noise and vibration management plan; (iii) Traffic management plan; (iv) Waste management plan; (v) Health and safety management plan, (vi) Emergency response plan; and a (vii) Camp site management plan. Inventory of trees shall be conducted if required. A Technical Report of the stationary source of harmful substances emitted into atmospheric air shall be prepared if required.

466. The CC will furthermore be required to employ full time Environment, Health and Safety (EHS) staff responsible for preparing the SSEMP, compliance with safeguard requirements, implementation of the SSEMP and other contractual provisions related to EHS, addressing site-level complaints/grievances from communities, implementation of any corrective action, coordination with the IA and corresponding information to MDF and the Construction Supervisory Consultant (CSC).

467. The CC will also be required to document pre-works conditions of sites, address field- and/or site-level complaints/grievances, submit monthly monitoring reports to IA/CSC, provide engineering and administrative control to ensure safety and health of workers and communities, support IA/CSC in raising awareness on safeguards, health and safety and labor standards, and to follow any recommendations of the project supervision consultants.

468. The Construction Contractor must undertake all mitigation measures in order to reduce the impact of noise, vibration and air emissions on the sensitive receptors.

469. The following are subject to the regular observation and evaluation in the course of environmental monitoring:

(i) Dust propagation, exhaust fumes (NOx, SO2, CO) in construction camp and site, transportation routes, the nearest buildings and other sensitive receptors during the intense operations and vehicle movement, particularly in dry and windy weather, at the start of the working day and/or in case there are complaints;

(ii) Noise and vibration propagation at the sensitive receptors;

(iii) Traffic along the materials and waste transportation routes;

(iv) Soil and ground quality at areas adjacent to the construction camps and sites, materials and waste storage areas, with visual observation at the end of the working day and laboratory examination - in case of large spills;

(v) Temporal storage of the removed ground at construction sites and ground storage areas every day following the completion of ground works;

(vi) Waste management and oils and oil products at construction camps and sites, temporal waste storage areas at the end of each working day and checking of documents on amounts of produced and disposed wastes;

(vii) Technical state of the access road, possibility of free movement at corridors of the transportation routes during the intense transport operations;

(viii) Labor safety at working area with visual observation - before the onset of each working and checking documents on site trainings and daily toolbox on health and safety.

Appendix A. Impact Assessment Criteria

Table 26 Impact assessment criteria for noise and vibration[39]

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Noise propagation	Noise levels at the border of the settled area exceed 55 dbA during the day and 45 dBA at night, or exceeds50 dBA during the day and 40dBA at night at sensitive receptors. Excess noise levels are intense. Population's dissatisfaction is inevitable.	Noise levels at the border of the settled area little exceed 55 dbA during the day and 45 dBA at night; however, the impact is expected only in some cases or is temporal. The noise levels at the sensitive receptors are admissible; however, additional preventive measures are recommended.	The noise background levels have deteriorated a bit near the settled areas or sensitive receptors. In any case, no levels in excess of the admissible levels are expected. It is sufficient to take standard mitigation measures.
Vibration	Due to the use of heavy technique and other methods, vibration spreads to great distances. There is a probability of damage or destruction of buildings and premises, monuments of cultural heritage or disturbance of geological stability.	Vibration does not spread to far places, or the impact is short-term. The probability of damage of buildings and premises, monuments of cultural heritage or disturbance of geological stability is very little. Minor and periodic discomfort is expected.	Vibration propagates only in the working zone. No damage of buildings and premises, monuments of cultural heritage or disturbance of geological stability is expected. No addiitonal mitigation measures are needed.
Condition of the working area (noise and vibration)	It is impossible to work. Using earplugs or other protective equipment is less inefficient. It is necessary to change the service staff frequently.	Noise and vibration is a nuisance in the working area; but working is possible provided the relevant protective equipment are used or other measures are taken (e.g. cutting the working hours and the like).	The noise and vibration levels in the working zone are not high. No PPE is needed, or if needed only for short periods. An 8-hour-long working day is permitted.

39 The Tables represent the criteria of environmental assessment and it is a part of assessment methodology carried out in order to evaluate potential impacts and risks for presented project.

Table 27 Impact assessment criteria for water

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Changed flow rate of the surface waters	Under the project impact, the natural river flow rate is strongly changed (either for the year, or temporarily); it is difficult to maintain the present state of the water eco-system. Other water-consuming unit has a limited access to water, or due to the increased water flow, the risk of developing hazardous hydrological events has increased.	Under the project impact, the natural river flow rate reduced to 70% (either for the year, or temporarily); however, the water eco-system is mostly maintained. The access of another water-consuming unit to water has not changed, or Under the project impact, the natural river flow rate increased to 110%. The risks of developing the hazardous - hydrological events are possible to eliminate by using relevant protective measures.	Under the project impact, the natural river flow rate reduced to 70% (either for the year, or temporarily). The access of another water-consuming unit to water has not changed, or the unit is not used for other purposes. The river flow rate will not increase under the impact of the project.
Deterioration of the surface water quality, origination of the sewage	Fishing or drinking-and-industrial water object is under the impact, or Significant amount of sewage is expected. Despite building the treatment plant, there is a probability of discharging the excessively polluted waters, or the probability of emergencies is high. Due to the near location of the water body, there is a possibility for the solid remains and liquid mass to enter the water body.	An industrial-household water unit is under the impact. Sewage is originated; however, at the expense of relevant preventive measures (arranging the duly efficient treatment plant, etc.) it is possible to maintain the qualitative state of the surface water. The existing quality may be changed a bit what will have a minor impact on the water biodiversity, or the probability of emergencies to occur is not high. In such a case, the distances are so great that the risks of the polluting substances flowing into the water are minimal.	There are no surface waters near the water object. Therefore, there is only the possibility of indirect impact, which is not major. No sewage is expected to originate, or the small amounts of liquid remains can be managed by using the methods safe for the water environment (e.g. by an evaporating pond, recycling the liquid remains, etc.).
Ground water pollution	The activity implies using the methods creating the risks of	The activity implies using the methods creating certain risks of	The risks of the ground water pollution are associated with the

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
	excess pollution of the ground waters (e.g. burying the materials containing polluted substances, etc.); mitigation measures are less efficient, or the probability of emergencies to occur is quite likely with the infiltration of the large amounts of oil products or other polluting substances into the ground layers.	pollution of the ground waters; however, using the mitigation measures is efficient and significantly reduce the risks, or there is probability of emergencies to occur; however, relevant preventive measures are taken.	unforeseen cases only (minor oil product leakages from technique or equipment and the like.). No large amounts of liquid polluting substances are stored or used in the area threatening the ground waters in case of accidents.
Impact on the flow rate of the ground waters, changed infiltration properties of the grounds	The activity envisages arranging deep engineering facilities, with which it is possible to cross the underground water-bearing infrastructure. As a result, the outflows of the underground waters may decrease, or the activity envisages using large land areas/cutting down the forests what will deteriorate the ground infiltration properties. This may reduce the intensity of the underground water alimentation with the atmospheric precipitations.	The activity does not envisage arranging deep engineering facilities, and in addition, there are no particularly significant water-bearing horizons spreading on the territory. Despite this, cultivation of land areas or the used building and exploitation methods may have a certain impact on the outflows of less valuable springs.	By considering the small project area, used building and exploitation methods and existing hydro-geological conditions, the impact on the flow rate of the underground waters will be minor. No impact on either drinking, or industrial water is expected.

Table 28 Impact assessment criteria for soil

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Damage and erosion of the fertile soil layer	The project envisages using over 12,5 ha of agricultural plots or other	The project envisages using less than 12,5 ha of agricultural plots or	The project envisages using less than 12,5 ha of non-agricultural

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
	land areas highly valuable in respect of fertility, or the methods used during the building and exploitation promote the activation of the soil erosion processes over significant areas.	other land areas valuable in respect of fertility, or the area to manage is more than 12,5 ha, but this is not an agricultural land or is not otherwise valuable, or the methods used during the building and exploitation promote the activation of the soil erosion processes in some areas, but they can be prevented by using the relevant mitigation measures.	plots or other land areas less valuable in respect of fertility. Provided the fertile soils layer is duly managed, the impact will be minimal. No erosion beyond the used perimeter is expected.
Soil/ground pollution	Due to the methods used during the building and exploitation, the risks of polluting the fertile layer of the agricultural land of any area (exceeding MAC) are quite high or virtually inevitable or the probability of developing such emergencies leading to the pollution of over 100 m2 area or over the depth of 0,3 m of soil and ground is quite high.	Due to the methods used during the building and exploitation, there are risks of polluting the less valuable surface layer of lands (exceeding MAC) or there is a probability of developing such emergencies leading to the pollution of less than 100 m^2 area or less than the depth of 0,3 m of soil and ground.	Only minor local pollution of soil/ground is expected, mostly in unforeseen cases. The technology of local cleaning the polluted soil can be used.

Table 29 Impact assessment criteria for geological environment

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Violation of the stability of the geological environment under	The project is planned to implement in the relief with the III degree of complexity in engineering-geological respect. During the earthworks, the probability of activation of such	The project is planned to implement in the relief with the II degree of complexity in engineering-geological respect. During the earthworks or in	The project is planned to implement in the favorable relief. No significant resources to build protective structures are needed. Only local,

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
the project impact, activation of hazardous processes	hazardous geodynamic processes, as landslide, rock fall, mudflow, etc. exists, or the risks of activation of the same processes exist in the operation phase of the object (hydrotehcnical facilities, underpass, etc. can be considered as such object). It is necessary to build the protective facilities of complex structures or to make corrections to the project.	the operating phase, the probability of activation of hazardous geodynamic processes. However, provided the protective measures in terms of simple-structure facilities these can be prevented.	minor erosive processes may develop.
Impact of the existing engineering-geological conditions on the project facilities	The engineering-geological properties of the grounds are not favorable needing building deep foundations to establish the facilities on the cliffy rocks, or hazardous geodynamic processes threaten the stability of the object. It is necessary to build the protective facilities of complex structures or to make certain corrections to the project.	The engineering-geological properties of the grounds allow founding the object, but under certain conditions. The degree of the environment (ground and ground waters) aggressiveness to the reinforced concrete is satisfactory, or hazardous geo-dynamic processes pose a certain threat to the object's stability; however, the risk may be eliminated by taking protective measures of a simple structure.	The object is not a facility of a complex structure. The engineering-geological properties of the territory-constituent grounds are satisfactory. Consequently, there is no need for either deep foundations, or significant measures to protect the engineering facilities.

Table 30 Impact assessment criteria for the biological environment

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Generic and quantitative changes in the vegetation cover	The project implementation will lead to the destroy of the endemic or Red-Listed species or the project implementation will lead to the use of the forested area over 1 ha or	Following the project implementation, the risks of direct or indirect impacts on the endemic or Red-Listed species are minimal or the project implementation will lead	Following the project implementation, there is no risk of impact on the endemic or Red-Listed species. Only the destruction of the homogenous low-value vegetation cover is expected.

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
	there is a risk for invasive kinds to spread	to the use of the forested area less than 1 ha	There is no risk for invasive species to spread.
Deterioration of the animal habitats, habitat: • Loss or fragmentation • Endemic and Red-Listed animal	The project implementation will lead to the destroy, reduction or fragmentation of the area of the endemic and Red-Listed animal species or certain species may be reduced or certain population may disappear in the project implementation area or the object is a linear object creating a kind of barrier for migrating animals or there is a risk for invasive kinds to spread.	Following the project implementation, the impact on the endemic or Red-Listed species is less likely. The area of such living organisms with no ability to migrate to long distances may decrease, or quantitative changes of certain species are expected in the project implementation area, but their destroy is not likely.	The project area is under the anthropogenic impact and is not a shelter for animal species. Only the animals adapted to the human activity live in the area with high ecological valency. The object is not a barrier hampering the migrating animals.
Immediate impact on fauna specie s	Due to the project implementation, there are some cases of animal perish (including endemic or Red-Listed species) during the year, or increased probability of poaching.	Due to the project implementation, there are few cases of animal perish (less valuable species) during the year	Perish of the animal species is less likely. The impact is short-term. The probability of increased poaching is minimal.
Direct or indirect impacts on the protected areas	Due to small distance and following the methods used at the building and exploitation stages, there are risks of long-term direct or indirect impacts on the territory.	Following the methods used at the building and exploitation stages, there is a risk of indirect impact on the protected area, but the impact is not long.	Due to a great distance, an impact on the protected area is less likely.

Table 31 Impact assessment criteria for the visual/landscape environment

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Landscape impact	The project implementation is planned within the limits of the rare	The project implementation is planned within the limits of a	The project implementation is planned within the limits of a low-

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
	and high-value landscapes, or the landscape and its components are in fact intact and have high degree of naturalness.	regional or local landscape or the landscape and its components are partially transformed due to the human actions. They have an average degree of naturalness.	value landscape, which can be substituted, or the landscape and its components are quite devastated due to the man's economic activity.
Visual changes	The project area is easily seen from many locations. Implementation of the activity will have a significant impact on the visual effect for the local people or tourists.	The project area is seen from some observation points having no touristic value.	The project area is almost invisible. The building and exploitation will have a minimal impact on the visual effect for the local people or tourists.

Table 32 Impact assessment criteria for the social environment

Kind of impact	Assessment criteria		
	Significant (high) impact	**Average impact**	***Insignificant (low) impact***
Positive impact			
Increased budgetary flows	Increased central budgetary flows	*Increased budgetary flows*	Increased central budgetary flows
Employment and growing income of the population	The possibility to hire 70% of workforce from local population or the possibility to hire 40% of workforce from local rural residents or the possibility to hire 20% of workforce from local population in the high-mountain villages.	A total of 30 to 100 people employment opportunities. or Local villagers from 10 to 30 people employment opportunities. or Highland status of rural residents few employment opportunities.	10 people employment opportunity.

Kind of impact	Assessment criteria		
	Significant (high) impact	**Average impact**	***Insignificant (low) impact***
Improvement of transport infrastructure	Improvement of the technical state of the international, state and regional roads, high probability of distress of transport intensity.	Improvement of the technical state of the roads in some or high-mountainous village and easy transportation.	Simplified rehabilitation of rural roads and transportation
Other social-economic benefit	At a country, regional or municipal level, or for several high-mountainous villages: • Improved waste management conditions. • Improved water-supply and water-drainage conditions. • Improved power supply and gas supply conditions. • Improved accessibility to other kinds of resources.	For several or high-mountainous villages: • Improved waste management conditions. • Improved water-supply and water-drainage conditions. • Improved power supply and gas supply conditions. • Improved accessibility to other kinds of resources.	Only some families (homesteads) receive various social-economic benefits.
Negative impact			
Resettlement, need to use private property	One of several cases of physical resettlement, or over 10 cases of economic resettlement, or one or several cases of economic resettlement in a high-mountainous village	Up to 10 cases of economic resettlement. Provided the compensation measures are taken, no population's dissatisfaction is expected	No physical or economic resettlement is expected. Temporal use of the privately owned land plots and units may be needed, with the relevant compensation measures planned
Deterioration of transport infrastructure	Deterioration of the technical condition of the international, state and regional roads, significant increase of transport intensity.	Deterioration of the technical condition of the roads in some or high-mountainous villages or significant increase in vehicle movement; however, the impact is temporal.	No deterioration of local roads or significant increase of transport intensity is not expected.

Kind of impact	Assessment criteria		
	Significant (high) impact	**Average impact**	***Insignificant (low) impact***
Other negative social-economic effects	• At a country, regional or municipal level, or for several high-mountainous villages: • Deteriorated waste management conditions and landfill overload. • Deteriorated water-supply and water-drainage conditions or overloaded relevant systems • Limited accessibility to other resources.	• For several or high-mountainous villages: • Deteriorated waste management conditions and landfill overload. • Deteriorated water-supply and water-drainage conditions or overloaded relevant systems • Limited accessibility to other resources.	For several families • Deteriorated waste management conditions and landfill overload. • Deteriorated water-supply and water-drainage conditions or overloaded relevant systems • Limited accessibility to other resources. However, the problem can be solved by searching for alternative routes.

Table 33 Impact assessment criteria for the historical-cultural monuments

Kind of impact	Assessment criteria		
	Significant (high) impact	***Average impact***	***Insignificant (low) impact***
Damage to the historical-cultural monuments	Due to the small distance and following the methods used in the building and exploitation phases, there is a probability of damaging the monuments of the international or local historical-cultural heritage.	Due to the small distance and following the methods used in the building and exploitation phases, there is a probability of damaging the monuments of the local historical-cultural heritage.	Due to the great distance, the probability of damaging the monuments of historical-cultural heritage is less likely.
Unforeseen damage to the archaeological monuments	Following the historical designation of the project area, there is a probability of the late identification of the archaeological monuments.		The area is quite anthropogenic. Therefore, identification of the recent archaeological monuments is less likely.

151

Appendix B. Minutes of Online Meeting with Stakeholder

Youth Center and Zugdidi Zviad Gamsakhurdia Presidential Library Construction Project

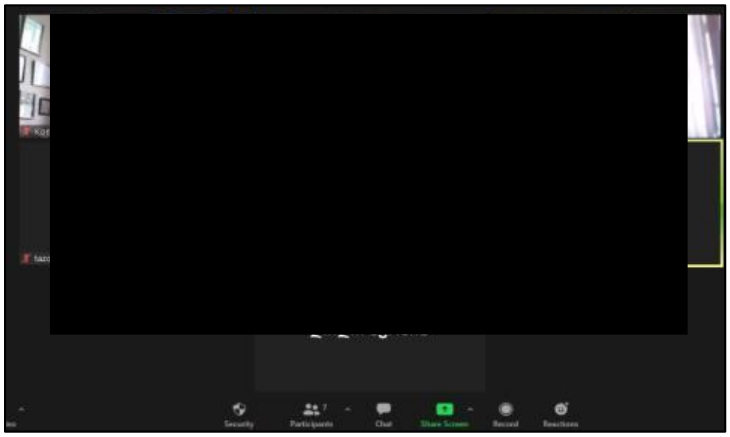
Minutes of Meeting

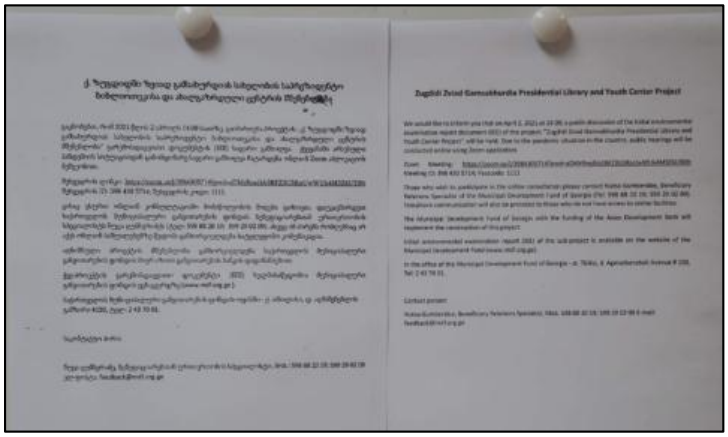
1. On 2 April, 2021 at 14:00, the representatives of Municipal Development Fund of Georgia (MDF) - communication consultant Irakli Japaridze, environmental specialist Niniko Isakadze and engineer Tamaz Chitanava conducted the online consultation (via Zoom) with stakeholders: Zugdidi City Deputy Mayor Konstantine Kakava, Director of Zugdidi Merab Kostava Public School #2 - Nino Bulia and Director of Dadiani palace complex Lili Berata. The requirement for the meeting was caused by pandemic related to COVID-19 worldwide.
2. The Communication Consultant informed the representatives personally by phone about the online meeting planned by MDF.
3. The Youth Center and Zviad Gamsakhurdia Zugdidi Library will be constructed at #7 Zviad Gamsakhurdia Avenue in the center of Zugdidi. The site designated for construction covers the Municipality owned area of 2400 sq. m. The library building will view over the main sights of the town and will be connected with the nearby infrastructure from urban and architectural standpoints. There will be the Museum at the basement of the Library and that Museum will be provided with special museum equipment. There will be situated the reading halls, service office for the Youth Center, WCs etc. on the first floor, whereas temporal exhibition space and rooms for working staff will be located on the second floor, and the open café will be available at the veranda.
4. Communication Consultant Irakli Japaridze opened the meeting, reported in brief the objective of the meeting and then turned it over to the next speaker - engineer Tamaz Chitanava. Project Manager familiarized the meeting attendees with the project, as well as with specifics of works to be carried out and reviewed in detail the assignment of the Youth Center and Library. Then the speech was delivered by Communication Consultant Irakli Japaridze. Mr. Japaridze provided detailed information related to measures to be taken as per Due Diligence Report. Irakli Japaridze explained that the Due Diligence report considers provision of compliance with the safety standards as much as possible. Mr. Japaridze showed also the photos to the attendees, reflecting the access roads to the construction site, as well as how the construction machinery is to move in the course of construction. Irakli Japaridze notified the attendees of the meeting that during construction there will be installed the special fence on the school side in order the children not to enter the vehicle lane. The construction machinery will be moving as per indications of specially installed movement signs, and will be followed alongside by the person walking on foot in order direct control over safety to be provided. Irakli Japaridze clarified also how and in which form the grievances can be accepted and reviewed by Zugdidi City Hall and MDF.
5. Then the speech was delivered by MDF environmental specialist Niniko Isakadze. Niniko Isakadze informed the attendees about the IEE prepared for the project. She explained to the public about the social and environmental screening procedures applied for ADB and environmental and requirements of the presented project. The mitigation measures were also discussed in order to minimize the potential negative impacts, which may arise during the project implementation process. Niniko Isakadze mentioned that according to the Georgian law on Environmental Impact Code the project does not require any kind of permits and agreements from the Ministry of Environmental Protection and Agriculture. Niniko Isakadze discussed the structure and content of IEE/EMP and briefly discussed public relationship and labor management measures. She noted that IEE/ EMP forms an integral part of the CC made with the civil works CC. The last one is obliged thoroughly implementation of the measures specified in the IEE/EMP to protect social and natural environment.
6. The meeting attendants listened to the information provided, asked the questions and expressed content concerning above mentioned project implementation. Irakli Japaridze, Tamaz Chitanava and Niniko Isakadze responded to all the questioned asked.

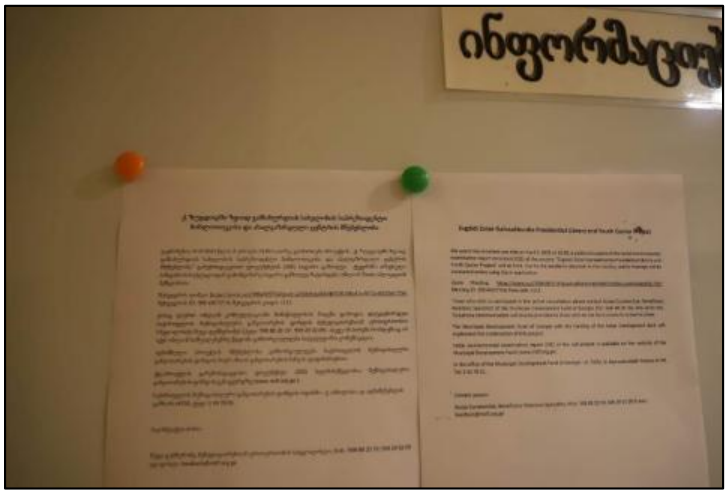
7. In the course of the meeting the attendees were able to express their opinions and ask the questions they were interested in. At the end of the meeting attendees express their positive attitude towards the project.

Question	Response
What is the purpose of the meeting?	We have met with you aimed at providing you with the detailed information on environmental and social documents, which considers different safety measures, availability of access roads and Grievance Redress Mechanism.
How much is the area of the land plot, over which above referenced project is to be executed?	The Youth Center and Zugdidi Zviad Gamsakhurdia Library will be situated at the Municipality owned land plot, covering the area of 2400 sq. m.
What is the duration of the project? Will it be implemented along with the school operation?	Taking into consideration, that school vacation lasts 2-3 months, the construction works will be implemented along with school operation. Therefore, relevant mitigation measures are envisaged in the IEE and SDDR,

Photos of the Online Consultation and Public Announcement







Appendix C. Letter from Agency of Cultural Heritage Preservation of Georgia (NACHP) regarding approval of the provided detail design

საქართველოს კულტურული მემკვიდრეობის დაცვის ეროვნული სააგენტო
National Agency for Cultural Heritage Preservation of Georgia

KA990112688656020

№12/2298 22 / ივლისი / 2020 წ.

საქართველოს მუნიციპალური განვითარების
ფონდის პროგრამის მენეჯერს (ADB)
ბატონ ბექა თორიას
ელ-ფოსტა: tchitanava@mdf.org.ge

ბატონო ბექა,

თქვენი 2020 წლის 08 ივლისის № 1862-გ (შემოს.: № 2372 08.07.2020, № 2377 08.07.2020) და ბატონი თამაზ ჭითანავას 2020 წლის 09 ივლისის № 2386 კორესპონდენციების საფუძველზე სააგენტოში განხილულ იქნა ქალაქ ბუგდიდში, გამსახურდიას ქ. № 7-ში (ს/კ 43.31.49.025) განსათავსებელი ობიექტის პროექტი. აღნიშნულთან დაკავშირებით გაცნობებთ, რომ სააგენტომ დასაშვებად მიიჩნია წარმოდგენილი დოკუმენტაციით გათვალისწინებული სამუშაოების განხორციელება.

პატივისცემით,

გენერალური დირექტორი

ელექტრონულად

ნიკოლოზ ანთიძე

Appendix D. Rapid Environmental Assessment (REA) Checklist

Country/Project Title:	Georgia/53118-001/ Livable Cities Investment Program (LCIP) for Balanced Regional Development
Subproject:	Package LCIP-CW-18 Construction of Zviad Gamsakhurdia Youth Center, Presidential Library and Museum in the City Zugdidi, Zugdidi Municipality
Sector Division:	CWUW

Screening Questions	Yes	No	Remarks
A. PROJECT SITING **Is the project area adjacent to or within any of the following AREAS?**			
▪ Cultural heritage site	**X**		The project does not envisage intervention on the CH monuments. However, the site is located within the buffer of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building).
▪ Legally protected area (core zone or buffer zone)		**X**	City Zugdidi is located approximately 20-25 km away from the nearest protected area (Kolkheti National Park).
▪ Wetland		**X**	There are no wetlands in the subproject area.
▪ Mangrove		**X**	There are no mangroves in Georgia.
▪ Estuarine		**X**	There are no estuaries in the proximity of the subproject area.
▪ Special area for protecting biodiversity		**X**	Needs to be checked with IBAT tool Please see the coordinates of the project land plot below: 1. X 242996; Y 4711125 2. X 243061; Y 4711114 3. X 243067; Y 4711186 4. X 243034; Y 4711183
B. Potential Environmental Impacts **Will the Project cause?**			
▪ Impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources?		**X**	The project does not envisage intervention on the CH monuments. However, the site is located within the buffer zone of visual protection zone for the protection of cultural heritage of national importance – Dadiani Garden and Palaces complex (approximately 150 meters away from Niko Dadiani Palace and 225 meters away from the main palace building). Due to its location within the visual protection zone for the protection of national importance, the project triggers ADB SPS

Screening Questions	Yes	No	Remarks
			environmental policy principle on physical cultural resources. However, considering to the nature and size of the planned works, the distance and the fact that PCR is not located in the direct impact zone of the project, Heritage Impact Assessment is not required. However, the project has been agreed with the Agency for Cultural Heritage Preservation of Georgia and respective confirmation letter (dated 22.07.2020 N12/2298) on approval of works to be performed has been obtained. According to the conclusion of the NACHP, the proposed design will not damage the historically evolved environment of a cultural property, or hinder optimum visibility and full perception of the cultural property and diminish its value and therefore is suitable to be developed within the visual security zone of the cultural property.
▪ Disturbance to precious ecology (e.g. sensitive or protected areas)?		**X**	All works will be carried out in a highly modified urban area. No disturbance to precious ecology is expected.
▪ Alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site?		**X**	The river Chkhoushi represents the nearest surface water object from the project territory, located in the distance of 200 m (direct distance) from it. Impact on water body due to the project implementation is less expected.
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		**X**	Deterioration of water quality is not expected.
▪ Increased air pollution due to project construction and operation?	**X**		There is a risk of increased air pollution associated with construction activities, operation of equipment and service vehicles during the project implementation. This may cause short-term, temporal elevated level of ambient air pollution and suspended particulates. With the use of the most modern, environmentally friendly equipment/ machinery and special dust prevention nets, air pollution can be reduced to permissible levels. The air pollution mitigation measures are provided in the EMP and additional measures, if needed, will be defined in the SSEMP. Environment, Health and Safety specialist will be engaged until the completion of all works to ensure the implementation of SSEMP.
▪ Noise and vibration due to project construction or operation?	**X**		There is a risk of increased noise level associated with construction activities, operation of equipment and service vehicles during the subproject implementation. This may cause short-term, temporal elevated level of ambient noise. With the use of the most modern, environmentally friendly equipment/

Screening Questions	Yes	No	Remarks
			machinery and noise mitigation measures at source, such as accomplishing the noisy works during the day as soon as possible, running the vehicles at minimal speed, noise level can be reduced to permissible norms. The noise mitigation measures are provided in the EMP and additional measures, if needed, will be defined in the SSEMP. Environment, Health and Safety specialist will be engaged until the completion of all works to ensure the implementation of SSEMP. In order to prevent vibration impact, construction crane will be used from the Kostava street road access to avoid transportation of materials from the pedestrian part of the Zviad Gamsakhurdia Avenue bordering Dadiani Garden and Palaces Complex Cultural Heritage Site.
▪ Involuntary resettlement of people? (physical displacement and/or economic displacement)		**X**	The subproject doesn't involve any displacement or dislocation of any person. The proposed site is a municipal-owned land.
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		**X**	There are no disproportionate impacts on poor, women and children, indigenous peoples, or other vulnerable groups anticipated. On the contrary, owing to the new subproject, the modern infrastructure and comfortable environment will positively effect on the population and visitors of Zugdidi city, especially young people who will access to well-planned high quality service provided by the Youth Center, Presidential Library and Museum. CC will be required to prioritize hiring local labor force. Some of the skilled workers may be brought from outside but numbers will be insignificant.
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STIs and HIV/AIDS) from workers to local populations?		**X**	To avoid poor sanitation and solid waste disposal and transmission of contiguous diseases the subproject will provide trainings for all workers in the basic sanitation, general health and safety matters of their work. Moreover, sanitation issues will be regulated by: (i) Site Specific Environment Management Plan (SSEMP); (ii) Site Specific Health and Safety Plan; (iii) Camp Site Management Plan; and (iv) Waste Management Plan;
▪ Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?		**X**	The type of construction works and the pending climatic conditions will not lead to temporary breeding habitats for vectors.
▪ Social conflicts if workers from other regions or countries are hired?		**X**	Conflicts are possible but unlikely as there will be a limited number of workers from outside of the local area. Information banners regarding the project details as well as contact details of contact person will be arranged and the information regarding the upcoming works will be disseminated. The social conflict mitigation measures are provided in the EMP and

Screening Questions	Yes	No	Remarks
			additional measures, if needed, will be defined in the SSEMP. Social specialist will be engaged until the completion of all works to ensure the implementation of SSEMP.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		**X**	A large influx of population is not expected during the construction and operation of the project. The limited number of workers from outside of the local area should not have any significant impact on social infrastructure and services.
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		**X**	Occupational Health and Safety will be a concern, in particular working at heights, live power lines, and treatment of any chemicals during construction. Appropriate safety measures are included in the EMP. Additional measures to ensure occupational health and safety will be specified in SSEMP and Environment, Health and Safety (EHS) will be employed, who will be in charge of implementation of SSEMP and managing health and safety risks in accordance with IFC's EHS Guidelines for the Occupational Health and Safety.
▪ Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		**X**	Construction does not involve use of explosives. The CC shall hire a qualified health and safety specialist who will provide safety training to the staff according to the requirements of the individual workplace. Prior to the commencement of works, the work site personnel shall be instructed about safety rules for the handling and storage of hazardous substances (fuel, oil, lubricants, bitumen, paint etc.) and also cleaning of the equipment. SSEMP will also include measures and monitoring requirements on community safety for chemical hazards.
▪ Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?		**X**	Work area will be clearly demarcated with security access for the workers and project-concerned members only. Community health and safety risks are present during construction as risks from excavations, equipment and vehicle operations. The CC will be requested to include community health and safety measures in the SSEMP.
▪ Generation of solid waste and/or hazardous waste?	**X**		Certain amount of construction waste will be generated during the construction phase. Moreover, accumulation of significant amount of excess ground is expected during earthworks within the project. The contractor will be required to develop a Waste Management Plan (WMP), in compliance with environmental legislation in Georgia (Waste Management Code of Georgia)

Screening Questions	Yes	No	Remarks
			and submit to MEPA for approval. Non-hazardous construction waste shall be managed according to WMP. Inert construction waste can be used for backfilling activities according to written agreement with local authority. All other types of non-hazardous waste must be disposed on the landfill according to the written agreement with landfill management unit. The records regarding waste disposal on a landfill shall be maintained as proof for proper management as designed. No large amounts of hazardous waste (solid and liquid oil-contaminated waste, oil-contaminated ground, paint packing material, lead containing accumulators, asbestos containing pipes) are expected to originate in the project construction phase. Hazardous waste should be stored and transferred to licensed companies, transported, and disposed in compliance with legislative requirements and by following the rules for hazardous waste management. The WMP should include the hazardous waste management measures. Moreover, consultant will be required to develop asbestos contained waste management plan, if in the construction phase, at the stage of dismantling and moving the underground infrastructure, asbestos-containing pipes or other parts are identified.
▪ Use of chemicals?		**X**	Fuels and chemicals will be bounded and provided with impermeable lining to contain spillage and prevent soil and water contamination. The WMP will include the chemicals management measures.
▪ Generation of wastewater during construction or operation?	**X**		Possible environmental impact during operational phase arise from maintenance of arranged infrastructure and will be related to generation of wastewater.

Appendix E. Sample of Inspection Checklists [40]

Location						
Contractor Reference					**Status of works**	
Supervisor Name, Surname					**Date of site visits**	
Inspection documents and activities	Status				**Comment**	
	Yes	Partly	No	N/A		
Contractor has all the required plans						
Contractor designated safeguards staff and providing of required trainings						
Local population, administration of public school and Dadiani Palace are notified on civil works commencement						
Contractor has permit for extraction of inert materials or purchase certificate						
Instrumental Measurements of noise and vibration levels and air quality are conducted at the sensitive receptors as defined in the monitoring plan of SSEMP						
Contractor has an agreement about final disposal of the Construction waste						
The sites of temporal waste disposal are assigned in the construction area and are duly marked						
The storage areas for hazardous waste are protected against the penetration of strangers and against the weather impact						
The sanitary condition of the territory is satisfactory – no dissipated waste is observed						
The vehicles move along the routes specified in advance, bypassing the settled areas as far as possible.						

[40] Project Specific and more detailed inspection checklists (daily, weekly and monthly) will be developed by the CSC prior commencement of civil works

Location						
Contractor Reference					**Status of works**	
Supervisor Name, Surname					**Date of site visits**	
Inspection documents and activities	Status				**Comment**	
	Yes	Partly	No	N/A		
The state of the driving routes is satisfactory						
The protected areas for oils, oil products and other liquid products are marked in a due manner						
At the project site there is a waste registration log						
Contractor has installed information sign of construction works						
Contractor has a complaint box						
Contractor has an agreement with service provider about daily disposal of the waste from construction site						
Construction site is fenced and warning signs are arranged						
Works do not disturb pedestrians and traffic or an alternative route is provided						
Working hours are observed						
Construction machinery and equipment is in standard technical condition (no excessive exhaust, no leakage of fuel and lubricants)						
Construction materials and wastes are transported by covered transport						
Construction site is watered in the case of large amounts of dust emissions						
Contractor’s camp or working base is fenced; some special spaces are allocated for waste storage and for machinery/equipment services						
Contractor's camp is supplied with water and sanitation facilities						
Contractor's camp or work base is equipped with first aid and fire-fighting kits						

Location						
Contractor Reference					**Status of works**	
Supervisor Name, Surname					**Date of site visits**	
Inspection documents and activities	Status				**Comment**	
	Yes	Partly	No	N/A		
Workers wear uniforms and are equipped with protective equipment during corresponding technological processes (gloves, helmets, respirators, glasses, etc.)						
Transport and machinery is served in impermeable, separated places, where spilled operating and emergency wastes can be conserved						
Transport and equipment are washed away from natural water resources, in this way it can be avoided to flow contaminated water into the natural waters						
Construction crane is used from the Kostava street						
Layout plan of the work camp includes 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);						
The area around the cultural heritage monuments is free of debris and mud;						
No waste is disposed around the cultural heritage monuments						
Construction waste is being disposed only to special designated places						
Excessive materials and surface soil is stored separately and is used for backfilling/ site initial condition recovery- if needed						
In case of sudden discoveries work process is stopped, corresponding messages are sent to the state						

Location						
Contractor Reference					**Status of works**	
Supervisor Name, Surname					**Date of site visits**	
Inspection documents and activities	Status				**Comment**	
	Yes	Partly	No	N/A		
agency responsible for cultural heritage preservation						
After completion of physical activities on the site, contractor's camp/ working base and construction wastes are liquidated and site is harmonized with the environment						
Post-Construction Audit Report is prepared						