Final Environmental Monitoring Report

Project Number: 45366-004
Draft No. 1 - December 2024
Revision No. 1 – April 2025

UZB: Solid Waste Management Improvement Project (SWMIP)

Loan No. 3067-UZB
(Financed by the Asian Development Bank)

Prepared by the State Unitary Enterprise "Maxsustrans" for Tashkent Municipality, State Committee of the Republic of Uzbekistan of Ecology and Environment Protection (SCEEP)[1], and the Asian Development Bank (ADB)

[1] According to Decree of the President of Uzbekistan No. UP-81 from 31.05.2023 SCEEP was reorganized into the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan (the Ministry), https://lex.uz/ru/docs/6479185

Solid Waste Management Improvement Project

ADB Loan No.: 3067-UZB

PROJECT MANAGEMENT, IMPLEMENTATION AND SUPERVISION CONSULTANCY SERVICES

Contract No.: SUE/Maxsustrans/QCBS-Cons_1-2016-01



Final Environmental Monitoring Report

December 2024

CLIENT – IMPLEMENTING AGENCY
State Unitary Enterprise (SUE) "MAXSUSTRANS" (Uzbekistan)

PIU SUPPORT CONSULTANT
Infratech Consulting SDN Ltd. (Uzbekistan)

CURRENCY EQUIVALENTS

(As of December 10, 2024)[2]

Currency unit	–	Sum (SUM)
SUM1.00	=	$0.0000776
$1.00	=	SUM 12874.02

ABBREVIATIONS

ADB	Asian Development Bank
AP	Affected people
BER	Bid Evaluation Report
CDP	Corporate Development Program
CSC	Construction Supervision Consultant
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP	Environmental Management Plan
GoU	Government of Uzbekistan
GRM	Grievance Redress Mechanism
IEE	Initial Environmental Examination
LARP	Land Acquisition and Resettlement Plan
Maxsustrans	State Unitary Enterprise "Maxsustrans"
Ministry	Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan
MSW	Municipal Solid Waste
PIU	Project Implementation Unit
SCEEP	State Committee of Ecology and Environment Protection of the Republic of Uzbekistan
SLF	Sanitary Landfill Facility
SPS	Safeguard Policy Statement
SEMP	Site-specific Environmental Management Plan
SWM	Solid Waste Management
SWMIP	Solid Waste Management Improvement Project

NOTE{S}

This Final Environmental Safeguard Monitoring Report is a document of the Borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

[2] Foreign Exchange (www.cbu.uz)

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1 INTRODUCTION

1.1 Preamble

1. As per the Loan and Project Agreements for the L3067-UZB: Solid Waste Management Improvement Project (SWMIP), State Unitary Enterprise (SUE) "Maxsustrans" and Project Implementation Unit (PIU) are bound to ensure that: (i) the project is constructed and operated in accordance with the national and local environmental regulations and guidelines, ADB's Safeguard Policy Statement (2009) and the Initial Environmental Examination (IEE) report; (ii) any adverse environmental impacts arising from the construction and operation of the project facilities are minimized by implementing the mitigation measures as per the environmental monitoring program and other recommendations presented in the IEE report; and (iii) the implementation of the Environmental Management Plan (EMP) and violations of safety or environmental standards, if any, be regularly reported to Asian Development Bank (ADB).

2. This is the Final Environmental Monitoring Report (FEMR) for the SWMIP covering an overview of the history of environmental management and monitoring throughout the project construction period, and to report on the status of final project-end activities such as site reinstatement. This FEMR describes the finalization of the environmental monitoring and mitigation measures implemented as it was recommended in the IEE, analyzes environmental data collected from the projects during the completing period and provides recommendations for resolving identified issues during the post – construction period.

3. To be more specific, this FEMR covers the following areas: (i) documentation review and compliance assessment with the applicable environmental regulations; (ii) environmental management institutional structure and responsibilities; (iii) mitigation measures undertaken to minimize adverse environmental impacts arising from the construction; (iv) environmental monitoring results and analyses; and (v) conclusions and recommendations.

4. The Government of Uzbekistan (GoU) took tough measures against COVID-19 and all necessary preventive measures to prevent the spread of coronavirus infection during March – August 2020. In particular, all transport communication and public activities have been limited or prohibited. Tashkent city and other regions went into quarantine mode, and most companies, organizations, and institutions were transferred to remote work. In the reporting period, the restriction measures due to COVID-19 have been cancelled in Uzbekistan, however, it is recommended to use masks in public places.

1.2 Headline Information

5. An overall progress of construction works on SLF and auxiliary facilities as well as access road are completed at 100% under the Contract CW1 for Sanitary Landfill Establishment. Construction work began on April 8, 2022 and expected to be completed on December 31, 2024. Due to justified reasons (weather conditions, high groundwater level, etc.) of delay in the landfill construction, it was decided to extend the completion of the construction by end September 2024.

6. As reported in the previous semi-annual environmental monitoring reports the construction of other facilities of the SWMIP (two garages and transfer stations) have been finalized and commissioned. Currently, these facilities are in operation by SUE "Maxsustrans".

2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

8. The GoU has applied for a loan from the ADB for the development and improvement of the Solid Waste Management (SWM) system of the capital city Tashkent. ADB approved the project on 27 November 2013 with a loan amount of $69.0 million from its ordinary capital resources. The loan reference number is L3067-UZB: Solid Waste Management Improvement Project (SWMIP). The Loan Agreement was signed between the Republic of Uzbekistan and ADB on 27 February 2014, and the Project Agreement was signed between ADB, Tashkent City Municipality and the SUE "Maxsustrans" on 12 March 2014. The Loan Agreement became effective on 29 December 2014 and comprises **Part A** – National Municipal Solid Waste Strategy and **Part B** – Solid Waste Management in Tashkent city.

9. The overall objective of SWMIP is to provide an improved SWM system in Tashkent, the capital city, to upgrade urban infrastructure and services. The project's impact is improved urban environment and quality of life for the residents of Tashkent. The expected outcome is improved SWM services and management in Tashkent. The project has three outputs: **output 1** - rehabilitated and expanded SWM system in Tashkent; **output 2** - strengthened operational capacity; and **output 3** - national SWM strategy. Tashkent City Municipality is the Executing Agency for the outputs 1 and 2, with the State Committee of Uzbekistan of Ecology and Environment Protection (SCEEP[3] being the Executing Agency for output 3. Maxsustrans is the Implementing Agency responsible for the day-to-day project implementation.

10. The total project cost is $76.3 million equivalent (of which ADB loan amount is $69.0 million and GoU contribution - $7.30 million), inclusive of tax and customs duty exemptions, and financial charges during implementation covered by the GoU. The project finances:

- supply of waste collection trucks and transportation of municipal solid waste;
- supply of equipment and machinery for the sanitary landfill;
- supply of waste bins for waste collection points and containers for transportation of waste;
- construction and rehabilitation of waste collection points;
- rehabilitation of two transfer stations in the city of Tashkent;
- rehabilitation of two garages of Maxsustrans;
- closure of an existing landfill solid waste dumpsite;
- construction of a new sanitary landfill;
- preparation of a draft national strategy for the management of solid waste, including a draft sector investment program;
- capacity development support for Maxsustrans, including in the areas of operation and management and Project implementation; and
- development and implementation of a waste minimization and recycling program and a parallel media and public awareness campaign about waste minimization and recycling.

11. To be noted the construction and rehabilitation of waste collection points was financed by Maxsustrans own funds and the closure of existing dumpsite is financed by the Korean company "Sejin G&E Co. Ltd.", for details please refer to the next chapter below. Therefore, these components are no longer part of the Project.

12. Originally, the project was designed for five years of implementation with a loan closing date of 30 June 2019. On 17 December 2018, ADB approved a 24-months loan extension with the revised Loan Closing Date of 30 June 2021 to complete all ongoing contracts and planned civil works, delayed due to start-up delays (including ten months' delay in effectiveness) and procurement delays (the first

[3] According to Decree of the President of Uzbekistan No. UP-81 from 31.05.2023 SCEEP was reorganized into the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan (the Ministry).

contract was awarded in 2016 only) because of the Executing Agency's insufficient capacity and GoU's prolonged contract registration process.

13. Based on the letters of the Ministry of Finance of Uzbekistan (MoF) dated 26 March 2021 and 17 July 2021, on 23 July 2021, ADB approved a 30-months loan extension with the revised Loan Closing Date from 30 June 2021 to 31 December 2023 to ensure successful and timely completion of the project. This approval was provided by ADB on a post-facto-basis considering the GoU's commitment to strictly adhering to the time-bound action plan and mitigation measures submitted to ADB, which shall be implemented by Tashkent City Municipality, Maxsustrans, and PIU.

14. Further, in line with the letter of Ministry of Economy and Finance of Uzbekistan dated 18 September 2023, with regard to extension of Closing Date of the Project, on 22 December 2023, the ADB approved new Closing Date from 31 December 2023 to 31 December 2024. This is the third extension of the Loan closing date proposed for the Project in a cumulative extension of 66 months.

15. The project includes a new Sanitary Landfill Facility (SLF) development concept approach. This utilizes the planned SLF as an immediate and effective solution for Tashkent's waste disposal challenges, with the potential to progressively expand the facility to become a disposal solution that can serve a part of the Tashkent region over the long term. The proposed SLF concept is based on the Best Environmental Practices (BEP) resulting to a *state-of–the-art* design consistent with internationally acceptable standards.

16. The volume of the existing dumpsite is exhausted, and the original plan of the Tashkent City Municipality was to extend its dumpsite operations to an adjacent lot of additional 30 hectares (ha) of area. Being fully aware of the inevitable environmental impacts through the extension of this practice, the city asked the national government for assistance in this matter. Based on these activities, the Cabinet of Ministers of Uzbekistan approved in summer 2012 the location of a new landfill on 30 ha of agricultural area for waste disposal (Akhangaran district of Tashkent region).

17. The GoU has allocated 30 ha land plot immediately to the south of the existing Akhangaran dumpsite of which 25 ha for new sanitary landfill and ca. 5 ha for auxiliary facilities. In addition, land for construction of 2 hectares access road was allocated by the khokimiyat of Ahangaran district by Decision #3860 dated 15.06.2019. The new landfill has been designed in accordance with the internationally recognized environmental standards and considering the national construction and environmental norms and requirements. In the second half of 2019 the engineering design of the sanitary landfill and auxiliary facilities has been completed and a positive expert conclusion on the design documentation has been received from the local authority. According to local regulation any design for construction or reconstruction of a facility shall first be reviewed and confirmed by the responsive authority and after the Employer is entitled to conclude the works contract with the Contractor.

18. The GoU, through its Implementing Agency, the SUE "Maxsustrans" utilizes part of this loan proceeds towards the cost of the contract for Consulting Services related to Project Management, Implementation and Supervision, supporting the PIU.

2.2 Project Contracts and Management

19. Summary information on the work contracts and physical progress is presented in Table 1. All work contracts awarded under the SWMIP included EMP approved by ADB. For the awarded contracts environmental assessment was not required in accordance with national regulations of Uzbekistan. Since the works targeted to rehabilitation of existing structures to be carried out on the same area without any expansion of the territory and negative impact on environment and as the original use of the rehabilitated structures has been not changed, preparation of a local EIA was not required. The CW1 contract (Sanitary Landfill Establishment) includes a PIC approved by ADB and the conditions for national approval of the EIA (paragraph 30 on page 12).

Table 1 Summary of the Work contracts and physical progress as of 15 December 2024

Contractor	Scope	Signed Date	Approval Date			Name of personnel		Civil Works		Progress as of		DLP	
			SSEMP	COVID-19 HSMP	ERP	Environmental Officer	Health and Safety Officer	Start Date	End Date	30 Jun 2024	December 2024	Start Date[4]	End Date
CW1: JV «STECOL-POWERCHINA GUIYANG» (China)	Sanitary landfill establishment	31 Jan 2022	7 Jul 2022	7 Jul 2022	7 Jul 2022	Ms. Yuliya Gnedina	Ms. Aytbike Yusupova	8 Apr 2022	30 September 2024)	96.0%	100%	29 Apr 2025	29 Apr 2026
CW2: JV of Future Growth Ltd., VBN Engineering Ltd and Eastern construction Ltd. (Uzbekistan)	Transfer station rehabilitation[5]	12 Apr 2021	Apr 2021	Apr 2021	Apr 2021	Mr. Nozimhon Saydullayev	Mr. Xasan Bashirov	1 May 2021	31 Aug 2022[4]	100%	100%	1 Sept 2022	31 Aug 2023
CW3: *Cancelled*	Dumpsite closure												
CW4: Indigo Baraka Servis LLC (Uzbekistan)	Garage rehabilitation[6]	7 Dec 2020	21 Dec 2020	21 Dec 2020	Jan 2021	Mr. Khabibulla Mukhtarov	Mr. Rakhmatilla Normatov	16 Dec 2020	31 Dec 2021[5]	100%	100%	1 Jan 2022	30 Jun 2023
CW5: Various local contractors	Construction and rehabilitation of waste collection points[7]	Various contracts				n/a	n/a	Various dates	Various dates	100%	100%	N/A	N/A

[4] Started from the date of the taking -over certificate of the works dated April 29, 2025. The copy of the certificate is given in Appendicies.
[5] Photos before and after rehabilitation of two Transfer Stations of Maxsustrans are provided in Appendix 8 of the report
[6] Photos before and after rehabilitation of two District Garages of Maxsustrans are provided in Appendix 8 of the report
[7] Post Construction Environmental Audit Reports (PCAER) after completion of civil works have not been submitted, because the scope of works was rehabilitation of existing facilities. However, a summarized PCEAR is prepared and submitted after completion of all works of the Project in Q4 2024.

20. The project is being administered by PIU, which is currently represented by the acting Head of PIU Mr. Jamol Irbutayev appointed from 01.12.2023. From 01.03.2023 until 31 July 2024 the national environmental specialist Mr. Akmal Begimkulov has performed tasks of the environmental specialist in PIU team (before this task was temporarily performed by head of PIU).

21. PIU has received an official letter from H.P. Gauff Ingenieure GmbH & Co. KG. on 24 July 2020 about order of the local court of Nuremberg on opening of insolvency proceedings according to German Law regarding H.P. Gauff Ingenieure GmbH & Co. KG. PIU has also received an official letter from H.P. Gauff Ingenieure GmbH & Co. KG. on 17 September 2020 about declaration of non-entry of the company in the Contract No. SUE/Maxsustrans/QCBS-Cons1-2016-01.

22. Considering the necessity to continue the PIU support services for ensuring an uninterrupted implementation of the Project, the obligations under the Contract No. SUE/Maxsustrans/QCBS-Cons 1-2016-01 were assigned to the local partner of JV - Infratech Consulting SDN Ltd. (Uzbekistan). Maxsustrans has signed Amendment No. 5 to the Contract Cons_1 on 9 December 2020 with extension of the Consultant's service until 30 June 2021. A full responsibility of the Consultant to perform this contract against the Client is handed over to lnfratech Consulting SDN Ltd. Mr. Dilshod Mavlyan-Kariev, national SWM Specialist/Deputy Team Leader is in charge in the overall project administration and reporting for the Project.

23. After the Loan Closing Date was extended until 31 December 2023, by the Contract's Amendment No. 6 dated 9 December 2021, the PIU Consultant services have been prolonged from 30 June 2021 until 31 December 2023. To strengthen the financial management and contract administration capacities of the Project, the Consultant's team was extended by two additional non-key national experts: Financial Management Specialist/Accountant and Contract Administration Specialist.

24. After the Loan Closing Date was extended until 31 December 2024, by the Contract's Amendment No. 7 dated 17 April 2024, the PIU Consultant services have been prolonged from 31 December 2023 to 31 December 2024. A quite limited input of the Consultant especially the national environmental specialist has been allocated for 2024 – referring to approval of the amendment No. 7 by the local authority.

25. Originally, PIU Support Consultant has mobilized the national environmental specialist Mr. Sergey Karandayev with input 18.93 per/mon since 01.07.2018 and to support him with site monitoring missions assistant Mr. Akmal Begimkulov with input 3.88 per/mon, who was mobilized on 18.04.2022. They both are in charge of environmental monitoring and reporting, supervision over mitigation measures were implemented and reported properly.

26. On 31.01.2023 Mr. Begimkulov has resigned PIU Consultant team and since 01.03.2023 he working as the national environmental specialist of PIU for continuing the Project's environmental monitoring and reporting. His contract with PIU ended by 31 July 2024 – the contractual end of construction of sanitary landfill. Mr. Mukhammadali Kholmurodov was employed by PIU Consultant to finalize the environmental monitoring and reporting under the Project.

27. Maxsustrans has recruited the China Urban Construction Design & Research Institute Co., Ltd. (CUCD) as the Consultant for SLF Design and Construction Supervision Services (contract Cons_2). The design services of CUCD commenced in December 2018 and completed in October 2019 by state expertise of the engineering design documentation. Based on the approved design prepared by CUCD, Maxsustrans has launched the international bid under the contract CW1 – Sanitary Landfill Establishment and Dump Site Closure in October 2019. The package was rebid in October 2021 due to excluding the dumpsite closure works on decision of the GoU.

28. The civil works under the contract CW1-R Sanitary Landfill Establishment commenced on 8 April 2022 and the supervision services of CUCD under the contract Cons_2 commenced on 5 May 2022 and competed in November 2024. On 25 April 2022, Maxsustrans signed with CUCD the Amendment No. 3 to the contract extending the supervision service until 31 October 2023. CUCD acting as the Engineer under the contract CW1-R and monitors the safeguard compliance. Mr. Mingtao Nie – international

environmental specialist of CUCD with input of 3.0 per/mon for the supervision phase, who has worked from May 2022 to May 2023.

29. CUCD environmental specialist monitored the implementation of Site-Specific Environmental Management Plan (SSEMP) prepared by the Contractor according to the requirements of the national Environmental Impact Assessment (EIA = the Russian abbreviation "ZVOS") and the Environmental Management Plan (EMP) cleared by ADB as part of the Project's Initial Environmental Examination (IEE) dated May 2013[8] https://maxsustrans.uz/project/dokumenty-po-proektu.

30. After finishing the SLF design by CUCD, a national EIA has been ordered by Maxsustrans and a positive conclusion of the State Ecological Expertise to the updated national EIA has been obtained on 9 March 2022. The national EIA is available on the website of Maxsustrans https://maxsustrans.uz/uz/project/regulyarnye-otchety. The document is given in Appendix. The table below provides brief information of national EIA requirements and their implementation:

Table 2 Compliance with the national EIA

No	National EIA requirements	Implementation	Compliance status
1	It is necessary to provide information on the positions of the boundaries of water protection zones and coastal strips of irrigation watercourses (aryks) relative to the work site, certified by authorized state bodies, allowing the admissibility of design solutions within the declared territory.	According to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated 11.12.2019 No. 981. The smallest width of the water protection zone of coastal strips of canals, irrigation and collector-drainage networks is established from the edge of the normal water level: for irrigation networks with a total depth of 0.75 - 2 meters, serving two or more farms and other agricultural organizations along the edge of the normal water level - 5 meters; For the operation of reinforced concrete tray irrigation networks, management and accounting of water resources, as well as their reconstruction, repair and restoration, coastal strips are established with a width along one side of 4.5 meters, and on the other side - 1 meter.	Complied with
2	When organizing design solutions for the construction of the facility, it is necessary to provide for the preservation of the fertile soil layer - the fertile soil layer must be removed and preserved in order to use it for biological reclamation of land and increase the fertility of low-yield lands.	The fertile layer was removed and transferred to farms for the reclamation of disturbed lands. In turn, by the end of construction, reclamation work was also carried out at the landfill and trees were planted.	Complied with
3	It is necessary to calculate the water consumption for the preparation of the disinfectant solution.	Currently, ready-made mixtures of disinfectant solutions are available. For use, only water must be added. To prepare working solutions for disinfection in the range of 0.1% - 4%. It is necessary to combine water and disinfectant mixture in a ratio of 99.9% water x 0.1% disinfectant mixture.	Complied with
4	In addition to the waste accepted, the landfill will generate waste in the form of solid municipal waste (1.5 t/year), food waste (3.6 t/year), worn-out work clothes (0.14	All waste (except food) will be disposed of in the solid municipal waste landfill. (At the landfill itself) Food waste will be transferred daily to interested parties for cattle feed.	Complied with

[8] IEE link: https://maxsustrans.uz/project/dokumenty-po-proektu

	t/year), wiping rags (0.098 t/year), used LED lamps (0.6 kg/year), and sweepings from cleaning the territory (6.15 t/year). The project must provide for the appropriate disposal of the above types of waste.		
5	The environmental impact statement (second stage) must be submitted in accordance with the procedure established by law prior to approval of the feasibility study for the facility.	The national environmental impact assessment was prepared in November 2021, positive conclusion was received in March 2022. Environmental Impact Statement - the final stage of environmental impact assessment, including materials for determining environmental impact standards before commissioning of the completed facility. Currently the Environmental Impact Statement is developed and under approval.	Complied with

31. The main stakeholders of the Project related to environmental safeguards are presented in Table below.

Table 3 Environmental Safeguards Personnel

Stakeholder	Organization / Firm	Title	Name	Email address
Executing Agency	Tashkent City Municipality (EA-TCM)	First Deputy Mayor	Mr. Bakhtiyor Rakhmanov	b.raxmonov@tashkent.uz
Implementing Agency	State Unitary Enterprise "Maxsustrans" (IA-Maxsustrans)	Director	Mr. Komoliddin Nabiev	maxsustrans@inbox.ru
		Deputy Director	Mr. Mirjamol Soatov	maxsustrans@inbox.ru
IA's PIU	State Enterprise "Solid Waste Management Improvement Project Implementing Unit" (PIU)	Acting Head	Mr. Jamoliddin Irbutaev	piu3067@gmail.com
		Environmental Specialist	Mr. Akmal Begimkulov	akmal-begimkulov@mail.ru
PIU Support Consultant	Infratech Consulting SDN Ltd. (ITC)	Deputy Team Leader	Mr. Dilshod Mavlyan-Kariev,	dilshod75@mail.ru infratech_consulting@asia.com
		Environmental Specialist	Mr. Sergey Karandaev Mukhammadali Kholmuradov	infratech_consulting@asia.com
			Mr. Mukhammadali Kholmuradov	roadandrailwayeco@gmail.com
Landfill Design and Supervision Consultant	China Urban Construction Design & Research Institute Co. Ltd. (CUCD) with sub-consultants Uzagrosanoatloyiha Ltd. and Mailc Engineering Ltd.	Project Director	Mrs. Yuwei Xue	icc@cucd.cn cucdconsulting@163.com
		Environmental Specialist	Mr. Mingtao Nie	hjpmo@163.com

32. The role of each agency in the project is presented in Table 4.

Table 4: Role of Agencies towards EMP Implementation

Agency	Role
Project Implementation Unit (PIU)	• Holds overall responsibility with regards to EMP Implementation • Report to various stakeholders (ADB, Regulatory bodies) on status of EMP Implementation • Coordinate with Environmental Experts (PIU Consultant, Contractors and External Monitors) • Responsible for obtaining Regulatory Clearances • Review of the progress made by Contractors • Ensure the BoQ items mentioned in EMP are executed as per contract provisions
PIU Support Consultant	• Assist PIU in monitoring of overall implementation of EMP • Review of periodic reports on EMP implementation and advising PIU in taking corrective measures • Conduct periodic field inspection of EMP implementation • Assist PIU and reporting to various stakeholders (ADB, Regulatory bodies) on status of EMP implementation • Conduct environmental training for field officers and engineers of contractor
Design and Supervision Consultant – Engineer of the Works contract	• Supervise the implementation of the environmental protection and impact mitigating measures by the contractors • Supervise construction activities to ensure minimum impact on the natural and socioeconomic environment • Regularly monitor and report on performance of the Contractor(s) environment staff, verifying monitoring methodologies and results • Review of the construction design to ensure compliance with project engineering design and the EMP with regards to environmental protection and impact mitigation • Prepare the necessary remedial actions for any unforeseen impacts • Instruct the Contractor(s) to take corrective actions within timeframe as determined by the Environmental Specialist • Address complaints related with environmental aspect of the project through GRM • Provide trainings to the Contractor regarding the implementation of the safeguard activities and plans on the construction site • Contribute to the final report on safeguard aspects upon completion of construction
Contractor	• Responsible for development of Site-specific Environmental Management Plan (SSEMP) • Responsible for ensuring the implementation of SSEMP as per provisions in the document • Discuss various environmental / social issues and environmental / social mitigation, enhancement and monitoring actions with all concerned directly or indirectly • Ensure environmentally sound and safe construction practices • Conduct periodic environmental and safety training for contractor's engineer, supervisors and workers • Sensitize on social issues that may be arising during the construction stage of the project • Conduct environmental monitoring and control activities including pollution monitoring, safety • Prepare and submit monthly reports on status of implementation of safeguard measures • During the COVID-19 pandemic, ensure necessary protection to the deployed workforce and minimize the risk of spread of infection.

33. During the civil works under CW1-R, the Design and Supervision Consultant is responsible for approval and monitoring of implementation of SSEMP by the Contractor and regularly report to PIU/Employer on compliance with the safeguard requirements of the Project. The PIU Support Consultant is responsible for overall monitoring of supervision consultants and contractors involved under the Project at performing their safeguard compliance tasks and progress reporting based on monitoring results. The responsible entity for overall coordination of SLF is Maxsustrans. There are two specialists at PIU, project accountant and director, responsible for project coordination till June 2025. The date of the commissioning of the SLF is April 28, 2025.The commissioning acceptance certificate was signed on April 28, 2025. The taking-over certificate for the works was signed on April 29,2025.[9] The defects notification period is 365 days starting from April 29, 2025. The expected period for PIU demobilization is June 2025.

2.3 Implemented Project Activities

[9] The copy of the taking -over certificate for the works dated April 29, 2025 and Commissioning acceptance certificate dated April 28, 2025 are given in Appendixes.

34. The Works contracts of the Project is as follows:

(i) Contract CW1-R – Sanitary Landfill Establishment signed on 31 January 2022: The Contractor – JV «STECOL-POWERCHINA GUIYANG» (China). The amended contract's value is $17.19 million excl. local VAT. The contract experienced significant delay compared to the original implementation schedule due to delayed selection of the Contractor during 2019 and 2020. The works commenced on 8 April 2022 and actually completed by 30 September 2024 – (as per Contract's Amendment No.1 the works shall be completed by 31 July 2024).

(ii) Contract CW2 – Transfer Station Rehabilitation, the Contractor – JV of Future Growth Ltd., VBN Engineering Ltd and Eastern Construction Ltd. (Uzbekistan). The contract's value is $6.98 million and the signing date was 12 April 2021. The civil works commenced on 1 May 2021, and construction completion is extended until 31 August 2022 and was finalized on time. The scope of works under contract CW2 included: (i) dismantling of the existing machinery and associated equipment and supporting steel construction; (ii) dismantling of the ventilation / dust exhauster system; (iii) hydraulic system and pipes; (iv) e-power cable system; (v) sensors and IT-system and cable; (vi) leachate collection and drainage system from press; (vii) rehabilitation of the surface (profile steel plates) and of existing fire prevention system, new hydrants, etc.; (viii) rehabilitation of the concrete surface of the unloading area and of the concrete surface prior the press and container docking place; (ix) electric engineering system; (x) emergency system; (xi) steering container to rehabilitate; and (xii) other facilities.

(iii) Contract CW3 Dumpsite closure: Cancelled. Closure of the existing dump site located in Akhangaran district of Tashkent region was implemented by the Korean company Sejin G&E Co. Ltd.

(iv) Contract CW4 – Garage Rehabilitation, the Contractor – Indigo Baraka Servis LLC (Uzbekistan). The revised contract's value is equivalent to $962,000, and the Contract signing date was 7 December 2020. The Works Commencement was determined 16 December 2020 and construction was completed on 31 December 2021 (according to Amendment No.1 of the contract).

(v) Contract CW5 Construction and rehabilitation of waste collection points: Various local contractors. The works package was financed by Maxsustrans own funds and all works have been completed within 2015-2019.

Figure 1 Photos of implemented activitied within Contract CW1-R – Sanitary Landfill Establishment. Date of photos 27.10.2024

Sanitary landfill

Access road to the landfill site

Tank for storage of oil products

Auxiliary tank for the landfill

Figure 2 Photos of implemented activitied within Contract CW2 – Transfer Station Rehabilitation. Date of photos 03.11.2024

Storage area of waste transport containers

Storage area of waste transport containers

Waste overload point

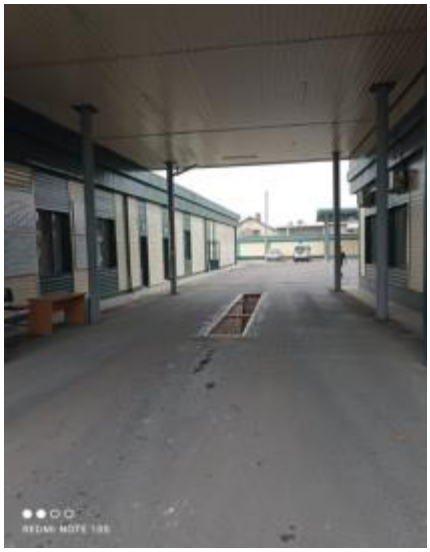
Truck scales at the entrance to the waste overload point

Figure 3 Photos of implemented activitied within Contract CW4 – Garage Rehabilitation. Date of photos 04.11.2024

Entrance to the garage

Vehicle storage area

Area of minor repairs



Garage service pit

2.4 Description of Any Changes to Project Design

35. No changes to the agreed project design took place, excluding the following:

(i) Closure of the existing dump site located in Akhangaran district of Tashkent region was implemented by the Korean company Sejin G&E Co. Ltd. according to the Uzbek Government decision No. 895 dated 01.11.2018 on realization of investment project for producing biogas from waste. So, the dump site closure component upon the official request of the Ministry of Finance of Uzbekistan sent to ADB in 2021 has been excluded from the Project. The dumpsite closure works and installation of new equipment was implemented by the Korean company in 2023.

(ii) The works package "Construction and rehabilitation of solid waste collection points" was financed by Maxsustrans own funds and all works have been completed within 2015-2019.

2.5 Description of Any Changes to Agreed Construction Methods

36. No changes to agreed construction methods took place within the reporting period.

37. The construction and rehabilitation of solid waste collection points, originally foreseen by the ADB loan funds of the Project, were financed by Maxsustrans own funds and all works were completed within 2015-2019.

3 ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Implemented Environmental Safeguard Activities

38. During the project implementation, no changes in organizational structure of the Project's environmental safeguard activities made. With support of PIU's environmental specialist PIU Consultant has monitored the overall project implementation and environmental safeguard measures on SLF site (contract CW1-R). PIU Consultant used data of the monthly safeguard monitoring reports of the SLF Contractor.

39. Most of the environmental monitoring requirements were for the construction period of project site. At the construction stage, the Contractor's specialist was responsible for preparation and submission of monthly environmental safeguard reports. Meanwhile, the PIU was responsible for the monitoring and summarization of compliance with the environmental safeguard requirements. The national environmental specialist of PIU Consultant was responsible for assistance to PIU in compiling the semi-annual environmental monitoring reports. Since the project commenced 19 semi-annual environmental monitoring reports were submitted to PIU and ADB and disclosed at ADB's web site.

40. Monitoring and reporting of the project was conducted prior to construction, during construction and will continue after commencement of operation. PIU monitors the performance and implementation of Environmental Management Plans (EMP).

41. The environmental monitoring reports (EMR) on implementing the EMP were prepared prior to construction (detailed design and procurement stages), during construction and will be prepared during operation, as follows: (i) monthly EMRs to the IA; and (ii) quarterly or semi-annual EMRs to ADB. The EMRs documented the relevant environmental aspects and its respective mitigation measures, as well as grievances received and resolved during the project implementation.

42. Prior to commencement of construction works, Contractor(s) had to submit Site-specific EMPs and compliance report to PIU ensuring that all identified impacts detailed in the environmental assessment had been undertaken. The PIU reviewed and approved the SSEMPs submitted by Contractor(s) as shown in table below:

Figure 4 Submission and approval the SSEMPs

Contractor	Scope	Signed Date	Approval Date		Civil Works	
			SSEMP	COVID-19 HSMP	Start Date	End Date
CW1: JV «STECOL-POWERCHINA GUIYANG» (China)	Sanitary landfill establishment	31 Jan 2022	7 Jul 2022	7 Jul 2022	8 Apr 2022	30 Sept 2024)
CW2: JV of Future Growth Ltd., VBN Engineering Ltd and Eastern construction Ltd. (Uzbekistan)	Transfer station rehabilitation	12 Apr 2021	Apr 2021	Apr 2021	1 May 2021	31 Aug 2022[4]
CW3: *Cancelled*	Dumpsite closure					
CW4: Indigo Baraka Servis LLC (Uzbekistan)	Garage rehabilitation	7 Dec 2020	21 Dec 2020	21 Dec 2020	16 Dec 2020	31 Dec 2021[5]
CW5: Various local contractors	Construction and rehabilitation of waste collection points	Various contracts			Various dates	Various dates

43. During the project implementation, the activities undertaken by the Project's environmental personnel included:

(i) National Environmental Specialist of PIU Consultants (Mr. Sergey Karandaev, Mr. Mukhammadali Kholmurodov):

- monitor and report on environmental safeguard issues since August 2017 up to date,
- liaise with the Client (Maxsustrans), the Contractor (CW1-R) and the Supervision Consultant (CUCD),
- cooperate with PIU environmental specialist Mr. Akmal Begimkulov,
- conduct the site inspections on project sites where construction works are ongoing (new sanitary landfill in Akhangaran district of Tashkent region),
- propose mitigation measures when issues identified on the site.

(ii) National Environmental Specialist of PIU (Mr. Akmal Begimkulov):

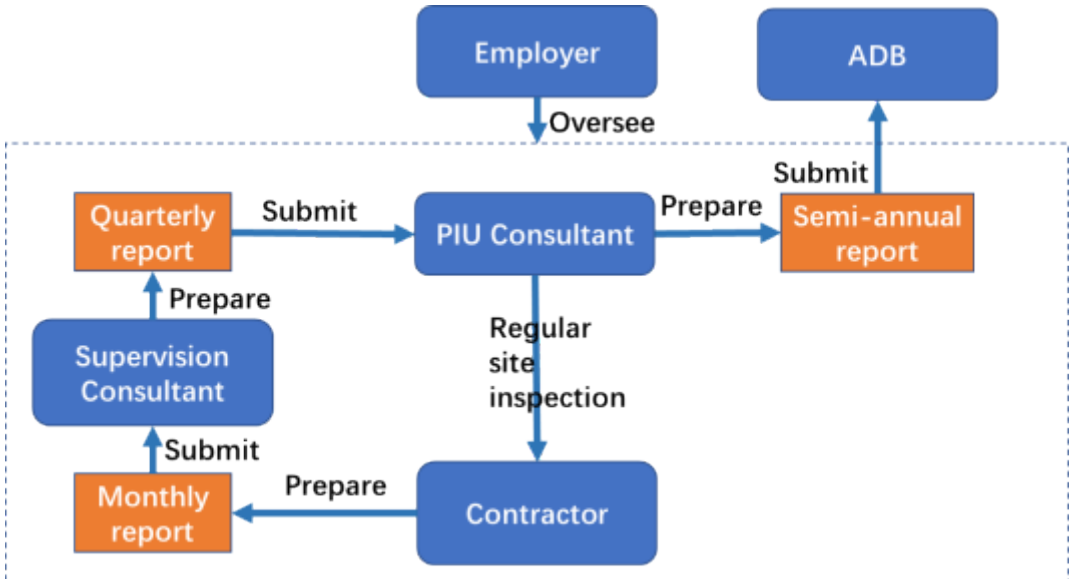
- perform monitoring and reporting on environmental issues,
- organize and conduct on-site inspections at project sites where construction work is underway (a new landfill located in the Akhangaran district of Tashkent region)
- prepare notification letters and inspection visit reports to Contractors,
- tracking mitigation and corrective measures on site by Contractors,
- liaise with the Client (Maxsustrans), the Contractor (CW1-R) and the Supervision Consultant (CUCD).

(iii) International Environmental Specialist of SLF Supervision Consultant (Mr. Mingtao Nie), demobilized since 1 May 2024:

- Update the EMP for the construction of the sanitary landfill,
- Review the Contractor's site-specific environmental management plan (SSEMP) and propose suggestions for improvement;
- Monitor the implementation of SSEMP by the Contractor CW1-R and report to Maxsustrans/PIU,
- Review the Contractor's monthly EMRs,
- Prepare quarterly EMPs based on the Contractors' monthly EMRs and submit to Maxsustrans / PIU,
- Coordinate with other environmental specialists working in the project.

44. The following scheme presents the current task distribution agreed by the environmental specialists of the PIU Consultant, the Supervision Consultant and the Contractor:

Figure 5 Task Distribution Scheme



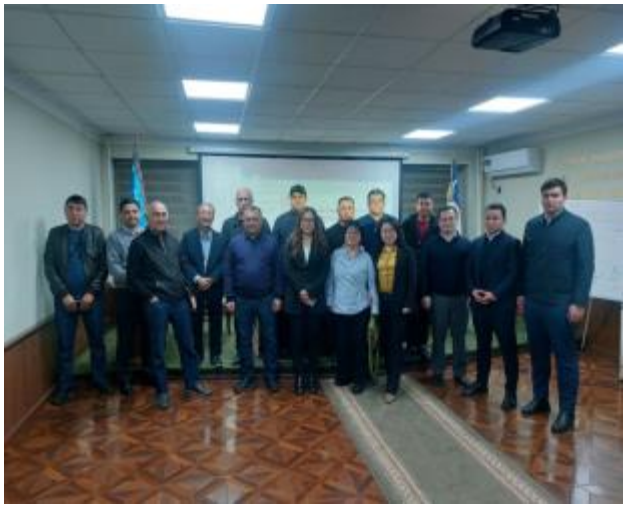
45. During the regular environmental monitoring, the activities undertaken by the Contractors' environmental personnel included the following:

- Compliance with the SSEMP and Site-Specific Health and Safety Management Plan (SSHSMP) including the Health and Safety COVID-19 Plan (HS-C19 Plan),
- Prepare monthly EMRs,
- Keep the records and maintain the statistics on environmental safeguard issues,
- Weekly visits to the construction site for monitoring the compliance with the requirements of the SSEMP,
- Conduct trainings for staff on environmental safeguard issues,
- Propose corrective measures when problems identified on the site, removal of identified comments issues by the environmental specialists of the Project, construction and design supervision engineers,
- Liaise with the Employer (Maxsustrans) and the Supervision Consultant (CUCD).

Table 5 Capacity building program provided under the project

#	Title of Training/ Workshop /Sessions	Facilitator (CSC, CUCD, ADB/ consultants etc)	Start date	End date	Duration (hour/day)	Mode of delivery (online/in-person)	Participants	
							number	organization
1	Basic principles of sanitary landfill operation	ADB	12/11/ 2024	13/11/ 2024	2 days	In person	17	Maxsustrans

Figure 6 Photo of training conducted within capacity building program provided under the project



3.2 Site Audits

46. Regular site audits, conducted by Mr. Akmal Begimkulov - Environmental specialist of PIU, were ensured during the environmental monitoring period. The final site audit was conducted by the National Environmental Specialist of PIU Consultants, Mr. Mukhammadali Kholmurodov The site audits included monitoring of environmental, health and safety (EHS) aspects on the SLF:

Table 6 Site inspections (since 2022)

Date of visit	Purpose of the site visits	Contractor	Reference to the inspection report
21.12.2024 09.11.2024 25.10.2024	Compliance review on occupational health, safety and environmental protection	CW1R, Joint venture "STECOL-POWERCHINA GUIYANG" (China)	Site visit report with inconsistencies and recommendations
10.01.2024 12.04.2024	Compliance review on occupational health, safety and environmental protection	CW1R, Joint venture "STECOL-POWERCHINA GUIYANG" (China)	Site visit report with inconsistencies and recommendations
09.06.2023 27.06.2023 14.08.2023 28.11.2023 22.12.2023	Compliance review on occupational health, safety and environmental protection	CW1R, Joint venture "STECOL-POWERCHINA GUIYANG" (China)	Site visit report with inconsistencies and recommendations
23.02.2023 12.04.2023 27.04.2023 15.05.2023 09.06.2023 27.06.2023	Compliance review on occupational health, safety and environmental protection	CW1R, Joint venture "STECOL-POWERCHINA GUIYANG" (China)	Site visit report with inconsistencies and recommendations
15.07.2022 19.08.2022 09.09.2022 28.09.2022 28.10.2022 25.11.2022	Monitoring of compliancy with EHS requirements during the construction phase	CW1R, JV STECOLPOWERCHINA GUIYANG (PRC)	EHS monitoring reports with mitigation measures and deadlines have been provided by the following letters of PIU Consultant sent to the Contractor and Maxsustrans and PIU.
20.07.2022 29.08.2022	Monitoring of compliancy with EHS requirements during the construction phase	CW2, JV of Future Growth Ltd., VBN Engineering Ltd and Eastern Construction Ltd. (Uzbekistan	

3.3 ADB Missions

47. During the project implementation, ADB Missions visited the site and observed the following issues as well as provided recommendations to actions to be taken:

48. Inconsistencies that identified on November 11-12, 2024 during the ADB Mission are the following: lack of PPE, absence of project information board, fire extinguishers on SLF site as well as lack of PPE at the waste transfer stations. The following photos were taken during the site visit by the ADB mission:

Figure 7 Site visit of ADB Mission, November 11, 2024

New landfill site visit of ADB mission (11.11.2024)

ADB mission visit to waste transfer stations (12.11.2024)

49. Completed inconsistencies that were identified in November 2023 during the ADB mission:

Figure 8 Completed inconsistencies identified during the ADB mission, November 2023

Availability of respiratory protection for workers at the waste transfer point

Availability of respiratory protection for workers at the waste transfer point

50. Completed inconsistencies that identified in July 2024 during the ADB mission (as per June 2024):

Figure 9 Completed inconsistencies identified during the ADB mission, June 2024

Rectification carried out as required, and helmets and work clothes have been provided to the workers

Violation of the rules of bitumen storage and use

Contractor has pulled the caution tape

Trash has been removed

51. During the project review mission of ADB on May 27-31, 2024, no comments on environmental safeguard issues were received from ADB mission's experts. The following photos made during the site visits of ADB mission:

Figure 10 Site visit of ADB mission, May 27-31, 2024

New landfill site visit of ADB mission (27.05.2024)

New landfill site visit of ADB mission (27.05.2024)

52. Completed inconsistencies that were identified in July 2023 during the ADB mission:

Figure 11 Completed inconsistenciesidentified during ADB Mission, July 2023

Complaint box at the engineer's office entrance

Installed warning sign and protective tape

Fixed trailer door for temporary rest of staff

Faulty fire extinguisher replaced with a new copy

53. During the mission, the sites of the works contracts CW1-R "Sanitary Landfill Establishment", CW2 "Transfer Station Rehabilitation" and CW4 "Garage Rehabilitation" have been visited for the monitoring of the compliance with environmental safeguard issues. The identified 15 issues have been summarized in the 'Status of corrective actions' and the latest update has been provided by PIU and PIU Consultant on 13 December 2022.

54. During period of COVID -19 pandemic related restrictions there was not any ADB environmental & safeguard related field mission.

3.4 Unanticipated Environmental Impacts or Risks

55. During the project implementation, the COVID-19 pandemic was an unforeseen impact. The detailed instructions to be followed as a precautionary measure against COVID-19 were reflected in the Specific Health and Safety Management Plan (SSHMP), which were submitted by construction contractors prior to the start of construction work.

56. According to the ADB letter dated 01.09.2020 on the need to conduct a COVID-19 risk assessment at the project level and update relevant plans, such as the Health and Safety Plan (HSP) and the Emergency Response Plan (ERP), as well as the Environmental Management Plan (EMP), the PIU Support Consultant gave advice on updating the plans, specified above.

57. All health and safety procedures related to the COVID-19 pandemic and recommended by WHO and the Government of Uzbekistan were taken into account and followed. The Health and safety plan had been updated as requested by ADB. The CW1 Contractor prepared a Site-specific Occupational Health and Safety Management Plan (SSHSMP), including a COVID-19 Occupational Health and Safety Plan (HS-C19 Plan), which was submitted to the Employer in accordance with the Contract. The plan includes measures for the prevention and control of COVID-19, including disinfection/cleaning of offices, construction sites and labor camps, temperature checks at facilities, social distancing measures, mandatory use of personal protective equipment such as face masks, provision of places for hand washing and hand sanitizers, etc. as well as procedures that should be taken in case any employee is infected with COVID-19. The Contractor reports on the status of the implementation of the SSHSMP and the HS-C19 plan in monthly EMR and monthly construction progress reports.

4 STATUS OF COMPLIANCE WITH COVENANTS

58. The environmental covenants under SWMIP require that the design, construction, operation and implementation of all sub-project facilities are carried out in accordance with the requirements set forth in the IEE for core sub-components agreed upon between the GoU and ADB, and the national environmental laws and regulations and ADB's Safeguard Policy Statement (2009). Any adverse environmental impacts arising from the construction, operation and implementation of sub- component facilities will be minimized by implementing the environmental mitigation and management measures, and other recommendations specified in environmental assessment reports (e.g., IEE). The Government ensures environmental requirements are incorporated in bidding documents and civil works contracts. Issuance of bid documents is made after review and clearance of IEE/EIA by ADB and the SCEEP. PIU prepares and submits SAEMRs to ADB that describe progress in implementation of the EMP and issues encountered and measures adopted; and compliance with the relevant assurances and loan covenants.

59. Table below shows the status of compliance with ADB's loan covenants relating to environment, health and safety at the completion stage of the project.

Table 7 Status of Compliance with Covenants

Covenants	Reference to Loan and Project Agreement	Status of Compliance (as of December 2024)
Conditions for Award of Contract		
• The Borrower shall ensure that Maxsustrans shall not award any Works contract which involves environmental impacts until: (a) State Committee of Nature Protection [10]SCNP has issued a statement of ecological expertise; and (b) the Borrower has incorporated the relevant provisions from the EMP into the Works contract.	LA Schedule 4, paragraph 6	**Complied.** a) In November 2021, an updated EIA of the construction of a new landfill was prepared according to the national standards and legislation. On March 9, 2022, a positive conclusion[11] of the State Environmental Expertise of the State Committee for Ecology was obtained. b) All work contracts (CW1, CW2 and CW4) are procured on the basis of bidding documents, including the relevant provisions of the Project's EMP.
Consulting services		
• The Borrower shall recruit the individual consultants for capacity development in the areas of project management, procurement,safeguards, financial management and monitoring and evaluation in accordance with procedures acceptable to ADB for recruiting individual consultants.	LA Schedule 4, paragraph 10	**Complied.** The Borrower has hired four individual consultants in accordance with the ADB procurement guidelines, in particular: an international project management/procurement specialist, an international environmental specialist, a national financial management specialist and a national monitoring and evaluation specialist. These specialists provided services for the development of the Implementing Agency (IA) and PIU capacities in the field of project management, procurement, guarantees, financial management, as well as monitoring and evaluation in accordance with ADB procedures. Contracts for the provision of services with all specialists were completed in early 2017, when a PIU Support Consultant was selected, and in January 2017 a Cons_1 Contract was signed.
Implementation Arrangements		

[10] Currently, Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan
[11] See Appendix 4

• No later than 6 months after the Effective Date (December 29, 2014), the Borrower shall cause Maxsustrans to establish a website for the Project where key information about the Project will be available. The Project website will be accessible to the public and will contain the following information about the Project: (a) Project scope, structure, responsible institutions, impact, outcomes, results; (b) Status of project objectives; (c) Information on procurement and advisory services, including the announcement of the bidding, bidding procedures, list of participating bidders, names of the winners of the bidding, the amount of contracts awarded and a description of the goods or services purchased; and (d) All key documentation related to security measures, including EMP and RP. The project's website will be updated regularly, and its content will be presented in English, Russian and Uzbek.	LA Schedule 5, paragraph 2	**Complied.** Project website is www.maxsustrans.uz. Project information is available in the Uzbek, Russian languages and some key information on in English language as well. The following updates have been done: a. Done. b. The following project status related information has been disclosed: • Annual Progress Report of PIU Consultants for January-December 2023 • Quarterly Progress Report of PIU Consultant for January-March 2024 c. Bid announcement: • Procurement Plan, update No. 12 • Invitation for Bids – additional package No. SUE/Maxsustrans /ICB-G7R: Supply of Waste Collection and Transfer Trucks

Covenants	Reference to Loan and Project Agreement	Status of Compliance (as of December 2024)
		• Invitation for Bids – additional package No. SUE/Maxsustrans /ICB-G8R: Supply of Waste Collection Bins and Containers. d. The following safeguards related documentation has been uploaded: • Semiannual Social Safeguard Monitoring Report for the period of January 2015 till June 2024 • Semiannual Environmental Monitoring Reports for the period of January 2015 till December 2024 • Gender Action Plan
• The Borrower shall cause Tashkent Municipality and Maxsustrans to: (i) use their best endeavors to ensure that critical Project staff remain in their position on a full-time basis for a reasonable duration to ensure continuity in the implementation of the Project; and (ii) ensure that all Project Executing and Implementing Agencies are adequately staffed and provided with the necessary financial, technical, and other resources to perform their functions under the Project.	LA Schedule 5, paragraph 3	**Complied.** Mr. Komoliddin Nabiev was appointed by the Tashkent City Municipality on 14 February 2023 as Director of the State Unitary Enterprise (SUE) Maxsustrans. Mr. Jamoliddin Irbutaev was appointed by SUE Maxsustrans as acting Head of Solid Waste Management Improvement Project Implementation Unit was appointed on 1 December 2023 and remain until when the PIU director will remain onboard. The expected period for PIU demobilization is June 2025.
Environment		
• The Borrower shall cause Maxsustrans to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and the Project Facilities comply with (a) applicable laws and regulations of the Borrower relating to environment, health, and safety; (b) the Environment Safeguards; and (c) all measures, and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	LA Schedule 5, paragraph 5	**Complied.** Currently three consultants are engaged by Maxsustrans, in particular: *i)* PIU Support Consultant *(Infratech Consulting SDN Ltd., Uzbekistan)* *ii)* Sanitary Landfill Design and Supervision Consultant *(China Urban Construction Design & Research Institute Co., Ltd., China)* iii) Transfer Station Rehabilitation Design and Supervision Consultant *(Quality Planning Ltd., Uzbekistan)* The design and supervision consultants have prepared the design documentation in compliance with applicable laws and regulations of Uzbekistan relating to environment, health, and safety and also the Environment Safeguards of ADB and measures/requirements set forth in the IEE. The corrective or preventative actions, if any, are provided in regular Safeguard Monitoring Reports submitted by PIU Support Consultant to PIU and Maxsustrans. However, the Contractors CW1-R and CW-4 (excl. CW2) started the civil works before the SSEMP was prepared referring to the Table 1[11].

[11] Contract CW1-R: A draft SSEMP has been submitted by the Contractor in April 2022. The time period from April till July 2022 was needed for review and revision of SSEMP. As construction of SLF is a critical last and most important component of the Project and the remaining time for the construction is quite tight due to Loan Closing Date on 31.12.2023 (now extended until 31.12.2024), it was decided to give the site access without having approved the SSEMP on exceptional basis.
Contract CW4: From 16 to 21 December 2020 the Contractor CW4 carried out mobilization activities and site preparation, the civil works have been actually started in January 2021, i.e. after approval of SSEMP.

Covenants	Reference to Loan and Project Agreement	Status of Compliance (as of December 2024)
Human and Financial Resources to Implement Safeguards Requirements		
• The Borrower shall make available or cause Maxsustrans to make available necessary budgetary and human resources to fully implement the EMP and the RP.	LA Schedule 5, paragraph 9	**Complied** To implement the EMP and the Resettlement Plan (RP) Maxsustrans has recruited: i) **Mr. Irakli Kaviladze** (Georgia) as International Safeguard Specialist (contract signing date: 19-Aug-2015; contract completion date: 23-Jan-2017) ii) **Infratech Consulting SDN Ltd (Uzbekistan)** as PIU Support Consultant (contract signing date: 11-Jan-2017; contract completion date: 31-Dec-2024. The Consultant's team includes the National Environmental Specialist Mr. Sergey Karandaev (Mr. Mukhammadali Kholmurodov at the final monitoring stage since November 2024) and National Social Safeguard and Development Specialist Ms. Maria Malinovskaya. iii) **China Urban Construction Design & Research Institute Co., Ltd.** as Sanitary Landfill Design and Supervision Consultant (contract signing date: 16-Nov-2018; contract completion date: 31-Oct-2023). The Consultant employed the international key specialists: Mr. Mingtao Nie, Environmental Specialist and Ms. Dajiang Sun, Social Safeguard Specialist. According to ToR of the Consultant, the Consultant's safeguard specialists have to ensure that the construction works on SLF are carried out by the Contractor in accordance with environmental and social norms and regulations of Uzbekistan and ADB.
Safeguards–Related Provisions in Bidding Documents and Works Contracts		
• The Borrower shall ensure or cause Maxsustrans to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards MonitoringReport; (b) make available a budget for all such environmental and social measures; (c) provide Maxsustrans and the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP; (d) adequately record the condition of roads, agricultural land and other	LA Schedule 5, paragraph 10	**Complied.** The provisions listed in this covenant had been considered and included in the Bidding Documents and Contracts for Works.

Covenants	Reference to Loan and Project Agreement	Status of Compliance (as of December 2024)
infrastructure prior to starting to transport materials and construction; and (e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.		
Safeguards Monitoring and Reporting		
• The Borrower shall do the following or cause Maxsustrans to do the following: (a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to effected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.	LA Schedule 5, paragraph 11	**Complied.** During the reporting period the following safeguard monitoring reports have been submitted and disclosed on English, Uzbek or Russian languages: (a) Semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to effected persons promptly upon submission was ensured (b) The EIA related to the access road design of the new sanitary landfill, for which the Government has provided additional land area 1,2ha, has been prepared by the licensed company Eco Standard Proekt LLC. A positive conclusion from the state environmental expertise has been obtained for this EIA on 16 February 2024 with validity period until 16 February 2027. (c) Not available.
Prohibited List of Investments		
• The Borrower shall ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	LA Schedule 5, paragraph 12	**Complied.**
Health and Labor Standards		
• The Borrower shall cause Maxsustrans to ensure that contractors engaged under contracts for Works: (a) comply with all applicable labor laws; (b) use their best efforts to employ women and local people, including disadvantaged people, living in the vicinity of the Works; (c) provide equal pay to men and women for work of equal type; (d) provide and adequately equip first-aid, health and sanitation, and personal hygiene facilities for male and female workers at the Works sites;	LA Schedule 5, paragraph 13	**Complied.** The Borrower ensured that contractors engaged under contracts for Works complied with the Health and labor standards.

Covenants	Reference to Loan and Project Agreement	Status of Compliance (as of December 2024)
(e) maximize female training and employment; (f) conduct an information and education campaign on sexually transmitted diseases and HIV/AIDS for construction workers as part of the health and safety program at campsites and adjacent communities during Works implementation; and (g) abstain from child labor. Relevant Works contracts must include specific clauses on these undertakings.		

5 ENVIRONMENTAL MONITORING

5.1 Overview of Monitoring Conducted during Current Period

60. The IEE was prepared in 2013 for all phases (design, construction, and operation) of the SLF and its on-site associated facilities. The Contractor CW1-R JV Stecol-PowerchinaGuiyang has submitted the first draft SSEMP related to construction of the SLF in April 2022 and the SSEMP was approved in July 2022.

61. During the reporting period, the construction works continued under the contract CW1-R only. The environmental specialist of PIU and PIU Consultant conducted site audits (refer to item 3.2) to ensure the environmental safeguard compliance of the construction works.

62. During the construction period, the following indicators were monitored on the new landfill site:

- Air quality (measured)
- Water contamination (measured)
- Noise and vibration (measured)
- Waste management (monitored)
- Health and safety incl. activities against COVID-19 (monitored)

5.2 Air and Ground Water Quality

63. The Contractor CW1-R in order to monitor the air quality signed a contract with the certified Environmental Quality Monitoring Department of state company "Uzhydromet". The Contractor and its subcontractors take measures to suppress dust by regularly watering the sites and access roads. The air quality analysis was carried out by the certified laboratory for monitoring of air pollution of the Uzhydromet's department. The last air quality monitoring was conducted on **25 September 2024**.[12] The air samples made during the reporting period show that the level of sulfur dioxide, nitrogen dioxide, carbon monoxide, dust and meteorological parameters around the construction sites of laying networks complies with the national norms.

Table 8 National norms of air quality and on site measurements results

No	Location	Indicators			
		NO_2, mg/m3	SO_2, mg/m3	CO_2, mg/m3	Dust, mg/m3
1	Point 1. Entrance to SLF	0.05	0.015	2.0	0.14
2	Point 2. SLF area and office	0.05	0.015	2.0	0.06
3	Point 3. Dumpsite	0.05	0.020	2.3	0.17
4	Point 4. 500-700 meters before the SLF (sunflowers field)	0.02	0.010	1.0	0.06
Maximum permissible concentration, mg/m3		0.085	0.5	5.0	0.5

[12] The conclusion of monitoring results are given in Appendix 3

Figure 12 Monitoring of the state of atmospheric air quality

Monitoring of the state of atmospheric air quality (25.09.2024)

Monitoring of the state of atmospheric air quality (25.09.2024)

64. The surface watercourse was represented by an irrigation ditch running along the flume on the east side of the site. To monitor the quality of the groundwater there are 10 observation wells located at the border of the old dumpsite and new landfill areas, as shown in the following map:

Figure 13 Location of 10 monitoring wells in Akhangaran new landfill/old dumpsite

Figure 14 Border of the new landfill and new wells constructed according to the project

65. The Contractor CW1-R in order to monitor the ground water quality signed a contract with the Central Laboratory of JSC "Uzbekgeologorazvedka" of Tashkent region. The ground water quality analysis was carried out in 4 locations of the landfill area by the certified laboratory for monitoring of water contamination of JSC "Uzbekgeologorazvedka". The ground water samples made show that the ground water quality complies with the national norms.

66. The last monitoring of water quality was conducted on 19 June 2024. The water samples comply with the national standards.[13]

Table 9 National norms of water quality and on site measurements results

No	Indicators	Location - Water at SLF				Unit	Maximum permissible concentration, mg/m3
		#1	#1-1	#2	#2-2		
1	Taste	No taste				points	0
2	Smell	No smell				points	0
3	Turbidity	0.025	0.025	0.025	0.025	mg/dm3	1,5/2,0
4	Color	5	5	5	5	degree	20/25
	Hydrogen	7,2	7,25	7,16	7,24	pH	6-9
	Total mineralization	780	1225	1850	1595	mg/dm3	1000/1500
	Iron	<0,05	<0,05	<0,05	<0,05	mg/dm3	0,3/1,0
	Hardness	7.75	11.60	20.30	17.15	mg/dm3	7/10
	Sulfates	349	577	1095	937	mg/dm3	400/500
	Chlorides	60	96	85	78	mg/dm3	250/350
	Oxidizability	<0,50	<0,50	<0,50	<0,50	mg/dm3	0,50
	Nitrates	13	21	15	13	mg/dm3	45
	Nitrites	<0,10	<0,10	<0,10	<0,10	mg/dm3	3
	Hydrocarbonate ion	195	268	207	183	mg/dm3	400
	Calcium	77	122	182	159	mg/dm3	not standardized
	Magnesium	47	67	136	112	mg/dm3	not standardized
	Sodium	106	180	195	178	mg/dm3	200
	Potassium	1	1	3	2	mg/dm3	not standardized
	Ammonium	<0,05	<0,05	<0,05	<0,05	mg/dm3	0,50

[13] The conclusion of monitoring results are given in Appendix 3

	Carbonate ion	<0,05	<0,05	<0,05	<0,05	mg/dm3	0,50

5.3 Noise and Vibration

67. According to the monitoring plan, noise level measurements were carried out inside and outside the new landfill at a distance of 1-2 km from the site. Such noise measurement was conducted on the monthly basis.

68. The landfill site is located at a distance of about 1000-1700 m from residential and commercial buildings. On the access road to the landfill, the Contractor set a speed limit. The Contractor imposed restrictions on the time of work from 8:00 to 19:00. There were no complaints from residents or commerce of nearby houses.

69. To noted that the Contractor uses SanPiN No. 0325-16 (Requirements for noise level in workplaces). SanPiN No. 0267-09 (Noise level standards for the adjacent territory of residential buildings) will be also used in the following tests. According to SanPiN No. 0325-16, the noise level measurements made at point 2 (1 km from the northwest) and, on average, the noise level was ranged of 33-55 dB, that was not higher than the maximum permissible limit of 55 dB. According to SanPiN No. 0267-09, the maximum permissible norm in the areas adjacent to residential buildings is also 55 dB.

70. A DELIXI sound level meter was purchased for permanent use at the landfill. DSM D 1 allows to determine the noise level within 30-130 dBA with a frequency of 31.5 Hz to 8 kHz and allows to save up to 30 measurements.

5.4 Waste Management

71. The Contractor has concluded a waste collection contract with the SUE "Maxsustrans". The Contractor placed several garbage containers for various types of waste on the site, equipped special places on the site for several types of construction waste in order to separate the waste using special signs. The Contractor also placed garbage containers with lids all over the site in places where work is actively underway, near the kitchen and work settlements. The Contractor keeps a log of the generated and collected waste.

Table 10 Volume of waste generated and disposed during construction at SLF

Name of the waste generated	Average scope	Conditioning method	Method of disposal	Final disposal
Non-hazardous waste				
Leftovers from home food	935 kg	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Taken by local residents to feed domestic animals
Paper	900 kg	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Removal to the solid waste landfill
Fabric and work clothes	300	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Removal to the solid waste landfill
Concrete	12 m3t	Bulk storage at a waste storage site	Disposal every six months	Removal to construction waste landfill
Wood	15 m3	Bulk storage at a waste storage site	Used in cooking as firewood	-
Iron	300 kg	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Recycling
Municipal solid waste	3000 kg	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Removal to the solid waste landfill
Glass and light bulbs	100 kg	Storage in a closed container in an isolated area in a closed area	Disposal every six months	Removal to the solid waste landfill
Empty barrels/plastic	25 m3	Bulk storage at a waste storage site	Disposal once a	Recycling

			week	
Electrodes and grinding wheels	100 kg	Storage in a closed container in an isolated area in a closed area	Disposal every six months	Removal to the solid waste landfill
All types of packaging boxes	500 kg	Bulk storage at a waste storage site		Recycling
Thermal insulation materials (mineral wool, polystyrene foam, etc.)	0			
Wastewater	75 m3	Storage in a closed container in an isolated area in a closed area	Disposal once a week	Removal to the district sewage treatment plant
Wastewater from a bio-toilet	0			
Hazardous waste				
Clinical/medical waste	0			
Waste/used oils and greases	2000 kg	Storage in closed steel drums in an isolated area in a closed area	Disposal every six months	Removal to asphalt and concrete plants
Contaminated soil	1,5 m3	Storage in closed steel drums in an isolated area in a closed area	Disposal every six months	Removal to asphalt and concrete plants
Hazardous chemicals	0			
Used tires	40 pcs	Bulk storage at a waste storage site	Disposal every six months	Recycling
Acid batteries	0			
Oil filters	40 pcs	Storage in closed steel drums in an isolated area in a closed area	Disposal every six months	Removal to recycling facilities

5.5 Health and Safety

72. The health and safety requirements on the construction site have been implemented by the Contractor and its sub-contractors, which are arranged and monitored by the qualified personnel responsible for compliance with the health and safety requirements.

73. The Contractor's SSEMP includes the Health and Safety COVID-19 Plan (HS-C19 Plan), which is implemented on site. The workforce is aware about these plans and clarification works took place on site.

74. The Contractor's health and safety performance was generally satisfactory. Relevant trainings were provided to staff onsite, required documents and reports submitted, and waste segregation and disposal procedure are established.

5.6 Use of Material Resources

75. **Water.** The Contractor arranged on site a clean water reservoir filled regularly by the water tanks, the delivered water used for domestic and drinking purposes. The water volume is not recorded.

76. **Electricity.** There is no connection to local electricity supply grids on site.

77. **Gas.** Natural gas is not used.

5.7 Summary of Monitoring Outcomes

78. There are no outstanding corrective actions required at the completion stage of construction and commissioning of operation. The commissioning of operation is expected till April 2025.

79. Table below summarizes the status of the EMP implementation at the construction phase

during the monitoring period under the CW1-R contract, as required in Annex 6 of IEE - the Environmental Management Plan (please refer to Appendix 1). Through letter of the Ministry of Finance of Uzbekistan (Borrower) dated March 26, 2021, all works related to the Akhangaran dumpsite closure in the amount of $5.7 million have been excluded from the SWMIP. The ADB consent letter for this proposal was provided on July 23, 2021. The reason is that the Government of Uzbekistan decided to close the old dumpsite in Akhangaran district of Tashkent region with investment funds of the Korean company Sejin G&E Co. Ltd.

Table 11 Status of EMP implementation during the construction period (Contract CW1-R)

Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
Formation of flying dust	Temporarily, but for a long time	• Open only one area for development on a phased basis, as planned.	Yes		
		• Minimize the movement of vehicles inside the construction site	Yes		
		• Cover the exposed areas with tarpaulin or similar materials / apply materials to stabilize the slope.	Yes		
		• Install buffer zones and fences	Yes		
Noise generation	Temporary and short-term	• Notify the affected communities in advance of the expected troubles.	Yes		
		• If possible, reduce the routing of project traffic through community zones.	Yes		
		• Installation of silencers and silencers on machinery and equipment	Yes		
		• Avoid working during rest periods/at night	Yes		
		• Regularly service the equipment	Yes		
		• Install fences around the work area as a barrier	Yes		
		• Introduce minimum speed limits on the project territory	Yes		
Soil erosion is possible	Short-term and temporary	• Include excavation and other similar work within the project boundaries.	Yes		
		• Immediately stabilize the areas after completion of excavation and backfilling.	Yes		
		• Introduce vegetation cover in areas that will remain permanently open.	Yes		
		• Cover areas with pebbles or gravel that should remain open for a long period of time.	Yes		
		• The values of peak ground acceleration (PGA) for the site should be determined and included in the project.	Yes		
Wastes	Temporary and short-term	• Ensure that all hazardous waste from the temporary storage located at the landfill is sent to the appropriate final disposal point.	Yes		
Flora	Temporary and short-term	• Restore local vegetation cover in those areas within the SLF where it would be most appropriate. Finely rooted vegetation is recommended	Yes		
Traffic	Temporary and short-term	• Regulate the entry and exit of vehicles and equipment to the construction site.	Yes		
		• Competently regulate the delivery of materials to the project site.	Yes		
		• Set the minimum speed within the project site.	Yes		
		• Do not allow the vehicle to remain on the project site for an extended period of time.	Yes		

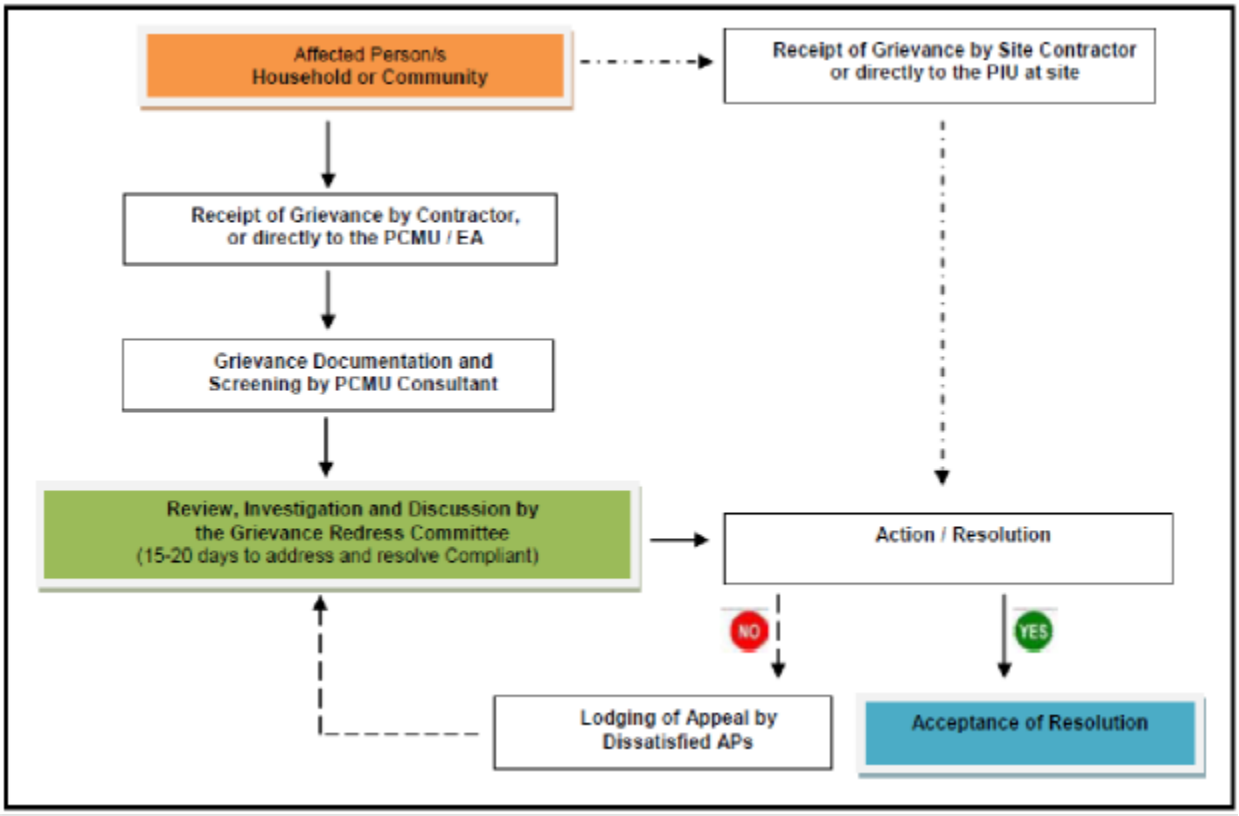
Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
		• Regular monitoring to make sure that the traffic flow remains optimal and any garbage collection can be undertaken immediately.	Yes		
		• Regular maintenance of the equipment.	Yes		
Occupational health and safety	Temporary and short-term	• Introductory and installation meetings will be held by all employees. It is also recommended to talk about a set of tools.	Yes		
		• Only qualified workers will be hired.	Yes		
		• Strictly impose and control the use of PPE by employees. Regular inspections will be carried out.	Yes		
		• Provide a guide to the HSE and require the placement of safety signs and signs.	Yes		
		• Restrict the movement of personnel in hazardous areas.	Yes		
		• An insurance policy must be provided for workers' compensation.	Yes		
		• Conduct awareness-raising and training programs on occupational safety and health issues, which will be handled by a designated HSE officer.	Yes		
Public health and safety	Temporary and short-term	• Develop and implement procedures to protect public health and safety (e.g. traffic management plan, fencing, driver training program, pedestrian access and intrusion plan, road design, slope stability, spill cleanup, well-visible signs, awareness raising)	Yes		
Loss of income by informal garbage collectors	Temporary and short-term	• Identify alternative livelihood options for garbage collectors in accordance with the principles of the livelihood system prepared as above and in consultation with affected people.	Yes		

6 GRIEVANCE REDRESS MECHANISM

80. SUE "Maxsustrans" had created a complaint mechanism (a Grievance Redress Mechanism) for the Project to provide a transparent scheme for voicing and solving the environmental issues and inquires related to the Project. According to the Decree of the President of Uzbekistan SUE "Maxsustrans" in its district branches in Tashkent city, including the head office of SUE "Maxsustrans", a "People's reception room" had been created. The people's reception room ensured timely and satisfactory handling of complaints and claims in order to avoid any potential delays in the project implementation.

81. Figure below gives the details of the grievance redress mechanism of the Project.

Figure 15 Grievance Redress Mechanism



PIU's acting Head responsible for GRM, Mr. Jamoliddin Irbutaev, Tel: +998 712473816, email: piu3067@gmail.com
PIU Consultant's Deputy Team Leader, Mr. Dilshod Mavlyan-Kariev, Tel: +998 712477923, email: dilshod75@mail.ru

82. The PIU had established Grievance Redress Committee (GRC). GRC provided any affected person (AP) a venue to file complaints and queries on any environmental (or social) aspect related to the project. Grievances can be submitted in writing or orally to the contractor or directly to the PIU / IA contact person. These are properly documented (i.e., indicating the date it was received, details of the complaint and complainant/s) and screened by the designated PIU safeguard consultant for its veracity and validity. The committee had 15 to 20 days to address and come up with a resolution. Under this GRM, unsatisfied grievances may be able to appeal for a final resolution. This mechanism also did not prevent any AP to approach regulatory agencies to assist and resolve complaints at any stage of the process. In occasions wherein grievances were perceived by the AP to be immediate and urgent; the contractor, EHS officer and PIU onsite supervisor will provide the most accessible and practical solution for a quick resolution of grievances. Such grievances and respective resolutions submitted to the PIU for proper documentation. The PIU contact person was responsible for recording the complaint, the step taken to address grievance, minute of the meetings and preparation of a report for each complaint.

Records is kept by the PIU of all grievances received including contact details of AP, date the complaint received, nature of grievance, agreed remedial / corrective action and the date this was implemented, and the final outcome in Complaint logbook kept at the PIU office.

Figure 16 GRM logbook

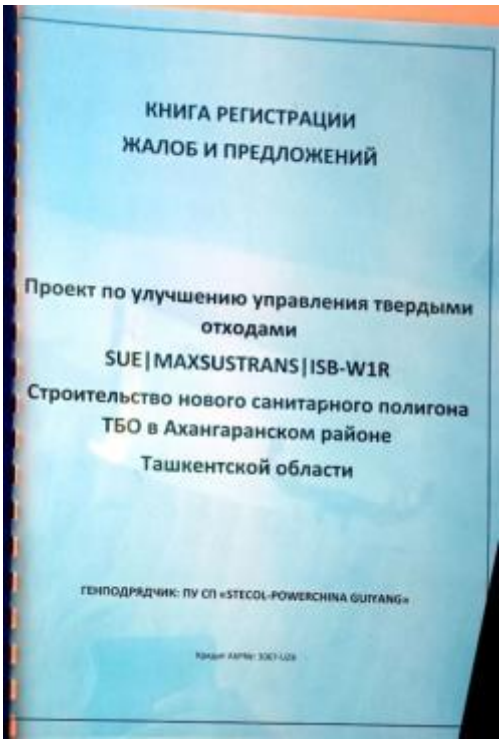


Figure 17 GRM on site




83. The complaint handling process was reported to ADB through environmental monitoring reports. The safeguard specialists of PIU Consultant periodically reviewed and recorded the efficiency and effectiveness of the GRM highlighting the project's ability to prevent and address grievances.

84. The national environmental specialist of PIU also contacted representatives of the Administration of the Tashkent region and Akhangaran district as well as communicated with the contractor's environmental specialist to receive information about complaints related to the construction site. During the contraction period no complaints on environmental issues were received. No complaints on environmental issues were reported in semiannual environmental monitoring report as well. Monitoring of complaints about the Project will be continued at the further stage of the operational stage to ensure proper and timely management of complaints under the Project operation.

7 CONCLUSION

85. Environmental management of project contracts was generally good. There were occasional examples of poor environmental management, but these were minor noncompliance and were generally dealt with effectively and quickly by the contractors. Overall, the efforts resulted in an avoidance of any significant negative environmental impacts; an outcome demonstrated by regular audit results as well as the generally good results of the instrumented monitoring campaign. Those in the project area will soon no longer experience the construction-related environmental impacts as well as operation of old landfill that they have over the past years. It is expected that with the opening of the new landfill in the near future, the project area will experience a general reduction in the environmental problems that were associated with the operation of old dumpsite.

86. Environmental management plan for post construction period should be close to follow up during the Defects Liability Period. Defects Liability Period for CW1R is established for the period of January 1, 2025- December 31, 2025.

87. The following indicators shall be under monitoring and control during the DLP of landfill operation to ensure that the landfill operates without causing significant environmental impacts and that any issues occurred are promptly addressed and proper corrective actions are applied. The indicators are based on recommendations of Initial Environmental Examination (IEE) report designed in 2013 for all phases (design, construction and operation) of the SLF and its on-site associated facilities.

Table 12 Environmental monitoring Indicators for SLF at operational stage

Indicator	Type /efficiency	Actions	Frequency	Responsible institution
Landscape monitoring	Significant, permanent, long term	Operation of landfill should be under control to limit leachate generation from areas peripheral to the site by diverting possible irrigation water infiltrating into the site. Regular checks should be ensured during operational stage.	Weekly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Leachate Collection and Treatment	Significant, permanent, long term	Ensure the leachate collection system is functioning properly and that leachate is being treated before disposal.	Monthly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Landfill air quality, odors and Gas Monitoring	Permanent and long term	Monitor and manage landfill gas emissions, primarily methane and carbon dioxide, to prevent odors and potential hazards (if any).	Monthly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Ground water monitoring:	Significant, permanent, long term	Regularly sample groundwater from monitoring wells to detect any contamination from leachate. This involves comparing the concentrations of contaminants to background levels.	Quarterly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Surface Water Monitoring	Significant, permanent, long term	Check nearby surface water bodies for any signs of contamination from runoff or leachate	Quarterly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Soil and Sediment Sampling	Minor, long-term	Soil and sediment sampling around the landfill to mitigate any potential contamination	Quarterly	SUE Maxsustrans, SLF management on site,

	and permanent			Ministry of ecology and nature protection for monitoring
Noise	Minor, long-term and permanent	To minimize the impact of noise, it is most appropriate to regularly maintain and monitor the movement of vehicles within and outside the landfill and all its facilities. Properly schedule the delivery of wastes into the landfill strategically synchronized with the schedules of the transfer stations. Movement of vehicles within these facilities shall also be regulated. Strict implementation of speed limits within the SLF shall be monitored. The equipment and machines used in the landfill and its facilities shall be properly maintained.	Quarterly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Vegetation and Wildlife Monitoring	significant temporary and soon	Observe any changes in vegetation and wildlife health in the surrounding areas to identify potential impacts from the landfill	Monthly	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Parasites and other pests	significant temporary and soon	Make sure all containers are properly closed to avoid spilling. Coverage must be done every end of day operation	Every day	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Compliance with national regulations		To comply with the national regulation, Environmental Impact Statement shall be prepared and approved by the responsible authorities. In addition, all monitoring activities should comply with national environmental regulations and guidelines	Continuously	SUE Maxsustrans, SLF management on site
Health and Safety	Significant, permanent and long-term	A dedicated Environment, Health, and Safety (EHS) officer shall oversee site safety. All employees should have safe access to their workstations, and strict use of Personal Protective Equipment (PPE) is required. Mandatory health and safety training for all workers, including sub-contractors, is essential. Regular health check-ups and insurance for employees shall be provided. Emergency plan shall be in place.	Continuously	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring
Traffic	Significant, long term and permanent	Regulate the entry and exit of vehicles and equipment on the SLF. All dump trucks must have a waste declaration/legal paperwork to avoid long downtime at the gate. Set the minimum speed on the project site. Do not allow vehicles to remain on the project site for an extended period of time. Proper maintenance of the internal road network. Use a traffic management system at the entrance / exit of the project site. The traffic plan must be designed in such a way as not to impede the traffic flow.	Every day	SUE Maxsustrans, SLF management on site, Ministry of ecology and nature protection for monitoring

88. Reporting and Documentation: The detailed records of all monitoring activities, results, and any corrective actions taken should be reported and documented.

8 APPENDIXES

Appendix 1: Environmental Management Plan (Annex 6 of IEE)

Sources of Impact	Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Institutional Responsibilities	Cost	Compliance status
I. Pre-Construction Phase						
Land acquisition	Loss of agricultural land	Significant and long-term	• Not required • The landlord returns it without IR exposure. • Lack of measures to mitigate the forced withdrawal of land. • Necessary land for construction allocated from the reserve lands of the district. • There is no possibility of any impact in terms of loss of income and livelihood. • There were no complaints or complaints about the project activity. • Ensure a clear delineation and fencing of the landfill territory.	PIU for Implementation and Monitoring	Included in the cost of the project	?Complied with the requirements.
Environmental and social monitoring and assessment	Organizational capacity and commitment	Temporary and short-term	• Create and maintain an Environmental, Social, Occupational Safety and Industrial Safety (ESHS) Management System. Hire EHS management staff in the Company.	CUCD	Own resources, Consultant's Remuneration	Complied with the requirements
Occupational health and safety	Provision of PPE	Temporary and short-term	• Conduct and update the workplace health and safety risk assessment prepared by an authorized consultant. • Provide PPE for the Company's personnel and include in the tender documentation a requirement for all contractors, including the household waste disposal company, to provide appropriate PPE in accordance with the assessment of occupational safety workplaces and local regulations.	PIU, CUCD	Own resources, Consultant's Remuneration	Complied with the requirements
II. Construction Phase						
Land clearing	Formation of flying dust	Temporary and short-term	• Open only one area for development on a phased basis, as planned. • Minimize the movement of vehicles inside the construction site • Cover the exposed areas with a tarpaulin or similar materials / apply materials to stabilize the slope. • Install buffer zones and fences	Contractor/CUCD for compliance monitoring and reporting to IA/SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements

	Noise generation	Temporary and short-term	• Notify affected communities in advance of expected inconveniences. • If possible, reduce the routing of project traffic through community areas. • Installation of silencers and silencers on machinery and equipment • Avoid working during rest periods/at night.	Contractor/CUCD monitor compliance and report to IA/ SCEEP (Ministry)	Include such expenses in the Contractor's contract	Complied with the requirements

Sources of Impact	Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Institutional Responsibilities	Cost	Compliance status
			• Regular maintenance of equipment • Install fences around the work area as a barrier • Introduce minimum speed limits on the project territory			Complied with the requirements
	Soil erosion is possible	Short-term and temporary	• Include excavation and other similar work within the project boundaries. • Immediately stabilize the sites after completion of excavation and backfilling. • Introduce vegetation cover in areas that will remain permanently open. • Cover with pebbles or gravel areas that should remain open for a long period of time. • The values of peak ground acceleration (PGA) for the site should be determined and included in the project.	Contractor/CUCD monitor compliance and report to IA/ SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements
	Waste	Temporary and short-term	• Ensure that all hazardous waste from the temporary storage located at the landfill is sent to the appropriate final disposal point.	Contractor / PIU	Management time according to the contract	Complied with the requirements
	Flora	Temporary and short-term	• Restore local vegetation cover in those areas within the SLF where it would be most appropriate. Finely rooted vegetation is recommended	Contractor/CUCD monitor compliance and report to IA/ SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements
	Traffic	Temporary and short-term	• Regulation of entry and exit of vehicles and equipment to the construction site. • Properly regulate the delivery of materials to the project site • Enter the minimum speed on the project website • Do not allow vehicles to remain on the project site for an extended period of time. • Regular monitoring to ensure optimal traffic flow and immediate cleaning of debris. • Regular maintenance of the equipment.	Contractor/CUCD must monitor compliance and report to IA	Include such a measure in the Contractor's TOR	Complied with the requirements

	Occupational health and safety	Temporary and short-term	• Introductory and installation meetings will be held by all employees. It is also recommended to talk about a set of tools. • Only qualified workers will be hired • Strictly impose and control the use of PPE by employees. Regular inspections will be carried out. • Provide guidance on the HSE and require the placement of safety signs and posters • Restrict the movement of personnel in hazardous areas • An insurance policy for workers' compensation must be provided. • Conduct awareness-raising and training programs on occupational safety and health issues, which will be handled by a	The contractor/CUCD must monitor compliance and report to IA	Include such costs/measures in the Contractor's contract	Complied with the requirements

Sources of Impact	Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Institutional Responsibilities	Cost	Compliance status
			designated HSE officer.			
Community impact	Public health and safety	Temporary and short-term	• Develop and implement procedures to protect public health and safety (e.g. traffic management plan, fencing, driver training program, pedestrian access and intrusion plan, road design, slope stability, spill cleanup, well-visible signs, awareness raising)	Contractor / CUCD Control	Include such costs/measures in the Contractor's contract	Complied with the requirements
	Loss of income by informal garbage collectors		• Identify alternative livelihood options for garbage collectors in accordance with the principles of the livelihood system prepared as above and in consultation with affected people.	Local administration	Consultant's remuneration	Complied with the requirements
Closure of an existing landfill (this component has been cancelled in this project)		Temporary and long-term	• Conduct a detailed assessment of the site covering all 59 hectares • Development of a "safe closure plan" • Adequate and timely coating and sealing to prevent exposure to waste • All workers will hold introductory and installation meetings with a special emphasis on the use of PPE. • Require the placement of safety signs and signs • Conducting environmental monitoring after closing. Maintenance of installed facilities. • Precautions should be taken to prevent the occurrence of uncontrolled fires as a result of closure measures.	IA shall implement the mitigation and strengthening measures after closure the existing dumpsite	Include such costs/measures in the IA's annual budget for 2024	Complied with the requirements
III. Operation Phase						
Land clearing	Formation of flying dust	Fugitive dust formation	• Open only one area for development on a phased basis, as planned. • Minimize the movement of vehicles inside the construction site • Cover the exposed areas with a tarpaulin or similar materials / apply materials to stabilize the slope. • Install buffer zones and fences	Contractor/CUCD for compliance monitoring and reporting to IA/SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements

	Noise generation	Temporary and short-term	• Notify affected communities in advance of expected inconveniences. • If possible, reduce the routing of project traffic through community areas. • Installation of silencers and silencers on machinery and equipment • Avoid working during rest periods/at night. • Regular maintenance of equipment • Install fences around the work area as a barrier • Introduce minimum speed limits on the project territory	Contractor/CUCD monitor compliance and report to IA/ SCEEP (Ministry)	Include such expenses in the Contractor's contract	Complied with the requirements
	Soil erosion is possible	Short-term and temporary	• Include excavation and other similar work within the project boundaries. • Immediately stabilize the sites after completion of excavation and	Contractor/CUCD monitor compliance and report to IA/	Include such a measure in the Contractor's TOR	Complied with the requirements

Sources of Impact	Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Institutional Responsibilities	Cost	Compliance status
			backfilling. • Introduce vegetation cover in areas that will remain permanently open. • Cover with pebbles or gravel areas that should remain open for a long period of time. • The values of peak ground acceleration (PGA) for the site should be determined and included in the project.	SCEEP (Ministry)		
	Waste	Temporary and short-term	• Ensure that all hazardous waste from the temporary storage located at the landfill is sent to the appropriate final disposal point.	Contractor / PIU	Management time according to the contract	Complied with the requirements
	Flora	Temporary and short-term	• Restore local vegetation cover in those areas within the SLF where it would be most appropriate. Finely rooted vegetation is recommended	Contractor/CUCD monitor compliance and report to IA/ SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements
	Traffic	Temporary and short-term	• Regulation of entry and exit of vehicles and equipment to the construction site. • Properly regulate the delivery of materials to the project site • Enter the minimum speed on the project website • Do not allow vehicles to remain on the project site for an extended period of time. • Regular monitoring to ensure optimal traffic flow and immediate cleaning of debris. • Regular maintenance of the equipment.	The contractor/CUCD must monitor compliance and report to IA	Include such a measure in the Contractor's TOR	Complied with the requirements
	Occupational health and safety	Temporary and short-term	• Introductory and installation meetings will be held by all employees. It is also recommended to talk about a set of tools. • Only qualified workers will be hired • Strictly impose and control the use of PPE by employees. Regular inspections will be carried out. • Provide guidance on the HSE and require the placement of safety signs and posters • Restrict the movement of personnel in hazardous areas • An insurance policy for workers' compensation must be provided. • Conduct awareness-raising and training programs on occupational safety and health issues, which will be handled by a designated HSE officer.	The contractor/CUCD must monitor compliance and report to IA	Include such costs/measures in the Contractor's contract	Complied with the requirements

Community impact	Public health and safety	Temporary and short-term	• Develop and implement procedures to protect public health and safety (e.g. traffic management plan, fencing, driver training program, pedestrian access and intrusion plan, road design, slope stability, spill cleanup, well-visible signs, awareness raising)	Contractor / CUCD Control	Include such costs/measures in the Contractor's contract	Complied with the requirements

Sources of Impact	Impacts	Type / Degree of Effect	Mitigation / Enhancement Measures	Institutional Responsibilities	Cost	Compliance status
	Loss of income by informal garbage collectors		• Identify alternative livelihood options for garbage collectors in accordance with the principles of the livelihood system prepared as above and in consultation with affected people.	Local administration	Consultant's remuneration	Complied with the requirements
Closure of an existing landfill (this component has been cancelled in this project)		Temporary and long-term	• Conduct a detailed assessment of the site covering all 59 hectares • Development of a "safe closure plan" • Adequate and timely coating and sealing to prevent exposure to waste • All workers will hold introductory and installation meetings with a special emphasis on the use of PPE. • Require the placement of safety signs and signs • Conducting environmental monitoring after closing. Maintenance of installed facilities. • Precautions should be taken to prevent the occurrence of uncontrolled fires as a result of closure measures.	IA shall implement the mitigation and strengthening measures after closure the existing dumpsite	Include such costs/measures in the IA's annual budget for 2024	Complied with the requirements
Land clearing	Formation of flying dust	Temporary and long-term	• Open only one area for development on a phased basis, as planned. • Minimize the movement of vehicles inside the construction site • Cover the exposed areas with a tarpaulin or similar materials / apply materials to stabilize the slope. • Install buffer zones and fences	Contractor/CUCD for compliance monitoring and reporting to IA/ SCEEP (Ministry)	Include such a measure in the Contractor's TOR	Complied with the requirements

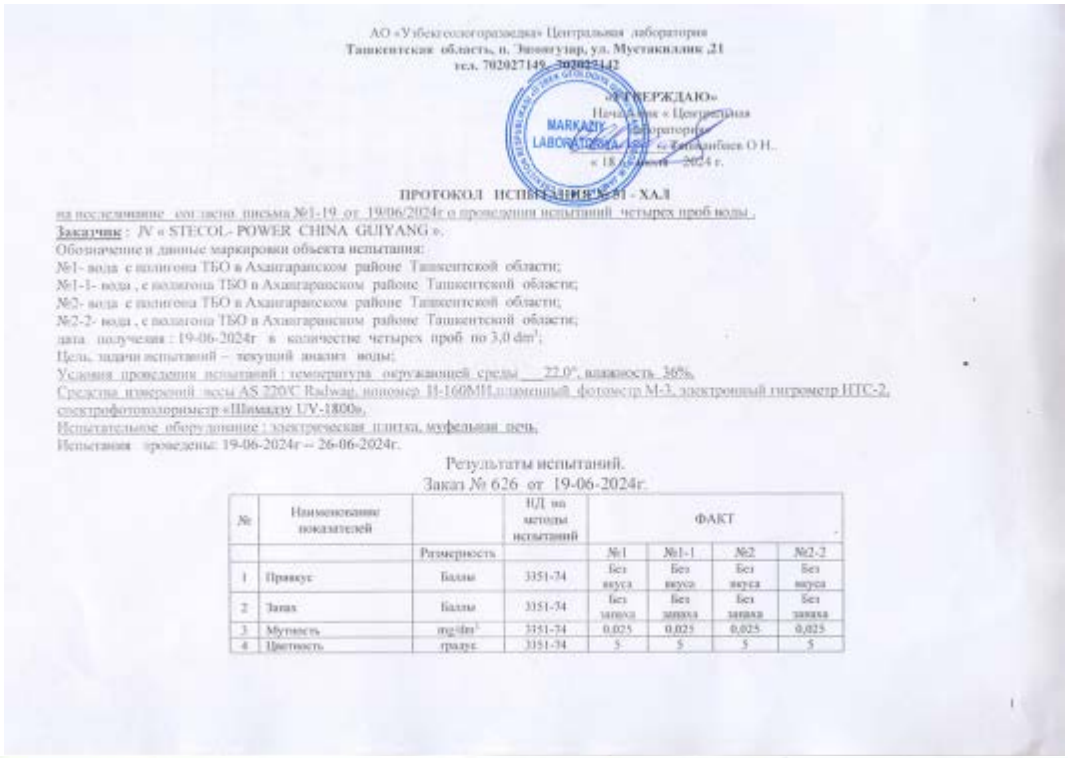
IA = Implementing Agency (SUE Maxsustrans)
EMP = Environmental Management Plan [especially for the construction phase] does not claim to be complete and can be expanded at any time according to the need and necessity

Appendix 2: Environmental Monitoring Plan (Annex 7 of IEE)

Environmental Components	Parameters	Frequency	Responsible Party	Station/ Location
Air Quality	▪ Nitrogen Dioxide (NO2), VOCs ▪ Particulates - PM10 and PM2. Nitrogen Dioxide (NO2), Sulfur Oxides (SOx), ▪ Noise / Objectionable Odour	▪ Quarterly ▪ Bi –annually ▪ Quarterly / Monthly	PIU Environmental Specialist	• On the identified point sources within the premises of the SLF and the old dumpsite • Within the project site including areas at old dumpsite • Within and outside the SLF (1-2 Km North-west and West-North-West end)
Occupational Health and Safety	▪ No of accidents per day/month/ year ▪ Top Ten causes of illness ▪ Worker's housing and sanitation facilities	▪ Bi- Annually	EHS Officer	• Within the premises
Groundwater / Leachate Contamination	▪ pH ▪ Conductivity ▪ DO ▪ BOD5 ▪ TDS ▪ Salinity ▪ Total Hardness ▪ Alkalinity ▪ Carbonates ▪ Oil and Grease ▪ Trace Metals ▪ Coli form	▪ Quarterly	PIU Environmental Specialist	• Ground Water Monitoring Wells (whenever installed – see discussion) • Leachate Collection and Pump shafts
Residual Wastes	▪ Volume / quality ▪ Characterization of wastes / Type ▪ Efficiency of storage	▪ Annually ▪ Quarterly ▪ Quarterly	PIU Environmental Specialist / EHS Officer	• Within the SLF

Appendix 3 Results of monitoring water and air quality

Water quality monitoring



АО «Узбекгеологоразведка» Центральная лаборатория
Ташкентская область, п. Зиёнгузар, ул. Мустакиллик ,21
тел. 702027149, 202027142

«УТВЕРЖДАЮ»
Начальник « Центральная
лаборатория
« 18 » 06 2024 г.

ПРОТОКОЛ ИСПЫТАНИЙ № 81 - ХАЛ

на исследование согласно письма №1-19 от 19/06/2024г о проведении испытаний четырех проб воды .

Заказчик : JV « STECOL- POWER CHINA GUIYANG ».

Обозначение и данные маркировки объекта испытания:
№1- вода с полигона ТБО в Ахангаранском районе Ташкентской области;
№1-1- вода , с полигона ТБО в Ахангаранском районе Ташкентской области;
№2- вода с полигона ТБО в Ахангаранском районе Ташкентской области;
№2-2- вода , с полигона ТБО в Ахангаранском районе Ташкентской области;
дата получения : 19-06-2024г в количестве четырех проб по 3,0 dm³;
Цель, задачи испытаний – текущий анализ воды;
Условия проведения испытаний : температура окружающей среды 22,0°, влажность 36%.
Средства измерений весы AS 220/C Radwag, иономер И-160МИ пламенный фотометр М-3, электронный гигрометр ИТС-2, спектрофотоколориметр «Шимадзу UV-1800».
Испытательное оборудование : электрическая плитка, муфельная печь.
Испытания проведены: 19-06-2024г – 26-06-2024г.

Результаты испытаний.
Заказ № 626 от 19-06-2024г.

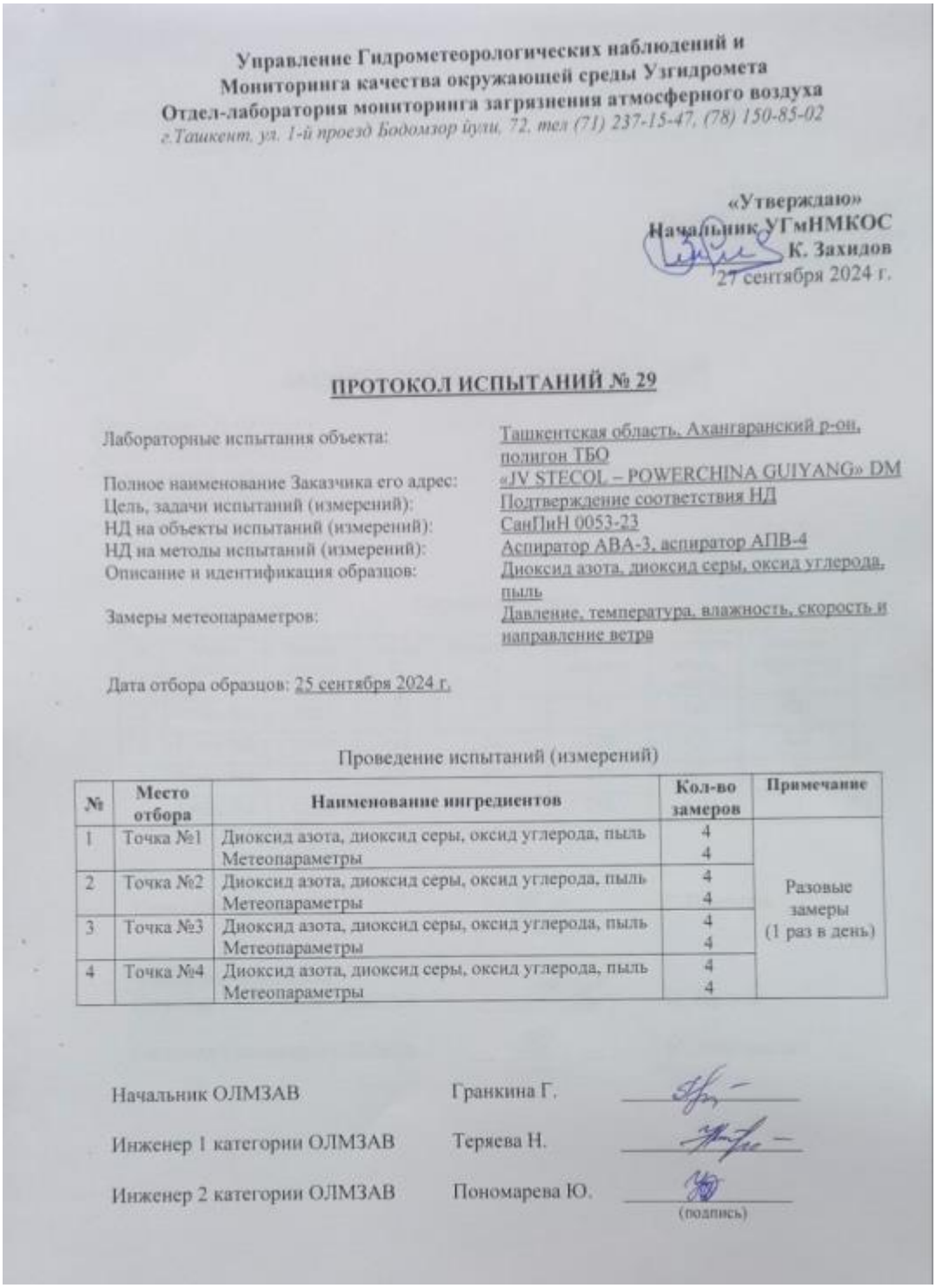
№	Наименование показателей		НД на методы испытаний	ФАКТ			
		Размерность		№1	№1-1	№2	№2-2
1	Привкус	Баллы	3351-74	Без вкуса	Без вкуса	Без вкуса	Без вкуса
2	Запах	Баллы	3351-74	Без запаха	Без запаха	Без запаха	Без запаха
3	Мутность	mg/dm³	3351-74	0,025	0,025	0,025	0,025
4	Цветность	градус	3351-74	5	5	5	5

№	Наименование показателей		НД на методы испытаний	ФАКТ			
		Размерность		№1	№1-1	№2	№2-2
5	Водородный показатель	pH	Измеряется pH- метром	7,20	7,25	7,16	7,24
6	Общая минерализация (сухой остаток)	mg/dm³	18164-89	780	1225	1850	1595
7	Железо	mg/dm³	4011-72	<0,05	<0,05	<0,05	<0,05
8	Жесткость общая	Mg-Экв/dm³	4151-72	7,75	13,60	20,50	17,15
9	Сульфаты	mg/dm³	4389-72	249	577	1095	937
10	Хлориды	mg/dm³	4245-72	60	96	85	78
11	Окисляемость	mg/dm³	23268.12-78	<0,50	<0,50	<0,50	<0,50
12	Нитраты	mg/dm³	18826-73	13	21	15	13
13	Нитриты	mg/dm³	26268.8-78	<0,10	<0,10	<0,10	<0,10
14	Гидрокарбонат-ион	mg/dm³	23268.3-78	195	268	207	183
15	Кальций	mg/dm³	23268.5-78	77	122	182	159
16	Магний	mg/dm³	23268.5-78	47	67	136	112
17	Натрий	mg/dm³	23268.6-78	106	180	195	178
18	Калий	mg/dm³	23268.7-78	1	1	3	2
19	Аммоний	mg/dm³	23268.16-78	<0,05	<0,05	<0,05	<0,05
20	Карбонат-ион	mg/dm³	23268.3-78	<0,05	<0,05	<0,05	<0,05

Данные результаты анализа относятся только к предоставленным заказчиком образцам.
Право тиражирования и копирования без разрешения «ЦЛ» не допускается.

Начальник ХАЛ Гусенова И.Е.

Air quality monitoring



Управление Гидрометеорологических наблюдений и
Мониторинга качества окружающей среды Узгидромета
Отдел-лаборатория мониторинга загрязнения атмосферного воздуха
г.Ташкент, ул. 1-й проезд Бодомзор йули, 72, тел (71) 237-15-47, (78) 150-85-02

«Утверждаю»
Начальник УГмНМКОС
К. Захидов
27 сентября 2024 г.

ПРОТОКОЛ ИСПЫТАНИЙ № 29

Лабораторные испытания объекта: Ташкентская область, Ахангаранский р-он, полигон ТБО
Полное наименование Заказчика его адрес: «JV STECOL – POWERCHINA GUIYANG» DM
Цель, задачи испытаний (измерений): Подтверждение соответствия НД
НД на объекты испытаний (измерений): СанПиН 0053-23
НД на методы испытаний (измерений): Аспиратор АВА-3, аспиратор АПВ-4
Описание и идентификация образцов: Диоксид азота, диоксид серы, оксид углерода, пыль
Замеры метеопараметров: Давление, температура, влажность, скорость и направление ветра

Дата отбора образцов: 25 сентября 2024 г.

Проведение испытаний (измерений)

№	Место отбора	Наименование ингредиентов	Кол-во замеров	Примечание
1	Точка №1	Диоксид азота, диоксид серы, оксид углерода, пыль Метеопараметры	4 4	Разовые замеры (1 раз в день)
2	Точка №2	Диоксид азота, диоксид серы, оксид углерода, пыль Метеопараметры	4 4	
3	Точка №3	Диоксид азота, диоксид серы, оксид углерода, пыль Метеопараметры	4 4	
4	Точка №4	Диоксид азота, диоксид серы, оксид углерода, пыль Метеопараметры	4 4	

Начальник ОЛМЗАВ Гранкина Г.
Инженер 1 категории ОЛМЗАВ Теряева Н.
Инженер 2 категории ОЛМЗАВ Пономарева Ю.
(подпись)

Управление Гидрометеорологических наблюдений и
Мониторинга качества окружающей среды Узгидромета
Отдел-лаборатория мониторинга загрязнения атмосферного воздуха
г.Ташкент, ул. 1-й проезд Бодомзор йули, 72, тел (71) 237-15-47, (78) 150-85-02

«Утверждаю»
Начальник УГмНМКОС
К. Захидов
27 сентября 2024 г.

Акт отбора проб атмосферного воздуха № 30

Дата отбора: 25.09.2024 г.

Замеры метеопараметров:
- атмосферное давление
- температура и влажность воздуха
- скорость ветра
- направление ветра

Использованное оборудование:
- Барометр-анероид М-67
- Психрометр ВМ-4м
- Анемометр

Метеопараметры

№	Место отбора	Время отбора	Тем-ра, °С	Влажность, %	Давление, мм.рт.ст	Скорость ветра, м/сек	Направ-ление ветра
1	Точка №1	10:25	+26	33	721	1,2	СВ
2	Точка №2	11:00	+28	32	720	1,7	СВ
3	Точка №3	11:35	+29	30	716	0,7	З
4	Точка №4	12:10	+29	29	718	1,0	З

Начальник ОЛМЗАВ _____ Г. Гранкина

Измерения проводили:
Инженер 1 категории ОЛМЗАВ _____ Н. Теряева

Инженер 2 категории ОЛМЗАВ _____ Ю. Пономарева
(подпись)

Узгидромет УГмНМКОС
ОЛМЗАВ
100052, г.Ташкент,
ул. 1-й проезд Бодомзор йули,72
тел (+71) 237-15-47, (+78) 150-85-02

НАРЯД-ЗАКАЗ №_____ от «____» _____2024г.
ЗАКАЗЧИК «JV STECOL – POWERCHINA GUIYANG» DM
ЗАЯВКА № ____ от «____» _____2024.

АКТ № 31
от 30.09.24 г.
лабораторного анализа проб атмосферного воздуха

Дата отбора	№	Место отбора	Время отбора	NO_2 мг/м^3	SO_2 мг/м^3	CO мг/м^3	Пыль мг/м^3
25.09.24	1	**Точка №1** стенд проекта, въезд на свалку	10:25	0,05	0,015	2,0	0,14
	2	**Точка №2** полигон, офис	11:00	0,03	0,008	1,6	0,06
	3	**Точка №3** старая свалка	11:35	0,05	0,020	2,3	0,17
	4	**Точка №4** 500-700 м до полигона, поля подсолнуха	12:10	0,02	0,010	1,0	0,06
СанПиН 0053-23		**ПДКм.р. мг/м^3**		**0,085**	**0,5**	**5,0**	**0,5**

Превышений по всем загрязняющим веществам не зафиксировано.

Исполнители:
Инженер 1 категории ОЛМЗАВ _____ Н. Теряева
Инженер 2 категории ОЛМЗАВ _____ Ю. Пономарева

Справка

В рамках экологической оценки загрязнения атмосферного воздуха на полигоне ТБО Ахангаранского района специалистами Управления Гидрометеорологических наблюдений и Мониторинга качества окружающей среды (УГмНМКОС) Узгидромета – инженером 1 категории отдела-лаборатории мониторинга загрязнения атмосферного воздуха (ОЛМЗАВ) Теряевой Н. и инженером 2 категории ОЛМЗАВ Пономаревой Ю. – в соответствии с договором **02-16/2024** с DM «JV STECOL – POWERCHINA GUIYANG» 25 сентября 2024г. был произведен мониторинг качества воздуха согласно Техническому заданию. В 4-х точках 1 раз в день, на высоте 1,5 м от поверхности земли, на открытой местности, с помощью аспираторов АПВ-4 и АВА-3 проводился отбор проб атмосферного воздуха на 4 примеси (диоксид азота, диоксид серы, оксид углерода и пыль). Отбор осуществлялся в течение 20 минут путем прокачивания атмосферного воздуха через поглотительный прибор, сорбционную трубку, фильтр и камеру. Анализ отобранных проб проводился в отделе-лаборатории мониторинга загрязнения атмосферного воздуха, согласно нормативным документам:

1. O'z O'U 0724:2016	Методика выполнения измерений массовой концентрации диоксида азота и оксида азота в атмосферном воздухе фотометрическим методом
2. O'z O'U 0726:2016	Методика выполнения измерений массовой концентрации диоксида серы в атмосферном воздухе фотометрическим методом
3. ГОСТ 17.2.6.02-85	Охрана природы. Атмосфера. Газоанализаторы автоматические для контроля загрязнения атмосферы. Общие технические требования
4. ГОСТ 17.2.4.05-83	Атмосфера. Гравиметрический метод определения взвешенных частиц.

Одновременно с отбором проб атмосферного воздуха проводились наблюдения за основными метеорологическими параметрами: атмосферным давлением, температурой воздуха, относительной влажности, скоростью и направлением ветра. Наблюдения выполнялись с помощью метеорологического оборудования (барометр-анероид М-67, психрометр ВМ-4м, анемометр).

Во время отбора проб атмосферного воздуха температура воздуха была 26-29 ^{0}С тепла; влажность — 29-33 %; давление — 716-721 мм.рт.ст.; порывы ветра до 1,7 м/с; направление ветра было северо-восточным/западным.

Превышений максимально разовых предельно допустимых концентраций (ПДКм.р.) определяемых загрязняющих веществ **не наблюдалось.**

Начальник ОЛМЗАВ — Г.Н. Гранкина

Appendix 4 State Environmental Expertise, March 2022

O‘ZBEKISTON RESPUBLIKASI EKOLOGIYA VA ATROF-MUHITNI MUHOFAZA QILISH DAVLAT QO‘MITASI

100043, Toshkent shahri, Chilonzor tumani, Bunyodkor shoh ko‘chasi, 7a-uy. tel.: 71-207-11-02, faks: 71-236-02-32 veb-sahifa: http://www.eco.gov.uz, elektron pochta: info@eco.gov.uz

2022-yil “ 9 ” 03 03-01/11-08-398 - son Toshkent sh.

ЗАКЛЮЧЕНИЕ

Государственной экологической экспертизы

По объекту:	ОВОС строительства полигона для складирования твердо-бытовых отходов ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI» в Ахангаранском районе Ташкентской области (проект ЗВОС)
Заказчик:	ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI»
ИНН:	200 903 001
Категория:	I (пункт 8) ПКМ РУз №541 от 07.09.2020г.
Разработчик:	ООО «ECO STANDART PROEKT»
Эксперт:	А. Х. Шарофова

Вр.и.о. директора ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI» И. МУСАЕВУ

копия: Управлению по экологии и охране окружающей среды Ташкентской области

На государственную экологическую экспертизу представлены материалы первого этапа оценки воздействия на окружающую среду строительства полигона для складирования твердо-бытовых отходов ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI» в Ахангаранском районе Ташкентской области.

Рассматриваемый участок под размещение полигона планируется организовать на территории общей площадью 30 га, вдоль западной границы действующего полигона. На севере, востоке и юге территория граничит землями сельскохозяйственного значения.

Географическими координатами заявленного участка являются: 1) 41°06'03.36"C 69°29'03.95"B; 2) 41°05'55.32"C 69°29'19.58"B; 3) 41°05'52.78"C 69°29'20.79"B; 4) 41°05'50.97"C 69°29'18.27"B; 5) 41°05'39.64"C 69°29'16.20"B; 6) 41°05'27.70"C 69°29'12.73"B; 7) 41°05'28.93"C 69°29'00.76"B; 8) 41°05'48.12"C 69°29'04.70"B.

Ближайшие жилые постройки находятся на удалении более 1 000 м северо-западнее от рассматриваемой территории.

В рамках реализации проектных решений в соответствие с требованиями ПКМ №541 от 07.09.2020г. проведено общественное слушание с участием заместителя хокима Ахангаранского района, начальника районной инспекции по экологии и охране окружающей среды, директора предприятия, председателя, активистов и граждан МСГ «Янги Хает» по которому составлен протокол, где участники не имеют возражений против строительства нового полигона на рассматриваемой территории.

Район рассматриваемого объекта характеризуется резко-континентальным климатом и относится к IV климатическому подрайону с продолжительным жарким летом и короткой малоснежной зимой. Район характеризуется небольшими значениями скоростей ветра от 1,2 до 5 м/с. Среднегодовая повторяемость ветра со скоростью до 1,2 м/с – 65,96%, которые наиболее часты в марте-апреле. Повторяемость ветра со скоростью 4-7 м/с способствующего переносу примесей от горячих источников составляет 2%.

Приземные инверсии фиксируются в течение всего года на уровне 40-60%, преимущественно в ночные и утренние часы. Среднегодовое количество осадков составляет 447 мм.

Согласно данным метеостанции «Туябугуз» в среднегодовой повторяемости направлений ветра преобладают северо-западное и юго-восточное направления.

Анализ климатических условий района показал, что часто повторяющаяся повышенная скорость ветра благоприятствует рассеиванию газообразных примесей от низких неорганизованных источников, а температурный режим, сухость подстилающей поверхности, малое количество дней с осадками способствует увеличению запыленности атмосферного воздуха при данных скоростях ветра.

В геоморфолого-литологическом отношении поверхность территории представляет собой покато-волнистую, интенсивно расчлененную предгорную равнину. Литологическое строение представлено отложениями верхне-, среднечетвертичного возраста. Верхнечетвертичные отложения преимущественно пролювиально-аллювиального происхождения и представлены суглинками, прослойками гравия и песка общей мощностью 40 м.

Ближайшим поверхностным водотоком является канал Карасу, протекающий западнее в 4,75-5 км от проектируемого полигона. Также на небольших расстояниях вокруг рассматриваемой территории проложены арыки. Согласно ст.35 и ст.40 Закона «Об охраняемых природных территориях» водоохранные зоны, прилегающие к водным объектам, являются охраняемыми природными территориями, в пределах которых устанавливается режим ограничения хозяйственной деятельности. В соответствии с п.60 ПКМ РУз №981 от 11.12.2019г. в водоохранных зонах запрещается размещение свалок мусора, в том числе отходов производства химических и радиоактивных веществ, устройство различного вида накопителей сточных вод, а также устройство стоянок, заправочных пунктов горюче-смазочных материалов и др.

В связи с этим необходимо представить информацию о положениях границ водоохранных зон и прибрежных полос ирригационных водотоков (арыков) относительно площадки проведения работ, заверенную уполномоченными государственными органами, позволяющую допустимость проектных решений в пределах заявленной территории.

В районе развиты грунтовые субнапорные воды аллювиально-пролювиальных галечниках, гравиях и песках средней части сливающихся конусов выноса предгорной равнины. Глубина залегания субнапорных вод находится в пределах 20-30 м, с общим направлением с северо-востока на юго-запад.

Перечень представителей животного мира рассматриваемого участка ограничен теми видами животных, которые смогли приспособиться к жизни в антропогенных условиях. На территории объекта отсутствуют многолетние деревья, подлежащие вырубке.

Строительство нового полигона для складирования ТБО предусматривается в связи с закрытием действующего полигона, отработавшего срок эксплуатации. Проектная мощность по захоронению отходов составляет 1 094 тыс. тонн в год. Учитывая площадь захоронения и принимаемую высоту штабелирования 20 м, срок службы составит 11,1 лет, при высоте штабелирования 30 м – 12,1 лет.

По характеристике проектируемого полигона на отведенной территории предусматривается размещение: площади захоронения отходов, дорога вокруг полигона, регулирующий бассейн, зона управления, объем закладного склада, откосы и другие площади.

Морфологический состав отходов, складируемых на полигонах, указываемый в процентах по массе следующий: бумага, картон – 38%, пищевые отходы – 30%, текстиль – 5,5%, полимерные материалы – 5,5%, стекло – 4,3%, кожа и резина – 1,3%, древесина – 1,5%, строительные материалы – 1,4%, черный и цветной металл – 3%, кости – 0,7% и другие отходы – 8,8%.

Согласно проектной документации, образующиеся от выкапывания основания полигона грунты, предусматривается использовать для возведения тела плотины. **При организации проектных решений по строительству объекта необходимо предусмотреть сохранение плодородного слоя почвы – плодородный слой почвы должен быть снят и сохранен в целях использования его для биологической рекультивации земель и повышения плодородия малопродуктивных угодий.**

Доставляемые отходы подлежат первичной сепарации. Перерабатываемые отходы планируется сдавать на переработку в специализированные предприятия. Поступающие на карты захоронение отходы, уплотняются с помощью спецтехники, после выезда из карт, колеса которых подлежат обеззараживанию. Всего полигон будет разбит на 3 карты.

Основной экологической проблемой при организации полигона является вероятность загрязнение поверхностных и подземных вод ливневыми стоками. С целью предотвращения попадания талых и ливневых вод в водные объекты предусматривается создание нагорной канавы с бетонной подстилкой длиной 2 306 м и сооружение защитной насыпной дамбы. Стоки планируется

направлять в поливной коллектор, проложенный вдоль восточной границы территории.

Ввиду особых условий размещения полигона, проектом предусматривается оборудование композитного противофильтрационного экрана из синтетических материалов. Предусмотренный экран состоит из следующих технологических слоев: грунтовое основание, бентонитовый маты, дренажный слой.

Предусмотренное оборудование основания участка складирования отходов при помощи бентонитовых матов надежно защитит почвы и грунтовые воды от пагубного влияния фильтрата, образующегося в теле полигона. Для сбора и отвода фильтрата с участка размещения отходов проектом предусмотрено оборудование дренажной системы, состоящей из пластового дренажа и дренажных труб.

Пластовый дренаж состоит в основании полигона из слоя гальки и гравия. На откосах основание участка размещения отходов укладывается трехмерный комбинированный дренажный материал, состоящий из дренажной сердцевины и надежно прикрепленных к ней нетканых геотекстиля. Применяемая дренажная система используется для понижения кривой депрессии в теле полигона, как в процессе его строительства, так и в период эксплуатации. Собранный фильтрат по системе дрен направляется в гидроизолированный бассейн фильтрата.

Территория полигона является источником загрязнения атмосферного воздуха. Выбросы загрязняющих веществ будут происходить в процессе разложения отходов, ссыпки отходов, работы спецтехники, сжигания дизтоплива в ДВС и приготовления дезинфицирующего раствора. Суммарный выброс 13 загрязняющих веществ в атмосферу из 4 источников выбросов составит 0,983 т/год. Расчеты максимальных концентраций в атмосферном воздухе по загрязняющим веществам за пределами участка не выявили превышений установленных норм (квот).

Для хозяйственно-бытового и технического водоснабжения полигона планируется использовать воду из планируемой артезианской скважины. Вода, используемая на полив, стоков не образует. На хозбытовые нужды вода будет расходована для питьевых нужд рабочих, душевых, приготовления пищи и мытья полов в количестве 855,925 $м^3$/год. Расчетное потребление воды на полив территории составит 111 $м^3$/год. В процессе функционирования полигона будут образовываться только хозяйственно-бытовые стоки, для которых сброс решается путем отвода в гидроизолированный выгреб с последующим вывозом на ближайшие очистные сооружения. **Необходимо произвести расчеты расхода воды на приготовление дезраствора.**

Помимо принимаемых отходов на территории полигона предусматривается образование отходов в виде ТБО (1,5 т/год), пищевых отходов (3,6 т/год), изношенной спецодежды (0,14 т/год), обтирочной ветоши (0,098 т/год), отработанных светодиодных ламп (0,6 кг/год), смета от уборки территории (6,15 т/год). **Проектом необходимо предусмотреть соответствующую утилизацию вышеуказанных видов отходов.**

Анализ представленных материалов показал, что первый этап оценки воздействия на окружающую среду не удовлетворяет в полной мере требования природоохранного законодательства в части отсутствия данных:

– современного состояния окружающей среды до начала осуществления намечаемой деятельности;

– анализа особенностей окружающей среды;

– подробного ситуационного плана с указанием имеющихся рекреационных зон, населенных пунктов, ирригационных, мелиоративных объектов, сельхозугодий, линий электропередач, транспортных, водопроводных, газопроводных коммуникаций и других сведений о местности;

– предусматриваемых (намечаемых) основных и вспомогательных объектов, используемой техники, технологии, природных ресурсов, материалов, сырья, топлива, анализа их воздействия на окружающую среду;

– анализа альтернатив намечаемой деятельности и технологических решений с позиции охраны природы, с учетом достижений науки, техники и передового опыта;

– организационных, технических, технологических решений и мероприятий, исключающие негативные экологические последствия и снижающие воздействие объекта экспертизы на окружающую среду;

– анализа аварийных ситуаций (с оценкой вероятности и сценарием предотвращения их негативных последствий);

– прогноза изменений окружающей среды и экологических последствий в результате реализации объекта экспертизы.

Государственная экологическая экспертиза по результатам рассмотрения проекта ЗВОС установила необходимость выполнения дополнительных изысканий и разработки аргументированных природоохранных мероприятий, которые следует представить на государственную экологическую экспертизу в рамках второго этапа процедуры ОВОС – Заявление о воздействии на окружающую среду.

В соответствии с ПКМ РУз №541 от 07.09.2020г. Заявление о воздействии на окружающую среду должно содержать оценку экологических проблем выбранной площадки по результатам инженерно-геологических изысканий, модельных и других необходимых исследований, экологический анализ технологии применительно к выявленным проблемам площадки, аргументированные исследования природоохранных мероприятий, предотвращающих негативные последствия реализации объекта экспертизы, в том числе:

– данные/результаты по выполнению дополнительных изысканий, натурных обследований, специальных анализов и модельных экспериментов, в части изучения качественного и количественного состава животного и растительного мира, состояния грунтовых и подземных вод, геологического строения рассматриваемого участка;

– по результатам изысканий разработать аргументированные природоохранные мероприятия, обеспечивающие максимальную экологическую безопасность при организации и эксплуатации полигона ТБО;

– безопасность проектируемых работ с представлением геологических разрезов, построенных на основании топографического плана полигона, а также строительной схемы полигона, вместе с указанием планируемых мусороперегрузочных станций, мусоросортировочных установок, мест по компостированию органических отходов и получению биоудобрений, а также сети дорог;

– описать полный технологический процесс эксплуатации планируемого полигона;

– для учета влияния складированных ТБО на грунтовые воды необходимо предусмотреть бурение контрольных скважин;

– предусмотреть очистку фильтрата для дальнейшего его использования на полив;

– рассмотреть в качестве основных причин возникновения аварийной ситуации на полигоне нарушения технологии размещения ТБО и прорыв противофильтрационного экрана и меры их ликвидации;

– строго соблюдать санитарные требования СанПиН РУз №0157-04 от 12.07.2004г. и СанПиН РУз №0297-11 от 27.08.2011г.

Государственный комитет Республики Узбекистан по экологии и охране окружающей среды **согласовывает** проект Заявления о воздействии на окружающую среду строительства полигона для складирования твердо-бытовых отходов ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI» в Ахангаранском районе Ташкентской области, при условии соблюдения вышеперечисленных требований.

Заявление о воздействии на окружающую среду (второй этап) необходимо представить в установленном законодательством порядке до утверждения технико-экономического обоснования объекта.

Управлению по экологии и охране окружающей среды Ташкентской области необходимо взять под контроль выполнение требований природоохранного законодательства и необходимых к выполнению природоохранных мероприятий ГУП «MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI». Не следует допускать начало проектных решений до получения согласованных заключений государственной экологической экспертизы на этапы ОВОС организации объекта.

Заместитель председателя **Ж. Казбеков**

Исп.: А. Х. Шарофова
Тел.: (71) 203-00-22 вн. (1007)

«УТВЕРЖДАЮ»

Вр. и. о. директора "MAXSUSTRANS ISHLAB CHIQARISH BOSHQARMASI"

_____ I. MUSAEV

«_____» _____20___ г.

ПРОЕКТ
ЗАЯВЛЕНИЯ О ВОЗДЕЙСТВИИ НА ОКРУЖАЮЩУЮ СРЕДУ (ЗВОС)

ПО ОБЪЕКТУ «СТРОИТЕЛЬСТВО ПОЛИГОНА ДЛЯ СКЛАДИРОВАНИЯ ТВЕРДЫХ БЫТОВЫХ ОТХОДОВ», РАСПОЛОЖЕННОГО НА ТЕРРИТОРИИ АХАНГАРАНСКОГО РАЙОНА ТАШКЕНТСКОЙ ОБЛАСТИ

Проект разработан:

ООО «ECO STANDART PROEKT»

_____ Рапиков У. Ш.

«25» ноября 2021 г.

Ташкент 2021 г.

Appendix 5: Commissioning acceptance certificate and taking-over certificate of the works, April 2025

Commissioning acceptance certificate, April 28, 2025

COMMISSIONING ACCEPTANCE CERTIFICATE

Tashkent city, Uzbekistan 28.04.2025

The following equipment delivered and installed in the newly constructed sanitary landfill located in Akhangaran district of Tashkent region under the **Contract No. SUE/Maxsustrans/ICB-W1R dated 31.01.2022 «Sanitary Landfill Establishment»** has been checked in presence of the Engineer (China Urban Construction Design & Research Institute Co., Ltd.), the Contractor (Joint Venture "STECOL-POWERCHINA GUIYANG") and the Employer (SUE «Maxsustrans»):

№	Description of Goods	Model	Place of Delivery	Quantity
1	Self-priming pump	100TWFZB Q=75M3/H H≥46M N=50Kw	Mahalla "Yangi Hayot", Akhangaran district, Tashkent region, Uzbekistan	3
2	Leachate lifting pump	JYWQ65-30-33-1400-5.5		2
3	Heating station pump (manual)	BKF-4		2
4	Pump for drinking water	operation-2 m2/h, pressure-24m, power-0,55m Hydro Multi_E 2VRE 5-4		2
5	Pump for service and drinking needs	operation - 80 km/h, pressure - 25m, power - 4.0m Hydro Multi-E 3CRE 20-3		1
6	Deep-water pump (manual)	BKF-4		1
7	Pump	ETsV-6-10-80		2
8	Motor pump with a productivity	600 l/min		1
9	One-transformer complete substation	GKTP-250/6		1
10	One-transformer complete substation	GKTP-160/6		1
11	Grounding of transformer station	K TPM-40/10		1
12	Diesel-generator s	400/230V 30kW in euro casing AD 150-T400 of 2 degree of authorization AD 30-T400		2

Herewith the below-signed representatives certify that the Contractor properly installed and commissioned the new unused equipment, whereas the Employer accepted the new unused equipment in a proper quantity and quality according to the Contract terms and conditions. The Employer and the Engineer has no claim on quantity and quality of equipment based on supporting documents and operation manuals.

Engineer's Representative	Employer's representative	Contractor's representative
Mr. Ming PAN International Civil Engineer Design and Supervision Consultant: China Urban Construction Design & Research Institute Co., Ltd.	Mr. Kamoliddin Nabiev Director State Unitary Enterprise "Maxsustrans"	Mr. Yang Jinbin Project Director [illegible] "STECOL-POWERCHINA GUIYANG"

Taking-over certificate of the works, April 29, 2025

TAKING-OVER CERTIFICATE FOR THE WORKS

Project Name: Uzbekistan - Solid Waste Management Improvement
(ADB Loan No. 3067-UZB)

Contract No.: SUE/Maxsustrans/ICB-W1R: Sanitary Landfill Establishment

This Taking-Over Certificate is issued to the Contractor, Joint Venture of Stecol Corporation Ltd. (China) and Power China Guiyang Corporation Ltd. (China) on April 29, 2025, on which the Works were completed in accordance with the Contract, except as indicated in the attached list of the outstanding works and defects, which will not substantially affect the use of the Works for their intended purpose under Sub-Clause 10.1 (Taking-over of the Works and Sections).

The Defects Notification Period is **365 (three hundred sixty five)** days calculated from the date of this certificate, as specified in the Particular Conditions of Contract under Sub-Clause 1.1.3.7 (*Defects Liability Period*) and in accordance with Sub-Clause 11.1 of the General Conditions of Contract (*Completion of Outstanding Works and Remedying Defects*). If the Contractor fails to comply with Sub-Clause 11.1 of the General Conditions of Contract, the Employer is entitled to take appropriate actions in pursuance of the Sub-Clause 11.4 (Failure of Remedy Defects) of the General Conditions of Contract.

Issued by: Mr. Ming PAN

Engineer: China Urban Construction Design & Research Institute Co., Ltd.

Appendix A:
List of Outstanding Works and Defects
Contract No.: SUE/Maxsustrans/ICB-W1R

Description	Unit	Quantity	Remarks as of 29.04.2025	Completion Date
Workshop ventilation system	item	1	Ventilation system cables in workshop is not connected	28.05.2025
Leachate refilling system sprinkler	item	1	Due to theft on site, the original re-infilling system sprinkler heads were stolen, and the newly purchased sprinkler heads is not installed.	28.05.2025
Leachate flushing pipeline	item	1	The leachate flushing pipeline is broken and should be repaired	28.05.2025
Landfill fence	item	1	The fence near the landfill management area is damaged and needs to be repaired	29.05.2025
Management area road	item	1	The road surface in the management area is partially damaged and needs to be repaired	28.05.2025
Leachate collection tank	item	1	There are quality problems in the welding of the floating cover system of the tank. Some covers have fallen off and should be repaired.	28.05.2025
Refilling pumps in leachate collection tank	item	3	According to the Employer's official letter, the refilling pumps of the leachate collection tank were stolen, and the new pumps will be purchased by the Employer. This taking-over does not involve this part	28.05.2025

This list of **Outstanding Works and Defects** to be completed or corrected during the Defects Liability Period is appended hereto as Appendix 1 to the Taking-Over Certificate with respect to whole of the permanent Works of the New Sanitary Landfill. Omission from this list of any outstanding, extra works or defective works shall not relieve the Contractor of the responsibility to complete all works in accordance with the Contract.

To the intent that the works shall be delivered to the Employer in the conditions required by

the Contract, fair wear and tear expected, the Contractor shall execute all works of according to the Contract and any additional works stated in the contractors letter and remedying defects or other fault as the Engineer may as a result of inspection by or on behalf of the Employer during the defect liability period, instruct the Contractor to execute.

The Contractor agrees to execute such works in accordance with Contact conditions.

A schedule for the joint site visit during the Defect Liability Period has to be agreed additionally.

Engineer's Representative	**Employer's representative**	**Contractor's representative**
Mr. Ming PAN International Civil Engineer Design and Supervision Consultant: China Urban Construction Design & Research Institute Co., Ltd.	Mr. Kamoliddin Nabiev Director State Unitary Enterprise "Maxsustrans"	Mr. Yang [illegible] Project Director Joint Venture "ST[illegible] GU[illegible]

Date: April 29, 2025

Attached: Pictures from the sites with outstanding works or defects.