

Environmental Monitoring Report

Project Number: 45022-002
Semi-Annual Report (July–December 2018)
February 2019

PRC: Jiangxi Ji'an Sustainable Urban Transport Project

Prepared by Ji'an Project Management Office (Ji'an Urban Investment and Development Company: for the People's Republic of China and the Asian Development Bank.

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 30 December 2018)

Currency unit	–	Yuan (CNY)
CNY1.00	=	\$0.146
\$1.00	=	CNY6.85

ABBREVIATIONS

ADB	–	Asian Development Bank
COD	–	chemical oxygen demand
CSC	–	construction supervision company
DEIA	–	draft environmental impact assessment
DO	–	dissolved oxygen
EA	–	executing agency
EIA	–	environmental impact assessment
EIR	–	environmental impact report
EM	–	environmental monitoring
EMA	–	environmental monitoring agency
EMP	–	environmental management plan
EMR	–	environmental management report
EMS	–	environmental monitoring station
EPB	–	environmental protection bureau
GRM	–	grievance redress mechanism
JPMO	–	Ji'an project management office
Leq	–	equivalent continuous sound pressure level (in decibel)
LIEC	–	loan implementation environment consultant
LSMI	–	licensed soil erosion institute
NH ₃ -N	–	ammonia nitrogen
NO ₂	–	nitrate
O&M	–	operation and maintenance
pH	–	potential of hydrogen used to specify the acidity or basicity of a solution
PIU	–	project implementation unit
PPTA	–	project preparatory technical assistance
PRC	–	People's Republic of China
RP	–	resettlement plan
SEMSP	–	site environmental management and supervision plan
SPS	–	Safeguard Policy Statement
SWM	–	solid waste management
TN	–	total phosphorus
TSP	–	total suspended particulate
WHO	–	World Health Organization

WEIGHTS AND MEASURES

°C	–	degree centigrade
cm	–	centimeter
dB	–	decibel
H	–	hour
ha	–	hectare
km	–	kilometer
km ²	–	square kilometer
m	–	meter
m ²	–	square meter
m ³	–	cubic meter
m ³ /s	–	cubic meter per second
mg/kg	–	milligram per kilogram
mg/L	–	milligram per liter
mg/m ³	–	milligram per cubic meter
mm	–	millimeter
t	–	metric ton
t/a	–	metric ton per annum
µg/m ³	–	microgram per cubic meter
µm	–	micrometer

NOTE

In this report, "\$" refers to US dollars.

SUMMARY PROJECT INFORMATION

项目信息总结

GENERAL INFORMATION 总体信息	
Project title:项目名称	Jiangxi Ji'an Sustainable Urban Transport Project 江西吉安可持续城市交通项目
Date of project loan effectiveness: 项目生效时间	September 8, 2015 2015年9月 8日 The project was to be implemented over 5 years from December 2014 to December 2019. The ADB loan and GEF grant closing dates are 30 June 2020. The project has been effective for 43 months. Cumulative contract awards and disbursements for the loan are \$83.6 million and \$23.5 million. Civil works contracts have been awarded for all the expected packages for urban roads and Yudai River rehabilitation.
Executing agency:执行单位	Ji'an Municipal Government 吉安市政府
Implementing agency:实施单位	Ji'an Urban Investment and Development Company, Ltd (JIDC) 吉安市城市投资发展公司
JPMO (name of agency):项目办单位	Ji'an Urban Investment and Development Company, Ltd (JIDC)吉安市城市投资发展公司
JPMO Environment Officer (name, email):项目办环境官员	Mr. Huang Maoping 黄茂平先生
LIEC:贷款实施环境咨询专家	Liu Huaquan 刘怀全
Construction supervision company(ies): 施工监理公司	Jiangxi Zhongchang engineering consultant and supervision Co. Lt 江西中昌工程咨询监理公司
Contractor(s):施工单位	Hangzhou Municipal Construction Group Co., Ltd 杭州市政建设集团公司 Nanning Municipal Construction Group Co., Ltd 南宁市政建设集团公司 Taiyuan Municipal Construction Group Co., Ltd.太原市政建设集团公司 Jiangxi Luqiao Engineering Group Co., LTD 江西路桥工程集团有限公司
ADB web link to EMP:亚行链接到环境管理计划的网页	https://www.adb.org/projects/documents/jiangxi-jian-sustainable-urban-transport-project-eia
Domestic web link to EMP:国内链接到环境管理计划的网页	http://www.jasct.com/index.asp 这个是我们城投公司的官网

ENVIRONMENTAL SAFEGUARD MONITORING 环境保障监测	
ADB environment safeguard category: 亚行环境保障等级	A
Environmental report prepared as per ADB requirements for this category: 亚行环境报告要求等级	Environmental Impact Assessment 环境影响评价
Domestic safeguard report: 国内环境报告等级	Environmental Impact Assessment Report 环境影响报告书
Quarterly period covered by this report: 本报告包括时间段	July 2018 to December 2018; 2018 年 7 月—12 月
# EMRs to date including this report:	
Agency/person responsible for internal* environmental monitoring: 内部环境监测单位	Nanning Municipal Construction Group Co., Ltd. 南宁市政建设集团公司 Hangzhou Municipal Construction Group Co., Ltd. 杭州市政建设集团公司 Taiyuan Municipal Construction Group Co., Ltd. 太原市政建设集团公司 Jiangxi Luqiao Engineering Group Co., LTD 江西路桥工程集团有限公司
Agency/person responsible for external* environment monitoring: 外部环境监测单位	Beijing Zhonghuanbohong Environmental Resources Science and Technology Co., Ltd 北京中环博宏环境资源科技公司
Agency/person responsible for compliance* environment monitoring: 合规环境监测	Liu Huaiquan 刘怀全
	JPMO Huang Maoping 黄茂平
Agency/person responsible for independent compliance* monitoring: 独立合规监测单位	Jiangxi Zhongchang engineering consultant and supervision Co. Ltd 江西中昌工程咨询监理公司. This Agency is responsible for supervision on civil works quality and civil works management, including the management on environmental safeguards of civil works.
Overall status of environmental safeguards: 环境保障总体状况	On Track 正常进行

ADB = Asian Development Bank, EMP = environmental management plan, EMR = environment monitoring report, LIEC = loan implementation environment consultant, PMO = project management office.

*See Section III.3 for definitions of internal, external, compliance, and independent compliance monitoring.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
I. INTRODUCTION	1
1. Purpose of the Report	1
2. Project Outcome, Outputs, and Subcomponents	1
3. Project Implementation Progress	3
II. SUMMARY OF THE PROJECT ENVIRONMENTAL MANAGEMENT PLAN	5
III. ENVIRONMENTAL MANAGEMENT DURING THE REPORTING PERIOD	6
1. Implementation of the Project Mitigation Measures	6
2. Implementation of the Project Monitoring Program	18
3. Public Consultation and Grievance Redress Mechanism	21
4. Training and Capacity Building	23
5. Compliance with Loan and Project Assurances	25
6. Reporting	27
IV. LESSONS LEARNED	28
V. GENERAL CONCLUSION AND NEXT STEPS	28
APPENDIX 1 MONITORING DATA	
APPENDIX 2 PUBLIC CONSULTATIONS AND GRIEVANCE REDRESS	

EXECUTIVE SUMMARY

Overview

1. This is the third report, which presents the status of compliance with the environment management plan (EMP) during project implementation from 1 July to 30 December 2018. The key environment issues caused by project construction have been discussed, and corresponding improvement measures and follow-up actions have been suggested with respect to the issues found.

Progress in Implementing the EMP

2. The project has been implemented in accordance with EMP requirements, and relevant environmental provisions have been included in the bidding document and contract. The Ji'an project management office (JPMO) has distributed both the EMP and design documents to project implementation units (PIUs), contractors, and supervisors before the commencement of constructions.

3. At the project preparation stage, JPMO, PIUs, design institute, environmental impact assessment (EIA) institute, and environmental protection bureaus (EPBs) have conducted related public consultation activities in accordance to the Asian Development Bank (ADB) requirements. The grievance redress mechanism (GRM) has been established and carried out by JPMO. No complaints have been received during this reporting period.

4. Environmental officers of JPMO and PIUs have been working effectively on the project with the support of the loan implementation environmental consultant (LIEC). EMP training have been provided to related staff in JPMO, PIUs, contractors, and supervisors.

5. The LIEC has conducted an effective review and English-Chinese EMP formulated. The plan was further refined, environmental complaints response mechanism and public participation mechanism have been formulated, contract of external environment monitoring during construction period was signed, and the environmental monitoring of construction site was carried out.

Key Issues

6. Water monitoring exercises have been carried out with the results showing that efforts on Yudai River water met the related standard. The pollution control should be strengthened in the next stage.

Lessons Learned

7. Water and soil conservation monitoring exercises have been carried out, which showed that efforts on soil erosion control are still a little bit deficient and should be strengthened in the next stage. The earth cutting is 380,000 cubic meters (m³), backfilling is 372,000 m³, and disposal is 8,000 m³ for the reporting duration. It is recommended that construction waste disposal sites be strengthened to reduce soil erosion during the rainy season.

Next Steps

8. The primary purpose of the project EMP is to ensure the environmental requirements identified during and following the planning/design phase are implemented and effectively managed during the project's life cycle. In addition to the incorporation of environmental requirements into the project specifications in the bidding document, the environmental requirements are part of the contractual requirements for the project.

9. It is recommended that construction waste disposal sites be better considered and strengthened to reduce soil erosion during the rainy season. Mitigation for soil erosion should be strengthened to continue monitoring the sediments for the dredging activities.

I. INTRODUCTION

1. Purpose of the Report

1. The purpose of this environmental monitoring report (EMR) is to describe the progress for implementation of the environmental management plan (EMP) for the Jiangxi Ji'an Sustainable Urban Transport Project for the reporting period July to December 2018. This EMR is submitted in compliance with the Safeguard Policy Statement (SPS) of the Asian Development Bank (ADB) and the Loan Agreement between ADB and the project executing agency.

2. This is the third EMR for the project. It covers part of the design, bidding, and construction phase of the project. The report describes (i) implementation of mitigation measures; (ii) monitoring activities; (iii) public consultations (including grievance redress); (iv) training and capacity building; (v) reporting; and (vi) an overall assessment of key achievements, challenges, issues, corrective actions, and lessons learned during the reporting period.

2. Project Outcome, Outputs, and Subcomponents

3. Ji'an is located on the central part and a prefectural level city in Jiangxi province. It has a total population of 4.9 million, 41.6% of which are in urban district. Economically, Ji'an is behind the nearby provinces and remains relatively poor. In recent decades in response to the national strategy, the economic and social development in Ji'an has grown rapidly. In 2012, the gross domestic product (GDP) is CNY100.6 billion, per capita GDP is 20,282 with 14.6% annual growth rate. The urbanization rate has reached 41.6%, annual growth rate of 2.0%. Urban area has expanded to 63.72 square kilometers (km²) and a population of 555,300. The existing public transport system in Ji'an is inadequate to serve the needs of a developing third-tier city and will require substantial investment to enable it to improve its efficiency and expand its services to the new development area.

4. The outcome of the project is efficient multimodal access to major activity centers in Ji'an. Through the proposed project, the new high-speed railway station and surrounding new development area will be linked to the existing city with well-designed multimodal transport infrastructure, greenway development, and integrated public transport services. The existing public transport network will be improved through a prioritized bus rapid transit (BRT) system and upgraded multimodal connections. This will reduce transport costs, increase the efficiency and attractiveness of the public transport system, expand travel opportunities and regional accessibility to jobs and services, promote sustainable urbanization, and encourage a shift to modes of travel with lower emissions.

5. The project includes four main outputs intended to substantially improve the urban transport system in Ji'an.

6. **Output 1: Public transport.** This comprises two parts: the BRT system and the Ji'an Railway Station Square improvement. The 6.9 km BRT corridor will run on the existing Jinggangshan Road between the Ji'an North Road intersection and Ji'an South Road intersection. The BRT corridor will have dedicated center-running bus lanes with 15 stations on island platforms. The project will include the procurement of 95 BRT buses, which will constitute about a quarter of the municipal bus company's fleet. The station square improvement will upgrade the multimodal connection between public transport and the existing railway station. It will rationalize vehicle and pedestrian access to the station, install weather protection shelters along the major pedestrian areas, and install escalators linking upper and lower levels of the square.

7. **Output 2: Yudai river rehabilitation.** The Yudai River is a winding waterway on the west side of the Ji'an urban area. The river is now integrated into the irrigation system for rice cultivation. The river runs through the new development area where urban roads (Output 3) are to be constructed. The Yudai River Rehabilitation and greenway will enable flood control in the area and will provide recreation areas, parkland, and nonmotorized transport (NMT) paths and facilities.

8. **Output 3: Traffic management and urban roads.** This is to develop the transport network to connect the city center to the new development area, the Yudai River rehabilitation (Output 2), and serve the feeder bus routes that are integrated into the 6.9 km BRT corridor (Output 1). Five urban trunk roads with a total length of 19.3 km will be constructed along with utilities, streetscape improvements, pedestrian enhancements, and segregated lanes for NMT. In view of the rapid growth of traffic demand and the implementation of the BRT system, it is necessary to upgrade the traffic signal system along the major existing and new road corridors. This will coordinate signals at 37 intersections along the proposed BRT corridor and the proposed urban roads in the new development area.

9. **Output 4: Institutional strengthening and capacity building.** This output will build capacity for BRT operations and integrated urban and transport planning; support project implementation to ensure that project outputs are delivered on time and within budget in accordance with ADB policies and procedures; develop and maintain the project performance monitoring system; assist with procurement, financial management, and disbursement; oversee detailed design and road safety audits; and ensure that safeguard measures are implemented.

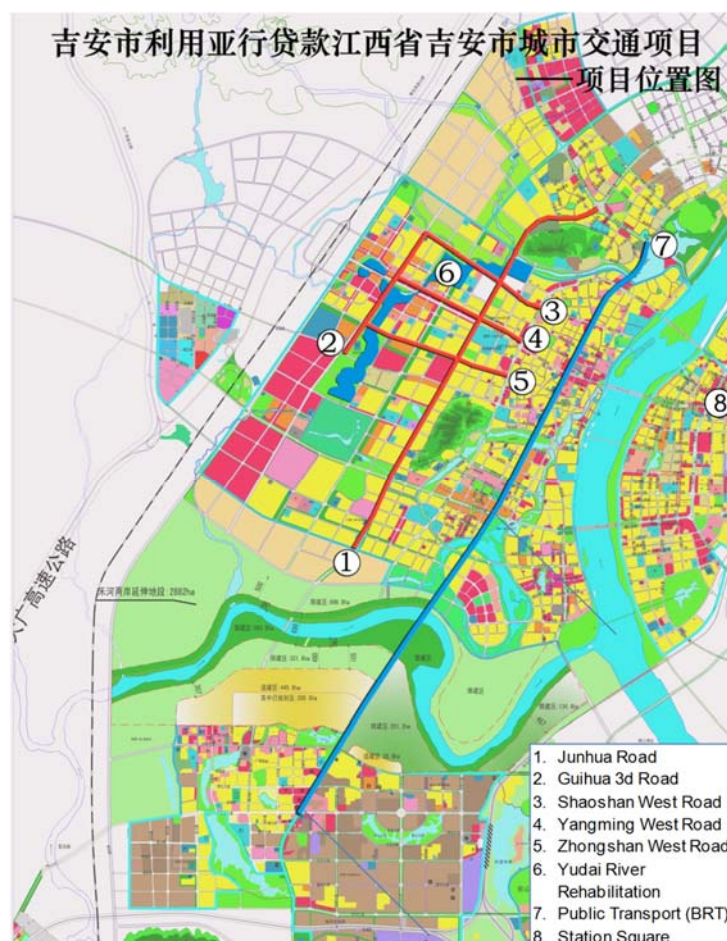
10. **Environmental funding.** A grant from the Global Environment Facility (GEF) provided measures to maximize the energy efficiency of bus operations on the BRT and feeder services. The GEF-funded activity has three components: (i) fuel efficient bus operations using diesel hybrid-electric buses (Output 1); (ii) evaluation and monitoring of hybrid bus performance under BRT and normal operating conditions (Output 4); and (iii) the development of an integrated transport/land use plan (Output 4). The GEF-financed activities are designed to reduce the carbon intensity of the transport system in Ji'an and provide a low-carbon blueprint for future urban development.

3. Project Implementation Progress

11. In 2010, Ji'an Government has started the declaration for ADB loan project. The content includes mainly the BRT, urban road and transport management, Yudai River rehabilitation, environment protection, and institutional strengthening and capacity building. The total estimated budget is about CNY1.63 billion, of which \$120 million is ADB loan. The project has finished both ADB and domestic administrative approval procedures accordingly. The NDRC approved the financing application report on October 2014. The Ministry of Finance finished the loan negotiation after signing with NDRC and Jiangxi Provincial Government for the State Council's approval on later November. The ADB Board of Directors approved the loan in December. The project and loan agreements were officially signed on 22 April 2015 and became effective on 8 September. The project received total amount \$120 million loan for 25 years duration, including 5 years grace period.

12. At the same time, the government received \$2.56 million GEF grant for purchasing new type of environment protection, energy-saving buses, and subject research. The original investment plan for BRT was CNY239 million, of which ADB loan fund was about 160 million. BRT construction is the key component within Ji'an ADB loan project, it is the priority condition for loan approval. Both ADB, NDRC, and Ministry of Finance have always kept high focus on it. The implementation has directly related with the seriousness of the national loan sovereignty. ADB has repeated requested Ji'an government to start this project.

13. **Road project components implementation progress.** The road project component includes five main roads on the west areas of Ji'an city (high railway new district), namely Yangming West Road, Junhua Avenue, Zhongshan and Shaoshan West Road and Bo'an Avenue. Yangming West Road has been changed to counterpart funding. Junhua Avenue has been divided into two lots, have started construction, and completed more than 25% of the civil works. The construction of Zhongshan Road and Shaoshan West Road and Bo'an road have started at the end of this year. During the reporting period, the preparation of Zhongshan Road construction is ongoing.



Picture: Project Location

14. **Institutional capacity development.** The EA/IA proposed to drop one of the GEF-funded consulting service packages. Consultant selection for “CS3: procurement management and procurement expert” is under contract negotiation.

15. **Curbside bus and nonmotorized transport improvement.** Instead of BRT, the EA/IA proposed curbside bus and nonmotorized transport (NMT) improvement comprising (i) curbside bus improvement including dedicated bus lanes at curbside along Jinggangshan Avenue (formerly proposed BRT corridor) for 19.5 km; (ii) high-quality bus service improvement along selected routes with branding tentatively called, “Ji’an Reliable Transit (JRT)” for 70 km network comprising Routes 1, 9, 12, 13, 61, and 62; and a new service connecting the highspeed rail station; (iii) demonstration e-bike parking facility at the city center (Renmin Square along Jinggangshan Avenue); (iv) covered e-bike lanes at intersections; (v) street safety improvements along the JRT routes; (vi) NMT network improvement; and (vii) Junshan Avenue safety improvement.

II. SUMMARY OF THE PROJECT ENVIRONMENTAL MANAGEMENT PLAN

16. The project EMP is the primary reference document for the government and ADB for all environment-related mitigation, monitoring, reporting, and training activities for the project. Timely and effective implementation of the EMP is a key condition of the loan agreement between the government and ADB. The EMP was prepared as part of the EIA in April 2014. The EMP is being implemented over 6 years, comprising 4 years of construction and 2 years of operation. The content of the EMP includes institutional roles and responsibilities for EMP implementation; mitigation measures for environmental safeguard risks; environmental monitoring and reporting; training and capacity building; grievance redress mechanism (GRM); public consultation; cost estimates; and other information (e.g., terms of reference for key position).

17. **Project institutional arrangements (Section B of the EMP).** This section of the EMP describes the roles and responsibilities of relevant agencies for EMP implementation. For this project, the principal person responsible for EMP coordination is the JPMO Environment Officer (Mr. Huang Maoping), acting on behalf of the JPMO. On-site implementation of the EMP is by the implementing agencies, contractors, and construction supervision companies (CSCs). Guidance and support to the JPMO Environment Officer is provided by the LIEC (Mr. Liu Huaquan, Research Fellow of Eco-Environmental Science and Registered EIA Engineer).

18. **Project readiness assessment (Section D of the EMP).** This is the first key step prior to the start of project civil works to ensure that preparations for EMP implementation have been completed.

19. **Potential impacts and mitigation (Section C of the EMP).** This section of the EMP summarizes the potential environmental impacts and mitigation measures for the different phases of the project: detailed design and pre-construction phase, construction phase, and operations phase. Overall environmental responsibilities are outlined in EMP-Table 1: Environmental responsibilities in the EMP summarizes the environmental risks and mitigation measures, and agencies responsible for implementation and supervision of these measures. For this project, the key potential impacts and/or issues of concern are: Detailed Design Stage-- Loss of land and topsoil and increased risk of erosion; Flood control capacity of Yudai River; Preservation of old camphor trees (see Table IV.19 in the EIA report); Preservation of old camphor trees (see Table IV.19 in the EIA report), at Pre-construction Stage--- Lack of environmental management capacities within JPMO, JIDC and O&M units; Construction site wastewater, bridge construction and dredging impact on water bodies, at Construction stage --- Spoil disposal; Soil contamination and erosion, Construction site runoff and wastewater discharge; dredging impact, Construction site refuse and spoil disposal, Destruction of vegetation; at Operational Stage-- Road and drainage condition, Waste management.

20. **Training (Section E of the EMP).** This section of the EMP describes the training program for environmental safeguards, including the recipients and frequency of training.

21. **Consultation and participation plan (Section F of the EMP).** This section of the EMP identifies the mechanisms by which consultations will be accomplished (e.g., through workshops, questionnaires, etc.), the frequency of consultations, topics, and target audiences.

22. **Environmental monitoring program (Section D of the EMP).** The program comprises four types of monitoring: (i) internal monitoring; (ii) external monitoring; (iii) EMP compliance monitoring; and (iv) independent compliance monitoring. Internal monitoring is assessment by the PIUs and/or CSCs to ensure the contractors are implementing mitigation measures as described in their contractual arrangements and EMP. External monitoring is the measurement of specific environmental variables (e.g., air quality, dust levels, noise emissions) to ensure that the construction activities do not exceed the legal parameters and standards specified for the project. This is being conducted by a certified monitoring agency, Beijing Zhonghuanbohong Environmental Resources Science and Technology Co., Ltd. EMP compliance monitoring is the overall assessment of whether all EMP measures are being complied with, and is conducted by the JPMO Environment Officer, supported by the LIEC. This EMP monitoring does not involve quantitative measurement of environmental variables, but is based on visual inspection, site visits, and review of the progress reports for internal and external monitoring. Independent compliance monitoring is the same as compliance monitoring, which is being conducted by an entirely independent agency, the Jiangxi Zhongchang engineering consultant and supervision Co. Ltd. This additional monitoring is being conducted due to the project's status as safeguard category "A" for the environment under ADB's Safeguard Policy. The independent compliance monitoring comprises a combination of quantitative measurement of selected variables (to verify the results of the external monitoring) and visual inspections, site visits, and review of available reports (to verify the results of the internal, external, and compliance monitoring).

23. **Costs (Section H of the EMP).** This section of the EMP describes the estimated costs for EMP implementation over 6 years. The cost estimates in the EMP include the costs for the mitigation measures, training, and monitoring.

24. **Reporting (Section D of the EMP).** This section of the EMP describes the reporting requirements for the project, including the responsible agencies and reporting frequency.

III. ENVIRONMENTAL MANAGEMENT DURING THE REPORTING PERIOD

25. This section summarizes the progress made to implement the project EMP during the current reporting period of construction stage.

1. Implementation of the Project Mitigation Measures

26. Implementation of the mitigation measures in the EMP is summarized in Table 1 for related project activities in the report period. This table is the same as Table 3 of the EMP but has additional columns to summarize the implementation status and compliance for each listed mitigation measures within the reporting period.

Table 1 to Table EMP-3: Summary of Potential Impacts and Mitigation Measures

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase
			Implementing status
Materials	Efficient use of resources	<ul style="list-style-type: none"> Specify energy efficient lighting and cooling/heating systems. Specify materials that are recycled, have recycled content or are from sustainable sources, particularly for street furniture and fixtures/fittings. Specify the use of renewable energy (such as photovoltaic panels) for stations, signs, lighting, where appropriate. Specify grey water collection and water conservation, where possible Maximize the use of natural lighting and ventilation in BRT station design 	<p>Detailed design stage By Design Institute</p> <p>The special mitigation measures on energy efficiency lighting and cooling/heating systems.; renewable energy (such as photovoltaic panels) for stations, signs, lighting, where appropriate; renewable energy (such as photovoltaic panels) for stations, signs, lighting, where appropriate were covered in the related documents.</p> <p>The special mitigation measures on materials that are recycled, were covered in the related documents.</p> <p>The special mitigation measures on grey water collection and water conservation were covered in the related documents.</p>
Extreme weather event due to climate change	Road surface cracking due to extreme hot or cold weather, landslide and flooding due to torrential rainfall	<ul style="list-style-type: none"> Consider potential impacts from extreme weather events due to climate change in designing road sub-grade, pavement, road-side slopes, drainage system, bridges and culverts. Adopt appropriate protective measures such as vegetation cover, geo-textiles, settling basins, permeable paving, infiltration ditches, stepped slopes, riprap, crib walls, retaining walls and intercepting ditches to reduce the speed of surface run-off. 	<p>Detailed design stage By Design Institute</p> <p>Measures to mitigate potential impacts from extreme weather events have been included in the detailed design.</p>
	Flood control capacity of Yudai River	<ul style="list-style-type: none"> Consider potential impacts from extreme storm events due to climate change in designing the flood control capacity of Yudai River 	<p>Detailed design stage By Design Institute</p> <p>Flood control capacity of Yudai River have been considered in the detailed design.</p>
Ecology	Loss of camphor trees (under national Class II protection) (<u>see Figure IV.5 in the EIA report</u>)	<ul style="list-style-type: none"> Technical design of the urban road alignments will avoid the removal of these trees as the primary objective. If avoidance is not possible, design replanting schemes for these trees. 	<p>Detailed design stage By Design Institute</p> <p>Loss of camphor trees (under national Class II protection) have been considered in the detailed design.</p>
Physical cultural resource	Preservation of old camphor trees (<u>see Table IV.19 in the EIA report</u>)	<ul style="list-style-type: none"> Technical design of the urban road alignments <u>MUST</u> avoid all locations with old camphor trees as shown in Table IV.9 in the EIA report. 	<p>Detailed design stage By Design Institute</p> <p>Preservation of old camphor trees have been put into the technical design of the urban road.</p>
Health and safety	Promotion of non-motorized transport, protection of vulnerable road users	<ul style="list-style-type: none"> Design must ensure public health and safety. Promote non-motorized traffic. Ensure barrier-free design for disabled people. 	<p>Detailed design stage By Design Institute</p> <p>To ensure public health and safety have been considered in the detailed design.</p>
Air emissions	Construction transport emissions	<ul style="list-style-type: none"> Specify local materials from licensed providers that minimize transport distance. 	<p>Detailed design stage By Design Institute</p> <p>Local suppliers are used as many as possible.</p>
Noise	Road traffic noise	<ul style="list-style-type: none"> Technical design of urban roads will include the planting of road-side woodland buffer for noise mitigation as indicated in the project Environmental Impact Report and Tables V.8 and V.11 in the EIA report 	<p>Detailed design stage By Design Institute</p> <p>Road traffic noise mitigations have been included in the detailed design.</p>
Water quality	Polluted run-off into Yudai River	<ul style="list-style-type: none"> Technical design of urban road drainage to ensure that drainage design and discharge locations minimized risk of pollution of Yudai River. Need for pollution interceptors and treatment should be considered. 	<p>Detailed design stage By Design Institute</p> <p>To control the pollution resources to Yudai River have been considered in the technical design of urban road drainage.</p>
Ecology	Loss of natural habitats	<ul style="list-style-type: none"> Retain and incorporate natural habitat features where possible, where not possible, compensate through creation of new habitats. Ecologist to review and provide specialist inputs into the design of the riverside park. Adopt soft engineered bankside protection 	<p>Detailed design stage By Design Institute</p> <p>To mitigate the loss of natural habitats have been considered in the detailed design.</p>

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<p>methods where possible.</p> <ul style="list-style-type: none"> Specify species that are in keeping with local environment and are of local provenance. 	
Water quality and waste management	Dumping of waste and run-off	<ul style="list-style-type: none"> Ensure adequate provision of waste management facilities away from the river that provide options for waste segregation, recycling and reuse. Segregate green waste (vegetation waste from park maintenance) from general refuse for composting. Provide drainage for car park and other areas of hard standing and ensure that attenuation and discharge points are appropriate. 	<p>Detailed design stage By Design Institute</p> <p>To manage the water quality and control dumping of waste and run-off have been considered in the detailed design.</p>
Institutional strengthening	Lack of environmental management capacities within JPMO, JIDC and O&M units	<ul style="list-style-type: none"> Appoint qualified environment specialist on staff within the JPMO Contract loan implementation environment consultant (LIEC) within loan administration consultant services; Conduct environment management training. 	<p>Pre-construction Stage By JPMO</p> <p>Appointed LIEC have been contracted on schedule.</p>
Institutional strengthening	Lack of environmental monitoring capability and qualification	<ul style="list-style-type: none"> Contract Ji'an Environmental Monitoring Station (JEMS) to conduct project impact monitoring during construction. 	<p>Pre-construction Stage By JPMO</p> <p>The external monitoring agency have been contracted on schedule.</p>
		<ul style="list-style-type: none"> Contract JEMS to conduct project impact monitoring during the operational stage. 	<p>Pre-construction Stage By JPMO</p> <p>Not due yet.</p>
EMP	EMP Update	<ul style="list-style-type: none"> Review mitigation measures defined in this EMP, update as required to reflect detailed design, disclose updated EMP on project website. 	<p>Pre-construction Stage By JPMO</p> <p>Update is not needed in this reporting period.</p>
Air quality	Dust (TSP) impact to sensitive receptors	<p>Put into tender documents dust suppression measures:</p> <ul style="list-style-type: none"> Provide dust masks to operating personnel; Spray water regularly on hauling and access roads to borrow pits (at least once a day) to suppress dust; and erect hoarding around dusty activities; Minimize the storage time of construction and demolition wastes on site by regularly removing them off site; Equip asphalt, hot mix and batching plants with fabric filters and/or wet scrubbers to reduce the level of dust emissions. Additionally, site asphalt mixing stations at least 300 meters downwind of the nearest residential household; Mount protective canvasses on all trucks which transport material that could generate dust; Build access and hauling roads at sufficient distances from residential areas, particular, from local schools and hospitals; Assign haulage routes and schedules to avoid transport occurring in the central areas, traffic intensive areas or residential areas. For the areas with high demand on environmental quality, transport should be arranged at night. Keep construction vehicles and machinery in good working order, regularly service and turn off engines when not in use; Vehicles with an open load-carrying case, which transport potentially dust-producing materials, shall have proper fitting sides and tail boards. Dust-prone materials shall not be loaded to a level higher than the side and tail boards, and shall always be covered with a strong tarpaulin; Install wheel washing equipment or conduct wheel washing manually at each exit of the works area to prevent trucks from carrying muddy or dusty substance onto public roads; In periods of high wind, dust-generating operations shall not be permitted within 200 m of residential areas. Special precautions need to be applied in the vicinity of sensitive areas such as schools, kindergartens and hospitals; Equip material stockpiles and concrete mixing equipment with dust shrouds. For the earthwork management for backfill, measures will include 	<p>Pre-construction Stage By JPMO</p> <p>The mitigation measures to control the dust (TSP) impact to sensitive receptors have been put into tender documents and conducted readiness activities.</p>

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<p>surface press and periodical spraying and covering. The extra earth or dredge should be cleared from the project site in time to avoid long term stockpiling. The height of stockpiles should be less than 0.7m;</p> <ul style="list-style-type: none"> ● To avoid odor impacts caused by channel cleaning, transport the removed trash quickly to the local landfill. Transport of dredged sediments will be undertaken in closed tank wagons to prevent scattering along the way and impacting the urban area; ● Site temporary dredged sediment storage locations at least 50 m downwind of the nearest residential household; ● Unauthorized burning of construction and demolition waste material and refuse shall be subject to penalties for the Contractor, and withholding of payment. 	
Noise	PME noise impact to sensitive receptors	<p>Put into tender documents the following noise mitigation measures:</p> <ul style="list-style-type: none"> ● During daytime construction, the contractor will ensure that: (i) noise levels from equipment and machinery conform to the PRC standard for Noise Limits for Construction Sites (GB12523-2011) and the WBG EHS Standards, and properly maintain machinery to minimize noise; (ii) equipment with high noise and high vibration are not used near village or township areas and only low noise machinery or the equipment with sound insulation is employed; (iii) sites for asphalt-mixing plants and similar activities will be located at least 300 m away from the nearest sensitive receptor; and (iii) temporary anti-noise barriers or hoardings will be installed around the equipment to shield residences when there are residences within 50 m of the noise source; ● For all the <u>urban roads</u>, there will be no night time (between 2200 and 0600 hours) construction; ● For the <u>BRT corridor</u>, night time construction shall be avoided. Yet, recognizing that construction (e.g. BRT stations) occasionally would require some works to be conducted at night to take advantage of less road traffic or to avoid worsening day time traffic conditions. Night time construction work on the BRT corridor if needed should prevent using high sound power level equipment and nearby residents should be notified of such night time activities well beforehand ● Regularly monitor noise at sensitive areas (refer to the monitoring plan). If noise standards are exceeded by more than 3 dB, equipment and construction conditions shall be checked, and mitigation measures shall be implemented to rectify the situation; ● Provide the construction workers with suitable hearing protection (earmuffs) according to the worker health protection law of the PRC; ● Control the speed of bulldozer, excavator, crusher and other transport vehicles travelling on site, adopt noise reduction measures on equipment, step up equipment repair and maintenance to keep them in good working condition; ● Limit the speed of vehicles travelling on site (less than 8 km/hr), forbid the use of horns unless absolutely necessary, minimize the use of whistles; ● Maintain continual communication with the villages and communities along the road alignments and Yudai River. 	<p>Pre-construction Stage By JPMO</p> <p>The mitigation measures to control the noise impact to sensitive receptors have been put into tender documents and conducted readiness activities.</p>
Water quality	Construction site wastewater, bridge construction and dredging impact on water bodies	<p>Put into tender documents the following measures to treat wastewater and runoff from construction sites and to contain suspended solids dispersion during bridge construction and dredging:</p> <ul style="list-style-type: none"> ● Portable toilets and small package wastewater treatment plants will be provided on construction sites for the workers and canteens; If there are 	<p>Pre-construction Stage By JPMO</p> <p>The mitigation measures to control the wastewater pollution in bridge construction and dredging impacts to sensitive water body receptors have been put into tender</p>

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<p>nearby public sewers, interim storage tanks and pipelines will be installed to convey wastewater to those sewers;</p> <ul style="list-style-type: none"> ● Sedimentation tanks will be installed on construction sites to treat process water (e.g. concrete batching for bridge construction) and muddy runoff with high concentrations of suspended solids. If necessary, flocculants such as polyacryl amide (PAM) will be used to facilitate sedimentation; ● Construction of road bridge foundations will avoid the rainy season from May to October to minimize potential water quality impact. Mitigation measures such as placement of sandbags or berms around foundation works to contain muddy water runoff will be adopted. Slurry from pile drilling in the river bed will be pumped to shore and properly disposed of. This will reduce the disturbance of sediments and the impact on water quality. Pier construction in Yudai River will be planned and laid out to ensure adequate opening for water flow; ● Dredging in Yudai River will be done in the dry and during the dry season from October to March to minimize potential water quality impact. Sand bags or berms placed around the dredging area will be planned and laid out to ensure adequate opening for water flow; ● Construction machinery will be repaired and washed at special repairing shops. No onsite machine repair and washing shall be allowed; ● Storage facilities for fuels, oil, and other hazardous materials will be within secured areas on impermeable surfaces, and provided with bunds and cleanup kits; ● The contractors' fuel suppliers must be properly licensed, follow proper protocol for transferring fuel, and must be in compliance with Transportation, Loading and Unloading of Dangerous or Harmful Goods (JT 3145-88); ● Material stockpiles will be protected against wind and runoff waters which might transport them to surface waters; ● Any spills are to be cleaned up according to PRC norms and codes within 24 hours of the occurrence, with contaminated soils and water treated according to PRC norms and codes. Records must be handed over without delay to the HPMO and HEPB; ● Mitigation of water quality impact during water pumping and sediment removal at each dredging location will be based on water quality monitoring results. The water quality monitoring approach for dredging works will include, at each dredging location, one control station up current of the location and one impact station down current of the location. When the monitoring result shows that the suspended solids (SS) level at the down current impact station is 130% higher than that at the up current control station, it is indicative of bottom sediment being stirred up and discharged downstream by water pumping or during sediment excavation. The contractor shall reduce the pumping or excavation rate and/or pump the slurry to a sedimentation pond first for settling of SS, until the down current SS level is less than 130% above the upstream SS level; ● Similar monitoring approach will be adopted for mitigating water quality impact during road bridge construction, where up current and down current monitoring stations will be set up and SS levels monitored. When the SS levels at the down current impact station is 130% higher than the SS levels at the up current control station, the contractor shall adopt alternative construction methods or additional mitigation measures until the down current SS level is less than 130% above the 	documents and conducted readiness activities.

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		upstream SS level.	
Ecology	Impact on trees and wildlife	Put into tender documents the following ecological mitigation measures: <ul style="list-style-type: none"> All camphor trees at the 3 locations identified in this EIA (see Figure IV.5) must be tagged, conspicuously marked and fenced off before commencement of construction Construction workers are prohibited from capturing any wildlife anywhere in the project area and from damaging the camphor trees 	Pre-construction Stage By JPMO The mitigation measures to control the impact on trees and wildlife have been put into tender documents and conducted readiness activities.
Physical cultural resources	Preservation of old camphor trees	Put into tender documents the following ecological mitigation measures: <ul style="list-style-type: none"> All old camphor trees at the 3 locations identified in this EIA (see Table IV.19)) must be tagged, conspicuously marked and fenced off before commencement of construction Construction workers are prohibited from damaging the old camphor trees 	Pre-construction Stage By JPMO The mitigation measures to control the impact on Physical cultural resources--Preservation of old camphor trees have been put into tender documents and conducted readiness activities.
Solid waste	Disposal or storage of excavated spoil and construction and demolition waste	Specify in tender documents the following mitigation measures: <ul style="list-style-type: none"> Locations of approved spoil disposal and storage sites, other sites cannot be used unless authorized by appropriate agency. Approved storage and disposal sites for construction and demolition waste, other sites not to be used. 	Pre-construction Stage By JPMO The mitigation measures to control the solid waste impacts by disposal or storage of excavated spoil and construction and demolition waste impacts have been put into tender documents and conducted readiness activities.
Health & safety	Occupational health & safety of workers	Specify in tender documents the provision of personal safety and protective equipment such as safety hats and shoes, eye goggles, respiratory masks, etc. to all construction workers.	Pre-construction Stage By JPMO The required activities on occupational health and safety of workers were specified in the tender documents and conducted readiness activities.
Traffic	Construction vehicles causing traffic congestion	Plan transport routes for construction vehicles and specify in tender documents to forbid vehicles from using other roads and during peak traffic hours.	Pre-construction Stage The mitigation measures on construction vehicles causing traffic congestion have been considered in the transport route planning.
Construction stage			
Soil resources	Spoil disposal	<ul style="list-style-type: none"> Strip and store topsoil in a stockpile for reuse in restoration. Use spoil disposal sites approved by YEPB and manage in accordance with approved plan. Avoid side casting of spoil on slopes. Co-ordinate with water resources bureau monitoring station on effectiveness of soil erosion prevention measures and any need for remedial action. Rehabilitate and restore spoil disposal sites in accordance with agreed plan. Conduct project completion audit to confirm that spoil disposal site rehabilitation meets required standard, contractor liable in case of non-compliance. 	Construction stage By Contractors The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following; Top soil has been stored as needed. Spoil disposal sites have been agreed by local authorities. No borrow area for this project. Slope protection for road construction Local water resources bureau is involved in implementation of soil erosion prevention measures. No borrow area for this project. Spoil disposal sites are in compliance with river course regulation. Slope stability has fully considered contractors reasonably to minimize the open area. Restoration has been included in detailed design of the disposal sites, and will be included in the contract. Closing program has been included in the design and will be included in the contracted and drainage system is designed for each spoil disposal site.

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
	Soil erosion	<ul style="list-style-type: none"> ● Ensure contractors aware of all soil erosion requirements as set out in the approved plan in the Soil and Water Conservation Report and have developed appropriate method statements and management proposals. ● Avoid rainy season. If necessary, construct berms to direct rainwater runoff away from exposed surface. ● Install drainage ditches and sedimentation tanks in temporary construction areas to prevent soil erosion and to manage run-off. ● Stabilize all cut slopes, embankments and other erosion-prone working areas while works are ongoing. Implement permanent stabilization measures as soon as possible, at least within 30 days. ● Pay close attention to drainage provision and establishment of vegetation cover on backfilled areas to prevent soil erosion. ● If restoration is carried out during periods of hot or extreme weather, ensure adequate aftercare to maximize survival. 	Construction stage By Contractor The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following; Soil erosion prevention requirements have been reflected in the design and made to the contractors. • No construction activities in rainy days, and mitigation facilities have been built to divert rainwater. • Drainage ditches and sedimentation sites have been built on bridge construction sites. • Slope protection for road construction should be carefully reviewed and design improvement should be considered. • Drainage provision is fully considered.
	Soil contamination	<ul style="list-style-type: none"> ● Properly store petroleum products, hazardous materials and wastes on impervious. ● Develop spill response plan. Keep a stock of absorbent materials (e.g. sand, earth or commercial products) on site to deal with spillages and train staff in their use. ● If there is a spill take immediate action to prevent entering drains, watercourses, unmade ground or porous surfaces. Do not hose the spillage down or use any detergents use oil absorbents and dispose of used absorbents at a waste management facility. ● Record any spill events and actions taken in environmental monitoring logs and report to LIEC. ● Properly store petroleum products, hazardous materials and waste in clearly labeled containers on an impermeable surface in secure and covered areas, preferably with a containment tray for any leaks. ● Remove all construction waste from the site to approved waste disposal sites. 	Construction stage By Contractor The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following; Spill response measures have been taken on site. <input type="checkbox"/> Strict requirements for spill response have been made to the contractors by the IAs. <input type="checkbox"/> No spill accidents occurred. <input type="checkbox"/> No petroleum or hazardous materials are stored on site.
Air quality	Dust (TSP) during construction	<ul style="list-style-type: none"> ● Provide dust masks to operating personnel; ● Spray water regularly on hauling and access roads to borrow pits (at least once a day) to suppress dust; and erect hoarding around dusty activities; ● Minimize the storage time of construction and demolition wastes on site by regularly removing them off site; ● Equip concrete batching plants with fabric filters and/or wet scrubbers to reduce the level of dust emissions. Additionally, concrete mixing stations at least 300 meters downwind of the nearest residential household; ● Mount protective canvasses on all trucks which transport material that could generate dust; ● Build access and hauling roads at sufficient distances from residential areas, particular, from local schools and hospitals; ● Assign haulage routes and schedules to avoid transport occurring in the central areas, traffic intensive areas or residential areas. For the areas with high-demand on environmental quality, transport should be arranged at night. ● Keep construction vehicles and machinery in good working order, regularly service and turn off engines when not in use; ● Vehicles with an open load-carrying case, which transport potentially dust-producing materials, shall have proper fitting sides and tail boards. Dust-prone materials shall not be loaded to a level higher than the side and tail boards, and shall always be covered with a strong tarpaulin; ● Install wheel washing equipment or conduct wheel washing manually at each exit of the works area to 	Construction stage By Contractor The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following; Dust masks were provided. • Water was sprayed as needed. Additional watering vehicles were added and watering frequency was increased in this reporting period as needed to mitigate dust impact. • As disposal sites were put in use, spoil previously stored has been cleaned up in this reporting period. • Covered transportation. • Access to schools and hospitals were fully ensured. Proper maintenance was done regularly for vehicles and machinery. • Trucks were washed regularly and as needed. • Operation in high windy days is strictly managed. • No burning of construction or demolition wastes on site. Open air burning of wood for warmth was observed during a field visit to site was one of the conditions that reveal the need to foster ongoing environmental

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<p>prevent trucks from carrying muddy or dusty substance onto public roads;</p> <ul style="list-style-type: none"> ● Immediately cleanup all muddy or dusty materials on public roads outside the exits of the works areas. ● In periods of high wind, dust-generating operations shall not be permitted within 100 m of residential areas. Special precautions need to be applied in the vicinity of sensitive areas such as schools and hospitals; ● Equip material stockpiles and concrete mixing equipment with dust shrouds. For the earthwork management for backfill, measures will include surface press and periodical spraying and covering. The extra earth or dredge should be cleared from the project site in time to avoid long term stockpiling. The height of stockpiles should be less than 0.7m; ● Plan the transport routes and time to avoid busy traffic and heavily populated areas when transporting earthy materials; ● Immediately plant vegetation in all temporary land-take areas upon completion of construction to prevent dust and soil erosion; ● Unauthorized burning of construction and demolition waste material and refuse shall be subject to penalties for the Contractor, and withholding of payment. 	<p>awareness training.</p> <ul style="list-style-type: none"> • Such information is posted at construction camps and public media.
	Fumes and particulate matter from asphalt mixing plant, concrete batching plant and other equipment and machinery	<ul style="list-style-type: none"> ● Locate asphalt plants and mixers at least 200m downwind from residential areas and other sensitive receptors. ● Enclose these plants and equip them with bag house filter or similar air pollution control equipment. ● Regularly inspect and certify vehicle and equipment emissions and maintain to a high standard. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following</p> <ul style="list-style-type: none"> • No asphalt mixing station in this reporting period. • Wet scrubbers are installed for batching plants. • Proper vehicle and equipment maintenance is made regularly.
Noise and vibration	Noise from PME and vehicles	<ul style="list-style-type: none"> ● During daytime construction, the contractor will ensure that: (i) noise levels from equipment and machinery conform to the PRC standard for Noise Limits for Construction Sites (GB12523-2011) and the WBG EHS Standards, and properly maintain machinery to minimize noise; (ii) equipment with high noise and high vibration are not used near village or township areas and only low noise machinery or the equipment with sound insulation is employed; (iii) sites for asphalt-mixing plants and similar activities will be located at least 300 m away from the nearest sensitive receptor; and (iii) temporary anti-noise barriers or hoardings will be installed around the equipment to shield residences when there are residences within 50 m of the noise source; ● For all the <u>urban roads</u>, there will be no night time (between 2200 and 0600 hours) construction; ● For the <u>BRT corridor</u>, night time construction shall be avoided. Yet, recognizing that construction (e.g. BRT stations) occasionally would require some works to be conducted at night to take advantage of less road traffic or to avoid worsening day time traffic conditions. Night time construction work on the BRT corridor if needed should prevent using high sound power level equipment and nearby residents should be notified of such night time activities well beforehand ● Regularly monitor noise at sensitive areas (refer to the monitoring plan). If noise standards are exceeded by more than 3 dB, equipment and construction conditions shall be checked, and mitigation measures shall be implemented to 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following;</p> <p>Noise control measures are well implemented.</p> <ul style="list-style-type: none"> • No night construction for all the new constructions. • No night construction for existing road sections. • Noise monitoring at sensitive areas were conducted regularly • Personal protection equipment for the construction workers has been improved and safety training has been enhanced by the construction supervisor.

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		rectify the situation; <ul style="list-style-type: none"> ● Provide the construction workers with suitable hearing protection (ear muffs) according to the worker health protection law of the PRC; ● Control the speed of bulldozer, excavator, crusher and other transport vehicles travelling on site, adopt noise reduction measures on equipment, step up equipment repair and maintenance to keep them in good working condition; ● Limit the speed of vehicles travelling on site (less than 8 km/hr), forbid the use of horns unless absolutely necessary, minimize the use of whistles; ● Maintain continual communication with the villages and communities along the road alignments and Yudai River. 	
Water quality	Construction site runoff and wastewater discharge; dredging impact	<ul style="list-style-type: none"> ● Portable toilets and small package wastewater treatment plants will be provided on construction sites for the workers and canteens; If there are nearby public sewers, interim storage tanks and pipelines will be installed to convey wastewater to those sewers; ● Sedimentation tanks will be installed on construction sites to treat process water (e.g. concrete batching for bridge construction) and muddy runoff with high concentrations of suspended solids. If necessary, flocculants such as polyacryl amide (PAM) will be used to facilitate sedimentation; ● Construction of road bridge foundations will avoid the rainy season from May to October to minimize potential water quality impact. Mitigation measures such as placement of sandbags or berms around foundation works to contain muddy water runoff will be adopted. Slurry from pile drilling in the river bed will be pumped to shore and properly disposed of. This will reduce the disturbance of sediments and the impact on water quality. Pier construction in Yudai River will be planned and laid out to ensure adequate opening for water flow; ● Dredging in Yudai River will be done in the dry and during the dry season from October to March to minimize potential water quality impact. Sand bags or berms placed around the dredging area will be planned and laid out to ensure adequate opening for water flow; ● Construction machinery will be repaired and washed at special repairing shops. No onsite machine repair and washing shall be allowed; ● Storage facilities for fuels, oil, and other hazardous materials will be within secured areas on impermeable surfaces, and provided with bunds and cleanup kits; ● The contractors' fuel suppliers must be properly licensed, follow proper protocol for transferring fuel, and must be in compliance with Transportation, Loading and Unloading of Dangerous or Harmful Goods (JT 3145-88); ● Material stockpiles will be protected against wind and runoff waters which might transport them to surface waters; ● Any spills are to be cleaned up according to PRC norms and codes within 24 hours of the occurrence, with contaminated soils and water treated according to PRC norms and codes. Records must be handed over without delay to the JPMO and JEPB; ● Mitigation of water quality impact during water pumping and sediment removal at each dredging location will be based on water quality monitoring results. The water quality monitoring approach for dredging works will include, at each dredging location, one control station up current of the location and one impact station down current of the location. When the monitoring result shows that the suspended solids (SS) level at the down 	Construction stage By Contractor The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following: Simple toilets were built on construction sites. Sewage management on construction site • Sedimentation tanks were built on construction sites. • No onsite machine repair or washing. • No fuel storage on site. Public fuel suppliers are used. • Material stockpiles are well sheltered/covered and retained. • Spill management has been improved in this reporting period. Water quality monitoring results in this reporting period indicate that mitigation measures have been well implemented.

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<p>current impact station is 130% higher than that at the up current control station, it is indicative of bottom sediment being stirred up and discharged downstream by water pumping or during sediment excavation. The contractor shall reduce the pumping or excavation rate and/or pump the slurry to a sedimentation pond first for settling of SS, until the down current SS level is less than 130% above the upstream SS level;</p> <ul style="list-style-type: none"> Similar monitoring approach will be adopted for mitigating water quality impact during road bridge construction, where up current and down current monitoring stations will be set up and SS levels monitored. When the SS levels at the down current impact station is 130% higher than the SS levels at the up current control station, the contractor shall adopt alternative construction methods or additional mitigation measures until the down current SS level is less than 130% above the upstream SS level. 	
Solid waste	Construction site refuse and spoil disposal	<ul style="list-style-type: none"> Temporary storage and permanent disposal of spoil and construction and demolition waste at designated sites only. These sites shall be at least 500 m from any water body. Transport construction waste in enclosed containers; Establish enclosed waste collection points on site, with separation of domestic waste and construction waste; Set up centralized domestic waste collection point and transport offsite for disposal regularly by sanitation department; Spoil disposal site management and restoration plans will be developed, to be approved by responsible authority; a protocol will be established between the contractors and Ji'an Cityscape Management Department to clarify the spoil quantity and a permit for the clearance of excavated earthwork shall be obtained; Site restoration will follow the completion of works in full compliance with all applicable standards and specifications, and will be required before final acceptance and payment under the terms of contracts. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following;</p> <p>The designated disposal sites meet River Course Regulation and shall be/have been approved by local water resources authority.</p> <p>Local EPB has been consulted for disposal approach of waste asphalt.</p> <p>Covered transportation.</p> <p>Solid wastes on site are collected separately.</p> <p>Domestic waste is collected and sent to public solid waste facility regularly.</p>
Ecology	Destruction of vegetation	<ul style="list-style-type: none"> Construction workers are prohibited from capturing any wildlife during construction; Construction workers are prohibited from damaging camphor trees Preserve existing vegetation where no construction activity is planned; Protect existing trees and grassland during construction; where a tree has to be removed or an area of grassland disturbed, replant trees and re-vegetate the area after construction; Remove trees or shrubs only as the last resort if they impinge directly on the permanent works or necessary temporary works. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted for the construction activities at Yangming West Road and Junhua Avenue construction sites as following:</p> <p>No capturing of any wildlife by construction workers.</p> <p>Existing vegetation is reserved as much as possible.</p> <p>Mitigation measures have been required to protect the trees.</p>
Physical cultural resources	Destruction of cultural relics in stream bed and soil	<ul style="list-style-type: none"> Construction workers are prohibited from damaging the old camphor trees Contractor must comply with PRC's <i>Cultural Relics Protection Law</i> and <i>Cultural Relics Protection Law Implementation Regulations</i> if such relics are discovered, stop work immediately and notify the relevant authorities, adopt protection measures and notify the Security Bureau to protect the site. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted well.</p>
Overall disturbance to communities	Excessive disturbance to communities due to prolonged construction times	<ul style="list-style-type: none"> Contractors to identify and adhere to strict schedule for completion of each pipeline section and to avoid prolonged construction, disturbance 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted well.</p>
Occupational health and safety	Construction site sanitation	<ul style="list-style-type: none"> Effectively clean and disinfect the site. During site formation, spray with phenolated water for disinfection. Disinfect toilets and refuse piles and timely remove solid waste; 	<p>Construction stage</p> <p>By Contractor</p>

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
		<ul style="list-style-type: none"> ● Exterminate rodents on site at least once every 3 months, and exterminate mosquitoes and flies at least twice each year; ● Minimize the risk of fly- or mosquito-borne diseases by maintaining well-drained and hygienic project sites; ● Remove standing water bodies and cover drums and other containers to avoid formation of stagnant water; ● Ensure personnel are aware of potential disease risks; ● Enforce on-site hygiene regulations to prevent litter; ● Provide public toilets in accordance with the requirements of labor management and sanitation departments in the living areas on construction site, and appoint designated staff responsible for cleaning and disinfection. ● Work camp wastewater shall be discharged into the municipal sewer system or treated on-site with portable system. 	<p>The mitigations have been conducted as following:</p> <p>Disinfection of the camp was done regularly.</p> <p>Extermination has been done regularly.</p> <p>Sites were maintained clean.</p> <p>Residential house are rented as construction camp with very good sanitation condition.</p> <p>Construction workers have been given health training.</p> <p>There is strict hygiene management on site.</p> <p>Residential houses with municipal sewers are rented.</p> <p>Public facilities are used for worker camp.</p>
	Occupational safety	<ul style="list-style-type: none"> ● Provide safety hats and shoes to all construction workers and enforce their use by the workers; ● Provide ear plugs to workers working near noisy PME; ● Clearly demarcate all open-cut pipeline trenches and erect barriers on either side of them to prevent injury to workers / the public 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted as follows:</p> <p>Personal protective equipment has been provided to the workers.</p>
	Food safety	<ul style="list-style-type: none"> ● Inspect and supervise food hygiene in cafeteria on site regularly. Cafeteria workers must have valid health permits. ● Once food poisoning is discovered, implement effective control measures immediately to prevent it from spreading. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted as follows:</p> <p>Food hygiene in cafeteria was inspected regularly.</p> <p>Food poisoning shall be reported to local health authority and effective control measures should be done immediately as required.</p>
	Disease prevention and safety awareness	<ul style="list-style-type: none"> ● Construction workers must have physical examination before start working on site. If infectious disease is found, the patient must be isolated for treatment to prevent the disease from spreading. From the 2nd year onwards, conduct physical examination on 20% of the workers every year. ● Establish health clinic at location where workers are concentrated, which should be equipped with common medical supplies and medication for simple treatment and emergency treatment for accidents. ● Specify the persons responsible for health and epidemic prevention, education on food hygiene, and disease prevention, to raise the awareness of workers. 	<p>Construction stage</p> <p>By Contractor</p> <p>The mitigations have been conducted as follows:</p> <p>Physical examination has been done for the workers.</p> <p>Infectious disease shall be reported to local health authority and measures should be taken as required.</p> <p>Public health facilities are used as very near to worker camp.</p>
Community health and safety	Temporary traffic management	<ul style="list-style-type: none"> ● A traffic control and operation plan will be prepared together with the local traffic management authority prior to any construction. The plan shall include provisions for diverting or scheduling construction traffic to avoid morning and afternoon peak traffic hours, regulating traffic at road crossings with an emphasis on ensuring public safety through clear signs, controls and planning in advance. 	<p>Construction stage</p> <p>By Contractor, local traffic police</p> <p>Traffic control plan has been fully coordinated with local traffic management authority before and during construction.</p>
	Information disclosure	<ul style="list-style-type: none"> ● Residents and businesses will be informed in advance through media of the construction activities, given the dates and duration of expected disruption. 	<p>Construction stage</p> <p>By Contractor</p> <p>Information of construction activities and traffic control has been posed on site and through media.</p>

Impact Factor	Potential Impact and/or Issues	Mitigation Measures	Work phase Implementing status
	Access to construction sites	<ul style="list-style-type: none"> Clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc. and raising awareness on safety issues. All sites will be made secure, discouraging access by members of the public through appropriate fencing whenever appropriate. 	Construction stage By Contractor Signs are placed at construction site entrance and on site. Safety measures have been taken such as appropriate covering, and warning signs are placed.
	Utility services interruptions	<ul style="list-style-type: none"> Assess construction locations in advance for potential disruption to services and identify risks before starting construction. If temporary disruption is unavoidable, develop a plan to minimize disruption with relevant authorities e.g. power company, water supply company, communication company, and communicate dates and duration in advance to all affected people. 	Construction stage By Contractor, local service providers Close coordination has been made with the concerned utilities and authorities as required. Relocation shall be done by professional utilities or approved prior to construction by concerned utilities.
Social & environmental	Handling and resolving complaints on contractors	<ul style="list-style-type: none"> Establish a GRM, appoint a GRM coordinator within JPMO. Brief and provide training to GRM access points (JPMO, JMUCIDC, contractors). Disclose GRM to affected people before construction begins at the main entrance to each construction site. Maintain and update a Complaint Register to document all complaints. 	Construction stage By Contractor, JPMO, LIEC A GRM has been established for the project. Training on GRM has been provided. GRM has been disclosed to the affected people before construction.
Operational stage			
Traffic	Road and drainage condition	Regularly inspect and maintain the road surface and drainage system.	Operational stage By O&M units Not applicable in the reporting period
	Road safety and traffic accidents	Strictly enforce traffic law to improve road safety and reduce traffic accidents.	Operational stage By O&M units Not applicable in the reporting period
Social, environmental health	Noise mitigation on BRT corridor	To be implemented according to Table V.8 of this EIA	Operational stage By O&M units Not applicable in the reporting period
	Noise mitigation on five urban roads	Installation of ventilated double glazed windows at the 28 existing sensitive receptors in Table V.10 of this EIA that show noise level increases of >3dB(A) compared to the existing noise levels, if these receptors are not resettled in or before year 2020.	Operational stage By O&M units Not applicable in the reporting period
Social, health and safety	Flood protection	Regularly inspect and maintain river embankment and clean up refuse in the river	Operational stage By O&M units Not applicable in the reporting period
Water quality	Accident or spillage	O&M Manual to include accident and spill management measures for clean-up and to minimize the spread of pollutants in the event of an incident.	Operational stage By O&M units Not applicable in the reporting period
Water quality	Waste management and minimization	Park staff to regularly empty waste management receptacles and ensure transfer to appropriate licensed facility. Options for composting of green waste and reuse of recycled water for irrigation to be maximized.	Operational stage By O&M units Not applicable in the reporting period

27. Predominant environmental impacts observed to be resulting from these works include solid waste production (demolition spoil and construction solids), noise, wastewater, dust from earth excavation, exhaust from vehicles and equipment, and land clearance for construction site establishment. In general, impacts were of similar scale at each site and adherence to EMP requirements.

2. Implementation of the Project Monitoring Program

28. The following environment safeguard monitoring was conducted in the reporting period including internal monitoring, external monitoring, compliance monitoring, and independent compliance monitoring. Summary data on the monitoring are presented in Table 3. Raw data are in Appendix 1. A summary of the monitoring activities is presented here.

29. **Internal monitoring.** Internal environmental monitoring including routine or periodic inspection of construction waste treatment and implementation of mitigation measures include ensuring adequate environmental supervision. The LIEC Specialist provides training to ensure that contractors and construction supervision company may conduct internal environmental monitoring and preparation of related reports. The LIEC Specialist provides detailed internal environmental monitoring program and various reports formats and data. Environmental site inspection checklists were used to conduct the internal environmental monitoring and independent compliance monitoring. The internal monitoring and Independent compliance monitoring were conducted at the Junhua road construction sites and Yangming West Road construction sites for this reporting period. The results of the environmental site inspection checklist are provided in Appendix 1. The LIEC Specialist assist JPMO to compile and submit semiannual environmental reports to ADB.

30. **External monitoring.** The project office has appointed Beijing Zhonghuanbohong Environment Resources Tech Co., Ltd, which was hired in February 2017 to conduct environmental external monitoring, In 2018, some subprojects have been carried out civil engineering, and the external monitoring of the site for civil engineering construction has been conducted. Summary of external environmental monitoring activities and results for July to December 2018 are provided in Table 2. The monitoring data sets are provided in Appendix 1.

Table 2: Summary of External Environmental Monitoring Activities and Results

Subproject of Road Construction			
Subject and Parameters	Frequency and Activities	Monitoring compliant with EMP? Y/N	Results meet the required standards Y/N
Surface water: at Junhua road construction mainly across the water to Yudai River; At Shaoshan west Road construction site; Bo'an Road construction Site Water quality; PH, SS, CODcr, Ammonia nitrogen, Petro Oil,	Four times per year, once/day during construction; Six activities at 2 sampling points	Y	Y, Met the required standards
Ambient air quality; at Junhua road construction site; Yangming West Road site; Zhongshan west Road construction site; Shaoshan west Road construction site; Bo'an Road construction Site Bo'an Road construction Site Air quality; PM10	Four times per year, once/day during construction 1 activities at 2 sampling points	N, Air quality monitoring frequency (is) are less the than per month when there is construction occurring.	Y, Met the required standards

Environment Noise; at Junhua road construction; Yangming West Road construction, Zhongshan west Road construction site; Shaoshan west Road construction site; Bo'an Road construction Site noise limitation [LAeq dB(A)]	Four times per year, once/day during construction Six activities at Nine sampling points	Y	Y, Met the required standards
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31. The monitoring results are used to evaluate the (i) extent and severity of environmental impacts; (ii) compliance with related rules and regulations; and (iii) overall effectiveness of the project EMP. Required actions will be taken based on the monitoring results. The original external environmental monitoring data are provided in Appendix1.

32. **Compliance monitoring.** The LIEC was recruited on Feb 2017. During the reporting period the LIEC: (i) conducted 3 visits to the project sites; (ii) held discussions with the JPMO Environment Officer and PIUs; and (iii) assisted the JPMO Environment Officer in preparing the EMR to ADB. The LIEC also provide a short narrative summary of the results of the monitoring. Including: (i) the site inspections performed by JPMO Environment Officer and LIEC; (ii) number and timeliness of compliance reports; (iv) any instances of non-performance observed by the LIEC; (v) corrective actions for any non-compliance.

33. **Independent compliance monitoring.** The independent monitor agency is Jiangxi Zhongchang engineering consultant and supervision Co. Ltd. which was recruited on April 2017 by the JPMO. The lead monitor is Qu Anan. During the reporting period the company: (i) conducted 8 visits to the project sites; (ii) held discussions with the JPMO Environment Officer, PIUs, environment monitoring agency, and LIEC; (iii) reviewed the internal, external, and compliance reports

Conclusions and next steps

34. The conclusions and performance on the conducted 4 types of monitoring are provided in Table 3.

**Table 3: Summary of environmental monitoring activities and results
between July 2018 and December 2018**

Type of monitoring	Subject and Parameter	Monitoring form and Frequency	Monitoring compliant with EMP program? Y/N	Corrective actions
Internal Environmental Monitoring	Site EMP, GRM information disclosure Soil erosion and contamination and the mitigation Air quality control and mitigation Noise control and mitigation	Construction site Inspection; Environmental site Inspection check list Monthly at construction stage	Y	Not applicable

	<p>Surface water pollution control and mitigation</p> <p>Solid waste management and mitigation</p> <p>Health and safety and management</p> <p>Eco-environment and vegetation management</p> <p>Physical cultural resources management</p>			
External Environmental Monitoring	<p>Surface water quality meet the standard limitation</p> <p>Air emission and air quality and meet the standard limitation</p> <p>Noise emission and Sound environment quality and meet the standard limitation</p>	<p>Construction site Environmental sampling and monitoring and chemical analysis</p> <p>Quarter</p>	Most of them are compliant with EMP Program.	To conduct the air quality monitoring according to the EMP requirement
Compliance monitoring.	<p>Environmental procedure review</p> <p>Environment Institution and responsibility</p> <p>Environmental safeguard performance</p> <p>Environmental assurance compliance</p>	<p>Construction site Inspection;</p> <p>Document Review</p> <p>Workshop discussion</p> <p>Quarter</p>	Y	Not applicable
Independent compliance monitoring.	<p>Soil erosion and contamination and the mitigation</p> <p>Air quality control and mitigation</p> <p>Noise control and mitigation</p> <p>Surface water pollution control and mitigation</p> <p>Solid waste management and mitigation</p> <p>Health and safety and management</p> <p>Eco-environment and vegetation management</p> <p>Physical cultural resources management</p>	<p>Construction site Inspection;</p> <p>Environmental site Inspection check list</p> <p>Monthly at construction stage</p>	Y	Not applicable

35. The internal monitoring implemented by contractors and the independent compliance monitoring assigned to the construction supervision Agency and soil and water conservation monitoring agency showed that the most constructors have taken proper mitigation measures

to alleviate the potential impacts of construction activities on air, noise, solid waste, soil erosion and surface water.

36. External environmental monitoring on environmental quality (appendix 1) showed that the water environment quality, air quality and sound environment quality can meet the related national standards. The construction activity impacts to the local environmental qualities are at slight level and are very insignificant. In the next stage, continue implement the 4 types of monitoring. To strength the monitoring the sediment contents of dredging activities, especially for the Yudai River Subproject. The monitoring on the soil erosion and soil and water conservation should be enforced either.

3. Public consultation and grievance redress mechanism

37. This section describes the public consultations undertaken during the reporting period and implementation of the project GRM. Documentation for the consultations and/or GRM is in Appendix 2.

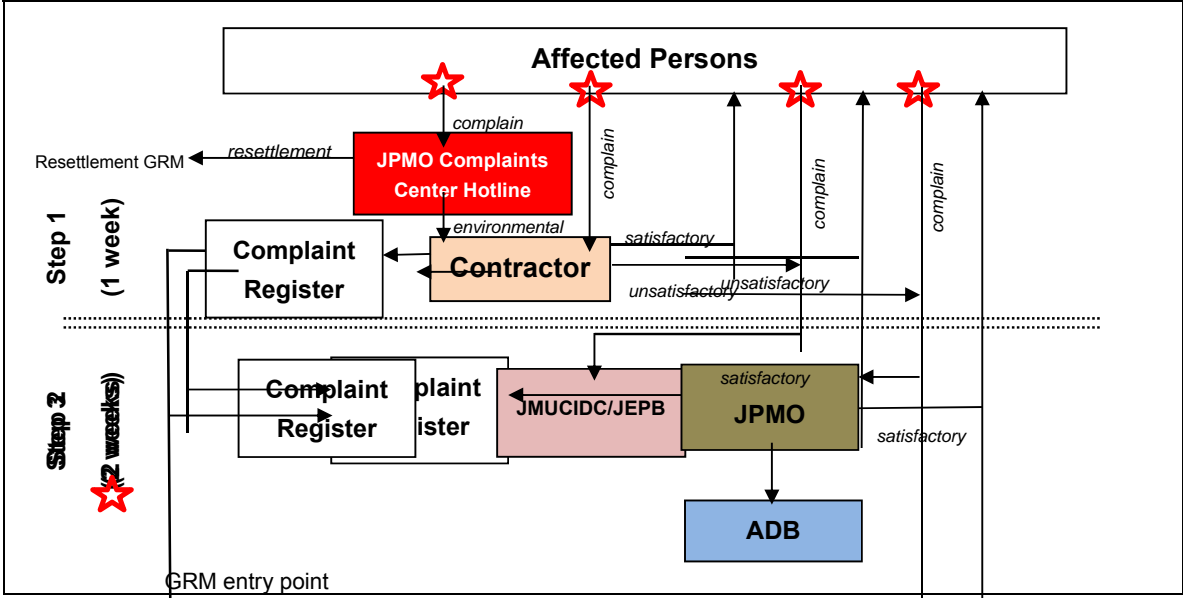
38. **Public consultation.** There are some informal public consultation activities during the project implementation period. Between July and December 2018, two formal public consultation meetings were conducted, with a total of 46 people from 2 towns and villages and 3 agencies. The consulted people are local residents, who may potentially be affected by the project activities. The aim of these meetings was to get the public comments on the project construction activity impacts on local environment and the conducting the related mitigation measures and the efficiency. The meetings provided residents and other stakeholders within and near the project sites the opportunity to learn more about the project, including the schedule of works and activities in the coming months. The project GRM was again presented to stakeholders, including key contact details.

39. The following key issues were consulted with participants: (i) the negative impacts on water resources, atmosphere, sound environment, construction waste treatment, and Eco-environment such as vegetation;(ii) the mitigation efficiency and environmental quality;(iii) the positive impact on the infrastructure facilities and environmental benefits and the macro social benefits of environmental improvement arising from the implementation of this project. There were 46 persons participated the consultations. Most of them believed that the impacts on water environment were slight and the mitigations on wastewater pollution controls were effective. For the emission of fuel gas and noise from construction machinery, about 70% of them believe that the impacts were at slight or less level, and no one of them believe that the impacts were significant. For the construction waste treatment and solid waste pollution, about 65% of them believed that impacts were at slight or less level and the mitigations and managements were efficient, and about 5% of them believed that the impacts were significant. For the impacts on ecological system(vegetation) by the construction activities, about 60% of them believed that the impacts were at slight or less level and about 20% of them believed that the impacts on ecological system were existing or significant. Most of them believed that the implementation of this project provided the benefits on local environmental improvement

and local infrastructure facilities. The public consultation meetings questionnaire results are provided at Appendix 2.

40. **Grievance redress mechanism.** The indicative GRM proposed in the EIA is displayed as below. Currently the project is under implementation stage. Each PIU's' GRM system, including the focal point, procedures, timelines for different institutions involved, and so on, have been established as below. Following project GRM mechanism was informed to potential affected persons (APs) nearby the construction sites.

Figure 1: Grievance Redress Mechanism established for the project



41. The JPMO and the PIUs which sub-projects under construction or operation follow the procedures as presented above. Under the project, any APs eligible to file the complaints or claims are entitles to complain to the PIUs and Contractors which should take every case in serous and cordial manner to make every effort toward the solution according to the above indicative GRM system. In case the problem is not solved, the complaints or claims may be further filed to the environmental protection bureau and/or the relevant government department. The department staffs are responsible for making satisfactory reply and taking necessary actions toward solution.

42. The following table provides contact details of designed staff at each PIUs to be responsible for operating and managing GRM entrance points.

Table 4: Environmental Responsible Officers (ERO) and GRM Entrance Points

项目	施工单位 Construction Contractor	负责人 ERO Person and Phone or Email	联系电话 Phone or Email
君华大道一标 Urban Roads–Junhua Road (Ji'an South Road–Yangming West Road)	杭州市政 Hangzhou Municipal Construction Group Co., Ltd.	曾晓梅 Zheng Xiaomei	15079611764
君华大道二标 Urban Roads–Junhua Road (Yangming West Road–Ji'an North Road)	南宁市政 Nanning Municipal Construction Group Co., Ltd.	莫丹 Mu Dang	18376732106
中山西路 Urban Roads–Zhongshan Road (Jizhou Road–Bo'an Road), 3.34 km	江西省路桥工程集团有限公司 Jiangxi Luqiao Engineering Group Co., Ltd.	王玺龙 Wang Xilong	18370098171
韶山西路 Urban Roads–Shaoshan Road (Jizhou Road–Bo'an Road)	太原市政建设集团有限公司 Taiyuan Municipal Construction Group Co., Ltd.	林凯玲 Lin Kaining	18105032005
伯安大道 Urban Roads–Bo'an Road (Jifu Road–Shaoshan West Road), 3.15 km	江西中煤 Jiangxi Zhongmei Construction Group Co., Ltd.	曾工 Zeng Gong	13576895071
阳明西路 Yangming Road (Jizhou Road–Bo'an Road), 2.05 km	江西玉茗集团 Yuming Construction Group Co., Ltd.	步青 Bu Qing	15070158595

43. During this reporting period, there is no grievance.

Conclusions and next steps.

44. **Public consultations.** The consultation meetings were held during the reporting period. The PIUs staff, LIEC and contractors consulted with residents visited construction site to seek for their comments and suggestion on the environmental mitigation measures. Most of the residents are satisfied with the implementation of mitigations measures. The consultation meeting results are provided in Appendix 2. Nanning Municipal Construction Group Co., Ltd. (for North section of Junhua Avenue construction) and Hangzhou Municipal Construction Group Co., Ltd. (for South section of Junhua Avenue construction) conducted the consultation meetings. Public consultation should be strengthened based on the public consultation plan defined in Table EMP. The LIEC recommend that the Next steps will enforce the recording of the Public consultations and Grievance Redress Mechanism. The prepared Record Form of Petitions and/or Complaints (GRM) provided at Appendix 2.

4. Training and capacity building

45. Between January and December 2018, a total of 5 training events were conducted (Table 5). The LIEC provided the trainings to the related trainees agencies. The training covered following topics: Environmental regulatory framework for ADB Loan project and ADB

SPS, Grievance redress mechanism by the ADB requirements on Environment Affairs, EMP and 4 type monitoring implementations, Environmental monitoring, inspection, reporting, Theories and practices on soil erosion protection, and solid waste management and control. A total of 62 people from more than 6 agencies participated in the training.

Table 5: Training for environmental safeguards conducted during the reporting period

Topic	Trainees Agency	Content	Trainees	Date	Feedback
Grievance redress mechanism by the ADB requirements on Environment Affairs	JPMO, PIUs, Contractors,	GRM structure, responsibilities, steps; types of grievances, eligibility assessment; gender responsive GRM reporting procedures	18	January, May 2018	well understanding of GRM concepts achieved but further training required
EMP and 4 type monitoring implementations To conduct the mitigation measures	JPMO, PIUs, contractors, Construction Supervision, External, independent Monitoring Agencies	Environmental management responsibilities during construction; reporting format for EMP compliance; issues and corrective actions; opportunities for improvement of EMP	18	May 2018	Contractors expressed appreciation for training, requested further guidance especially regarding how to implement corrective actions
Environmental monitoring, inspection, reporting	PIUs, contractors Internal, External Monitoring Agencies	Monitoring and inspection methods, data collection and processing, interpretation of data, reporting systems	12	June, December 2018	Contractors expressed appreciation for training, requested further guidance concerning monitoring procedures
Theories and practices on soil erosion protection, and solid waste management and control	PIUs, contractors, soil erosion Monitoring agencies, construction supervision Agencies	Risks for soil erosion and mitigation measures	14	May, June 2018	Contractors expressed appreciation for training, requested further guidance
To conduct the mitigation measures Soil erosion protection, and solid waste management and control	JPMO, PIUs, contractors, Construction Supervision, External, independent Monitoring Agencies	Environmental management responsibilities during construction; reporting format for EMP compliance; issues and corrective actions; opportunities for improvement of EMP Soil erosion and mitigation measures	16	December 2018	Contractors expressed appreciation for training, requested further guidance
Total trainees				78	

46. **Conclusions and next steps.** In general, the trainings are successful. Trainees gained good understanding of regulatory frameworks on ADB Loan Project environmental Management. They have more understanding of GRM and public participation concepts. PIUs and contractors expressed appreciation for training and requested further guidance especially regarding how to implement corrective actions. Further guidance concerning monitoring procedures and practise should be trained in the next steps.

5. Compliance with loan and project assurances

47. The loan agreement and project agreement between the government and ADB includes 15 assurances (or “covenants”) for environmental safeguards and/or related to environmental issues. These relate to the timely and effective implementation of the EMP, as well as project-specific assurances tailored to the current project. Compliance with these assurances is a condition of the loan and project agreements. For the current reporting period: (i) 14 of the assurances are being complied with; (ii) 1 are not yet applicable; and (iii) for 14 assurances, compliance should already be initiated or achieved. Following table provide the environmental safeguard assurances for the project and the status of compliance with these assurances during the reporting period.

Table 6: Environment Related Project Agreement and Implementation Status of Environment Contract Clauses

Assurance	Status of Compliance
LOAN AGREEMENT	
Procurement of Goods, Works and Consulting Services	
<u>Conditions for Award of Contract</u>	
The Borrower shall through JPG cause JMG not to award any Works contracts that involves environmental impacts until: (a) Ji'an Municipal Environmental Protection Bureau has granted the final approval of the EIA; and (b) JMG and the Implementing Agency have caused the relevant provisions to be incorporated from the EMP into the Works contract.	To be complied with the related Works contracts and relevant provisions. .
PROJECT AGREEMENT-- Implementation Arrangements	
1. JPG and JMG shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by JPG, JMG and ADB. In the event of any discrepancy between the PAM and this Project Agreement, the provisions of this Project Agreement shall prevail.	To be complied with the detailed arrangements in the PAM.
2. JMG shall cause the Project Implementing Agency and the PMO to ensure that all the Project implementation procedures agreed upon with ADB are followed, including all environmental and social safeguard requirements.	To be complied with the Project implementation procedures agreed upon with ADB.
<u>Specific Assurances</u>	
<u>Environment</u>	
3. JMG shall ensure, and shall cause the Project Implementing Agency to ensure, that the detailed design of all urban road alignments: (a) will strictly avoid all locations of camphor trees that are 100 or more years old, and that all camphor trees that are 100 or more years old shall be tagged, conspicuously marked and fenced off before the commencement of construction; and (b) will avoid all locations of camphor trees that are less than 100 years old to the maximum extent possible and, where full avoidance of camphor trees less than 100 years old is not possible, that transplant schemes for the affected camphor trees shall be developed during detailed design, inserted into tender documents and implemented.	Being complied with the detailed design of all urban road alignments.
4. JMG shall ensure that disposal sites for excess soil and construction waste generated during Project implementation will be identified in the detailed design stage of the Project and provided at locations at least 500 meters from any water body, that the sites will be selected and operated so as to minimize social and environmental impacts to a level acceptable to ADB, and that all soil and other construction waste from the Project is properly disposed of at the identified sites.	Being complied with disposal sites for excess soil and construction waste generated during Project implementation will be identified in the detailed design stage of the Project and provided at locations at least 500 meters from any water body.
5. JMG shall implement measures for traffic noise mitigation described in the approved domestic Environmental Impact Report for the Project, the EIA and the EMP at such time as noise from Project roads results in a 3 decibel	Not Yet Will be complied with during operational stage.

Assurance	Status of Compliance
increase in noise levels compared to baseline measures, as described in the EMP. Measures proposed include planting a woodland buffer at one location along the Bus Rapid Transit corridor where land has to be made available, relocation of, or installing double-glazed windows for, affected households, and establishing adequate buffer distances or providing noise insulation for future developments along Project roads.	
<u>Safeguards- Environmental</u>	
<p>6. JPG and JMG shall ensure, and cause the Project Implementing Agency to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the approved domestic Environmental Impact Report for the Project, the EIA, the EMP, and any corrective or preventative actions (i) set forth in a Safeguards Monitoring Report, or (ii) subsequently agreed between ADB and JMG. JMG shall cause the Project Implementing Agency to prepare, at the outset of Project implementation, detailed internal monitoring programs to be implemented by the contractors during construction and operation phases for each Output of the Project, and to incorporate such mitigation and monitoring measures into the design of Project components, relevant bidding documents and construction contracts. Throughout Project implementation, JMG and the Project Implementing Agency shall review any changes to the Project design that may potentially cause negative environmental impacts and, in consultation with ADB, update the EIA and the EMP by revising mitigation measures as necessary to assure full compliance with environmental laws and regulations and with the SPS.</p>	Being complied with the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities.
<p>7. JMG shall ensure that the Project Implementing Agency and any other agency do not, award any Works contract that involves environmental impacts until: (a) the Ji'an Municipal Environment Protection Bureau has granted the final approval of a domestic Environmental Impact Report for the Project that is consistent with the EIA; and (b) the Project Implementing Agency has incorporated the relevant provisions from the EMP into the Works contract.</p>	Being complied with.
<p>8. JMG shall and shall cause the Project Implementing Agency to ensure that sufficient resources and full time personnel are provided for monitoring EMP implementation, and will appoint Ji'an Environmental Monitoring Station or another independent organization acceptable to ADB to monitor air, noise and water during construction and operation of the Project facilities in accordance with the EMP and shall appoint a loan implementation environmental consultant acceptable to ADB for external evaluation of implementation of the EMP.</p>	Being complied with the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities.
<p>9. JMG will, and will cause the Project Implementing Agency to, provide semi-annual environmental monitoring reports from the loan implementation environmental consultant to the PMO throughout the Project construction period, reporting on the Project's and all contractors' compliance with the EMP, and shall ensure that the PMO submits such semi-annual environmental monitoring reports to ADB in a format acceptable to ADB. Where significant environmental impacts occur in the period between the semi-annual reports, JMG shall notify ADB of such occurrences in the Project's quarterly progress reports.</p>	Being complied with the provide semi-annual environmental monitoring reports from the loan implementation environmental consultant to the PMO throughout the Project construction period, reporting on the Project's and all contractors' compliance with the EMP.
<p>10. JMG shall ensure that (a) an emergency preparedness and response mechanism is developed for the Project in accordance with the EMP and all applicable laws and regulations of the Borrower relating to environment, health, labor, and occupational safety; and (b) the emergency preparedness and response mechanism is incorporated in the emergency preparedness and response systems of JMG and relevant JMG agencies.</p>	Being complied with emergency preparedness and response mechanism.
<p>11. During the pre-construction phase of the Project, JMG shall, and shall ensure that the PMO, the Project Implementing Agency, Ji'an Municipal Environmental Protection Bureau and any other relevant agencies shall, review the final engineering designs for the Project and JMG shall, in consultation with ADB, adjust environmental mitigation and monitoring measures in the Project EMP accordingly.</p>	Being complied with reviewing the final engineering designs for the Project
<p>12. Before and during the construction phases of the Project, JMG, through the PMO, shall organize and conduct training on implementation and supervision of the EMP and require the participation of responsible persons</p>	Being complied with to organize and to conduct training on implementation and supervision

Assurance	Status of Compliance
from the PMO, the Project Implementing Agency, any other relevant agencies and all contractors.	of the EMP and require the participation of responsible persons from the PMO.
19. Safety and Protection of Environment	
19.1 The Contractor shall be responsible for the safety of all activities on the Site.	Being complied with
19.2 The Contractor shall take all reasonable measures according to applicable environmental protection laws and regulations to protect the environment on and in vicinity of the Site and avoid damage or nuisance to personnel or to property of the public and others resulting from pollution, noise or other causes arising as a consequence of the Contractor's acts and/or operation.	Being complied with

6. Reporting

48. **EMP implementation monitoring and progress reporting.** During this reporting period, the LIEC has reviewed project progress reports, and carried out site visits to check compliance with the EMP, and the review of the environmental monitoring conducted by the external monitoring agency. The findings of the LIEC are described in this semi-annual EMP monitoring report. The project reporting requirements for environmental safeguards are summarized in Table 7.

Table 7: Project Reporting Requirements for Environmental Safeguards

Reports	From	To	Frequency	Progress this reporting period	Comments
Construction phase 施工期					
Progress report – internal monitoring of EMP implementation	Contractors,	PIUs	Monthly	July–December 2018	Completed
As above	PIUs CSC	JPMO	Quarterly	2018 Q 3, 4, report submitted	reports to be completed at the end of December 2018.
Progress report – external monitoring of environmental variables	External monitoring agencies	JPMO	Quarterly	2018 Q 3,4 report submitted	Report completed and submitted
EMR (overall progress of EMP implementation)	JPMO	ADB	Semi-annual	This is the Third; second semiannual 2018	The second annual EMR have been submitted at the mid of August 2018.
Acceptance report / audit report – completion of facilities	Licensed institute	EPBs JPMO PIUs	Once per sub-component (Within 3 months after component completion)	Not applicable during this reporting period	Not applicable during this reporting period Not applicable
Operation phase					
Progress report – internal monitoring of EMP implementation	LIEC	PIUs, JPMO	Quarterly	Not applicable during this reporting period	Not applicable during this reporting period
EMR (overall progress of EMP implementation)	JPMO	ADB	Semi-annual	Not applicable during this reporting period	Not applicable during this reporting period
Project completion report – includes safeguards	JPMO	ADB 亚行	Once (project completion)	Not applicable during this reporting period	Not applicable during this reporting period 本

ADB = Asian Development Bank, CSC = construction supervision company, EMP = environmental management plan, EMR = environment monitoring report, EPB = environment protection bureau, LIEC = loan implementation environment consultant, PIU = project implementation unit, PMO = project management office.

49. **Conclusions and next steps.** Progress reporting from the PMO to ADB complies with the EMP reporting schedule. The next EMR will be the period of January to June 2018 and will be submitted to ADB at end of July 2019.

IV. LESSONS LEARNED

50. When ADB and domestic standards differ, as they did in the case of environmental requirements in this project, the LIEC should provide ADB's requirements to the executing and/or implementing agencies according to ADB's regular guidance.

51. In the future, it is necessary to strengthen the public participation on project impact (positive and negative effects), the project beneficial information should be direct publicity to the potential impact population.

V. GENERAL CONCLUSION AND NEXT STEPS

52. During this reporting duration, there has been no environmental complaint from the local communities, local EPBs and from potentially affected persons. No environmental incidents have been reported during the report period.

53. Predominant environmental impacts observed to be resulting from these works include solid waste production (demolition spoil and construction solids), noise, wastewater, dust from earth excavation, exhaust from vehicles and equipment, and land clearance for construction site establishment. Most of the measures defined in the EMP have been implemented. In general, most of them are compliance with EMP.

54. Based on observations from site inspections, it can be found that the construction activities have fulfilled the environmental protection and management obligations required by both PRC and ADB. The internal monitoring implemented by construction contractors, and the Independent compliance monitoring that was assigned to the construction supervision agency and soil and water conservation monitoring agency showed that constructors have taken proper mitigation measures to alleviate the potential impacts of construction activities on air, noise, solid waste, soil erosion and surface water.

55. External environmental monitoring on environmental quality (Appendix 1) showed that monitoring results met the water environment quality standard, air quality standard and sound environment quality standard respectively, and no exceeding the standards were found. The construction activities impact to the local environmental quality are at slight level and at short of construction time and can be neglected.

56. Water and soil conservation monitoring exercises have been carried out with the results showing that efforts on soil erosion control should to be strengthened in the next stage. It is recommended that construction waste disposal sites be better considered and strengthened to reduce soil erosion during rainy seasons. Mitigation for soil erosion should be

strengthened. Although there are no noise emissions exceeded the related noise standard, it needs to strengthen the management on construction machinery.

57. To continue implement the 4 types of monitoring. To ensure the project's sustainability, it is recommended that JPMO and/or local governments continue to monitor the related water resources programs or wetland over the long term. Monitoring should ensure that facilities financed by the project are properly maintained and remain operational. It is also suggested JPMO and/or local governments assess the project's effect on water resources utilization and wetland protection.

58. **Results assessment.** Environmental management system has been established at each of the implementation agencies for enforcement of environmental management. In designated responsible person and construction contracts, some measures of environmental management system were employed. At construction sites, waste-water emissions, noise control, dust and exhaust control, and solid waste treatment are included. The LIEC Specialist assistance to ensure effective implementation of the EMP and requires the implementation of mitigation measures.

59. During this reporting period, the EMP has been executed for all the subprojects. Environmental mitigation measures have been taken during construction while the environmental compliance monitoring and reporting have been carried out. Adverse impacts on the environment have been minimized.

60. No environmental incidents have been reported and there have been no complaints received with respect to environmental impacts from potentially affected persons.

61. The JPMO and PIUs conducted the services of design institutes, specialist procurement agencies and construction supervision companies to assist in the implementation activities. The JPMO and PIUs have a number of staffs trained in project management and relevant ADB procedures during implementation of the project.

APPENDIX 1. MONITORING DATA

**Semi-annual report Report on Environmental
Protection Monitoring of ADB Financed Ji'an Urban
Transport Project in Jiangxi Province
(July 2018-December 2018)**

**Beijing ZhonghuanBohong Environmental Resources
Technology Co., Ltd.**

December 2018

External Environmental Monitoring Report

**亚行贷款江西吉安城市交通
项目环境保护监测半年报**

(2018 年 7 月-2018 年 12 月)

北京中环博宏环境资源科技有限公司

2018 年 12 月

Semi-annual report Report on Environmental Protection

Monitoring of ADB Financed Ji'an Urban Transport Project

in Jiangxi Province

(July 2018 -December 2018)

1Preface

The ADB-financed Jiangxi Ji'an Urban Transport Project is divided into five subprojects: road construction, public transportation, traffic management and security, environmental protection, and institutional capacity building. At present, five sub-projects have started construction. According to the requirements of the "Asian Development Bank Loan Jiangxi Ji'an Urban Transport Project Environmental Management Plan", the project office commissioned Beijing ZhonghuanBohong Environmental Resources Technology Co., Ltd. to carry out site investigation and environmental monitoring during the construction of the ADB-financed Ji'an urban transportation project.

Junhua Road is 8,795 m in length and is divided into two segments, the first stage of the work is from Ji'an south Road to Yangming West Road, and the commencement date is June 19, 2017; the second stage of the work is from Yangming West Road to Ji'an North Road, and the commencement date is June 5, 2017. Yangming West Road is 1800m long and the commencement date is July 1, 2017.

Since the project started nearly one and a half years, the first section and the second section of the Junhua Road, and the Yangming West Road have completed the road surface clearing work. The roadbed forming stage has been almost completed, but greening works, drainage works, lighting works, traffic and road works have not started. Zhongshan West Road, Shaoshan West Road (ADB Section and Extension Section) and Bo'an Road commenced in July 2018. At present, Zhongshan West Road, Shaoshan West Road (ADB Section and Extension Section) and Bo'an Road at the stage of road surface clearing.

As of June 2018, the Yudai River treatment project has not yet started construction, so this semi-annual report on environmental protection monitoring (July 2018-December 2018) does not contain the water quality and sediment monitoring content of Yudai River.

According to the construction conditions of each road, the monitoring content is the surface water quality monitoring of the Yudai River across the water body (Junhua Road, Shaoshan West Road and Bo'an Road), and the air quality environmental monitoring of sensitive points during the construction period (Junhua Road, Yangming West Road, Zhongshan West Road, Shaoshan West Road and Bo'an Road), monitoring of sensitive noise during construction period (Junhua Road, Yangming West Road, Zhongshan West Road, Shaoshan West Road and Bo'an Road). Samples collected from water and atmosphere were sent to the center analysis room for timely analysis and monitoring during the sample storage period. the noise was monitored on-site.

Due to more rain in Ji'an City in July 2018, the five roads were all less constructed. Therefore, the current situation of surface water quality, sensitive target atmospheric environment quality and acoustic environment quality during the construction period in July 2018 was not monitored.

2 Methodological standards adopted

2.1 Monitoring method standard

Each monitoring project monitoring method adopts the national standard method, Standard code for monitoring items and monitoring methods is shown in Table 1.

Table1: Standard code for monitoring projects and analytical methods

Serial numbe	Parameter name	Standards, procedures and code names
1	pH value	Portable pH meter method "Water and Wastewater Monitoring and Analysis Methods" Fourth Edition (2002) State Environmental Protection Administration 3.1.6.2
2	Suspended matter	Water quality determination of suspended solids GB 11901-1989
3	COD	Water Quality Determination of Chemical Oxygen Demand Dichromate method GB/T 11914-1989
4	Ammonia nitrogen	Water quality ammonia nitrogen determination Nessler Spectrophotometry HJ535-2009
5	Petro	Water Quality Determination of Petroleum and Animal and Vegetable Oils Infrared spectrophotometry HJ 637-2012
6	Fecal coliform	Water quality Determination of fecal coliform manifold zymotechnics and filter membrane HJ/T347-2007
7	PM ₁₀	Determination of atmospheric articles PM10 and PM2.5 in ambient air by gravimetric method HJ 618-2011
8	Equivalent continuous A sound level	Environmental Noise Monitoring Technical Specifications Urban acoustic environment routine monitoring HJ 640-2012

2.2 Evaluation standard

(1) Construction period sensitive point air quality environmental monitoring implementation of "ambient air quality standard two level standard" (GB3095-1996);

(2) Sensitivity point noise during construction period Implementation of Category 2 District Standards for Acoustic Environmental Quality Standards (GB3096-2008); Construction site noise implementation "Construction site boundary environmental noise emission standards" (GB12523-2011);

(3) Evaluation of water quality during construction period and implementation of class III standards in surface water environmental quality standard (GB3838-2002)

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3 Monitoring content

3.1 Junhua Road Environmental Monitoring during Construction Period

3.1.1 Ambient air monitoring

From July to December 2018, the construction of Junhua Road mainly concentrated on Yangming West Road to Zhenjunshan south Road. The construction of Yangming West Road mainly concentrated on the bridge construction section. During this period, construction was carried out along the first section and the second section of the Junhua Road, and the construction sections were dispersed.

Monitoring point: A1 Jiaogangling Village、A2 Detention Center.



Jiaogangling Village A1

Monitoring project: PM₁₀



Detention Center A2

Monitoring results and evaluation:

Table 2: Air Quality Environmental Monitoring Results and Evaluation Standards During Construction Period

Monitoring time	Monitoring point	Monitoring project
		PM ₁₀ (mg/m ³)
2018.10.30	A1	0.119
	A2	0.115
Ambient Air Quality Standard (GB3095-2012) (secondary standard)		0.15

Note: In order to better reflect the impact of the construction on the environment, this monitoring will adjust the TSP to PM₁₀.

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Junhua Road during construction July-December 2018, During the construction period, the PM₁₀ concentration of each sensitive point met the secondary standard limit of the “Ambient Air Quality Standard” (GB3095-2012), indicating the surrounding construction. The environment has less impact.

3.2.2 Noise monitoring

From July to December 2018, an on-site monitoring of sensitive points along the Junhua Road and the construction site will be conducted monthly.

Monitoring point: N1 Laoyangjia Village、N2 Jiaogangling Village、N3 Baitang Village、N4 Ji'an Occupational Health School、N5 Ji'an Special Education School、

N6 Dujia fang Village、N7 Wuli Village、N8 Shihuling Village、N9 Detention center
、 N10 First bid section construction department、 N11 Second bid section construction
department.

Monitoring project: Equivalent continuous A sound level.



Laoyangjia Village N1



Jiaogangling Village N2



Baitang Village N3



Ji'an Occupational Health School N4



Ji'an Special Education School N5



Dujia fang VillageN6



Wuli VillageN7



Shihuling Village N8



Detention centerN9



First bid section construction
departmentN10



Second bid section construction
departmentN11

Monitoring results and evaluation:

Table 3: Noise monitoring results and evaluation standards during construction period Unit (dB)

Project	N1		N2		N3		N4		N5		N6		N7		N8		N9		N10		N11	
	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht	Day	Nig ht	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht	Da y	Nig ht
2018.08.30	52.3	43.9	55.1	47.8	54.6	55.5	55.5	44.8	53.8	45.8	54.4	47.4	54.7	46.7	53.1	43.6	55.9	47.4	58.7	48.9	59.1	48.3
2018.09.22	56.3	43.8	56.6	47.4	54.4	44.7	52.1	46.2	52.9	46.5	54.4	45.6	54.7	45.3	53.2	45.0	55.6	46.8	57.3	48.5	57.5	47.9
2018.10.31	58.0	46.7	58.0	48.7	54.5	46.0	53.7	46.9	54.7	46.1	54.1	46.1	53.5	46.2	57.3	46.5	54.1	47.7	58.2	47.4	57.6	47.1
2018.11.15	58.3	48.5	58.2	48.6	57.4	48.2	54.8	47.8	55.8	47.2	55.6	47.1	56.4	48.3	56.4	48.2	56.6	47.9	62.5	48.5	62.4	48.4
2018.12.11	51.8	47.7	56.8	48.5	57.8	48.3	53.1	48.4	51.9	48.3	52.0	48.2	58.5	48.5	51.3	48.7	55.4	47.8	62.7	48.4	61.3	48.2
Evaluation standard	Day:60 Night:50																		Day:70 Night:55			

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Junhua Road during construction July-December 2018, During the construction period, the noise values at the boundary of each site are in line with the “Emission Standard for Environmental Noise of the Construction Site Boundary” (GB12523-2011). The indicators measured at all sensitive points are in accordance with Zone 2 standards of the “Acoustic Environmental Quality Standard” (GB3096-2008), It shows that the construction has little impact on the surrounding environment.

3.2.3 Surface water monitoring

The construction section of Junhua Road mainly spans the water body as the Yudai River, We monitored the water quality of the Yudai River in August, September, October, November and December 2018 for the first phase.

Monitoring point :SW1 50m above water body、SW2 100m downstream of the water body

Monitoring project : pH value、Suspended matter、COD、Ammonia nitrogen、Petro、**Fecal coliforms**



50m above water body **SW1**



100m downstream of the water body **SW2**

Monitoring results and evaluation:

Table 4: Surface Water Quality Monitoring and Evaluation Standards in Yudai River

Unit: mg/L (pH value without dimension)

Monitoring time	Monitoring point	Monitoring project					
		pH value	SS	COD	Ammonia nitrogen	Petro	Fecal coliforms (units/L)
2018.08.30	50m above water body SW1	7.8	8	12	0.202	0.02	360
	100m downstream of the water body SW2	7.7	10	14	0.316	0.01 _L	590
2018.09.22	50m above water body SW1	7.4	10	11	0.267	0.02	650
	100m downstream of the water body SW2	7.5	11	13	0.304	0.01	480
2018.10.31	50m above water body SW1	7.53	9	9	0.196	0.01	40
	100m downstream of the water body SW2	7.56	10	10	0.148	0.04	250
2018.11.15	50m above water body SW1	7.85	17	13	0.196	0.02	2100
	100m downstream of the water body SW2	7.88	15	15	0.212	0.02	2200

2018.12.12	50m above water body SW1	7.87	22	15	0.251	0.02	2600
	100m downstream of the water body SW2	7.98	21	15	0.206	0.03	2200
Evaluation Standard (Class III)		6-9	≤80	≤20	≤1.0	≤0.05	≤10000

Note: In order to better reflect the degree of water pollution and the safety of water quality, this water environmental quality monitoring increased the fecal coliform index; “L” represents no detection.

“ADB loans Jiangxi Ji'an Urban Transportation Project” Junhua Road in July to December 2018 During the construction period, the surface water quality of the Yudai River was relatively stable. The measured indexes all meet the Class III water standard of “Surface Water Environment Quality” (GB3838-2002). It shows that the construction activities have little effect on the water quality of the Yudai River.

3.2 Yangming West Road Environmental Monitoring During Construction Period

3.2.1 Ambient air monitoring

From July to December 2018, the construction scope of Yangming West Road is short, environmental air monitoring points are set in the Nanan village.

Monitoring point: A1 Nan'an Village.

Monitoring project: PM₁₀



A1 Nan'an Village

Monitoring results and evaluation:

**Table 5: Air Quality Environmental Monitoring Results and Evaluation
Standards During Construction Period**

Monitoring time	Monitoring point	Monitoring project
		PM ₁₀ (mg/m ³)
2018.10.31	A1Nan'an Village	0.116
Ambient Air Quality Standard (GB3095-2012) (secondary standard)		0.15

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Yangming West Road during construction July to December 2018, During the construction period. The PM10 concentration measured by sensitive points in Nan'an Village is in line with the secondary standard limit of Ambient Air Quality Standard (GB3095-2012), indicating that the construction of Yangming West Road has less impact on the surrounding environment.

3.2.2 Noise monitoring

From July 2018 to December, a monthly monitoring of sensitive points along the Yangming West Road and construction site was carried out. During the monitoring period, construction activities were mainly concentrated on Nan'an Village. Therefore, this noise monitoring set a noise monitoring point at the construction site near Nan'an Village.

Monitoring point: N1 Nan'an Village、N2 Dongtou village、N3 Yangming West Road construction point.

Monitoring project: Equivalent continuous A sound level.



Nan'an Village **N1**



Dongtou village **N2**



Yangming West Road construction pointN3

Monitoring results and evaluation:

Table 6: Noise monitoring results and evaluation standards during construction period

Monitoring time	Monitoring point	Equivalent continuous A sound level (dB)	
		Day	Night
2018.08.30	N1Nan'an village	55.7	46.5
	N2Dongtou Village	56.4	48.2
2018.09.22	N1Nan'an village	54.9	45.2
	N2Dongtou Village	55.8	46.4
2018.10.31	N1Nan'an village	55.3	47.6
	N2Dongtou Village	58.1	48.2
2018.11.15	N1Nan'an village	55.3	47.6
	N2Dongtou Village	58.1	48.2
2018.12.12	N1Nan'an village	56.2	48.6
	N2Dongtou Village	58.1	48.2
Evaluation standard (Class 2 area standard)		60	50
2018.08.30	N5 阳明西路施工点	58.9	47.6
2018.09.22	N5 阳明西路施工点	58.7	47.6
2018.10.31	N5 阳明西路施工点	58.1	46.6
2018.11.15	N5 阳明西路施工点	62.5	48.8
2018.12.12	N5 阳明西路施工点	63.5	48.6
Evaluation standard (Environmental Noise Emission Standards for Construction Sites)		70	55

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Yangming West Road during construction July to December 2018, During the construction period, the noise values at the boundary of each site are in line with the “Emission Standard for Environmental Noise of the Construction Site Boundary” (GB12523-2011). The indicators measured at all sensitive points are in accordance with Zone 2 standards of

the “Acoustic Environmental Quality Standard” (GB3096-2008), It shows that the construction has little impact on the surrounding environment.

3.3 Zhongshan westRoad Environmental Monitoring during Construction Period

3.3.1 Ambient air monitoring

From July to December 2018, the construction of Zhongshan West Road was mainly concentrated in the vicinity of Shili Village. Construction was carried out in other places, but the construction section was scattered. Therefore, the atmospheric environment monitoring point was set up in Shili Village.

Monitoring point:A1 Shili Village

Monitoring project:PM₁₀



A1 Shili Village

Monitoring results and evaluation:

**Table 7 Air Quality Environmental Monitoring Results and Evaluation
Standards During Construction Period**

Monitoring time	Monitoring point	Monitoring project
		PM ₁₀ (mg/m ³)
2018.10.31	A1Shili Village	0.116
Ambient Air Quality Standard (GB3095-2012) (secondary standard)		0.15

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Zhongshan west Road during construction July-December 2018, During the construction period, the PM10 concentration of Shili Village met the secondary standard limit of the “Ambient Air Quality Standard” (GB3095-2012), indicating the surrounding construction. The environment has less impact.

3.3.2 Environmental noise monitoring

From July 2018 to December, a monthly monitoring of sensitive points along the Zhongshan West Road and construction site was carried out. During the monitoring period, construction activities were mainly concentrated on Shili Village. Therefore, this noise monitoring set a noise monitoring point at the construction site near Shili Village.

Monitoring point: N1 Henglongpengxia Village、N2 Shili Village、N3 Naoziling Village、N4 Zhongshan West Road construction point

Monitoring project: Equivalent continuous A sound level



Henglongpengxia VillageN1



Shili VillageN2



Naoziling VillageN3



Zhongshan West Road construction pointN4

Monitoring results and evaluation:

Table 8: Noise monitoring results and evaluation standards during construction period

Monitoring time	Monitoring point	Equivalent continuous A sound level (dB)	
		Day	Night
2018.08.30	N1Henglongpengxia Village	53.6	46.5
	N2Shili Village	54.2	43.0
	N3Naoziling Village	55.6	44.1
2018.09.22	N1Henglongpengxia Village	52.5	45.4
	N2Shili Village	52.9	43.6
	N3 Naoziling Village	56.3	42.8
2018.10.31	N1Henglongpengxia Village	55.9	46.8
	N2Shili Village	57.6	47.9
	N3 Naoziling Village	57.4	48.7
2018.11.15	N1Henglongpengxia Village	55.9	46.8
	N2Shili Village	57.9	47.9
	N3 Naoziling Village	57.4	48.7
2018.12.12	N1Henglongpengxia Village	59.1	48.6
	N2Shili Village	56.0	48.4
	N3 Naoziling Village	56.9	48.3
Evaluation standard (Class 2 area standard)		60	50
2018.08.30	N4Zhongshan West Road construction point	58.4	47.3
2018.09.22	N4Zhongshan West Road construction point	58.1	47.8
2018.10.31	N4Zhongshan West Road construction point	62.7	48.9
2018.11.15	N4Zhongshan West Road construction point	62.7	48.9
2018.12.12	N4Zhongshan West Road construction point	63.6	48.4
Evaluation standard (Environmental Noise Emission Standards for Construction Sites)		70	55

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Zhongshan West Road during construction July to December 2018, During the construction period, the noise values at the boundary of each site are in line with the “Emission Standard for Environmental Noise of the Construction Site Boundary” (GB12523-2011). The indicators measured at all sensitive points are in accordance with Zone 2 standards of the “Acoustic Environmental Quality Standard” (GB3096-2008), It shows that the construction has little impact on the surrounding environment.

3.4 Shaoshan west Road Environmental Monitoring during Construction Period

3.4.1 Ambient air monitoring

From August to December 2018, the construction scope of Shaoshan West Road was short, so this environmental air monitoring point was set up in Xiazhou Village.

Monitoring point:A1 Xiazhou Village

Monitoring project:PM₁₀



A1 Xiazhou Village

Monitoring results and evaluation:

**Table 9: Air Quality Environmental Monitoring Results and Evaluation
Standards During Construction Period**

Monitoring time	Monitoring point	Monitoring project
		PM ₁₀ (mg/m ³)
2018.10.31	A1Xiazhou Village	0.102
Ambient Air Quality Standard (GB3095-2012) (secondary standard)		0.15

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Shaoshan west Road during construction July-December 2018, During the construction period, the PM10 concentration of Xiazhou Village met the secondary standard limit of the “Ambient Air Quality Standard” (GB3095-2012), indicating the surrounding construction. The environment has less impact.

3.4.2 Environmental noise monitoring

From July 2018 to December, a monthly monitoring of sensitive points along the Zhongshan West Road and construction site was carried out. During the monitoring period, construction activities were mainly concentrated near the intersection of Junhua Road and Shaoshan West Road. Therefore, this noise monitoring set a noise monitoring point at the construction point near the intersection of Junhua Road and Shaoshan West Road.

Monitoring point: N1 Xiazhou Village、N2 Chunqian Village、N3 Shaoshan West Road construction point

Monitoring project: Equivalent continuous A sound level.



Xiazhou VillageN1



Chunqian VillageN2



Shaoshan West Road construction pointN3

Monitoring results and evaluation: Xiazhou Village、N2 Chunqian Village、N3 Shaoshan West Road construction point

Table 10: Noise monitoring results and evaluation standards during construction period

Monitoring time	Monitoring point	Equivalent continuous A sound level (dB)	
		Day	Night
2018.08.30	N1Xiazhou Village	52.6	45.8
	N2Chunqian Village	53.1	43.5
2018.09.22	N1Xiazhou Village	53.9	46.2
	N2Chunqian Village	52.7	45.7
2018.10.31	N1Xiazhou Village	58.2	47.8
	N2Chunqian Village	57.6	48.9

Monitoring time	Monitoring point	Equivalent continuous A sound level (dB)	
		Day	Night
2018.11.15	N1Xiazhou Village	58.2	47.8
	N2Chunqian Village	57.6	48.9
2018.12.12	N1Xiazhou Village	57.6	48.6
	N2Chunqian Village	56.0	46.5
Evaluation standard (Class 2 area standard)		60	50
2018.08.30	N3 Shaoshan West Road construction point	57.8	47.6
2018.09.22	N3 Shaoshan West Road construction	57.1	49.3
2018.10.31	N3 Shaoshan West Road construction	62.5	48.8
2018.11.15	N3 Shaoshan West Road construction	62.5	48.8
2018.12.12	N3 Shaoshan West Road construction	63.1	48.2
Evaluation standard (Environmental Noise Emission Standards for Construction Sites)		70	55

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Shaoshan West Road during construction July to December 2018, During the construction period, the noise values at the boundary of each site are in line with the “Emission Standard for Environmental Noise of the Construction Site Boundary” (GB12523-2011). The indicators measured at all sensitive points are in accordance with Zone 2 standards of the “Acoustic Environmental Quality Standard” (GB3096-2008), It shows that the construction has little impact on the surrounding environment.

3.2.3 Surface water monitoring

The construction section of Shaoshan West Road mainly spans the water body as the Yudai River. We monitored the water quality of the Yudai River in August, September, October, November and December 2018 for the first phase.

Monitoring point :SW1 50m above water body, SW2 100m downstream of the water body.

Monitoring project: pH value, Suspended matter, COD, Ammonia nitrogen, Petro, **Fecal coliforms**



50m above water body **SW1**



100m downstream of the water body **SW2**

Monitoring results and evaluation:

Table 11: Surface Water Quality Monitoring and Evaluation Standards in Yudai River Unit: mg/L (pH value without dimension)

Monitoring time	Monitoring point	Monitoring project					
		pH Value	SS	CO D	Ammonia nitrogen	Petro	Fecal coliforms (units/L)
2018.08.30	50m above water body SW1	7.8	11	13	0.255	0.02	820
	100m downstream of the water body SW2	7.6	12	14	0.242	0.03	1260
2018.09.22	50m above water body SW1	7.5	13	13	0.262	0.02	420
	100m downstream of the water body SW2	7.5	15	15	0.258	0.01	460
2018.10.31	50m above water body SW1	7.51	10	7	0.181	0.03	300
	100m downstream of the water body SW2	7.50	14	15	0.206	0.01L	300
2018.11.15	50m above water body SW1	7.98	15	17	0.166	0.02	1100
	100m downstream of the water body SW2	8.27	14	16	0.196	0.01L	1700
2018.12.12	50m above water body SW1	8.00	22	18	0.038	0.04	3000
	100m downstream of the water body SW2	8.23	24	16	0.154	0.04	3200
Evaluation Standard (Class III)		6-9	≤80	≤20	≤1.0	≤0.05	≤10000

Note: In order to better reflect the degree of water pollution and the safety of water quality, this water environmental quality monitoring increased the fecal coliform index; “L” represents no detection.

“ADB loan Jiangxi Ji'an Urban Transportation Project” Shaoshan West Road in July to December 2018. During the construction period, the surface water quality of the Yudai River was relatively stable. The measured indexes all meet the Class III water standard of “Surface Water Environment Quality” (GB3838-2002). It shows that the construction activities have little effect on the water quality of the Yudai River.

3.5 Bo'an Road Environmental Monitoring During Construction Period

3.4.1 Ambient air monitoring

From August to December 2018, the construction of Bo'an Road was long. The construction was mainly concentrated near Jiangbian Village and Dongjietang Village. Therefore, two environmental quality monitoring points were set up for environmental monitoring.

Monitoring point: A1 Jiangbian Village、A2 Dongjietang Village

Monitoring project: PM₁₀



Jiangbian Village A1



Dongjietang Village A2

Monitoring results and evaluation:

**Table 12: Air Quality Environmental Monitoring Results and Evaluation
Standards During Construction Period**

Monitoring time	Monitoring point	Monitoring project
		PM ₁₀ (mg/m ³)
2018.10.31	A1Jiangbian Village	0.098
	A2Dongjietang Village	0.108
Ambient Air Quality Standard (GB3095-2012) (secondary standard)		0.15

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Bo'an Road during construction July to December 2018, During the construction period. The PM₁₀ concentration measured by sensitive points in Nan'an Village is in line with the secondary standard limit of Ambient Air Quality Standard (GB3095-2012), indicating that the construction of Yangming West Road has less impact on the surrounding environment.

3.4.2 Environmental noise monitoring

From July 2018 to December, a monthly monitoring of sensitive points along the Bo'an Road and construction site was carried out. During the monitoring period, construction activities were mainly concentrated on Dongjietang Village. Therefore, this noise monitoring set a noise monitoring point at the construction site near Dongjietang Village .

Monitoring point: N1 Luogang Village, N2Jiangbian village, N3 Chengshangvillage, N4 Maobeivillage, N5 Dongjietangvillage, N6 Luotangtouvillage, N7 Bo'an Road construction point.

Monitoring project: Equivalent continuous A sound level.



Luogang Village N1



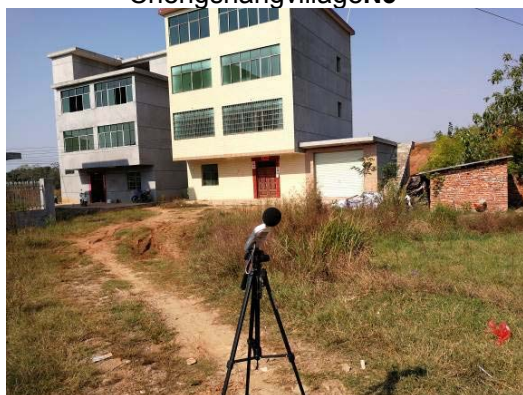
Jiangbian villageN2



ChengshangvillageN3



MaobeivillageN4



DongjietangN5



LuotangtouvillageN6



Bo'an Road construction pointN7

Monitoring results and evaluation:

Table 13: Noise monitoring results and evaluation standards during construction period

Monitoring time	Monitoring point	Equivalent continuous A sound level (dB)	
		Day	Night
2018.08.30	N1Luogang Village	55.8	46.7
	N2Jiangbian village	56.7	44.7
	N3 Chengshangvillage	53.4	46.8
	N4 Maobeivillage	55.2	42.9
	N5 Dongjietangvillage	54.6	45.5
	N6 Luotangtouvillage	58.9	47.6
2018.09.22	N1Luogang Village	56.4	45.1
	N2Jiangbian village	56.1	45.6
	N3 Chengshangvillage	52.9	47.3
	N4 Maobeivillage	54.3	44.6
	N5 Dongjietangvillage	55.8	45.2
	N6 Luotangtouvillage	52.6	47.2
2018.10.31	N1Luogang Village	58.3	47.1
	N2Jiangbian village	52.9	48.7
	N3 Chengshangvillage	53.1	46.6
	N4 Maobeivillage	53.5	45.0
	N5 Dongjietangvillage	56.4	48.6
	N6 Luotangtouvillage	53.7	47.8
2018.11.15	N1Luogang Village	56.6	47.0
	N2Jiangbian village	56.2	48.2
	N3 Chengshangvillage	56.5	48.4
	N4 Maobeivillage	56.5	48.1
	N5 Dongjietangvillage	56.3	48.1
	N6 Luotangtouvillage	55.4	47.1
2018.12.12	N1Luogang Village	56.8	47.2
	N2Jiangbian village	57.6	48.6
	N3 Chengshangvillage	57.7	48.4
	N4 Maobeivillage	57.6	47.2
	N5 Dongjietangvillage	56.2	48.4
	N6 Luotangtouvillage	58.6	46.8
Evaluation standard (Class 2 area standard)		60	50
2018.08.30	N7 Bo'an Road construction point	58.9	47.6
2018.09.22	N7 Bo'an Road construction point	58.4	43.9
2018.10.31	N7 Bo'an Road construction point	68.2	48.0
2018.11.15	N7 Bo'an Road construction point	62.6	48.6
2018.12.12	N7 Bo'an Road construction point	63.2	48.7
Evaluation standard (Environmental Noise Emission Standards for Construction Sites)		70	55

“ADB Loan Jiangxi Ji'an Urban Transportation Project” Bo'an Road during construction July to December 2018, During the construction period, the noise values at the boundary of each site are in line with the “Emission Standard for Environmental Noise of the Construction Site Boundary” (GB12523-2011). The indicators measured at all sensitive points are in accordance with Zone 2 standards of the “Acoustic Environmental Quality Standard” (GB3096-2008), It shows that the construction has little impact on the surrounding environment.

3.2.3 Surface water monitoring

The construction section of Bo'an Road mainly spans the water body as the Yudai River. We monitored the water quality of the Yudai River in August、 September、 October、 November and December 2018 for the first phase.

Monitoring point: SW1 50m above water body、 SW2 100m downstream of the water body.

Monitoring project: pH value, Suspended matter, COD, Ammonia nitrogen, Petro, **Fecal coliforms**



50m above water body **SW1**



100m downstream of the water body **SW2**

Monitoring results and evaluation:

Table 14: Surface Water Quality Monitoring and Evaluation Standards in Yudai

Monitoring time	Monitoring point	Monitoring project					
		pH Value	SS	COD	Ammonia nitrogen	Petro	Fecal coliforms (units/L)
2018.08.30	50m above water body SW1	7.5	7	15	0.205	0.03	790
	100m downstream of the water body SW2	7.5	8	17	0.375	0.02	940
2018.09.22	50m above water body SW1	7.6	14	12	0.214	0.01	760
	100m downstream of the water body SW2	7.7	16	15	0.175	0.01 _L	920
2018.10.31	50m above water body SW1	7.68	12	12	0.207	0.01 _L	680
	100m downstream of the water body SW2	7.76	10	10	0.163	0.01 _L	1000
2018.11.15	50m above water body SW1	7.54	18	15	0.126	0.01 _L	2600
	100m downstream of the water body SW2	7.52	19	16	0.162	0.01 _L	3200
2018.12.12	50m above water body SW1	7.55	24	15	0.118	0.01 _L	1400

	100m downstream of the water body SW2	7.54	25	15	0.266	0.01L	2200
Evaluation Standard (Class III)		6-9	≤80	≤20	≤1.0	≤0.05	≤10000

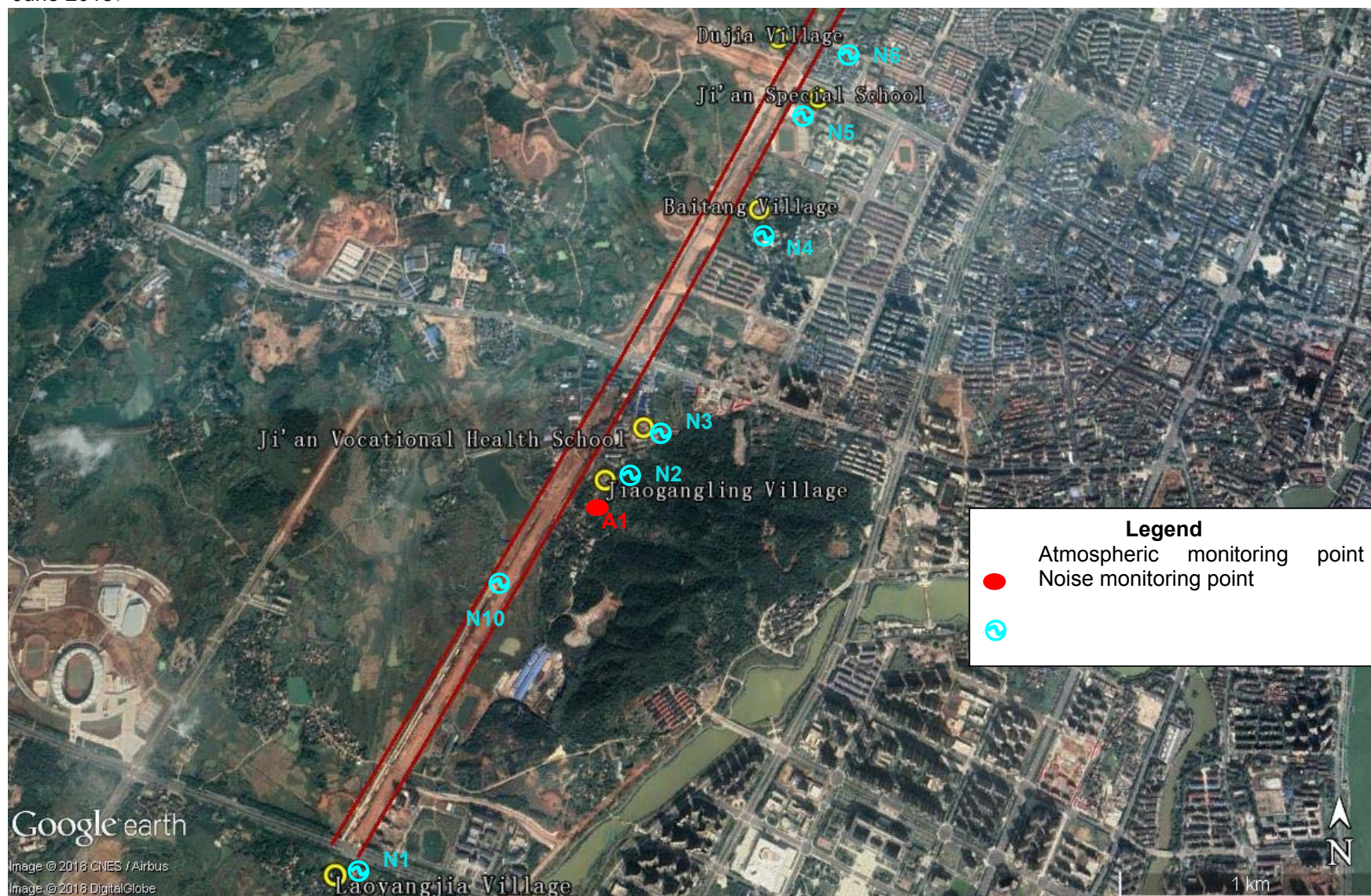
Note: In order to better reflect the degree of water pollution and the safety of water quality, this water environmental quality monitoring increased the fecal coliform index; “L” represents no detection.

“ADB loans Jiangxi Ji'an Urban Transportation Project” Bo'an Road in July to December 2018 During the construction period, the surface water quality of the Yudai River was relatively stable. The measured indexes all meet the Class III water standard of “Surface Water Environment Quality” (GB3838-2002). It shows that the construction activities have little effect on the water quality of the Yudai River.

4、 Monitoring Evaluation and Recommendations

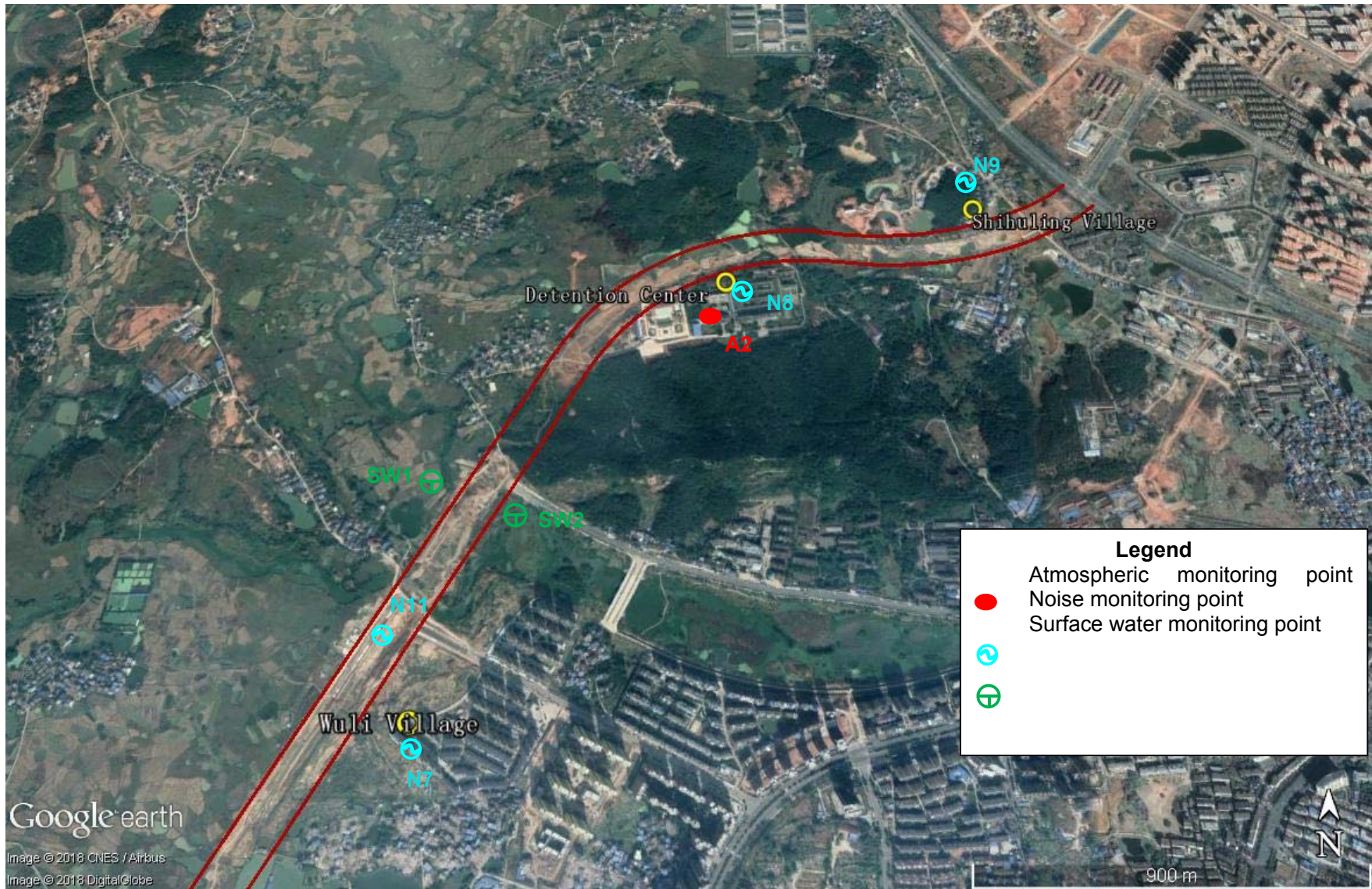
Through environmental monitoring during construction period, environmental noise of each factory site is in line with the "Environmental Noise Emission Standard for Construction Sites" (GB12523-2011), atmospheric environment of all sensitive points meets the secondary standards of the "Ambient Air Quality Standard" (GB3095-1996), the acoustic environment of each sensitive points meets the Class 2 area standard of "Acoustic Environmental Quality Standard" (GB3096-2008), the water quality of the Yudaihe River meets Class III water standards of "Environment Quality of Surface Water" (GB3838-2002). According to the monitoring, the construction activities of this project have little impact on the surrounding environment.

To avoid the environmental impact caused by the construction process, we suggest that the construction units should strictly strengthen the construction management and strengthen the quality education of the construction workers. Spray water at construction sites to suppress dust, timely cover construction waste, and establish spoil grounds. Ensure that all pollution prevention and control measures during the construction period of the construction project are in place to ensure that the environmental impact caused by the construction process will be the lowest.



Environmental monitoring layout of Jinhua Road during construction period-1

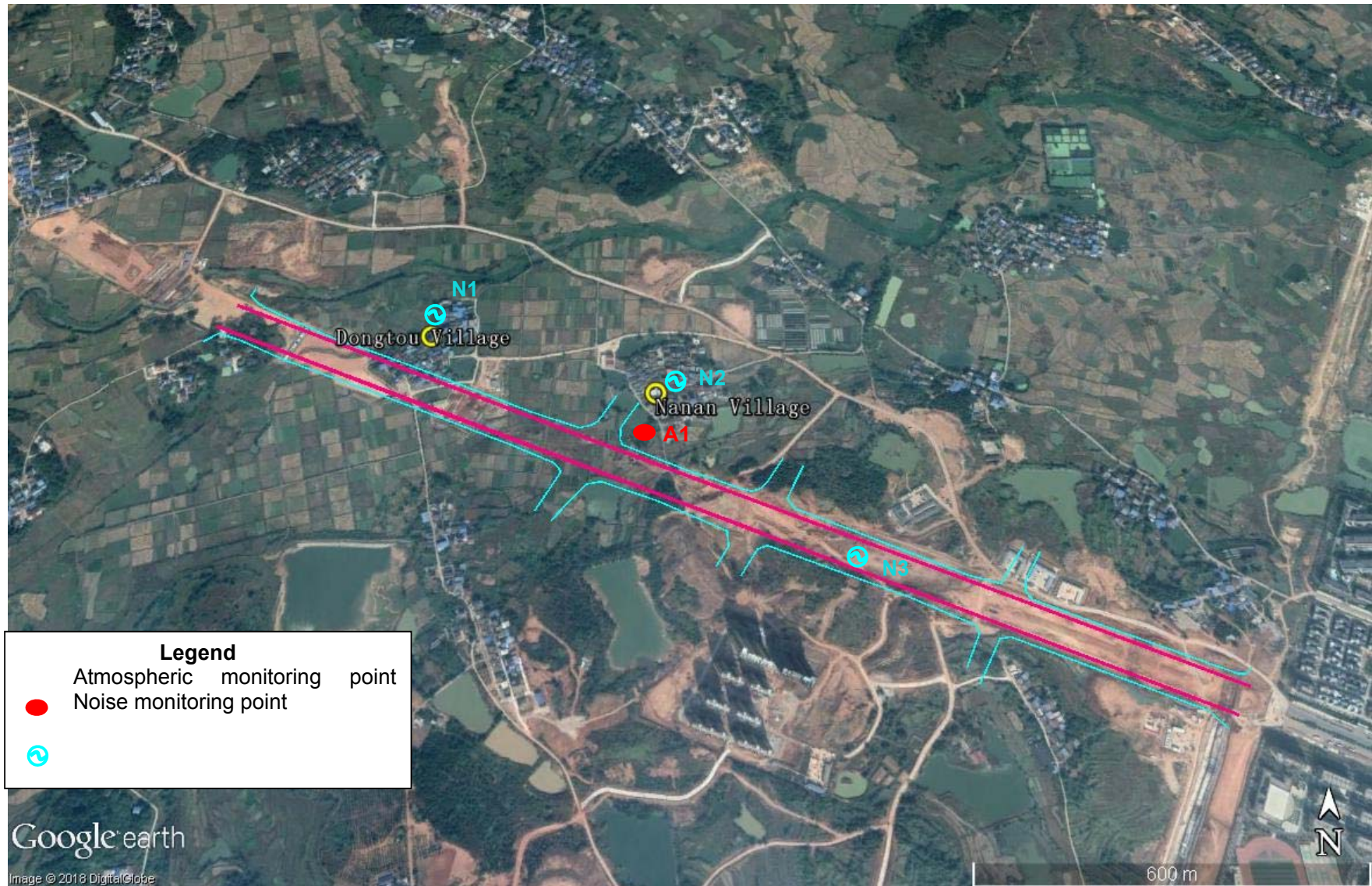
图 1



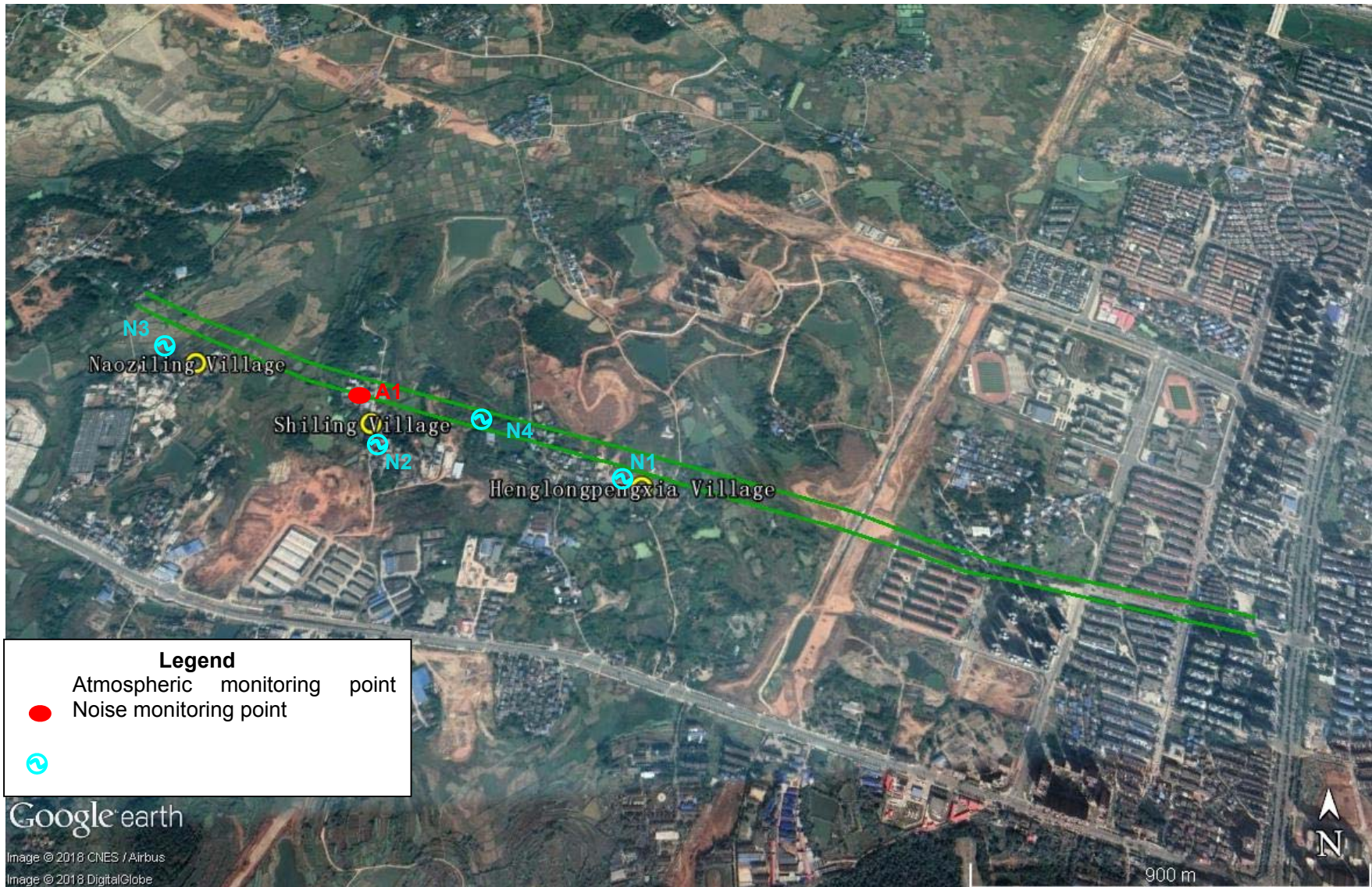
Environmental monitoring layout of Junhua Road during construction period-2

音图 2

Semi-annual report on Environmental Protection Monitoring of ADB Financed Ji'an Urban Transport Project in Jiangxi Province (January 2018 -June 2018)

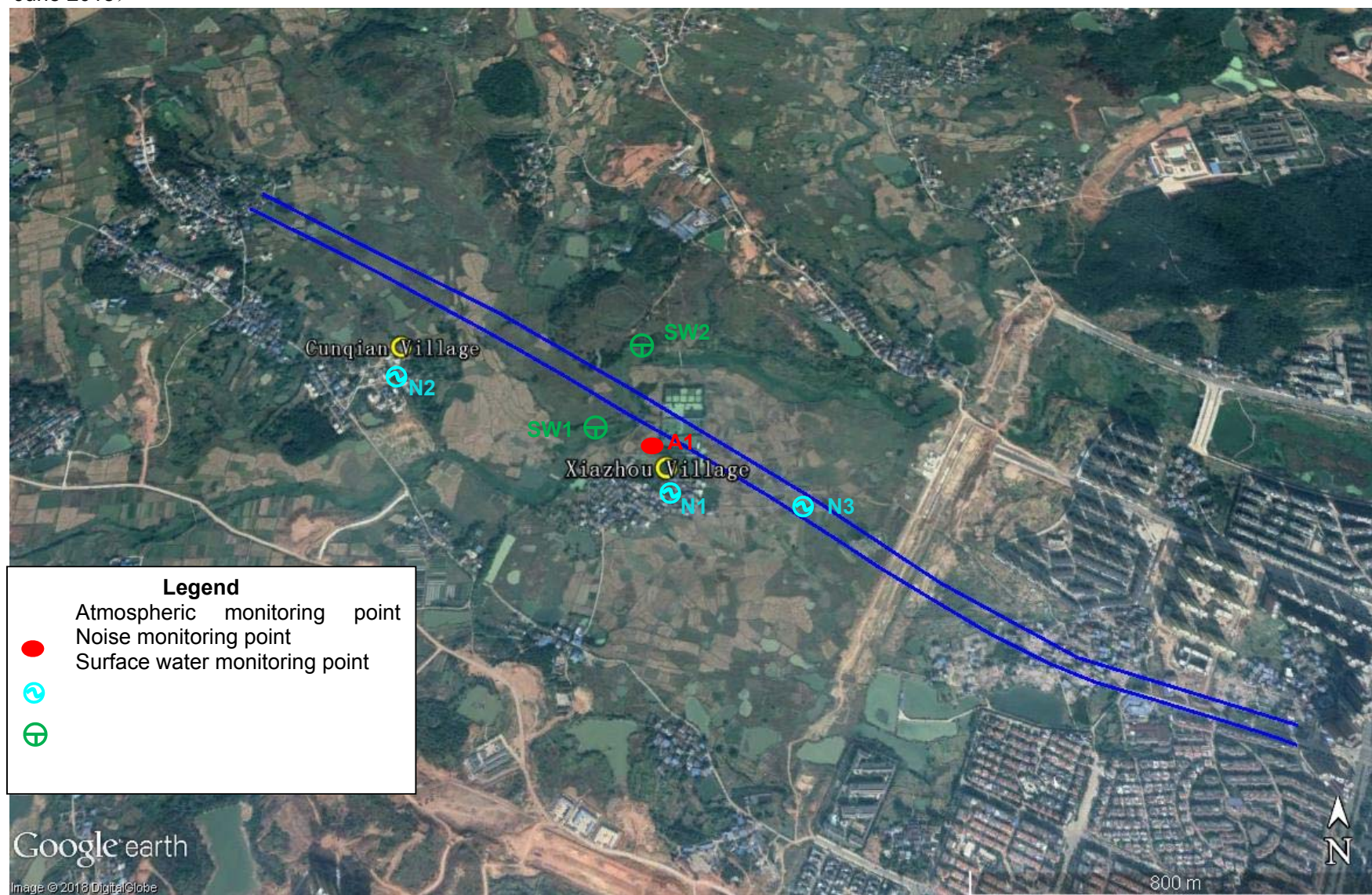


Environmental monitoring layout of Yangming West Road during construction period



Environmental monitoring layout of ZhongShan West Road during construction period

Semi-annual report on Environmental Protection Monitoring of ADB Financed Ji'an Urban Transport Project in Jiangxi Province (January 2018 -June 2018)



Environmental monitoring layout of ShaoShan West Road during construction period

Appendix internal environmental monitoring results

现场环境检查清单 ENVIRONMENTAL SITE INSPECTION CHECKLIST

施工单位环境管理人员和施工现场环境监理员填的环境核查表

亚行贷款（2260-PRC）江西吉安城市交通项目

注意：本表格专为项目实施单位环境监督员现场工作设计，可能并不详尽。个别子项目可能需要修改和补充，以解决具体的环境问题，确保环境减缓措施得以实施。

子项名称Sub-Project Name: 如江西吉安城市交通项目伯安大道（吉福路-韶山西路）工程伯安大道Urban Roads-Bo'an Road (Jifu Road-Shaoshan West Road), 3.15 km

江西中煤 Jiangxi Zhongmei Construction Group Co., Ltd.

现场位置Site Location: 江西省吉安市高铁新区Jian Gaoti station

施工分阶段Construction stage: 土石方工程，排水工程施工Earthwork and Stone Works, Drainage Works Construction

检查日期Inspection Date: 2018年12月

December, 2018

检查人 Inspected by: Jiang Zhong ne 江中乐

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或不 存在该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
现场环境管理计划、申述机制和信息披露 Site EMP, GRM, information disclosure				
1. 工程承包商是否指定了环境监管员？ 该环境监管员在现场吗？ Has contractor appointed an environment supervisor and is the supervisor on-site?	✓			
2. 工程承包商制定现场环境管理计划了吗？ Is Site EMP established?	✓			
3. 与施工有关的信息在现场公布了吗 （包括工期、承包商信息等）？ Is information pertaining to construction disclosed at construction site (including construction period, contractor information, etc)?	✓			
4. 申诉机制在现场公布了吗？ Is Grievance Redress Mechanism (GRM) disclosed at construction site?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
土壤侵蚀和污染 Soil erosion and contamination				
5. 承包商制定了土壤侵蚀管理计划吗？ Has the contractor prepared a soil erosion management plan?	✓			
6. 是否建有防止径流进入施工现场及将 现场径流引至现有排水设施的截水沟 和排水沟？ Are intercepting ditches and drains constructed to prevent runoff entering construction sites, and divert runoff from sites to existing drainage?			✓	
7. 受干扰的地区在土方工程停止后是否 稳定？植被是否恢复？ Are disturbed areas stabilized after earthworks have ceased, and re-vegetated?	✓			
8. 化学品、危险物品和废弃物是否存放 在防渗透的安全地带？是否有覆盖？ Are chemicals/hazardous products and waste stored on impermeable surfaces in secure, covered areas?	✓			
9. 是否有漏油迹象？ Is there evidence of oil spillage?		✓		
10. 是否准备了堵漏工具、堵漏沙或锯屑 吸收泄露的化学物质？ Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?	✓			
11. 化学品是否妥善存放并标识？ 11. Are chemicals stored and labelled properly?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
空气质量控制 Air quality control				
12. 施工现场定期洒水吗？ Are construction sites regularly watered?	✓			
13. 易产生灰尘的建筑材料是否有遮盖或洒水？水泥袋解袋过程是否是在有遮蔽的地方进行？ Are stockpiles of dusty materials covered or watered and cement debagging process undertaken in sheltered areas?	✓			
14. 运送土石、沙料的卡车是否有油布或其它遮盖物覆盖避免溢出？ Are trucks carrying earth, sand or stone covered with tarps or other suitable cover to avoid spilling?	✓			
15. 设备是否得到良好的维护？（是否观察到黑烟，如果有，请说明设备的名称和位置） Are plant and equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)	✓			
16. 产生扬尘的主要施工活动是否有围栏？ Are there enclosures around the main dust-generating activities?	✓			
17. 承包商是否定期与项目实施单位、村庄社区及附近的居民交流，了解是否对空气质量是否有任何不满？ Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns?	✓			
18. 上一次检查后是否进行过空气质量监测？如果有，请列明监测结果；如果没有，请标明下一次监测时间。	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
Was air quality monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.				
噪音 Noise				
19. 是否有噪音超标的迹象？如果有，请说明噪音产生的地点和设备。 Is there evidence of excessive noise? If yes, describe location and equipment.		✓		
20. 承包商是否对设备进行定期检修，保证遵守 GB 12523-90？ Does the contractor undertake regular equipment maintenance, ensure compliance with PRC standard of GB 12523-90	✓			
21. 混凝土搅拌等类似施工活动是否距离敏感区至少 300 米？ Are sites for concrete-mixing and similar activities located at least 300 m from sensitive areas?	✓			
22. 施工噪声许可在限制时段是否有效？ Is the CNP (Construction Noise Permit) valid for work during restricted hours?	✓			
23. 空气压缩机和电机运行时房门是否关闭？ Do air compressors and generators operate with doors closed?	✓			
24. 不用的设备是否关闭或将油门调小，降低速度？ Is idle plant/equipment turned off or throttled down?	✓			
25. 是否采取了任何能够减弱噪音的活动（如隔音罩、屏障等）？ adopted (e.g. use noise barrier / enclosure)?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
26. 上一次检查后是否进行过噪声监测？ 如果有，请列明监测结果；如果没有， 请标明下一次监测时间。 Was noise monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.	✓			
27. 承包商是否定期与项目实施单位、学 校学生及附近的居民交流，了解是否 对声环境是否有任何不满？ 27. Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns related to noise?	✓			
地表水污染 Surface water pollution				
28. 承包商是否制定了汽油和其它危险物 质临时管理计划（泄露管理计划）？ Did the contractor develop a contingency plan for control of oil and other dangerous substances (Spill Management Plan)?	✓			
29. 现在污水处理设施（沉砂池）维护是 否得当？ Are wastewater treatment systems being used and properly maintained on site? (e.g. desilting tank)	✓			
30. 施工废水和施工现场的生活污水是否 排入污水管网或现场处理设施以确保 达标排放？ Is construction wastewater and domestic wastewater discharged to sewer systems (if possible), or are on-site treatment facilities provided to ensure compliance with effluent discharge standard?	✓			
31. 是否有污水排入到雨水管？ Are there any wastewater discharged to the storm drains?		✓		

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
固体废弃物管理 Solid waste management				
32. 现场是否整洁？（是否有垃圾、清扫是否及时） Is the site kept clean and tidy? (e.g. litter free, good housekeeping)	✓			
33. 腐蚀性和非腐蚀性废弃物是否分开？ Are separate chutes used for inert and non-inert wastes?	✓			
34. 垃圾是否分类存放以促进回收利用？ Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?	✓			
35. 建筑垃圾、可循环利用的废弃物及一般垃圾是否定期清运？ 35. Are construction wastes / recyclable wastes and general refuse removed off site regularly?	✓			
36. 化学品废弃物（如果有）是否由有资质的单位收集并妥善处置？ Are chemical wastes, if any, collected and disposed of properly by licensed collectors?	✓			
健康和安全 Health and safety				
37. 承包商是否制定并提交环境、健康和安全管理计划？ Did the contractor prepare and submit an Environmental, Health and Safety Management Plan (HSMP)?	✓			
38. 现场是否提供了安全的洁净水？是否为工人提供了足够的厕所？ Is safe supply of clean water and an adequate number of latrines provided for workers?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
39. 施工现场是否有垃圾收集设施？ Are garbage receptacles provided at construction site?	✓			
40. 是否按照健康和安全管理有关规定向工人 提供了个人防护设备？ Is personal protection equipment (PPE) provided for workers in accordance with relevant health and safety regulations?	✓			
41. 承包商是否制定事故和紧急事件的应 急响应预案？ Does the contractor have emergency response plan to take actions on accidents and emergencies?	✓			
42. 在施工现场粘贴明显的标识，提醒师 生和公众可能出现的危险，如车辆、 有害物质、开挖等，提高安全意识； Are clear signs placed at construction sites in view of the TVET students and staff as well as the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc, and raising awareness on safety issues?	✓			
43. 是否有围栏等措施保证施工现场的安 全，防止随意进出？ Are all construction sites made secure, discouraging access through appropriate fencing?	✓			
44. 是否采取了交通管理措施（限速、限 行等）？ Are traffic control measures (speed control, access control) applied?	✓			
45. 灭火器、消防设施是否维护并在有效 期内？消防通道是否被阻断或堵塞？ Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
植被 Vegetation				
46. 无施工活动的地区是否有过度破坏植被的迹象？ Is there any evidence of excessive destruction of existing vegetation where no construction activity is occurring?		✓		
47. 土建工程完工后是否恢复受干扰区的植被？ 47. Are disturbed areas properly re-vegetate after completion of civil works?			✓	
文物古迹 Physical cultural resources				
48. 是否有可能发现文物古迹？如果有，确保采取合理的措施保护文物古迹。 Are they any chance found relics? If yes, ensure appropriate measures taken to preserve them.			✓	
其它 Others				
49. 其它问题或意见 Any other problems identified or observations made?		✓		

Date, Name and Signature of Site Inspector

Supervised by

杨川 Yuan Chang

现场检查人员签字、日期

Appendix internal environmental monitoring results

现场环境检查清单 ENVIRONMENTAL SITE INSPECTION CHECKLIST

施工单位环境管理人员和施工现场环境监理员填的环境核查表

亚行贷款（2260-PRC）江西吉安城市交通项目

注意：本表格专为项目实施单位环境监督员现场工作设计，可能并不详尽。个别子项目可能需要修改和补充，以解决具体的环境问题，确保环境减缓措施得以实施。

子项名称Sub-Project Name: 江西省吉安城市交通项目城市道路子项目工程——

韶山西路工程Urban Roads–Shaoshan Road (Jizhou Road-Bo'an Road)

太原市政建设集团有限公司 Taiyuan Municipal Construction Group Co., Ltd.

现场位置Site Location: 吉州区Jizhou District

施工分阶段Construction stage 土方工程、桥梁工程施工Earthwork and bridge construction

检查日期Inspection Date: 2018年11月Nov. 2018

检查人 Inspected by: Gou Fei

郭飞

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
现场环境管理计划、申述机制和信息披露 Site EMP, GRM, information disclosure				
50. 工程承包商是否指定了环境监管员？ 该环境监管员在现场吗？ Has contractor appointed an environment supervisor and is the supervisor on-site?	✓			
51. 工程承包商制定现场环境管理计划了 吗？ Is Site EMP established?	✓			
52. 与施工有关的信息在现场公布了吗 （包括工期、承包商信息等）？ Is information pertaining to construction disclosed at construction site (including construction period, contractor information, etc)?	✓			
53. 申诉机制在现场公布了吗？ Is Grievance Redress Mechanism (GRM) disclosed at construction site?	✓			
土壤侵蚀和污染 Soil erosion and contamination				
54. 承包商制定了土壤侵蚀管理计划吗？ Has the contractor prepared a soil erosion management plan?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
55. 是否建有防止径流进入施工现场及将 现场径流引至现有排水设施的截水沟 和排水沟？ Are intercepting ditches and drains constructed to prevent runoff entering construction sites, and divert runoff from sites to existing drainage?	✓			
56. 受干扰的地区在土方工程停止后是否 稳定？植被是否恢复？ Are disturbed areas stabilized after earthworks have ceased, and re-vegetated?	✓			
57. 化学品、危险物品和废弃物是否存放 在防渗透的安全地带？是否有覆盖？ Are chemicals/hazardous products and waste stored on impermeable surfaces in secure, covered areas?	✓			
58. 是否有漏油迹象？ Is there evidence of oil spillage?		✓		
59. 是否准备了堵漏工具、堵漏沙或锯屑 吸收泄露的化学物质？ Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?	✓			
60. 化学品是否妥善存放并标识？ 11. Are chemicals stored and labelled properly?	✓			
空气质量控制 Air quality control				
61. 施工现场定期洒水吗？ Are construction sites regularly watered?	✓			
62. 易产生灰尘的建筑材料是否有遮盖或 洒水？水泥袋解袋过程是否是在有遮 蔽的地方进行？	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
Are stockpiles of dusty materials covered or watered and cement debagging process undertaken in sheltered areas?				
63. 运送土石、沙料的卡车是否有油布或其它遮盖物覆盖避免溢出？ Are trucks carrying earth, sand or stone covered with tarps or other suitable cover to avoid spilling?	✓ ✓			
64. 设备是否得到良好的维护？（是否观察到黑烟，如果有，请说明设备的名称和位置） Are plant and equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)	✓			
65. 产生扬尘的主要施工活动是否有围栏？ Are there enclosures around the main dust-generating activities?	✓			
66. 承包商是否定期与项目实施单位、村庄社区及附近的居民交流，了解是否对空气质量是否有任何不满？ Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns?	✓			
67. 上一次检查后是否进行过空气质量监测？如果有，请列明监测结果；如果没有，请标明下一次监测时间。 Was air quality monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.	✓			
噪音 Noise				
68. 是否有噪音超标的迹象？如果有，请说明噪音产生的地点和设备。 Is there evidence of excessive noise? If yes, describe location and equipment.		✓		

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
69. 承包商是否对设备进行定期检修，保证遵守 GB 12523-90? Does the contractor undertake regular equipment maintenance, ensure compliance with PRC standard of GB 12523-90	✓			
70. 混凝土搅拌等类似施工活动是否距离敏感区至少 300 米? Are sites for concrete-mixing and similar activities located at least 300 m from sensitive areas?	✓			
71. 施工噪声许可在限制时段是否有效? Is the CNP (Construction Noise Permit) valid for work during restricted hours?	✓			
72. 空气压缩机和电机运行时房门是否关闭? Do air compressors and generators operate with doors closed?	✓			
73. 不用的设备是否关闭或将油门调小，降低速度? Is idle plant/equipment turned off or throttled down?	✓			
74. 是否采取了任何能够减弱噪音的活动（如隔音罩、屏障等）? adopted (e.g. use noise barrier / enclosure)?	✓			
75. 上一次检查后是否进行过噪声监测？如果有，请列明监测结果；如果没有，请标明下一次监测时间。 Was noise monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.	✓			
76. 承包商是否定期与项目实施单位、学校学生及附近的居民交流，了解是否对声环境是否有任何不满？ 27. Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns related to noise?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
地表水污染 Surface water pollution				
77. 承包商是否制定了汽油和其它危险物质临时管理计划（泄露管理计划）？ Did the contractor develop a contingency plan for control of oil and other dangerous substances (Spill Management Plan)?	✓			
78. 现在污水处理设施（沉砂池）维护是否得当？ Are wastewater treatment systems being used and properly maintained on site? (e.g. desilting tank)			✓	
79. 施工废水和施工现场的生活污水是否排入污水管网或现场处理设施以确保达标排放？ Is construction wastewater and domestic wastewater discharged to sewer systems (if possible), or are on-site treatment facilities provided to ensure compliance with effluent discharge standard?	✓			
80. 是否有污水排入到雨水管？ Are there any wastewater discharged to the storm drains?		✓		
固体废弃物管理 Solid waste management				
81. 现场是否整洁？（是否有垃圾、清扫是否及时） Is the site kept clean and tidy? (e.g. litter free, good housekeeping)	✓			
82. 腐蚀性和非腐蚀性废弃物是否分开？ Are separate chutes used for inert and non-inert wastes?	✓			
83. 垃圾是否分类存放以促进回收利用？	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?				
84. 建筑垃圾、可循环利用的废弃物及一般垃圾是否定期清运？ 35. Are construction wastes / recyclable wastes and general refuse removed off site regularly?	✓			
85. 化学品废弃物（如果有）是否由有资质的单位收集并妥善处置？ Are chemical wastes, if any, collected and disposed of properly by licensed collectors?	✓			
健康和安全 Health and safety				
86. 承包商是否制定比提交了环境、健康和安全管理计划？ Did the contractor prepare and submit an Environmental, Health and Safety Management Plan (HSMP)?	✓			
87. 现场是否提供了安全的洁净水？是否为工人提供了足够的厕所？ Is safe supply of clean water and an adequate number of latrines provided for workers?	✓			
88. 施工现场是否有垃圾收集设施？ Are garbage receptacles provided at construction site?	✓			
89. 是否按照健康和安全管理有关规定向工人提供了个人防护设备？ Is personal protection equipment (PPE) provided for workers in accordance with relevant health and safety regulations?	✓			
90. 承包商是否制定事故和紧急事件的应急响应预案？	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
Does the contractor have emergency response plan to take actions on accidents and emergencies?				
91. 在施工现场粘贴明显的标识，提醒师生和公众可能出现的危险，如车辆、有害物质、开挖等，提高安全意识； Are clear signs placed at construction sites in view of the TVET students and staff as well as the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc, and raising awareness on safety issues?	✓			
92. 是否有围栏等措施保证施工现场的安全，防止随意进出？ Are all construction sites made secure, discouraging access through appropriate fencing?	✓			
93. 是否采取了交通管理措施（限速、限行等）？ Are traffic control measures (speed control, access control) applied?	✓			
94. 灭火器、消防设施是否维护并在有效期内？消防通道是否被阻断或堵塞？ Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?	✓			
植被 Vegetation				
95. 无施工活动的地区是否有过度破坏植被的迹象？ Is there any evidence of excessive destruction of existing vegetation where no construction activity is occurring?		✓		
96. 土建工程完工后是否恢复受干扰区的植被？ 47. Are disturbed areas properly re-vegetate after completion of civil works?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或 建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/ preventative actions)
文物古迹 Physical cultural resources				
97. 是否有可能发现文物古迹？如果有， 确保采取合理的措施保护文物古迹。 Are they any chance found relics? If yes, ensure appropriate measures taken to preserve them.		✓		
其它 Others				
98. 其它问题或意见 Any other problems identified or observations made?		✓		

Date, Name and Signature of Site Inspector

Supervised by

林凯玲 Gou Kaining

现场检查人员签字、日期

One of **internal environmental monitoring results (as the example)**

IV. 现场环境检查清单 ENVIRONMENTAL SITE INSPECTION CHECKLIST

施工单位环境管理人员和施工现场环境监理员填的环境核查表

Environmental verification form filled by environmental management personnel of construction units and environmental supervisors at construction sites

亚行贷款 ADB Loan (3216-PRC) 江西吉安城市交通项目

注意：本表格专为项目实施单位环境监督员现场工作设计，可能并不详尽。个别子项目可能需要修改和补充，以解决具体的环境问题，确保环境减缓措施得以实施。

子项名称Sub-Project Name: 如江西吉安城市交通项目君华大道Junhua Avenue

North section construction site 工程工程

现场位置Site Location: 吉州区Junhua Avenue

施工分阶段Construction stage: 路基施工阶段路面铺设Subgrade construction stage, road pavement construction

检查日期Inspection Date: 2018年8月, 10月, 12月

检查人 Inspected by: Pan Wei-an, Nanning Municipal Construction Group Co., LTD

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
现场环境管理计划、申诉机制和信息披露 Site EMP, GRM, information disclosure				
99. 工程承包商是否指定了环境监督员？该环境监督员在现场吗？ Has contractor appointed an environment supervisor and is the supervisor on-site?	√			
100. 工程承包商制定现场环境管理计划了吗？ Is Site EMP established?	√			
101. 与施工有关的信息在现场公布了吗（包括工期、承包商信息等）？ Is information pertaining to construction disclosed at construction site (including construction period, contractor information, etc)?	√			
102. 申诉机制在现场公布了吗？ Is Grievance Redress Mechanism (GRM) disclosed at construction site?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
土壤侵蚀和污染 Soil erosion and contamination				
103. 承包商制定了土壤侵蚀管理计划吗？ Has the contractor prepared a soil erosion management plan?	√			
104. 是否建有防止径流进入施工现场及将现场径流引至现有排水设施的截水沟和排水沟？ Are intercepting ditches and drains constructed to prevent runoff entering construction sites, and divert runoff from sites to existing drainage?	√			
105. 受干扰的地区在土方工程停止后是否稳定？植被是否恢复？ Are disturbed areas stabilized after earthworks have ceased, and re-vegetated?	√			
106. 化学品、危险物品和废弃物是否存放在防渗透的安全地带？是否有覆盖？ Are chemicals/hazardous products and waste stored on impermeable surfaces in secure, covered areas?	√			
107. 是否有漏油迹象？ Is there evidence of oil spillage?		√		
108. 是否准备了堵漏工具、堵漏沙或锯屑吸收泄露的化学物质？ Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?	√			
109. 化学品是否妥善存放并标识？ 11. Are chemicals stored and labelled properly?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
空气质量控制 Air quality control				
110. 施工现场定期洒水吗？ Are construction sites regularly watered?	√			路基土方施工过程中定期使用洒水车洒水防尘。 In the process of civil works, water sprinklers were used regularly to prevent dust.
111. 易产生灰尘的建筑材料是否有遮盖或洒水？水泥袋解袋过程是否是在有遮蔽的地方进行？ Are stockpiles of dusty materials covered or watered and cement debagging process undertaken in sheltered areas?	√			
112. 运送土石、沙料的卡车是否有油布或其它遮盖物覆盖避免溢出？ Are trucks carrying earth, sand or stone covered with tarps or other suitable cover to avoid spilling?	√			运渣土车出施工现场都用网布遮盖。 The trucks leave the construction site was covered with dust-proof cloth.
113. 设备是否得到良好的维护？ （是否观察到黑烟，如果有，请说明设备的名称和位置） Are plant and equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)	√			
114. 产生扬尘的主要施工活动是否有围栏？ Are there enclosures around the main dust-generating activities?	√			
115. 承包商是否定期与项目实施单位、村庄社区及附近的居民交流，了解是否对空气质量是否有任何不满？ Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
噪音 Noise				
116. 是否有噪音超标的迹象？如果有，请说明噪音产生的地点和设备。 Is there evidence of excessive noise? If yes, describe location and equipment.		✓		
117. 承包商是否对设备进行定期检修，保证遵守 GB 12523-90？ Does the contractor undertake regular equipment maintenance, ensure compliance with PRC standard of GB 12523-90	✓			
118. 混凝土搅拌等类似施工活动是否距离敏感区至少 300 米？ Are sites for concrete-mixing and similar activities located at least 300 m from sensitive areas?	✓			至今为止本项目无发生现场自拌混凝土。 In the report period, no mixing concrete at site had been used in this project.
119. 施工噪声许可在限制时段是否有效？ Is the CNP (Construction Noise Permit) valid for work during restricted hours?	✓			
120. 空气压缩机和电机运行时房门是否关闭？ Do air compressors and generators operate with doors closed?	✓			
121. 不用的设备是否关闭或将油门调小，降低速度？ Is idle plant/equipment turned off or throttled down?	✓			
122. 是否采取了任何能够减弱噪音的活动（如隔音罩、屏障等）？ adopted (e.g. use noise barrier / enclosure)?	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
123. 上一次检查后是否进行过噪声监测？如果有，请列明监测结果；如果没有，请标明下一次监测时间。 Was noise monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.	√			
124. 承包商是否定期与项目实施单位、学校学生及附近的居民交流，了解是否对声环境是否有任何不满？ 27. Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns related to noise?	√			
地表水污染 Surface water pollution				
125. 承包商是否制定了汽油和其它危险物质临时管理计划（泄露管理计划）？ Did the contractor develop a contingency plan for control of oil and other dangerous substances (Spill Management Plan)?	√			
126. 现在污水处理设施（沉砂池）维护是否得当？ Are wastewater treatment systems being used and properly maintained on site? (e.g. desilting tank)	√			
127. 施工废水和施工现场的生活污水是否排入污水管网或现场处理设施以确保达标排放？ Is construction wastewater and domestic wastewater discharged to sewer systems (if possible), or are on-site treatment facilities provided to ensure compliance with effluent discharge standard?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
128. 是否有污水排入到雨水管？ Are there any wastewater discharged to the storm drains?		✓		
固体废弃物管理 Solid waste management				
129. 现场是否整洁？（是否有垃圾、清扫是否及时） Is the site kept clean and tidy? (e.g. litter free, good housekeeping)	✓			
130. 腐蚀性和非腐蚀性废弃物是否分开？ Are separate chutes used for inert and non-inert wastes?	✓			
131. 垃圾是否分类存放以促进回收利用？ Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?	✓			
132. 建筑垃圾、可循环利用的废弃物及一般垃圾是否定期清运？ 35. Are construction wastes / recyclable wastes and general refuse removed off site regularly?	✓			
133. 化学品废弃物（如果有）是否由有资质的单位收集并妥善处置？ Are chemical wastes, if any, collected and disposed of properly by licensed collectors?	✓			
健康和安全 Health and safety				
134. 承包商是否制定比提交了环境、健康和安全计划？	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
Did the contractor prepare and submit an Environmental, Health and Safety Management Plan (HSMP)?				
135. 现场是否提供了安全的洁净水？是否为工人提供了足够的厕所？ Is safe supply of clean water and an adequate number of latrines provided for workers?	√			
136. 施工现场是否有垃圾收集设施？ Are garbage receptacles provided at construction site?	√			
137. 是否按照健康和安全管理有关规定向工人提供了个人防护设备？ Is personal protection equipment (PPE) provided for workers in accordance with relevant health and safety regulations?	√			
138. 承包商是否制定事故和紧急事件的应急响应预案？ Does the contractor have emergency response plan to take actions on accidents and emergencies?	√			
139. 在施工现场粘贴明显的标识，提醒师生和公众可能出现的危险，如车辆、有害物质、开挖等，提高安全意识； Are clear signs placed at construction sites in view of the TVET students and staff as well as the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc, and raising awareness on safety issues?	√			
140. 是否有围栏等措施保证施工现场的安全，防止随意进出？	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
Are all construction sites made secure, discouraging access through appropriate fencing?				
141. 是否采取了交通管理措施（限速、限行等）？ Are traffic control measures (speed control, access control) applied?	√			
142. 灭火器、消防设施是否维护并在有效期内？消防通道是否被阻断或堵塞？ Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?	√			
植被 Vegetation				
143. 无施工活动的地区是否有过度破坏植被的迹象？ Is there any evidence of excessive destruction of existing vegetation where no construction activity is occurring?		√		
144. 土建工程完工后是否恢复受干扰区的植被？ 47. Are disturbed areas properly re-vegetate after completion of civil works?	√			
文物古迹 Physical cultural resources				
145. 是否有可能发现文物古迹？如果有，确保采取合理的措施保护文物古迹。 Are they any chance found relics? If yes, ensure appropriate measures taken to preserve them.		√		
其它 Others				

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
146. 其它问题或意见 Any other problems identified or observations made?		√		

Date, Name and Signature of Site Inspector

Supervised by
戴平安 Dai Ping-an

现场检查人员签字、日期

子项名称Sub-Project Name: 如江西吉安城市交通项目君华大道

Junhua Avenue South section construction site工程工程

现场位置Site Location: 吉州区Jizhou District Junhua Avenue

施工分阶段Construction stage: 路基施工阶段路面铺设Subgrade construction stage, pavement construction

检查日期Inspection Date: 2018年7月, 8月, 10月, 12月

检查人 Inspected by: Zen Xiaomei, Hangzhou Municipal Construction Group Co., LTD

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
现场环境管理计划、申诉机制和信息披露 Site EMP, GRM, information disclosure				
1. 工程承包商是否指定了环境监管员？该环境监管员在现场吗？ Has contractor appointed an environment supervisor and is the supervisor on-site?	√			
2. 工程承包商制定现场环境管理计划了吗？ Is Site EMP established?	√			
3. 与施工有关的信息在现场公布了吗（包括工期、承包商信息等）？ Is information pertaining to construction disclosed at construction site (including construction period, contractor information, etc)?	√			
4. 申诉机制在现场公布了吗？ Is Grievance Redress Mechanism (GRM) disclosed at construction site?	√			
土壤侵蚀和污染 Soil erosion and contamination				
5. 承包商制定了土壤侵蚀管理计划吗？ Has the contractor prepared a soil erosion management plan?			√	
6. 是否建有防止径流进入施工现场及将现场径流引至现有排水设施的截水沟和排水沟？ Are intercepting ditches and drains constructed to prevent runoff entering construction sites, and divert runoff from sites to existing drainage?			√	
7. 受干扰的地区在土方工程停止后是否稳定？植被是否恢复？ Are disturbed areas stabilized after earthworks have ceased, and re-vegetated?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
8. 化学品、危险物品和废弃物是放在防渗透的安全地带？是否有覆盖？ Are chemicals/hazardous products and waste stored on impermeable surfaces in secure, covered areas?	√			
9. 是否有漏油迹象？ Is there evidence of oil spillage?		√		
10. 是否准备了堵漏工具、堵漏沙或锯屑吸收泄露的化学物质？ Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?	√			
11. 化学品是否妥善存放并标识？ 11. Are chemicals stored and labelled properly?	√			
空气质量控制 Air quality control				
12. 施工现场定期洒水吗？ Are construction sites regularly watered?	√			路基土方施工过程中定期使用洒水车洒水防尘。 In the process of civil works, water sprinklers were used regularly to prevent dust.
13. 易产生灰尘的建筑材料是否有遮盖或洒水？水泥袋解袋过程是否是在有遮蔽的地方进行？ Are stockpiles of dusty materials covered or watered and cement debagging process undertaken in sheltered areas?	√			施工现场裸露的土方都用防尘布遮盖。 The bare land at the construction site was covered with dust-proof cloth.
14. 运送土石、沙料的卡车是否有油布或其它遮盖物覆盖避免溢出？ Are trucks carrying earth, sand or stone covered with tarps or other suitable cover to avoid spilling?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
15. 设备是否得到良好的维护？（是否观察到黑烟，如果有，请说明设备的名称和位置） Are plant and equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)	√			
16. 产生扬尘的主要施工活动是否有围栏？ Are there enclosures around the main dust-generating activities?	√			
17. 承包商是否定期与项目实施单位、村庄社区及附近的居民交流，了解是否对空气质量是否有任何不满？ Does contractor regularly consult with PIU, TVET administration, students as well as nearby residents to identify concerns?	√			
噪音 Noise				
18. 是否有噪音超标的迹象？如果有，请说明噪音产生的地点和设备。 Is there evidence of excessive noise? If yes, describe location and equipment.		√		
19. 包商是否对设备进行定期检修，保证遵守 GB 12523-90？ Does the contractor undertake regular equipment maintenance, ensure compliance with PRC standard of GB 12523-90	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
20. 混凝土搅拌等类似施工活动是否距离敏感区至少 300 米？ Are sites for concrete-mixing and similar activities located at least 300 m from sensitive areas?	✓			至今为止本项目无发生现场自拌混凝土。 In the report period, no mixing concrete at site had been used in this project.
21. 施工噪声许可在限制时段是否有效？ Is the CNP (Construction Noise Permit) valid for work during restricted hours?	✓			
22. 空气压缩机和电机运行时房门是否关闭？ Do air compressors and generators operate with doors closed?	✓			
23. 不用的设备是否关闭或将油门调小，降低速度？ Is idle plant/equipment turned off or throttled down?	✓			
24. 是否采取了任何能够减弱噪音的活动（如隔音罩、屏障等）？ adopted (e.g. use noise barrier / enclosure)?	✓			
25. 上一次检查后是否进行过噪声监测？如果有，请列明监测结果；如果没有，请标明下一次监测时间。 Was noise monitoring conducted since the last inspection? If yes, present results. If no, indicate date of next monitoring campaign.	✓			
26. 承包商是否定期与项目实施单位、学校学生及附近的居民交流，了解是否对声环境是否有任何不满？ Does contractor regularly consult with PIU, TVET administration, students as	✓			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
well as nearby residents to identify concerns related to noise?				
地表水污染 Surface water pollution				
27. 承包商是否制定了汽油和其它危险物质临时管理计划（泄露管理计划）？ Did the contractor develop a contingency plan for control of oil and other dangerous substances (Spill Management Plan)?	√			
28. 现在污水处理设施（沉砂池）维护是否得当？ Are wastewater treatment systems being used and properly maintained on site? (e.g. desilting tank)	√			
29. 施工废水和施工现场的生活污水是否排入污水管网或现场处理设施以确保达标排放？ Is construction wastewater and domestic wastewater discharged to sewer systems (if possible), or are on-site treatment facilities provided to ensure compliance with effluent discharge standard?	√			
30. 是否有污水排入到雨水管？ Are there any wastewater discharged to the storm drains?		√		
固体废弃物管理 Solid waste management				
31. 现场是否整洁？（是否有垃圾、清扫是否及时） Is the site kept clean and tidy? (e.g. litter free, good housekeeping)	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
32. 腐蚀性和非腐蚀性废弃物是否分开？ Are separate chutes used for inert and non-inert wastes?	√			
33. 垃圾是否分类存放以促进回收利用？ Are separated labeled containers/ areas provided for facilitating recycling and waste segregation?	√			
34. 建筑垃圾、可循环利用的废弃物及一般垃圾是否定期清运？ 35. Are construction wastes / recyclable wastes and general refuse removed off site regularly?	√			
35. 化学品废弃物（如果有）是否由有资质的单位收集并妥善处置？ Are chemical wastes, if any, collected and disposed of properly by licensed collectors?	√			
健康和安全管理 Health and safety				
36. 承包商是否制定并提交环境、健康和安全管理计划？ Did the contractor prepare and submit an Environmental, Health and Safety Management Plan (HSMP)?	√			
37. 现场是否提供了安全的洁净水？是否为工人提供了足够的厕所？ Is safe supply of clean water and an adequate number of latrines provided for workers?	√			
38. 施工现场是否有垃圾收集设施？	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
Are garbage receptacles provided at construction site?				
39. 是否按照健康和安全有关规定向工人提供了个人防护设备？ Is personal protection equipment (PPE) provided for workers in accordance with relevant health and safety regulations?	√			
40. 承包商是否制定事故和紧急事件的应急响应预案？ Does the contractor have emergency response plan to take actions on accidents and emergencies?	√			
41. 在施工现场粘贴明显的标识，提醒师生和公众可能出现的危险，如车辆、有害物质、开挖等，提高安全意识； Are clear signs placed at construction sites in view of the TVET students and staff as well as the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc, and raising awareness on safety issues?	√			
42. 是否有围栏等措施保证施工现场的安全，防止随意进出？ Are all construction sites made secure, discouraging access through appropriate fencing?	√			
43. 是否采取了交通管理措施（限速、限行等）？ Are traffic control measures (speed control, access control) applied?	√			
44. 灭火器、消防设施是否维护并在有效期内？消防通道是否被阻断或堵塞？ Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?	√			

检查内容 Inspection Item	是 Yes	否 No	不适用 N.A. 或 不存在 该问题	备注（如发现的问题、可能的原因或建议的纠正/预防措施） Remarks (i.e. problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions)
植被 Vegetation				
45. 无施工活动的地区是否有过度破坏植被的迹象？ Is there any evidence of excessive destruction of existing vegetation where no construction activity is occurring?		✓		
46. 土建工程完工后是否恢复受干扰区的植被？ 47. Are disturbed areas properly re-vegetate after completion of civil works?	✓			
文物古迹 Physical cultural resources				
47. 是否有可能发现文物古迹？如果有，确保采取合理的措施保护文物古迹。 Are they any chance found relics? If yes, ensure appropriate measures taken to preserve them.		✓		
其它 Others				
48. 其它问题或意见 Any other problems identified or observations made?		✓		

Date, Name and Signature of Site Inspector

现场检查人员签字、日期

APPENDIX 2: PUBLIC CONSULTATION RECORDS AND SAMPLE GRIEVANCE REDRESS FORM

Questionnaire results of public consultation results statistics on Construction activity environment impact of this project—by 南宁市政集团有限公司 Nanning Municipal Construction Group Co., Ltd. North section of Junhua Avenue construction and by 杭州市政集团有限公司 Hangzhou Municipal Construction Group Co., Ltd. South section of Junhua Avenue construction public consultation results statistics on Construction activity environment impact of this project

调查问题 consultation questions	选项内容 Answer Option	作答人数 the number of Answer people	人数 The number of people
1, 本项目的实施, 对水资源和环境产生的负面影响是 By the implementation of this project construction, the negative impact on water resources and the water environment.	A:影响轻微 The impact is slight	46	25
	B: 影响较小 The impact is less		12
	C:影响一般 there are some impact		7
	D: 影响明显 the impact is significant		2
2, 本项目的实施, 产生的对水环境、河流、湖塘的影响, 经施工单位采取治理措施或控制措施后,你认为 By the conduct the related mitigation activities, this project construction, you think the impact of this project on water environment, river and lake is	A:影响轻微 The impact is slight	46	28
	B: 影响较小 The impact is less		13
	C:影响一般 there are some impact		5
	D: 影响明显 the impact is significant		0

<p>3, 对大气环境的影响:如施工机械燃油废气排放,施工引起的扬尘,引起的恶臭气味</p> <p>By the implementation of this project construction, the negative impact on atmosphere: such as the emission of fuel gas from construction machinery, the dust caused by the construction, the odor caused by the construction</p>	A:影响轻微 The impact is slight	46	24
	B: 影响较小 The impact is less		12
	C:影响一般 there are some impact		7
	D: 影响明显 the impact is significant		3
<p>4, 对大气环境的以上影响; 经施工单位采取的治理措施或控制措施后, 你认为</p> <p>After the mitigation measures taken or control measures taken by the construction unit, you think the above impact on the atmospheric environment is</p>	A:影响轻微 The impact is slight	46	29 115
	B: 影响较小 The impact is less		10
	C:影响一般 there are some impact		6
	D: 影响明显 the impact is significant		1
<p>5, 对声音环境的影响; 如施工活动(土石方挖掘)引起的噪声; 施工机械车辆运输引起的噪声</p> <p>By the implementation of this project construction, the negative impact on sound environment; ascribed by such as noise caused by construction activities (earthwork excavation); noise caused by transportation of construction machinery vehicle</p>	A:影响轻微 The impact is slight	46	24
	B: 影响较小 The impact is less		10
	C:影响一般 there are some impact		6

	D: 影响明显 the impact is significant		1
<p>6, 对声音环境的以上影响, 经施工单位采取的治理措施或控制措施后, 你认为</p> <p>As to the above impact on the sound environment, after the measures taken or control measures taken by the construction unit, you think</p>	A: 影响轻微 The impact is slight	46	29
	B: 影响较小 The impact is less		11
	C: 影响一般 there are some impact		6
	D: 影响明显 the impact is significant		0
<p>7, 对施工废弃物处理的环境的影响; 如施工废弃土石方, 施工废料, 施工人员的生活垃圾</p> <p>By the implementation of this project construction, the negative impact at construction waste treatment, ascribed by such as construction waste, construction workers' living waste</p>	A: 影响轻微 The impact is slight	46	25
	B: 影响较小 The impact is less		14
	C: 影响一般 there are some impact		6
	D: 影响明显 the impact is significant		1
<p>8, 对施工废弃物的以上影响; 经施工单位采取的治理措施或控制措施后, 你认为</p> <p>The above effects on construction waste; after the measures taken or</p>	A: 影响轻微 The impact is slight	46	29

control measures taken by the construction unit, you think	B: 影响较小 The impact is less		11
	C:影响一般 there are some impact		6
	D: 影响明显 the impact is significant		0
调查问题	选项内容	作答	人数
9, 施工活动对生态环境的影响; 对地表植被 (树木, 草丛); 野生动物 (野兔; 蛇等小动物) 水生动植物 (鱼, 青蛙, 水草的) 的影响 The impact of construction activities on the ecological environment; such as on vegetation (trees, grass); wild animals (rabbits, snakes and other small animals) on aquatic animals and plants (fish, frogs, aquatic plants).	A:影响轻微 The impact is slight	46	27
	B: 影响较小 The impact is less		9
	C:影响一般 there are some impact		6
	D: 影响明显 the impact is significant		4
10,施工活动对生态环境的以上影响; 经施工单位采取的治理措施或控制措施后, 你认为 The above impact of construction activities on the ecological environment; after the measures taken or control measures taken by the construction unit, you think	A:影响轻微 The impact is slight	46	29
	B: 影响较小 The impact is less		8
	C:影响一般 there are some impact		8
	D: 影响明显 the impact is significant		1

Table Sample Record Form of Petitions and/or Complaints

亚行贷款江西吉安可持续城市交通项目 公众环境保护诉求记录表 Jiangxi Ji'an Sustainable Urban Transport Project Record Form of Petitions and/or Complaints					
				编号: No.	001
诉求人姓名 Name of petition	XX 先生/女士 Mr./Ms.	联系电话 Contact	XXXX	接收时间 Date of grievance lodged	201X-XX-XX 19:42
信息来源 Types of petitions	电话/书面 Oral/written	单位/地址 Address	XX 镇/村	接收员姓名 Name of Recorder	XXX
涉及标段及承包商 Related contractor	HGH C1.X XX 公司 XX Construction Company	涉及监理公司 Related CSC	XX 监理公司 XX CSC	交办时间	201X-XX-XX 19:42
诉求环境问题及影响范围, 受影响人数 Environmental issues raised and number of people affected	XX 先生女士反映: XX 施工标段存在大气和垃圾环境问题, 涉及 XX 个镇、村或 XX 户居民, 受影响人数 XX 个。 Ms. XX complain that there were atmospheric and garbage environmental problems in the XX construction section, influence the residents of XX towns, villages or XX households, and the number of people affected was XX.				
办理意见 Corrective action	请 XX 部门或公司核实处理, 于 XX 年 XX 月 XX 日前与诉求人联系并将办理结果告知诉求人。Please verify the XX department or company, in XX years XX months XX days before and petitioners contact and will handle the results to inform the				
办理结果 Solution	本部门已于 XX 年 XX 月 XX 日, 安排施工单位进行定期清扫, 请您留意观察。 This department is already in XX XX month XX day, arrange the construction unit to carry				
回访结果 Date of follow up	XX 年 XX 月 XX 日, 回访 XX 先生, XX 先生对处理结果表示满意。 XX, XX month XX, returned to Mr. XX, and Mr. XX was satisfied with the results of the treatment.				