Post Construction Environmental Audit Report

Project Number: 45366-004
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



Post Construction Environmental Audit 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 19, 2024)[2]

Currency unit	–	Sum (SUM)
SUM1.00	=	$0.0000776
$1.00	=	SUM 12875.06

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
PCEAR	Post Construction Environmental Audit Report
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 Post Construction Environmental Audit 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.

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

Contents

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

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 Post Construction Environmental Audit Report (PCEAR) for the SWMIP covering an overview of the environmental management at the project post construction period, and to report on the status of final project-end activities as well as provides recommendations for resolving identified issues during the post –construction period.

3. This Post-Construction Environmental Audit Report is prepared by Environmental Specialists of PIU Support Consultants with cooperation and assistance of civil contractor's environmental Consultant. The report was prepared in order to comply with the 2009 ADB's SPS and Uzbek legislation, including Safeguards Requirement and aims to verify that there are no any significant environmental impacts following completion of the construction phase of the project. The specific objectives of the audit can be summarized as follows:

- Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEE, SSEMP and the ADB's loan covenants have been adhered to during the construction phase;
- Determine and verify whether the mitigation actions and rehabilitation requirements contained in the SSEMP have been appropriate and successful to prevent or control environmental pollution and/or damage;
- Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase.
- Ensure that appropriate environmental monitoring and control program exists for monitoring of all environmental aspects during the operational phase.
- Ensure that all legal obligations and commitments developed during the project planning and impact assessment process have been fully implemented.

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. The restriction measures due to COVID-19 were cancelled in Uzbekistan on 1 March 2022.

2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

4. 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.

5. 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.

6. 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.

7. 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.

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

[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 registration process.

9. 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.

10. 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.

11. 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.

12. 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).

13. The GoU has allocated a 30 ha land plot immediately to the south of the existing Akhangaran dumpsite of which ~~ca.~~ 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.

14. 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 Scope of works under contracts

15. 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).

16. 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.

17. 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.

18. In addition, 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.

19. Summary information on the work contracts and physical progress is presented in Table below.

Table 1 Summary of the Work contracts and physical progress as of 20 December 2024

Contractor	Scope	Signed Date	Approval Date			Name of personnel		Civil Works		DLP	
			SSEMP	COVID-19 HSMP	ERP	Environmental Officer	Health and Safety Officer	Start Date	End Date	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)	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	1 Sept 2022	31 Aug 2023
CW3: *Cancelled*	Dumpsite closure										
CW4: Indigo Baraka Servis LLC (Uzbekistan)	Garage rehabilitation	7 Dec 2020	21 Dec 2020	21 Dec 2020	Jan 2021	Mr. Khabibulla Mukhtarov	Mr. Rakhmatilla Normatov	16 Dec 2020	31 Dec 2021	1 Jan 2022	30 Jun 2023
CW5: Various local contractors	Construction and rehabilitation of waste collection points[6]	Various contracts				n/a	n/a	Various dates	Various dates	N/A	N/A

[4] Started from the date of the taking -over certificate of the works dated April 29, 2025.

2.3 Project Management, Implementation and Coordination

20. The following Agencies were involved in Project management, implementation and Coordination:

Table 2:Role of agencies involved in project management, implementation and coordination

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.

21. 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).

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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[7] https://maxsustrans.uz/project/dokumenty-po-proektu.

31. 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.

32. The main stakeholders of the Project related to environmental safeguards are presented in Table 3.

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

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.

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

3 SUMMARY OF ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 Environmental Management Plans

34. According to the requirement of the project IEE, after signing the work contracts and prior to start works on site, the contractors within 30 days should prepare a Site-specific Environmental Management Plan (SSEMP).

35. Prior to commencement of construction works, all Contractors submitted the 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 1: 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

36. The Environmental Specialists and Health & Safety Specialists of the Contractors implemented EMP during construction period.

37. The PIU and Support Consultant conducted regular monitoring visits and site audits during the constriction period and provided non-compliance notices and recommendations for improvements and for effectively implementing of EMP.

3.2 Observation site visit

38. The information on the conducted post-construction audits is provided in the Table below.

Table 4 Post-construction audits conducted by the PIU Support Consultant

Contract	Scope	Date	Auditor
CW1: JV «STECOL- POWERCHINA GUIYANG» (China)	Sanitary landfill establishment	December 21, 2024 November 9, 2024 October 25, 2024	Environmental Specialist, Mukhammadali Kholmuradov
CW2: JV of Future Growth Ltd., VBN Engineering Ltd and Eastern construction Ltd. (Uzbekistan)	Transfer station rehabilitation	November 9, 2024 October 25, 2024	Environmental Specialist, Mukhammadali Kholmuradov
CW3: Cancelled	Dumpsite closure	-	-
CW4: Indigo Baraka Servis LLC (Uzbekistan)	Garage rehabilitation	November 9, 2024 October 25, 2024	Environmental Specialist, Mukhammadali Kholmuradov
CW5: Various local contractors	Construction and rehabilitation of waste collection points	-	-

39. Contract CW1-R – Sanitary Landfill Establishment. Construction of the landfill is competed. The construction works were fully accomplished satisfactorily. The facility is ready for commissioning into operation. According to the site visits, Consultant observed that all kinds of waste, including construction waste, are fully removed from the site, construction camps (container type) are demolished as well as rendered camp site are cleaned. The equipment and machinery used during the construction period are demobilized. Temporary facilities of subcontractors (temporary camps, kitchens, warehouses areas) removed from the sites. All hazardous waste from the temporary storage located at the landfill were sent to the appropriate final disposal point.

40. Excavation and other similar work were carried out only within the project boundaries. Soil at the site was rehabilitated after completion of excavation and backfilling. The contractors did not use any quarries for construction works. All the reinstatement works as well as re-vegetation strategy (planting new trees) are finalized properly as per contract scope of works and specification. The Contractor has changed the part of soil with more fertile soil and planted new trees on site, and took care of them.

41. In addition, a civil contractor has completed the concreting of the small canal along the landfill, which is used by the nearby farmers.

42. The landfill site was properly fenced. On the site, Contractor placed several new waste bins for several types of wastes. The guard is operating at the entrance of SLE. The access road to landfill is asphalted and ready for operation.

43. State Environmental Expertise's conclusion No.03-01/11-08-398 for SLE was issued on 09.03.2022 and still in force. The developer is OOO «ECO STANDART PROEKT».

Figure 2 Sanitary landfill establishment

Sanitary landfill, December 21, 2024

Auxiliary tank for the landfill, November 9, 2024

Access road to the landfill site, November 9, 2024

Fencing of the sanitary landfill site, November 9, 2024& December21, 2024

Tank for storage of oil products

Adminstrative building, December21, 2024

Power supply / Generator, December 21, 2024

Pumping station, December21, 2024

Water reservoirs for fire safety, December21, 2024

Tree planting, December21, 2024

Garage buidling, December21, 2024

Guard at the entering, December21, 2024

Concreted canal, December21, 2024

Construction containers removed from the construction site, December 21, 2024

Location of containers at the site of dumpsite, December 21, 2024

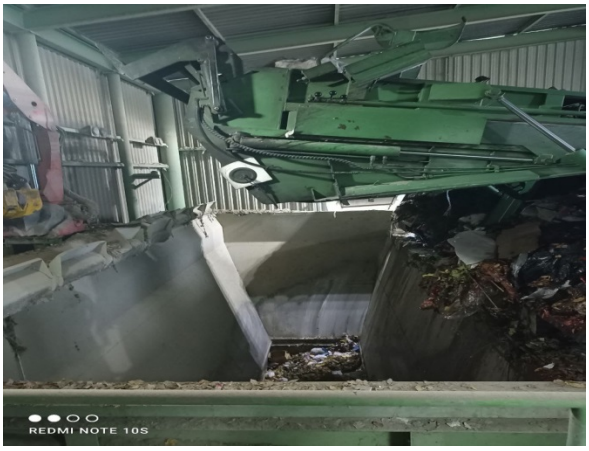

Construction containers removed from the dumpsite, March 28, 2025

44. **Irrigating canal near the landfill**: The irrigating canal is located near the dumpsite and new sanitary landfill facility. The waste from the existing landfill will not does not enter the irrigation tray. To ensure the safety of irrigating canal, it will be regularly cleaned by the administration of the new landfill. Moreover, the existing dumpsite which is close to the irrigation tray and increase the risk of pollution of water with toxic substances, will be closed when new SLF starts operating in April 2025.[8]

45. Contract CW2 – Transfer Station Rehabilitation. Rehabilitation works were carried out within the existing facility. The scope of works under contract CW2 included dismantling of the existing machinery and associated equipment and supporting systems (ventilation / dust exhauster system, hydraulic system and pipes, e-power cable system & sensors and IT-system and cable, leachate collection and drainage system from press; surface (profile steel plates) and of existing fire prevention system, new hydrants, emergency system etc.) as well as rehabilitation of the concrete surface of the unloading area and of the concrete surface prior the press and container docking place. The re-construction works were completed on 31 August 2022.

Figure 3 Transfer Station Rehabilitation


[8] Operation and DLP Started from the date of the taking -over certificate of the works dated April 29, 2025.



Yakkasaray transfer station




Yunus abad transfer station

46. Contract CW4 – Garage Rehabilitation. Scope of works included rehabilitation of existing garages of Maxsustrans. The rehabilitation works were completed on 31 December 2021.

Figure 4 Garage Rehabilitation

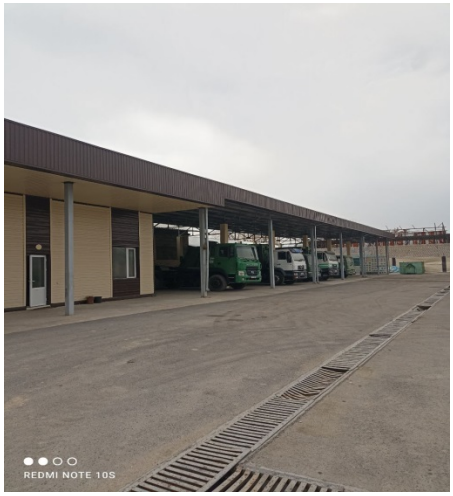
Entrance to the garage

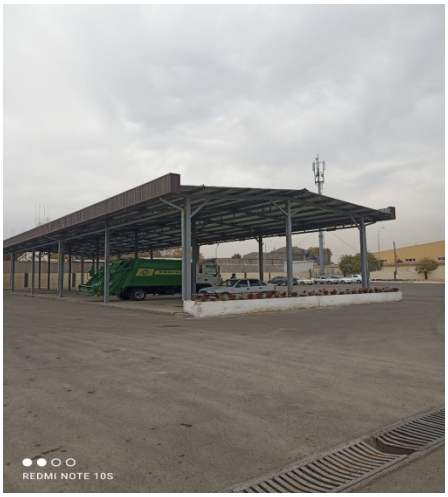
Vehicle storage area

Area of minor repairs

Garage service pit

Mirabad garage





Vehicle storage area

Entrance to the garage

Area of garage

Bektemir Garage

3.3 Summary of the issues still open from EMR

47. There are no issues still open from EMR. Non-compliances have not been observed during post-construction audit.

4 Environmental monitoring and mitigation measures during operational stage

48. Environmental monitoring and mitigation measures for the operational stage are given in table below:

Table 5 Environmental monitoring and mitigation measures for the operational stage

Impact	Type/Efficiency	Mitigation/improvement measures	Institutional responsibilities
Operation stage			
Air emissions / Air quality	Permanent and long term	- It is expected that gas emissions (i.e. generation of malodors) at the landfill will be moderate - Provide all employees with appropriate PPE - air quality monitoring based on the monitoring set in the program - Regulate the movement of vehicles in the landfill to minimize emissions	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Health and Safety	Significant, permanent and long-term	- Strictly use and control the use of PPE by personnel, especially those involved in waste handling. - Provide and require knowledge of all employees of safety rules and safety instructions - Restrict personnel movement in hazardous areas - Provide workers with an HSE manual and an insurance policy - - Provide compensation if necessary - Conducting information and training programs on occupational safety and health issues - Ensure the availability of first aid kits at the landfill. - Provide a vehicle that can take victims to hospitals - Strictly control the entry and exit of unauthorized persons into the landfill - Precautions must be taken to prevent uncontrolled fire consequence of operations.	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Noise	Minor, long-term and permanent	- Installation of mufflers and mufflers on machines and equipment - Avoid working during rest periods / at night - Maintain equipment regularly - Install fences around the work area as a barrier - Introduce minimum speed limits in the project area	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Ground water quality	Significant, permanent, long term	- use of high-density polyethylene lining and creation of a leachate collection and treatment system in accordance with the project and plan - control the quality of the filtrate, if any - ensure that the leachate does not seep into the ground by consistently checking the quality of the lining. - ensure the collection and processing of all filtrate correctly cover the polygon after filling each cell - Introduce vegetation cover in areas where applicable to promote evapotranspiration and redirect parts of atmospheric precipitation.	Project Implementation Unit (PIU), 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 operations	Project Implementation Unit (PIU), 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.	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Operation on auxiliary objects (filtrate collection plant)			
Air emissions	significant permanent and long-term	- Unpleasant odors are expected. Therefore, it is essential that the most appropriate ventilation system be implemented. This system must also maintain an appropriate air exchange rate to minimize stagnation within the installation. - provide all employees with appropriate PPE - control the air quality (indoors and outdoors) based on the monitoring set in the program - Regular monitoring of any leak (pressure loss) and/or spill	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Health & Security	significant permanent and long-term	- Training of personnel related to operation and maintenance. - Provide the necessary PPE and strictly introduce and control its use by employees - Provide safety signs and placards and restrict the movement of personnel in hazardous areas - - Conducting information and training programs on occupational safety and health issues - - Make first aid kits available - Strictly control the entrance and exit of strangers to the territory of the facility	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Groundwater quality	Moderate, permanent and long-term	- Make sure all containers and tunnels are properly sealed. - Check for leaks in containers and tunnels - Where applicable, all floors must be properly sealed. - Ensure that leachate and other spills are properly collected and not disposed of in sensitive areas. - Water use must be controlled.	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Noise	insignificant, minor and soon	Note: There are no sources of increased noise from the operation of the unit. - Whenever there is excessive noise, it will be short term.	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring
Parasites and other pests	minor, minor and soon	The presence of parasites and pests will be minimal as the facility and its equipment are completely enclosed. To keep employees from being exposed to hazardous materials: - - All workers and personnel must be provided with appropriate PPE. - - The use of PPE must be strictly enforced and controlled.	Project Implementation Unit (PIU), Ministry of ecology and nature protection for monitoring

5 CONCLUSION

49. The construction works were fully accomplished satisfactorily, all kinds of waste, including construction waste were removed from the sites, construction camps (was in rented premises), equipment and machinery were demobilized, tree planting is completed, the reinstatement works were finalized properly.

50. During the present report preparation time, the non-compliances which were identified during site audits were already addressed. The completed post-construction environmental audit checklists are presented in Appendix 1.

51. The table below provides the environmental risks and measures to be implemented at the SLF decommissioning / post operational stage:

Table 6 Environmental mitigation measures for the post operational stage

Impact	Type/Efficiency	Mitigation/improvement measures	Institutional responsibilities
Decommissioning / post operation stage			
Air emissions / Air quality	Significant	Landfill gas generation: continued release of landfill gas to atmosphere & continued contribution to greenhouse effect. Landfill gas recovery systems or biogas production from waste shall be considered at the post operational stage to manage odour issues and to reduce methane emissions	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring
Ground water quality	Significant	Ensure that high-density polyethylene lining and leachate collection and treatment system in accordance with the project and plan. Control the quality of the filtrate (if any) to ensure that the leachate does not seep into the ground by consistently checking the quality of the lining. Ensure the collection and processing of all filtrate correctly covers the polygon after filling each cell. To minimize any risks of continued pollution of surface water by leachate escaping a capped landfill.	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring
Landscape and soil	Significant	To minimize the possible raised land and existence of surface structures. To develop the safe technology for the disposed waste to minimize the implications of contaminated land for future use of site. The damaged soil in landfill from landfill gas as well as soil erosion due to increased surface runoff shall be rehabilitated. Presence of landfill cap at the decommissioning SLF shall be ensured.	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring
Geology	Significant	Excavations or any further removal of soil resource following post site operation are not allowed	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring
Flora & Fauna	Significant	Restoration design and development of opportunity for enhancement of nature conservation value to minimize post closure land use and the post operation impact on flora and fauna due to continued effects of soil contamination and possible migration of leachate or landfill gas.	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring

Human Environment Health and safety	Significant	Strictly use and control the use of PPE by personnel, especially those involved in post operational stage. Provide and require knowledge of all employees of safety rules and safety instructions. Restrict personnel movement in hazardous areas. Provide workers with an HSE manual and an insurance policy. Conducting information and training programs on occupational safety and health issues. - Strictly control the entry and exit of unauthorized persons into the landfill. Precautions must be taken to prevent uncontrolled fire consequence of operations.	SUE Maxsustrans, Ministry of ecology and nature protection for monitoring

6 APPENDIXES

Appendix 1: Post-Construction Environmental Audit Checklist for the contract CW1: JV «STECOL- POWERCHINA GUIYANG» (China)

Date of monitoring: November 09, 2024; December 21, 2024
Tashkent region, Akhangaran district, new SLE site
Contract CW 1 JV «STECOL- POWERCHINA GUIYANG» (China)

Actions required after completion of construction activities	Required enviromental mitigation measures to be examined	Status				Comments
		Yes	Partially	No	N/A	
Checking of documents						
1. Monthly environmental monitoring was conducted by Environmental Specialist and submitted to the PIU		√				Contractor's Environmental Specialists submitted monthly EMRs on regular basis. Upon completion of works the final EMR was submitted in August 2024.
2. Log books existed on construction site for registration of: - complaints and suggestions from the workers and the population - the arrival and departure of workers to construction sites, - registration of HSE trainings at construction sites. In case of injury on construction sites is a separate act drawn up and recorded in the Safety Journal in the comments section?		√ √ √				During the works' ongoing period all logbooks were available on construction site. According the SAEMRs there were no complaints on environmental issues. On time resolving of all complaints on other issues were ensured by the contractor. The GRM will continue operating within the operating stage. SUE Maxsustrans are responsible for managing the GRM during SLF operation. The registration of all arrival and departures of workers was done in time records logbooks. All the HSE trainings were registered in HSE trainings

						logbook.
Final removal and disposal of construction waste and surplus/waste soil						
3. Construction waste and surplus/waste soil removed completely and disposed properly	• Waste that cannot be recycled should be disposed out of the landfill site. • There should be no risk of contamination of nearby watercourses or reservoirs/canals from materials placed there as a result of incorrect waste management practice, from erosion or leaching. • Unusable excavated soil should be removed in ways that are safe for the environment. • Topsoil awaiting utilization should be stockpiled in postconstruction landscaping. For the dispose of all other types of solid and liquid waste that may be generated on-site form construction activities or construction camps and contractor facilities, the contractor shall: • Ensure that appropriate licenses/supporting documents for waste disposal are obtained. • Dispose of all used oil and fuel filters, as well as oil-contaminated clothing and other fabrics in a secure landfill, unless they can be recycled. • Ensure that all wastes were suitably contained and prevented from escaping into neighboring fields, properties and water bodies, and that the waste contained does not contaminate soil, surface or groundwater or the release of odors unpleasant for workers or neighbors. • Ensure the waste material appropriately removed, i.e., to a landfill in accordance with regulations.	√ √ √ √ √ √ √				The contractor had contract for waste disposal and regularly disposed all kind of wastes from site. There were no small irrigation aryk near the construction site which in clean of any construction waste or surpluses. During the works ongoing period the contractor established special place for waste storage. After works finished the waste storage area are cleaned and demolished. There was no unusable soil on site. All kind of soil used for construction needs. as well as used for the for the backfilling the existing dumpsite.
4. Hazardous waste removed and disposed properly	• Wastes allocated as hazardous are to be disposed of according to requirements.	√				During the works ongoing period the contractor established special place for storage of several types of wastes, including hazardous waste, and kept it as requirements. The contractor had contract for waste disposal and regularly disposed all kind of wastes from site. All kind of wastes disposed by Maxsustrans. Hazardous wastes were removed to asphalt and concrete plant (waste depolymerization).

Final management (elimination) of oil/fuels and lubricants spills						
5. Oil management/fuels and lubricants spills eliminated	• Any soil that could be contaminated from spillages of more than 5 liters (or less if in a sensitive location) should be excavated and removed, or remediated through other approved means.	√				During the post-construction audit no oil spill was identified. The identified cases during the works addressed by contractor according to requirements and were reported in EMRs.
Final removal of Contractor's equipment and machinery						
6. Contractor's equipment and machinery removed from the construction site	• At the completion of work at a particular site, or when the construction program as a whole is completed, the contractor will be responsible for removing all equipment and structures, cleaning up and disposing all waste materials and rehabilitating all construction sites and work areas so that these can be returned as much as possible to their previous use.	√				All the machineries and equipment used during the construction are demobilized and removed from the construction site.
Demolishing of camp site facilities and cleaning of the territory						
7. Camp site facilities (temporary toilets, kitchen, containers with construction materials, etc.) demolished and the territory is cleaned	• All temporary facilities removed and territory cleaned up.	√				Temporary facilities of all subcontractors are being removed from site.
Project site vegetation rehabilitation (re-vegetation)						
8. Project site vegetation rehabilitation (re-vegetation) implemented, trees and bushes replanted as needed	• Measures for planting trees, plants, and landscaping with drainage should be carried out • During revegetation, preference should be given to naturally occurring species that are recognized as non-invasive species. • Revegetation may include grassing or planting the area with trees and shrubs. The selection of species should be compatible with the local conditions and use requirements. Care must be taken in the selecting the species so that invasive plant species are not accidentally introduced. • Suitable NPK (nitrogen-phosphorus-potassium) fertilizers and lime may need to be applied, to improve soil establishment, and the area should be watered until the plants have successfully established. • Areas that fail to revegetate will need to be replanted. Vegetation restoration should occur before the onset of the wet season to avoid damage from erosive rainfall.	√ √ √ √ √				Measures for planting trees, plants, and landscaping with drainage are carried out. Revegetation included tree plantings. The trees are selected in compliance with local conditions and climate features. Some soil improvements were established.
Access roads reinstatement						
9. Road reinstatement: damaged access road reinstated to pre-construction or better	Road damages causing pollution, traffic disturbance and accidents. Construction contractor is obliged to:					New access road was constructed especially for the SLE.

conditions.	• reinstate damaged access road; • stabilize all project construction sites, roads, and tracks (where batters and embankments fill must be stabilized, and road drainage stabilized as well).	√ √				All cracks or damages of nearby access roads used during the construction are reinstated.
Borrow sites reinstatement						N/A