

Environmental and Social Monitoring Report

Semi-Annual Report (January to June 2019)
June 2020

VIE: WATER SECTOR INVESTMENT PROGRAM – TRANCHE 3

**CUA LO TOWN WATER SUPPLY SYSTEM ENHANCEMENT AND
EXPANSION PROJECT, NGHE AN PROVINCE**

Prepared by Cua Lo Water Supply Joint Stock Company for the Provincial People's
Committee of Nghe An Province and the Asian Development Bank

**CUA LO TOWN WATER SUPPLY SYSTEM ENHANCEMENT AND
EXPANSION PROJECT, NGHE AN PROVINCE**

LOAN ADB No.3251-VIE

REPORT ON PERIODIC SOCIO-ENVIRONMENTAL MONITORING

Phase: from 01st January 2019 to 30st June 2019



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Phase: from 01st January, 2019 to 30st June 2019

CONTRACT NO: CL-CS 2
PACKAGE: CONSTRUCTION SUPERVISION
**PROJECT: CUA LO WATER SUPPLY SYSTEM UPGRADING
AND EXPANDING PROJECT**

| | |
|---|---|
| Submitted by: CONSTRUCTION SUPERVISION CONSULTANT | |
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| For and on behalf of Team Leader: | Environmental specialist  |
| DO THE DUNG, Deputy Team Leader | NGUYỄN LÊ PHÚ |

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ABBREVIATIONS

| | |
|-------|---|
| ADB | Asian Development Bank |
| CEMP | Community Environmental Management Plan |
| CSC | Construction Supervision Consultants |
| EMC | Environmental Monitoring Consultant |
| EMP | Environmental Management Plan |
| SEMP | Site Environmental Management Plan |
| GAP | Gender Action Plan |
| GRM | Grievance Redress Mechanism |
| IEE | Initial Environmental Examination |
| JSC | Joint Stock Company |
| MONRE | Ministry of Natural Resources and Environment |
| PIC | Project Implementation Consultant |
| PPC | Provincial People's Committee |
| PMU | Project Management Unit |
| RP | Resettlement Plan |

Table of Content

| | | |
|--------|--|----|
| 1 | Introduction and Project Overview | 1 |
| 2 | Environmental Performance Monitoring | 5 |
| 2.1. | Summary of Compliance with EMP Requirements (Environmental Performance) | 5 |
| 2.1.1. | General evaluation of all site locations: | 9 |
| 2.1.2. | Evaluation of Nghi Hoa water supply plant | 9 |
| 2.1.3. | Evaluation of the pumping station and Office building: | 14 |
| 2.1.4. | Assessment for transmission pipelines..... | 20 |
| 2.2. | Issues for Further Action..... | 23 |
| 2.3. | Other activities (Environmental sampling) | 30 |
| 2.3.1. | ADB approved sampling plan | 30 |
| 2.3.2. | Environmental Quality Analytical Results..... | 33 |
| a) | Results of air analysis..... | 33 |
| b) | Vibration..... | 34 |
| c) | Analysis Results of surface water. | 35 |
| 3 | Occupational, Health and Safety (OHS) Performance Monitoring..... | 36 |
| 3.1 | OHS for worker | 36 |
| 3.2 | Public Safety | 38 |
| 4 | Information Disclosure and Socialization including Capability Building | 40 |
| 5 | Grievance Redress Mechanism | 40 |
| 6 | Resettlement, Social safeguards and Gender | 41 |
| 6.1 | Resettlement, Social safeguards | 41 |
| 6.2 | As for Gender | 46 |
| 7 | Conclusion..... | 55 |
| 8 | Appendix | 56 |
| | Appendix 1: Statement & Decision to adjust details of pumping station and office building rate of 1: 500 | 57 |
| | Appendix 2: Official dispatch to adjust the embankment and pre-sedimentation lake..... | 63 |
| | Appendix 3: Results of analysis of environmental samples during construction phase | 66 |

Figures

| | |
|---|----|
| Figure 1. Project's General Layout. | 4 |
| Figure 2. Photos of Nghi Hoa Water Treatment Plant (taken in June 2019) | 11 |
| Figure 3. Photos of Pumping Station and Office Building (taken in June 2019)..... | 16 |
| Figure 5: Sampling map | 32 |

Table

| | |
|---|----|
| Table 1: Project Overview, Snapshot of Project Progress | 2 |
| Table 2: Roles and Responsibilities on EMP | 5 |
| Table 3: Summary of Compliance with EMP Requirements (Environmental Performance) at Nghi Hoa Water Treatment Plant..... | 11 |
| Table 4: Summary of Compliance with EMP Requirements (Environmental Performance) at the Booster station and office site | 16 |
| Table 5: Issues for Further Action..... | 24 |
| Table 6: Environmental sampling plan during the Construction Phase | 30 |
| Table 7: Analysis results of the quality of air and noise (1 st quarter of 2019) | 33 |
| Table 8: Analysis results of the quality of air and noise – 2 nd quarter of 2019 | 33 |
| Table 9: Measurement results of the vibration– 1 st quarter of 2019 | 34 |
| Table 10: Measurement results of the vibration 2 nd quarter of 2018..... | 34 |
| Table 11. Analysis Results of surface water – 1 st quarter of 2019..... | 35 |
| Table 12: Analysis Results of surface water– 2 nd quarter of 2019 | 35 |
| Table 13: Issues on OHS for worker | 36 |
| Table 14: Issues on Public Safety | 38 |
| Table 15: Residents' Feedback on the Project | 40 |
| Table 16: Details of personnel in charge of GRM at the sites: | 41 |
| Table 17: Grievances Received..... | 41 |
| Table 18: Gender action plan | 47 |

1 Introduction and Project Overview

1. Cua Lo Water Supply System Upgrading and Expanding project has a total project investment estimated about USD 16,096,000. Of which ADB loan is USD 13,190,000 and the counterpart fund of Nghe An Provincial People's Committee (PPC) is USD 2,906,000.

2. The Project comprises of 3 following components:

NA-CL-CW1 / ICB contract dated June 12, 2017 between Cua Lo Water Supply Joint Stock Company and Joint Venture of Ha Huy Joint Stock Company, Vietnam Water and Environment Investment Corporation-Vietnam Construction Joint Stock Company build number 12.

- Construction of Nghi Hoa water supply plant in Nghi Hoa commune, Nghi Loc district with capacity 10,000 m³/day connected with existing WTP capacity 3,000 m³/day to reach 13,000 m³/day in 2020. Raw water is taken from Phuong Tich river. Main categories of the project are: Intake works, reservoir, raw water pumping station, treatment plant, water tank, secondary pumping station, chemical room, sludge collection site, and auxiliary works;

Contractor: Ha Huy Joint Stock Company

Commander: Le Quoc Hung

Phone number: +84-979-874-402

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

- Construction of pressure boost pumping station and office house in Nghi Huong ward, Cua Lo town consisting of water tanks, pumping station, office house, storage, guardhouse, fence, etc.;

Contractor: Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN)

Commander: Tran Xuan Thai

Phone number: +84-985-112-169

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

- Construction of transmission pipeline networks and distribution pipeline networks D110÷D450 with the total length of 52.6 km; service network D32÷D90 L= 241.8 km and 7,352 connection points to households. HDPE pipes will be used for the network.

Contractor: Vinaconex 12 Construction Company

Commander: Vu Anh Tuan

Phone number: +84-978-697-313

Time to start construction: 12 July 2017

Construction completion time: 30 Dec, 2019

3. Contract No. NA-CL-CS2 "Construction Supervision for Cua Lo Water Supply System Upgrading and Expanding project" was signed by and between Joint Venture of Viet Nam Water, Sanitation and Environment Joint Stock Company (JSC) and Meinhardt (Vietnam) Ltd. and the Cua Lo Water Supply JSC on 28 June 2016. The consultancy service package was officially commenced on 12 July 2017.

4. According to the contract documents, the construction supervision consultants as well as Cua Lo Water Supply JSC are responsible for monitoring the compliance of environmental and social safeguards during the project implementation. Specifically, the approved Environmental Management Plan (EMP), Resettlement Plan (RP), and Gender Action Plan (GAP) must be complied throughout the project implementation. The progress of updating safeguard documents is as follow:

- Revised EMP was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017;
- Resettlement Due Diligence Report for of the raw water intake and booster pumping station, rehabilitation and expansion of the WTP (Before loan fact finding mission - Since payments had already been made without an approved RP) was prepared and approved by ADB on 2014;
- Resettlement Due Diligence Report for construction of transmission and distribution network was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017.
- Resettlement Due Diligence Report (Items: Network pipeline) is being prepared and will be submitted to ADB on next reporting period

5. This semi-annual monitoring report is to describe the periodically monitoring results on environmental and social safeguards implementation of the project during the first six-month period of 2019 (from January to June 2019).

6. The environmental and social safeguard monitoring by the Consultant is carried out in accordance with the following procedures:

- Work closely with construction supervision consultants (CSC) to complete the log construction process (including the content of the EMP implementation), fill in the monthly monitoring forms;
- Access to and examine records relating to the compensation, site clearance and resettlement process of the project;
- Monthly site visit to construction locations of the project; Working with contractors, CSC to understand the progress of the construction and implementation of environmental and social safeguard policies;
- Directly interview with local households affected by the project construction.

Table 1: Project Overview, Snapshot of Project Progress

| | | |
|--|--|---|
| Project Number and Title: | Loan 3251-VIE -Water Sector Investment Program - Tranche 3 Cua lo Water Supply System Upgrading and Expanding project | |
| Safeguards Category | Environment | B |
| | Indigenous Peoples | C |
| | Involuntary Resettlement | B |
| Reporting period: | January - June 2019 | |
| Last report date: | July – December 2018 (DEC 2018) ¹ | |
| Key project activities since last and this reporting period: | <ul style="list-style-type: none"> - Nghi Hoa Water Plant: as of 30 June 2019, the progress rate is estimated at 95% - Pump booster station and office building: as of 30 June 2019, the progress rate is estimated at 75% | |

¹ https://www.adb.org/sites/default/files/project-documents/41456/41456-043-esmr-en_3.pdf

| | |
|---------------------|--|
| | <ul style="list-style-type: none"> - Transmission pipelines: as of 30 June 2019, the progress rate is estimated at 100% - Monitor the environment and promote the completion of occupational safety records for the first 6 months of 2019 of the project - Pending issues in resettlement activities in last report with recommendation <ul style="list-style-type: none"> + Handling of site clearance problems in the office and booster pumping station section in Nghi Huong ward, Cua Lo town. There are 02 AHs who did not receive compensation for site clearance + 08 earthen tombs in the project area has not been relocated. - Activities for resolving pending issues from last period: <ul style="list-style-type: none"> + Nghe An Provincial People's Committee issued Decision 1381 / QD-UBND approving the adjustment of detailed construction planning of 1/500 item of office and water plant in Cua Lo town in Nghi Huong ward, town. Cua Lo commune. Up to the time of making the monitoring report: 2 households have been excluded from the project area. Clearance work in Office and booster pumping station has been completed + The issue of 8 earthen tombs was also solved by adjusting the wall of the boundary wall within 13m to remove it from the project area. |
| Report prepared by: | Mr. Tran Phuc Thanh – Deputy Director of Project Management Unit (PMU) |

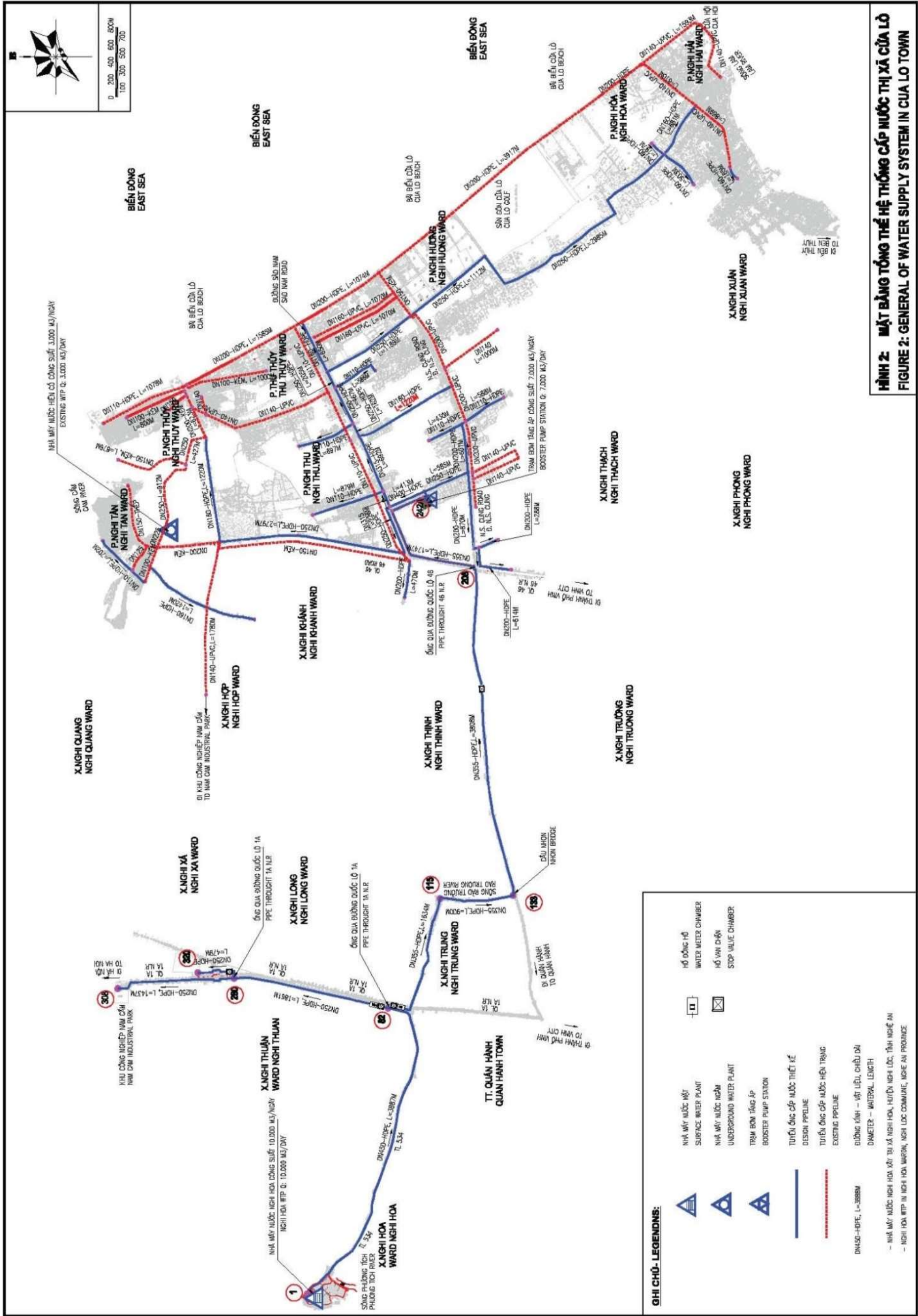


Figure 1. Project's General Layout.

2 Environmental Performance Monitoring

2.1. Summary of Compliance with EMP Requirements (Environmental Performance)

Table 2: Roles and Responsibilities on EMP

| No. | Organization | Responsibilities | Status of Performance Compliance |
|-----|--|---|---|
| 1 | Project Management Unit (PMU) | <p>For strict compliance with the Environment Management Plan, the PMU should supervise the contractors' undertaking of mitigation measures. With regards to environmental monitoring, the PMU's responsibilities are:</p> <ul style="list-style-type: none"> - Monitoring of environmental related performance indicators - Unscheduled site visit to ensure contractor's compliance to mitigation measures as specified in the contracts. - Review of CSC's periodic reports to ensure compliance to mitigation measures - Review of CSC's reports on general impacts of the project - Reporting to ADB and MONRE on environmental compliance based on CSC's reports, as part of semi-annual reporting duty to ADB - Close cooperation with stakeholders in charge of water supply, environmental sanitation, waste collection etc. to monitor the operation and maintenance during the operational phase. - Coordination of the resolution of public's grievances - Cua Lo PMU's Environmental-Social officer: Mr. Trí (Phone number: +84-916-104-668) | <p>Being complied</p> <p>The form of monitoring of environmental performance indicators is done by the environmental officer of the PMU once a week. Forms are stored in labor safety and environmental records.</p> <p>Mr. Trí will conduct field inspections once a week.</p> <p>PMU always reviews the monthly / quarterly progress report of the Construction Supervision Consultant. Issues (if any) will be resolved at the beginning of the month meeting (Attached the minutes of the monthly meeting)</p> <p>Every week, the Construction Supervision Consultant always reports to the PMU on the construction works that cause environmental impacts of the contractors. In order for PMU to solve this problem promptly.</p> <p>The PMU submits a social environment monitoring report to ADB, every 6 months.</p> <p>Complaints and grievances about the project will be summarized by Mr. Trí and reported to PMU's leaders (Cua Lo PMU's Environmental-Social officer: Mr. Trí mobile: +84-916-104-668)</p> |
| 2 | Construction Supervision Consultant (CSC) | <p>Supervise construction activities; supervise technical standards and construction progress of contractors.</p> | <p>Being complied</p> <p>Each construction contractor always has 1 environmental officer and is fully trained in</p> |

| | | | |
|---|--|---|--|
| | | <p>For the environment, the CSC is responsible for supervising the implementation of mitigation measures of contractors according to the requirements in the EMP. This includes the following main tasks:</p> <ul style="list-style-type: none"> - Ensuring contractors and workers have been trained and instructed on environment and safety. - Ensuring that contractors assemble, maintain and clean machine or equipment daily and toilets, drainage system suitable for workers. - Ensuring that contractors have obtained all permissions on discharging wastewater and removing solid waste out of the construction sites. - Checking the safety conditions at the construction sites, such as internal roads, fences, warning signals, lights, electrical safety, and drainage system. - Conducting regular site inspections; conducting environmental effect monitoring in accordance with the monitoring plan cleared by ADB. | <p>labor safety. The list of trained workers is updated in the contractor's occupational safety and environment profile. Records are kept at the construction office of the contractor.</p> <p>In the Water Plant Office, Contractor Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) has set up a camp for workers meeting labor safety and hygiene standards.</p> <p>In the Nghi Hoa water plant category: Contractor Ha Huy Joint Stock Company has rented a house next to the construction work as an office building for workers, on the site there is a portable toilet.</p> <p>In the pipeline category: Contractor Vinaconex 12 Construction Company leases houses</p> <p>Construction solid waste will be collected, transported and treated by Nghi Loc Green Environment JSC.</p> |
| 3 | Environmental Monitoring Consultant (EMC) | <p>Responsibilities of environmental monitoring consultants include:</p> <ul style="list-style-type: none"> - Ensure that the EMP has been approved and that loan agreements related to environmental safety will be applied and followed throughout the project implementation process; - Ensure that environmental mitigation measures are established as required in project implementation aspects; - Evaluate the effectiveness of the mitigation measures applied by the contractor and CSC during the implementation process and make recommendations and recommendations to the PMU for the | <p>- Partly complied</p> <ul style="list-style-type: none"> + Co-ordinate with the PMU and the construction supervision consultant to provide environmental management and minimize the impact necessary to the contractor; + Make a social environment monitoring report every 6 months. However, it has not been submitted to PMU and ADB on schedule. |

| | | | |
|--|--|--|--|
| | | <p>improvements or improvements needed to meet the requirements. safeguard;</p> <ul style="list-style-type: none"> - Report periodically to the PMU on the actual implementation of the EMP during the implementation of the project. In case of necessity, more detailed assessment and / or local consultation may be required to identify potential impact and mitigation measures; - Establish standard procedures, methods and forms to assist the PMU and CSC in assessing the Contractor's progress in implementing the necessary monitoring and mitigation measures; - Assist the project management board and its environmental staff to review and examine the detailed design and relevant parts of the Contract Document to ensure compliance with environmental protection and monitoring requirements and mitigation; - Organize regular, quarterly meetings with stakeholders (project management board, contractor, CSC, community representatives and other relevant authorities) to collect Contribute to the development and revision of the plan and strategy for environmental monitoring and overall environmental management. - Organizing the implementation of programs on measurement, sampling and monitoring of environmental norms periodically (every 3 months) during the period of performing the environmental supervision contract. - Develop training materials for specialized contents on environmental management and environmental monitoring to train contractors, construction supervision consultants and relevant staff of the PMU school and coordinator of the package) perform the task. - Through the PMU discuss with relevant stakeholders (when necessary) in order | |
|--|--|--|--|

| | | | |
|--|--|---|--|
| | | <p>to find appropriate solutions for arising problems related to environmental sanitation.</p> <ul style="list-style-type: none"> - Through the guidance of the PMU, establish and maintain close coordination with the CSC to ensure that relevant environmental regulations, environmental monitoring and mitigation measures, the reporting procedure should be clearly understood and incorporated into the CSC work plan. These procedures also include the recommendation of appropriate sanctions and the procedure for recommending the suspension of construction work at the site once the construction contractor fails to comply with the requirements for environmental safeguards in the test. public; - Assist the CSC to prepare and implement emergency action plans where needed for environmental damage or problems encountered during construction; - Co-ordinate with the PMU and the construction supervision consultant to provide environmental management and minimize the impact necessary to the contractor; - Provide the necessary support to community representatives in the preparation and implementation of community-based environmental management plans. - Assist the PMU to establish and maintain an organizational structure for the environmental management system, monitoring and reporting obligations in coordination with the relevant local environmental management agencies; - Provide support and assistance for environmental training and capacity building programs upon request; - Provides general guidance on the environment required by the PMU to enhance the overall effectiveness of project implementation. | |
|--|--|---|--|

| | | | |
|---|--------------------|--|--|
| 4 | Contractors | <ul style="list-style-type: none"> - Being obliged to undertake mitigation measures and comply with approved EMP throughout the construction of the project. - throughout the construction of the project, being subjected to the strict supervision of PMU, CSC and EMC, environmental agencies and local communities on EMP compliance | <ul style="list-style-type: none"> - Partly complied - Did not clean construction regularly as request |
|---|--------------------|--|--|

ADB = Asian Development Bank, CSC = construction supervision consultants, EMC = Environmental Monitoring Consultant, PMU = Project Management Unit, MONRE = Ministry of Natural Resources and Environment.

2.1.1. General evaluation of all site locations:

7. During the first 6-month period of 2019, the contractors basically complied with the Environmental Safeguard and Occupational Safety. The contractors implemented the environmental impact mitigation measures under the approved SEMP. The contractors also submitted quarterly environmental monitoring reports for Quarter I and II of 2019.

8. Environmental and safety achieves

- There was no complaint on Environmental Safeguard and Occupational Safety.
- There is not any accident in the Quarter I & II of 2019;
- The Contractor has complied with the environmental impact mitigation measures under the approved SEMP and Consultant's requirements.
- The Contractor performed well the construction method for installation of pipelines along traffic roads which do not affect to traffic.

2.1.2. Evaluation of Nghi Hoa water supply plant

9. During the first 6-month period of 2019, the contractor performed major activities, included: transporting construction materials, transporting machinery and equipment, building clean water treatment plant and plant landscape campus.

10. At the time of site visit (late June 2019), the site of Nghi Hoa water plant had been basically completed almost all construction activities. The remains were only (i) Construction of raw water deposition profile of the deposited; (ii) leveling materials for fences and reservoir's slopes have not yet been decided as till remaining comments from Nghe An Provincial Department of Construction, who do not agree with the solutions proposed by the project; (iii) As already mentioned in the previous six-month report, there are still eight (08) graves remaining onsite which have not been removed.

11. According to the assessment results of the monitoring team, due to the construction site is far from local residential areas (the nearest residential households is about from 400m from the construction site), and the construction site is surrounded by a 2m tall iron fence, the environmental impacts from construction activities on the local residents are relatively negligible.

12. The Construction site area is large. Construction materials are gathered neatly and safely. Transportation vehicles are cleaned up before going out the construction site. Traffic route used for material transportation is being watered daily.

13. The number of workers daily working on construction site varies from 20 to 40 persons. Those persons mainly are local people, owning house or renting in local houses near

construction site, usually back to their home at the end of working day. Some security guards are arranged to stay overnight at the construction site.

14. Daily waste and construction waste on the site are collected, stored and transported in accordance with regulations.

- Domestic solid wastes: estimated an amount of 10÷20kg/day of domestic solid wastes generated within the construction site by the workers. The wastes include waste foods and plastic packs/bags, paper... This waste amount is collected into a 100L plastic bin setup at the camp area. Daily after working hours, the staffs of Nghi Loc Green Environment JS Company come to collect and transport to the Solid Waste Treatment Complex located in Nghi Yen commune of Nghi Loc district.
- Construction solid wastes: about 15kg/day, included empty packs, waste wood, steel, ... This waste amount is composed of inert and non-hazardous substances, some can be recycled or reused for other purposes. The remains are to be collected within the site and transported and treated by the Nghi Loc Green Environment JS Company.

15. As of the time of reporting, there has been no recorded complaint from local authorities and people on socio-environmental negative issues caused by the project.

16. In general, the construction contractor, Ha Huy Joint Stock Company, has fully complied with the requirements and measures to minimize environmental impact and occupational safety in the EMP. However, there are some issues that need to be complied with, improved and maintained at Nghi Hoa water plant construction site:

- Workers who operate and maintain the pump station should be equipped with noise-canceling earplugs.
- Regularly collect construction wastes on the construction site after each working session, gather them in the prescribed dump.





Figure 2. Photos of Nghi Hoa Water Treatment Plant (taken in June 2019)

Table 3: Summary of Compliance with EMP Requirements (Environmental Performance) at Nghi Hoa Water Treatment Plant

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|----------|--|---|------------------------------|
| 1 | Implementation arrangement | | |
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes | No |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |
| 1.6 | Camp | | |
| - | Clean water for workers | Yes | No |
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|---|---|------------------------------|
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community. | Yes | No |
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | | |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in the dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Trucks carrying sand, soil, stone are not overloaded. | Yes (There is no evidence of load violation recorded so far) | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |
| - | Keeping hazardous waste away from local residence | Yes | No |
| 2.2 | Reduce noise/vibration | | |
| - | Equip safety clothing for workers | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|--|---|------------------------------|
| | | (Workers operating Nghi Hoa water plant have been equipped with noise-proof earplugs) | |
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| | Get agreement on area for discharging unused soil | Yes | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | | |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes | No |
| - | There are self-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |
| - | Preparing plan for dealing with emergency flood | Yes | No |
| 2.6 | Impacts on transportation | | |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|-------------|--|--|------------------------------|
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| 2.7 | Public safety and health | | |
| - | There are regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | | |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | N/a (There have been no breakdown of electricity/water supply/communication due to construction implementation so far.) | No |
| 2.9 | Fire prevention | | |
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There are construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.1.3. Evaluation of the pumping station and Office building:

17. Construction site located near traffic road with low-density traffic. Construction activities carried out within site's fence. There are no households located around the site. Thus, socio-environmental impacts affecting local people are assessed as low or insignificant.

18. Construction activities are happened only within the site area. The construction site area is large. Construction materials are gathered neatly and safely.

19. The number of workers daily working on construction site varies from 20 to 40 persons. Those persons mainly are local people, own houses or rented houses near construction site, usually back to their home at the end of working day. Some security guards are arranged to stay overnight at construction site.





20. Daily waste and construction waste on the site are collected, stored and transported in accordance with regulations. Specifically,

- Domestic solid wastes: estimated an amount of 10÷20kg/day of domestic solid wastes generated within the construction site by the workers. The wastes include waste foods and plastic packs/bags, paper... This waste amount is collected into a 100L plastic bin setup at the camp area. Daily after working hours, the staffs of Nghi Loc Green Environment JS Company come to collect and transport to the Solid Waste Treatment Complex located in Nghi Yen commune of Nghi Loc district.
- Construction solid wastes: about 15kg/day, included empty packs, waste wood, steel, ... This waste amount is composed of inert and non-hazardous substances, some can be recycled or reused for other purposes. The remains are to be collected within the site and transported and treated by the Nghi Loc Green Environment JS Company.

21. As of the time of reporting, there have been no recorded complaints from local authorities and people on socio-environmental negative issues caused by the project.

22. In general, the construction contractor- Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) has fully complied with the requirements and measures to minimize environmental impact and occupational safety in the EMP. However, there are some issues that need to be complied with, improved and maintained at the construction site of pumping station and office building are:

- The contractor is required to spray water onsite more regularly to reduce dust dispersion when windy weather;
- Some workers have been working without person protection equipment PPE (shoes, safety helmets), thus the contractor should supervise and remind more regularly.

| | |
|---|--|
|  |  |
| Building entrance gate at booster pump station | |
|  |  |
| Storage tanks and fences | Administrative buildings |




| | |
|---|--|
|  |  |
| Hall house | Substation |
|  | |
| Courtyard | |
| The main items have been completed at booster pump station | |

Figure 3. Photos of Pumping Station and Office Building (taken in June 2019).

Table 4: Summary of Compliance with EMP Requirements (Environmental Performance) at the Booster station and office site

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|----------|--|---|---|
| 1 | Implementation arrangement | | |
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes (The fact is that the contractor is equipped with workwear, but due to the hot weather and labor habits, workers do not use) | - Contractors and construction supervision consultants should pay attention to the type and danger of the construction items to require workers to use, to ensure labor safety. |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |
| 1.6 | Camp | | |
| - | Clean water for workers | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|--|--|---------------------------|
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community | Yes | No |
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | Yes | No |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|---|---|---------------------------|
| - | Keeping hazardous waste away from local residence | Yes | No |
| 2.2 | Reduce noise/vibration | Yes | No |
| - | Equip safety clothing for workers | | |
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| - | Get agreement on area for discharging unused soil | Yes. Excavated materials are used to refill onsite. | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | Yes | No |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes (At the previous monitoring period, domestic wastewater was transferred to the settling lake. However, at this monitoring period, all workers and supervisors were transferred into the project's office buildings. sanitary system of the building) | No |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|------------|--|--|---------------------------|
| - | There are self-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |
| - | Preparing plan for dealing with emergency flood | Yes | No |
| 2.6 | Impacts on transportation | | |
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| - | Trucks carrying materials/wastes are not overloaded | Yes | No |
| 2.7 | Public safety and health | | |
| - | There are regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | Yes | No |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | Yes | No |
| 2.9 | Fire prevention | | |

| No. | EMP Requirements | Compliance / Non-Compliance (Comment or Reasons) | Issues for Further Action |
|-------------|--|--|---------------------------|
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There are construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.1.4. Assessment for transmission pipelines

23. The construction and installation of water pipelines along the roads was carried out by rolling, completing and returning the road immediately after the completion of each short section. Plumbing materials and building materials are neatly assembled, safe in the location of the land on both sides of the road.

24. There is no portable toilet for workers, but this is overcome by workers use toilets of the roadside residents.

25. Since the pipelines are all relatively small, the construction and installation were implemented by rolling, completing and returning the road immediately after the completion of each short section, pipe materials had been arranged tidily along the roadsides waiting for the installation, thus the impacts on transportation have been mitigated sufficiently.

26. Construction transmission pipeline has progressed, the contractor has enlisted to have the construction site right there. Basically, the pipeline has been installed 100% in volume.

Table 5:Summary of Compliance with EMP Requirements (Environmental Performance) for transmission pipelines

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|----------|--|--|---------------------------|
| 1 | Implementation arrangement | | |
| 1.1 | Disseminate safety principles to workers | Yes | No |
| 1.2 | License | Yes | No |
| 1.3 | Equipping work safety clothing for workers | Yes | No |
| 1.4 | First-aid kit at camps | Yes | No |
| 1.5 | Periodical health check for workers | Yes | No |

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|------------|--|--|---------------------------|
| 1.6 | Camp | | |
| - | Clean water for workers | Yes | No |
| - | Sanitary and safe kitchen | Yes | No |
| - | Wastewater from camps is not stagnant | Yes | No |
| - | Self-decomposing latrines at camp | Yes | No |
| 1.7 | Mobilizing officers who are in charge of environmental safety to be at the site regularly to receive feedback from the community | Yes | No |
| 1.8 | Project and contractor's signboard, (indicating name and phone number of site managers) | Yes | No |
| 1.9 | Relationship between site manager and local authority | Yes | No |
| 1.10 | Relationship between site manager, workers and local people | Yes | No |
| 2 | Mitigation measures | Yes | No |
| 2.1 | Minimizing dust/exhaust fumes | | |
| - | Watering sprinkling at specific locations in dry season. | Yes | No |
| - | Fence/temporary cover for areas near local residences | Yes | No |
| - | Clean mud, soil on truck's wheels. | Yes | No |
| - | Tilting trucks/ means of transportation. | Yes | No |
| - | Clean the site after construction | Yes | No |
| - | Trucks/machines are maintained regularly | Yes | No |
| - | Forbidding on-site waste incineration, waste is removed within 24h | Yes | No |

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|------------|--|--|---------------------------|
| - | Keeping hazardous waste away from local residence | Yes | No |
| 2.2 | Reduce noise/vibration | Yes | No |
| - | Equip safety clothing for workers | | |
| - | Avoid construction which causes big noise before 5A.M and after 10P.M. | Yes | No |
| - | Suitable construction measures, not causing ground settlement, break to houses and other constructions. | Yes | No |
| 2.3 | Mud from excavation, waste form house around. | | |
| - | Get agreement on area for discharging unused soil | Yes | No |
| - | Daily Collecting and discharging at yard agreed by locality. | Yes | No |
| - | Place dust bins at construction sites | Yes | No |
| - | Collecting waste and moved to agreed places, transported to and treated accordingly. | Yes | No |
| 2.4 | Pollution of surface water caused by construction activities and camps of workers | Yes | No |
| - | There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | Yes | No |
| - | There is seft-decomposing latrines at camp | Yes | No |
| - | Keeping hazardous waste away from water sources. | Yes | No |
| 2.5 | Risks of being flooded temporarily in raining season when drainage system has not been completed. | | |

| No. | EMP Requirements | Comment or Reasons for Compliance / Non-Compliance | Issues for Further Action |
|-------------|--|--|---------------------------|
| - | Preparing plan for dealing with emergency flood | Yes | No |
| 2.6 | Impacts on transportation | | |
| - | Place warning signs / instructions | Yes | No |
| - | Constructing temporary bypasses where needed. | The project does not require this activity | |
| - | Trucks carrying materials/wastes are not overloaded | Yes | No |
| 2.7 | Public safety and health | | |
| - | There is regulations, and training for workers on the regulations and communication to community | Yes | No |
| - | Assemble and maintain instructions, signs warning at construction sites. | Yes | No |
| 2.8 | Impact on business/socio-economic activities. | Yes | No |
| - | Clean construction site every day after construction implementation. | Yes | No |
| - | Recovering breakdown of electricity/water supply/communication due to construction implementation. | Yes | No |
| 2.9 | Fire prevention | | |
| - | There is fire regulations/plan | Yes | No |
| - | Equip fire equipment at warehouse. | Yes | No |
| 2.10 | Social evils | | |
| - | There is construction regulations, such as curfew, alcohol and gambling prohibition | Yes | No |

2.2. Issues for Further Action

Table 6: Issues for Further Action

| Issue | Required Action | Responsibility and Timing | Resolution |
|---|--|---|---|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| Equip safety clothing for workers: Workers who are exposed to loud noise are not equipped with noise-canceling ear plugs. | Providing noise-canceling ear plugs for workers who are exposed to loud noise. | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Ha Huy Joint Stock Company - Construction supervision should require the contractor to provide noise-proof earplugs to workers exposed to loud noise. - Completion time: Done with in the first 6 months of 2019 - | <ul style="list-style-type: none"> - Factory operators were equipped with noise-proof buttons |
| Safety warning signs on the construction site were not installed sufficiently | It is necessary to install sufficiently warning signs on the construction site | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Ha Huy Joint Stock Company - Construction supervision should require the contractor to provide noise-proof earplugs to workers exposed to loud noise. - Completion time: Done with in the first 6 months of 2019 - | <ul style="list-style-type: none"> - Safety warning signs on the construction site were installed sufficiently |

| | | | |
|--|--|---|--|
| Some workers have been working without person protection equipment PPE (shoes, safety helmets) | The contractor should internally supervise and remind their workers more regularly | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Ha Huy Joint Stock Company - Construction supervision should require the contractor to provide noise-proof earplugs to workers exposed to loud noise. - Completion time: Done with in the first 6 months of 2019 - | <ul style="list-style-type: none"> - The contractor is equipped with protective clothing for workers. But due to hot weather conditions and local work habits, compliance is not yet strict - Supervision consultants and contractors should base on the nature and extent of danger of construction works to remind workers to use labor protection when necessary. - The contractor was reminded onsite and committed to strictly comply in the previous monitoring stage. However, it had not yet been thoroughly solved till this monitoring stage. |
| Onsite collection of construction wastes was not implemented well (only a minor issue) | Workers need to regularly collect and gather construction waste in the right place after each construction day | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Ha Huy Joint Stock Company - Completion time: As soon as possible when any construction wastes generated onsite. | <ul style="list-style-type: none"> - Being complied - Construction solid wastes transported and treated by the Nghi Loc Green Environment JS Company. |
| Pump Station and Office Building Site | | | |

| | | | |
|--|---|---|---|
| Watering sprinkling at specific locations in dry season. | <ul style="list-style-type: none"> - The contractor is requested to water daily (when dry weather) on the construction site to keep a reasonable humidity to reduce dust dispersion - The contractor has injected irrigation water on site. - Watering 2 times / day | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) Corrective period: Daily, when dry weather. - Completion time: Done with in the first 6 months of 2019 | <ul style="list-style-type: none"> - Complied |
| There is gutter collecting wastewater/stormwater at the site leading to the main sewer of the district | The Contractor is required to immediately collect domestic waste water into the self-absorbing pit | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Corrective period: Immediately - Completion time: Done with in the first 6 months of 2019 | <ul style="list-style-type: none"> - Complied - The contractor has completed the water supply and drainage system for the project |
| Some workers have been working without person protection equipment PPE (shoes, safety helmets) | The contractor should internally supervise and remind their workers more regularly | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Construction supervisor is responsible for monitoring the remedial work - Corrective period: 11th Dec, 2018 - Completion time: Done with in the first 6 months of 2019 | <ul style="list-style-type: none"> - Partly complied - The contractor is equipped with protective clothing for workers. But due to hot weather conditions and local work habits, compliance is not yet strict - Supervision consultants and contractors should base on the nature and extent of danger of construction works to remind workers to use labor protection when necessary. |

| | | | |
|--|--|---|---|
| Excavated material (fine sand) was found very dry which leads to high risk of dust dispersion when windy weather | The contractor is required to spray water onsite more regularly to reduce dust dispersion when windy weather | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Construction supervisor is responsible for monitoring the remedial work - Corrective period: Daily, when dry weather. - Completion time: Done | <ul style="list-style-type: none"> - Done - Watering 2 times / day |
| Safety warning signs on the construction site were not installed sufficiently | It is necessary to install sufficiently warning signs on the construction site | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Construction supervisor is responsible for monitoring the remedial work - Corrective period: 11th Dec, 2018 - Completion time: Done with in the first 6 months of 2019 | <ul style="list-style-type: none"> - Done - Safety warning signs on the construction site were installed sufficiently |
| Domestic wastewater is directly to the ground on the construction site | The Contractor is required to immediately collect domestic waste water into the self-absorbing pit | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Construction supervisor is responsible for monitoring the remedial work - Corrective period: 11th Dec, 2018 - Completion time: Done with in the first 6 months of 2019 | <ul style="list-style-type: none"> - Done - The contractor has completed the water supply and drainage system for office items and booster pumping stations |
| Transmission pipelines | | | |

| | | | |
|--|---|---|---|
| None | | - | - |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| None | - | - | - |
| Pump Station and Office Building Site | | | |
| None | - | - | - |
| Transmission pipelines | | | |
| None | - | - | - |

Note: In the first 6 months of 2019, 3 contractors in 3 construction items have fully complied with the mitigation measures in the EMP. Completely overcome the issues of the 2018 period such as labor safety equipment, traffic warning signs ... as recommended by the project's group of occupational safety & environmental monitoring experts. However, the Project Management Unit and the supervision consultant need to improve the role and responsibility in ensuring labor safety for workers, ensuring environmental sanitation by maintaining strict measures. Mitigation has been made in the past.

2.3. Other activities (Environmental sampling)

27. According to the periodic environmental monitoring program complying with the law, Cua Lo Water Supply JSC has cooperated with the Consulting Unit - VINAGREEN Environment and Investment Consultant JSC and Thai Duong Environmental Treatment and Monitoring JSC to sample, measure, analyze and make the reports at the site for quarter I&II of 2019 of Cua Lo Water Supply System Upgrading and Expanding Project.

28. The periodic environmental monitoring will provide an overall assessment of the environmental quality at the project area, assessments of the environmental quality of the site to meet the requirements by the competent state authority for timely warning of unusual developments or pollution risks, and provide a basis for monitoring the environmental changes of the project, helping the project owner and the authorities have measures to prevent and actively cope with environmental problems that may occur during the construction process.

2.3.1. ADB approved sampling plan

29. Table 7 shows the environmental effect monitoring plan in the IEE² approved by ADB.

Table 7: Environmental sampling plan during the Construction Phase

| Mitigation Measures | Monitoring parameters | Location | Method | Frequency |
|--|------------------------------------|---|---|----------------------------|
| Monitoring of suspended dust and noxious fumes | Dust, CO, NOx, SOx, wind, | - 1 point in Nghi Hoa WTP - 1 point in Booster pumping station (near Sao Nam road) - 1 point in Nguyen Hue road. - 1 point in Mai Thuc Loan road - 1 point in Nguyen Sinh Cung road - 2 point in network pipelines (Binh Minh road). | Take air sample for analysis and compare the result with related Vietnam Standards QCVN 05:2015/BTNMT | Every quarter in 18 months |
| Monitoring of noise | Leq, L50 and Lmax | As the same ambient air monitoring locations as above | Measure at site and compare the results with relevant standards (QCVN 26: 2010) | Every quarter in 18 months |
| Monitoring of vibration | Acceleration Speed Frequency | - 1 point in Phuong Tich Bridge (Transmission pipelines) | Measure at site and compare the results with relevant standards (QCVN 27: 2010) | Every quarter in 18 months |

²<https://www.adb.org/projects/documents/viet-nam-water-sector-investment-program-cua-lo-ws-iee>

| Mitigation Measures | Monitoring parameters | Location | Method | Frequency |
|-----------------------|--|---|--|----------------------------|
| | | <ul style="list-style-type: none"> - 1 point in Rao Truong Bridge (Transmission pipelines) - 1 point in Sao Nam Road (distribution pipelines) - 1 point in Binh Minh Road (distribution pipelines) | | |
| Surface water quality | pH, TSS, DO, COD, BOD5, ammonium (NH ₄) by N, nitrite, nitrate (NO ₃ ⁻), Phosphate, Floating oil Coliform | <ul style="list-style-type: none"> - 02 points in Phuong Tich River - 01 point in Rao Truong River; - 01 point in Cam River; - 02 points in pond in Cua Lo Town (01 point in pond Nghi Khanh commune; 01 point in pond Nghi Huong Ward) | Take water sample for analysis and compare result with related Vietnam Standards (QCVN 08-mt:2015/BTNMT; QCVN 40:2011/BTNMT) | Every quarter in 18 months |

(Results of analysis of environmental samples in the 1st and 2nd quarter of 2019 are attached in Appendix 3.)

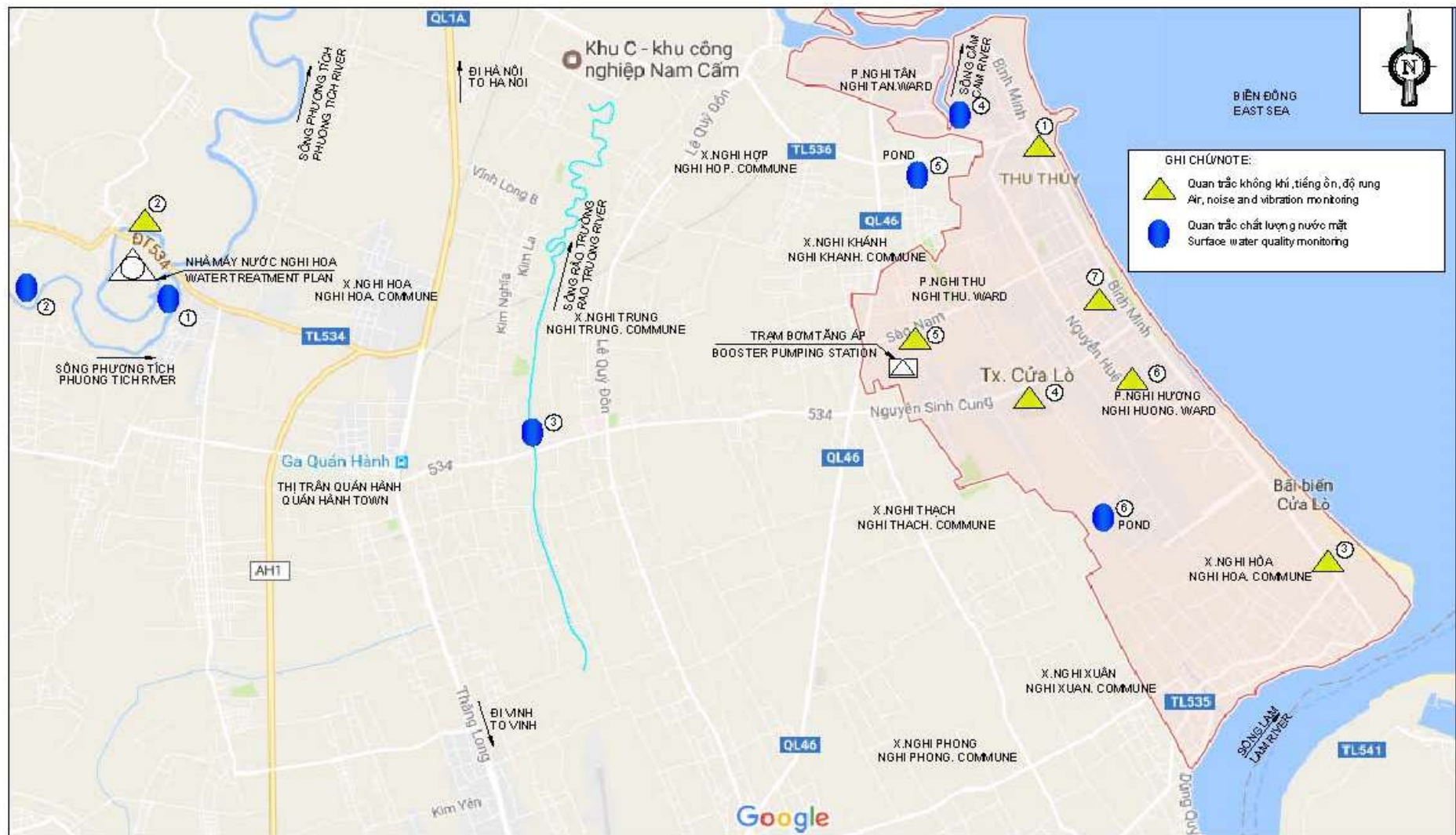


Figure 4: Sampling map

2.3.2. Environmental Quality Analytical Results

a) Results of air analysis

Table 8: Analysis results of the quality of air and noise (1st quarter of 2019)

| No | Parameter | Unit | Result | | | | | | | GHCP (allowable limit) |
|----|----------------------|-------------------|--------|------|------|------|------|------|------|------------------------------|
| | | | KK1 | KK2 | KK3 | KK4 | KK5 | KK6 | KK7 | |
| 1 | Temperature | °C | 29 | 28 | 28.7 | 29.4 | 29.2 | 29.0 | 28.8 | - |
| 2 | Humidity | % | 78 | 75 | 79 | 77 | 75 | 76 | 72 | - |
| 3 | Atmospheric pressure | atm | 620 | 612 | 627 | 612 | 608 | 625 | 615 | - |
| 4 | Speed of winds | m/s | 1.2 | 1.5 | 1.0 | 1.4 | 1.2 | 1.8 | 2.0 | - |
| 5 | Wind direction | - | NW | NW | NW | NW | NW | NW | NW | - |
| 6 | Dust | µg/m ³ | 142 | 155 | 151 | 162 | 158 | 147 | 140 | 300 |
| 7 | CO | µg/m ³ | 1820 | 1992 | 1908 | 1902 | 1872 | 1884 | 1808 | 30.000 |
| 8 | SO ₂ | µg/m ³ | 148 | 132 | 135 | 144 | 151 | 135 | 140 | 350 |
| 9 | NO ₂ | µg/m ³ | 127 | 144 | 141 | 137 | 125 | 118 | 112 | 200 |
| 10 | Noise | dBA | 62 | 58 | 60 | 61 | 60 | 64 | 66 | 70^(*) |

(Source: Analytical center and environmental geodesic Phuong Nam, March 2019)

Table 9: Analysis results of the quality of air and noise – 2nd quarter of 2019

| No | Parameter | Unit | Results | | | | | | | GHCP (allowable limit) |
|----|----------------------|-------------------|---------|------|------|------|------|------|------|------------------------------|
| | | | KK1 | KK2 | KK3 | KK4 | KK5 | KK6 | KK7 | |
| 1 | Temperature | °C | 34 | 35 | 35.2 | 34.5 | 34 | 36 | 34.2 | - |
| 2 | Humidity | % | 65 | 61 | 62 | 68 | 61 | 60 | 64 | - |
| 3 | Atmospheric pressure | atm | 550 | 562 | 548 | 584 | 602 | 618 | 592 | - |
| 4 | Speed of winds | m/s | 2 | 2.2 | 1.8 | 1.9 | 2.5 | 2.0 | 1.6 | - |
| 5 | Wind direction | - | NE | NE | NE | NE | NE | NE | NE | - |
| 6 | Dust | µg/m ³ | 164 | 148 | 156 | 178 | 166 | 141 | 147 | 300 |
| 7 | CO | µg/m ³ | 1882 | 1825 | 1720 | 1981 | 1948 | 1820 | 1810 | 30.000 |

| | | | | | | | | | | |
|----|-----------------|-------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|
| 8 | SO ₂ | µg/m ³ | 150 | 142 | 128 | 128 | 142 | 112 | 122 | 350 |
| 9 | NO ₂ | µg/m ³ | 118 | 102 | 109 | 115 | 108 | 92 | 104 | 200 |
| 10 | Noise | dBA | 64 | 61 | 62 | 64 | 63 | 62 | 65 | 70^(*) |

(Source: Analytical center and environmental geodesic Phuong Nam, June 2019)

Notes:

GHCP (allowable limit): NTR 05:2013/MONRE: National Technical Regulation about the ambient air quality.

(): NTR 26:2015/BTNMT: National Technical Regulation about the noise.*

- + *KK1: At Nguyen Sinh Cung street, coordinates X: 2078456; Y: 601044.*
- + *KK2: At Nguyen Hue Street, coordinates X: 2079042; Y: 602877;*
- + *KK3: At the area of Mai Thuc Loan Street, coordinates X: 2079131; Y: 602965;*
- + *KK4: At Binh Minh street (opposite Ban Toi hotel), coordinates: X: 2078428; Y: 601032;*
- + *KK5: At Binh Minh street (opposite Saigon - Kim Lien hotel), coordinate X: 2079017; Y: 602885;*
- + *KK6: At the booster pumping station, near Sao Nam street, coordinates X: 2078904; Y: 600476;*
- + *KK7: At Nghi Hoa water treatment plant, coordinates X: 2080285; Y: 591345.*

30. **Comments:** The obtained analytical results of air quality and noise level in the project area (the 1st and 2nd quarters of 2019) show that: all the monitored parameters of air quality were meeting the allowable limits in accordance with QCVN 05: 2013/BTNMT - National technical regulations on ambient air quality. The monitored noise levels at 7 monitoring points were meeting the allowable limit in accordance with QCVN 26: 2010 / BTNMT - National technical regulation on noise.

b) Vibration

Table 10: Measurement results of the vibration– 1st quarter of 2019

| No | Parameter | Unit | Results | | | | GHCP (allowable limit) |
|----|-----------|------|---------|----|----|----|---------------------------|
| | | | R1 | R2 | R3 | R4 | |
| 1 | Vibration | dB | 65 | 63 | 64 | 61 | 75 |

(Source: Analytical center and environmental geodesic Phuong Nam, March 2019)

Table 11: Measurement resultsof the vibration 2nd quarter of 2018

| No | Parameter | Unit | Results | | | | GHCP (allowable limit) |
|----|-----------|------|---------|----|----|----|---------------------------|
| | | | R1 | R2 | R3 | R4 | |
| 1 | Vibration | dB | 70 | 68 | 67 | 65 | 75 |

(Source: Analytical center and environmental geodesic Phuong Nam, June 2019)

Notes:

GHCP: QCVN 27:2010/BTNMT: National Technical Regulation about the vibration.

- + *R1: At Phuong Tich Bridge (transmission pipeline), coordinates: X: 2078017; Y: 591456;*
- + *R1: At Rao Truong Bridge (transmission pipeline), coordinates: X: 2077846; Y: 595972;*
- + *R3: At Sao Nam street (distribution pipeline), coordinates: X: 2080282; Y: 591340;*

+ R4: At Binh Minh street (distribution pipeline), coordinates: X: 2079230; Y: 603300;

31. **Comments:** The obtained analytical results of vibration level in the project areas show that: vibration levels in the project areas were meeting the allowable limits in accordance with QCVN 27:2010/BTNMT: National Technical Regulation about the vibration.

c) Analysis Results of surface water.

Table 12. Analysis Results of surface water – 1st quarter of 2019

| No | Parameter | Unit | Results | | | | | | GHCP (allowable limit) |
|----|-------------------------------|-------------|---------|-------|------|-------|-------|------|---------------------------|
| | | | NM1 | NM2 | NM3 | NM4 | NM5 | NM6 | |
| 1 | PH | - | 7.4 | 7.5 | 7.2 | 7.2 | 7.0 | 7.4 | 5.5-9 |
| 2 | DO | mg/l | 5.9 | 6.1 | 5.8 | 4.9 | 5.2 | 5.0 | ≥ 4 |
| 3 | COD | mg/l | 20.2 | 22.5 | 26.0 | 22.5 | 26.2 | 26.8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | 13.2 | 13.5 | 12 | 13.2 | 14.4 | 12,7 | 15 |
| 5 | TSS | mg/l | 38.5 | 37 | 41.3 | 32.7 | 35.2 | 37 | 50 |
| 6 | NH ₄ ⁺ | mg/l | 0.4 | 0.45 | 0.6 | 0.52 | 0.55 | 0.6 | 0.9 |
| 7 | NO ₃ ⁻ | mg/l | 6.0 | 6.2 | 7.2 | 5.7 | 6.4 | 5.8 | 10 |
| 8 | NO ₂ ⁻ | mg/l | 0.03 | 0.032 | 0.04 | 0.028 | 0.035 | 0.03 | 0.05 |
| 9 | PO ₄ ³⁻ | mg/l | 0.12 | 0.1 | 0.17 | 0.21 | 0.18 | 0.2 | 0.3 |
| 10 | Grease | mg/l | 0.48 | 0.46 | 0.61 | 0.62 | 0.54 | 0.55 | 1 |
| 11 | Coliform | MPN/100 mml | 4200 | 4300 | 4800 | 4500 | 4200 | 4300 | 7500 |

(Source: Analytical center and environmental geodesic Phuong Nam, March 2019)

Table 13: Analysis Results of surface water– 2nd quarter of 2019

| No | Parameter | Unit | Results | | | | | | GHCP (allowable limit) |
|----|------------------------------|------|---------|------|------|------|------|------|---------------------------|
| | | | NM1 | NM2 | NM3 | NM4 | NM5 | NM6 | |
| 1 | PH | - | 7.6 | 7.4 | 7.3 | 7.7 | 7.4 | 7.9 | 5.5-9 |
| 2 | DO | mg/l | 5.2 | 5.0 | 5.5 | 5.2 | 5.8 | 6.4 | ≥ 4 |
| 3 | COD | mg/l | 24.2 | 20.5 | 21.8 | 25.5 | 21.3 | 24.8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | 11.2 | 10.6 | 11.8 | 14.5 | 13.2 | 12.9 | 15 |
| 5 | TSS | mg/l | 44.5 | 43.7 | 41.1 | 44.1 | 41.5 | 42.7 | 50 |
| 6 | NH ₄ ⁺ | mg/l | 0.52 | 0.48 | 0.41 | 0.31 | 0.35 | 0.42 | 0.9 |

| | | | | | | | | | |
|----|-------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| 7 | NO ₃ ⁻ | mg/l | 3.2 | 4.8 | 4.6 | 3.8 | 4.1 | 3.7 | 10 |
| 8 | NO ₂ ⁻ | mg/l | 0.035 | 0.039 | 0.044 | 0.044 | 0.041 | 0.037 | 0.05 |
| 9 | PO ₄ ³⁻ | mg/l | 0.18 | 0.25 | 0.21 | 0.18 | 0.21 | 0.17 | 0.3 |
| 10 | Grease | mg/l | 0.6 | 0.52 | 0.61 | 0.55 | 0.47 | 0.39 | 1 |
| 11 | Coliform | MPN/100 mml | 4,700 | 4,600 | 4,500 | 4,700 | 4,600 | 4,600 | 7,500 |

(Source: Analytical center and environmental geodesic Phuong Nam, June 2019)

Notes:

GHCP: QCVN 08-MT:2015/BTNMT: National technical regulation about the surface water quality.

- + NM1: At Phuong Tich bridge (the first point), coordinates: X: 2078175; Y: 591458;
- + NM2: At Phuong Tich bridge (the second point), coordinates: X: 2079981; Y: 591657;
- + NM3: Surface water on Rao Truong River (near Nhon Bridge), coordinates: X: 2077848; Y: 595975;
- + NM4: On Cam River, coordinates: X: 2085180; Y: 594907;
- + NM5: Surface water on ponds in Nghi Huong ward, coordinates: X: 2078967; Y: 602631;
- + NM6: Surface water on ponds in Nghi Khanh commune, coordinates: X: 2080250; Y: 599570;

32. **Comments:** Through the measurement and analysis of 6 surface water samples in the project area, it is shown that the monitoring parameters in the first 6 months of 2019 are within the permitted limits in QCVN 08-MT: 2015 / BTNMT (column B1).

3 Occupational, Health and Safety (OHS) Performance Monitoring

3.1 OHS for worker

33. The contractor has equipped medical cabinets and protective equipment for workers fully. The health of workers and workers on the site is generally good.

Table 14: Issues on OHS for worker

| Issue | Required Action | Responsibility and Timing | Resolution |
|---|--|---|---|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| Workers who are exposed to loud noise are not equipped with noise-canceling ear plugs | Providing noise-canceling ear plugs for workers who are exposed to loud noise. | - Implementation responsibilities: Ha Huy Joint Stock Company - Compliance from 11 th Dec, 2018 | - Construction supervision consultants are responsible for supervising the implementation of mitigation measures. - In the first 6 months of 2019, water plant operators are equipped with noise-proof buttons |

| | | | |
|--|--|---|---|
| Safety warning signs on the construction site were not installed sufficiently | It is necessary to install sufficiently warning signs on the construction site | <ul style="list-style-type: none"> - Implementation responsibilities: Ha Huy Joint Stock Company - Implementation time: Immediately, from 11th – 12thDec, 2018 | <ul style="list-style-type: none"> - Construction supervision consultants are responsible for supervising the implementation of mitigation measures. - In the first 6 months of 2019, Safety warning signs on the construction site were installed sufficiently |
| Some workers have been working without person protection equipment PPE: shoes, safety helmets... | The contractor should internally supervise and remind their workers more regularly | <ul style="list-style-type: none"> - Implementation responsibilities: Ha Huy Joint Stock Company - Implementation time: Immediately, from 11th – 12thDec, 2018 | <ul style="list-style-type: none"> - In the first 6 months of 2019 : being complied - The contractor is equipped with protective clothing for workers. But due to hot weather conditions and local work habits, compliance is not yet strict - Supervision consultants and contractors should base on the nature and extent of danger of construction works to remind workers to use labor protection when necessary. - |
| Pump Station and Office Building Site | | | |
| Safety warning signs on the construction site were not installed sufficiently | It is necessary to install sufficiently warning signs on the construction site | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Implementation time: Immediately, from 11th – 12thDec, 2018 | <ul style="list-style-type: none"> - Construction supervision consultants are responsible for supervising the implementation of mitigation measures. - In the first 6 months of 2019, Safety warning signs on the construction site were installed sufficiently |

| | | | |
|--|--|--|--|
| Some workers have been working without person protection equipment PPE: shoes, safety helmets... | The contractor should internally supervise and remind their workers more regularly | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Implementation time: Immediately, from 11th – 12th Dec, 2018 | <ul style="list-style-type: none"> - In the first 6 months of 2019 : being complied - The contractor is equipped with protective clothing for workers. But due to hot weather conditions and local work habits, compliance is not yet strict - Supervision consultants and contractors should base on the nature and extent of danger of construction works to remind workers to use labor protection when necessary. |
| Transmission pipelines | | | |
| none | | - | - |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| none | | - | - |
| Pump Station and Office Building Site | | | |
| none | | - | - |
| Transmission pipelines | | | |
| none | | - | - |
| <i>(All labor safety and environmental issues that exist from previous reporting periods are being followed.)-</i> | | | |

3.2 Public Safety

Table 15: Issues on Public Safety

| Issue | Required Action | Responsibility and Timing | Resolution |
|--|--|--|--|
| Old Issues from Previous Reports | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| Watering sprinkling at specific locations in dry season. | The contractor is requested to water daily (when dry weather) on the construction site to keep a reasonable humidity to reduce dust dispersion Sprinklers. 2 times / day | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor Ha Huy Joint Stock Company - Implementation time: Daily, when dry weather, from 1st January 2018 to 31st June, 2018 | <ul style="list-style-type: none"> - Being complied - Construction supervision consultancy: The contractor has implemented during the first 6 months of 2019 - Social environment monitoring consultant: is responsible for updating the situation in the next monthly report / quarterly report. |
| Pump Station and Office Building Site | | | |
| Watering sprinkling at specific locations in dry season. | The contractor is requested to water daily (when dry weather) on the construction site to keep a reasonable humidity to reduce dust dispersion Sprinklers. 2 times / day | <ul style="list-style-type: none"> - Implementation responsibilities: Contractor - Vietnam Water Supply and Sewerage Construction Investment Corporation (VIWASEEN) - Implementation time: Daily, when dry weather, from 1st January 2018 to 31st June, 2018 | <ul style="list-style-type: none"> - Being complied - Construction supervision consultancy: The contractor has implemented during the first 6 months of 2019 - Social environment monitoring consultant: is responsible for updating the situation in the next monthly report / quarterly report. |
| Transmission pipelines | | | |
| none | | - | - |
| New Issues from This Report | | | |
| Nghi Hoa Water Treatment Plant Site | | | |
| none | | | |
| Pump Station and Office Building Site | | | |
| none | | | |
| Transmission pipelines | | | |
| none | | | |

4 Information Disclosure and Socialization including Capability Building

34. During field monitoring from 23th to 26th June 2019, the consultant also consulted some project area residents on environmental issues that occurred during the construction process of the contractor.

Table 16: Residents' Feedback on the Project

| No. | Projects | Residents' feedbacks | Mitigation measures |
|-----|----------------------------|--|---|
| 1 | WTP | - Construction activities at this project do not affect our daily life | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |
| 2 | Booster station and office | - Construction activities at this project do not affect our daily life | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |
| 3 | Transmission pipelines | - The project is constructed quickly, does not scatter construction waste, so it does not affect the travel of people - Workers' activities are orderly and quiet | - Continual CSC's and PMU's strict supervision of sanitation and environmental safeguards |

35. Capacity building and community protection activities during project documentation phase are detailed in the approved IEE/EMP, RP and GAP reports. During the construction phase, the following activities have been done by the environmental specialist:

- Training/guiding on site for the contractors and construction supervising engineers about the EMP implementation during construction phase;
- Training/guiding on site for the contractors and supervising engineers to fulfil the on-site construction diary, weekly monitoring forms, to disclose the construction plans to the local authorities and communities before implementation;
- Working with the local communities for guiding and instruction about the roles of the environmental community monitoring;
- Organizing meetings with PMU and CMC to discuss on the project's EMP implementation and monitoring.

36. For this monitoring period, the environmental specialist conducted following activities:

- Re-training/guiding on site for the contractors and construction supervising engineers about the EMP implementation during construction phase;
- Interviewing/consulting with some randomly selected local people living around the project areas about the environmental and social impacts caused by the project;
- Organizing meetings with PMU's staff and CMC to discuss on the project's EMP implementation and monitoring.

5 Grievance Redress Mechanism

37. For each of the item, Grievance Redress Mechanism (GRM) has been set up to resolve complaints in a timely manner, namely:

- In each construction site, there is signage showing full information about the work, contractor, CSC, the project owner, site managers, contact details of project owner, and site manager.
- For each site, there is always the presence of a PMU officer, a CSC staff, and the site manager
- In case of grievance and complain, public members may dial the site manager, CSC, PMU's representative or seek them at the site to express their grievance or demand to resolve, mitigate or compensate for issues.
- In case of failure to come to an agreement, public members may lodge their grievance at the sites with the PMU's representative, CSC, site managers or at the PMU office. Within a month of admission, PMU director shall delegate an officer to work with involved parties including site managers, PMU's representatives, CSC and affected persons on remedial or offsetting actions.
- In case of inability to come to a satisfactory resolution, public members may appeal to higher authority in accordance with legal procedures.

Table 17: Details of personnel in charge of GRM at the sites:

| No | Items | Name | Position | Phone number |
|----|-------------------|--------------------|--------------|--------------|
| 1 | WTP | Mr. Le Quoc Hung | Site Manager | 0979874402 |
| 2 | Booster station | Mr. Tran Xuan Thai | Site Manager | 0985112169 |
| 3 | Transmission line | Mr. Vu An Tuan | Site Manager | 0978697313 |

38. Over the course of implementation, as of January 2019 there has been no complaints from local authority and the public on adverse impacts on the environment and community done by the project. 08 graves are no longer located within Nghi Hoa water plant. However, in the process of constructing the fence of Nghi Hoa water plant, the contractor should pay attention to the construction work, not affecting these 08 graves.

39.

Table 18: Grievances Received

| Type of Grievance | Details (Date, person, address, contact details, etc.) | Required Action, Responsibility and Timing | Resolution |
|---|--|--|------------|
| Old Issues from Previous Reports | | | |
| None | | | |
| New Issues from This Report | | | |
| None | - | - | - |

6 Resettlement, Social safeguards and Gender

6.1 Resettlement, Social safeguards

40. **Status of social safeguards documents** that was/will be prepared from beginning as of reporting period;

Reports that have been prepared and approved include:

- + Resettlement Due Diligence Report for of the raw water intake and booster pumping station, rehabilitation and expansion of the WTP (Before loan fact finding mission - Since payments had already been made without an approved RP) was prepared and approved by ADB on 2014.
- + Resettlement Due Diligence Report was prepared and submitted to ADB on January 9, 2017. ADB had no objection this report on June 20, 2017.

- + Resettlement Due Diligence Report (Items: Network pipeline) is being prepared and will be submitted to ADB on next reporting period.

Social environment monitoring reports:

- + Social environment monitoring report for the last 6 months of 2017
- + Social environment monitoring report for the first 6 months of 2018

Reports that have been prepared but not yet approved include:

- + Social environment monitoring report for the last 6 months of 2018

41. **Pending issues and recommendation from last report** and main activities that have been done in this period for resolving these pending issues;

- 02 AHs who did not disagree to receive compensation for site clearance in the Office and booster pump station in Nghi Huong ward, Cua Lo town.
- 08 land graves have not been removed from the scope of Nghi Hoa water plant

Action

- Project Management Board - Cua Lo Water Joint Stock Company adjusts construction detailed planning at 1/500 scale. Submit to Nghe An Provincial People's Committee for approval. Purpose: to narrow the area of the scope of the item thus not recover the land of 02 households in Nghi Huong ward - Cua Lo town. By April 26th, 2019, Nghe An Provincial People's Committee issued Decision No. 1381 / QD-UBND on approving the adjustment of detailed planning for construction of pumping station and office building at a scale of 1/500 in Ward Nghi Huong, Cua Lo town
- Cua Lo Water Supply Joint Stock Company sent Official Letter No. 51 / CV-CNCL dated January 22, 2019 on requesting Vietnam Water and Environment Joint Stock Company to adjust the construction to suit the actual construction situation.

Purpose: Removing 08 land graves affected by Nghi Hoa water plant to outside project area.

42. **The impact** (affected land, affected asset on land with AHs) according to approved DDR, actual during implementation: Temporary land acquisition impact of transmission pipeline item is 4,629.46m² of agricultural land of 61 households.

43. Pipelines constructed include: The transmission network includes pipelines in diameter from DN250 to DN450 in a total length of 15.5 km; Distribution network of Cua Lo town have diameter from DN110 to DN400 with a total length of 37 km; The service network has diameter ranging from DN32 to DN90 connected from distribution network to convey water to consumers. Total length of the service network is 241,800 m connecting to 7,352 households

44. Particularly for transmission pipelines: The pipeline is installed along the left side of Provincial Road DT 534. The road has no pavement and pipeline is laid on the agricultural lands. The estimated width of acquisition land is 0.5 m from the center line to two sides of pipe with total length of 300 m. This land is not permanent land acquisition but temporary acquisition for construction and will be restored to its original condition after construction. The construction methods for these positions are performed after harvest to avoid impacts. In case of construction before or during harvest, the crops and other impacts are compensated in compliance with Vietnamese regulations and approved resettlement framework.

45. During the construction of the distribution pipes under the NA-CL-CW1 / ICB package passing through Nghi Thu ward (belonging to Highway 46 from km2 ÷ km2 + 800) and Nghi Quang commune (belonging to provincial road 536 from km 3 ÷ km4 + 315) Cua Lo town, was implemented within 20 days/route from June to July 2018. Unanticipated impacts including temporary land acquisition impacts of 4,629.46m² of agricultural land of 61 households and impacts on their trees and crops occurred (including: rice field land is 1663.5m²; Mai sticky trees is 1061.36 m²; morning glory land is 1846.6m², tomato land is 26m²) and 104 banana trees; 3 jackfruit trees; 68 edible canna trees; 54 tobacco plants; 3 guava trees; 2 mandarin trees, 10 bamboo trees. All these affected agricultural lands and trees are belonging to 61 households in Trung Tien

hamlet of Nghi Quang commune of Nghi Loc district, and Dong Quyen cluster of Nghi Thu ward of Cua Lo town, and Hoa Dinh cluster of Nghi Thu ward of Cua Lo town. This is a temporary impact on agricultural land. 100% of the cultivated area of Ahs was restored for the new season with the money received.

46. During construction of pipelines may cause temporary disturbances on living/business activities of households along the construction roads which include: (i) 25 households along Highway No. 46 (intersection close to Cua Lo Water Supply Joint Stock Company); (ii) 20 households along Sao Nam Road; (iii) 35 business households along Provincial Road No. 535 from Binh Minh intersection to Nghi Xuan Commune People's Committee; (iv) 25 households along Nguyen Hue Road; and (v) 30 households along Nguyen Sinh Cung Road. However, these impacts are minor since all the pipes are relatively small, and occur temporally in short time period. The contractor will use rolling construction methods; water to minimize dust and make temporary walkways for people

47. The service network has diameter ranging from DN32 to DN90 connected from distribution network to convey water to consumers. Total length of the service network is 241.800 m. During construction of the service network may cause temporary disturbances to the households living along the road sides. However, these impacts are minor, only occur in short time period, could not be avoided, and could be mitigated by measures such as rolling construction, watering to minimize dust, and making roads. temporary for the people..

48. The process of construction of transmission pipeline needs to implement impact mitigation measures as follows:

- These positions will be constructed in section, the ground will be restored right after being constructed; construction time will avoid the rush time of travelling and at night to minimize the effect on business activities; during construction, if there is any arisen damage it will be repaired and compensated in accordant with approved safeguard policy of the Project. The construction of pipelines has affected to existing facilities.
- Apply the suitable construction methods to avoid the effects on the railway, Highway, irrigation canal, etc.
- Build intersection manholes or siphon when having clashes with the drainage pipes, irrigation canals.
- Apply the construction methods such as segment construction, avoiding rush- hours in order to decrease the impacts on households along the road and be willing to damage compensate according to the project policy.
- Implement construction when finishing harvest, repay the land when finishing the construction in order to decrease the impacts on the cultivated areas of the households be willing to damage compensate according to the project policy.
- With any affect arisen during construction of pipelines, it will be compensated in compliance with approved land acquisition policies of the Project and its mitigation measures will be supervised closely during implementation.

Progress of Detail design approved, DMS:

49. In May 2018, based on the detailed design of transmission pipeline, the People's Committee of Nghi Quang commune and the People's Committee of Nghi Thu ward, in collaboration with the contractor Ha Huy and the Management Board of the Water Supply Project of Cua Lo Town, carried out DMS of asset on the land of 61 affected households during construction. At present, all affected households ready received the compensation. A due diligence report is being prepared of these impacts (for 61 AHs and 8 graves) and the mitigations measures implemented, and will be submitted to ADB for approval

Compensation unit price, Compensation plan and payment;

50. Unit price of compensation: negotiate with the people themselves. The contractor agreed to pay for the affected trees and crops and the people agreed to receive support money. Minutes of negotiating unit price and list of **households signing for payment** of 61 affected households on agricultural land are attached in Appendix 2. The compensation unit prices applied by the investor were mentioned in last monitoring period.

51. The applied compensation rates for affected trees and crops are in compliance with the Decision No. 74/2017 / QD-UBND of Nghe An Provincial People's Committee, dated December 4, 2017, promulgating the price list of compensation for aquatic plants and animals and relocation of graves in the area. Nghe An province and at market rates. Regarding compensation for crops and trees, the rates applied were equivalent to the output value calculated according to the productivity of the highest crop in the preceding three years for annual crops or the current value calculated at local market prices at the time of land acquisition. These rates have been appraised by the Department of Agriculture and Rural Development. Therefore, the rates applied are assessed to meet market rates in the locality. Moreover, the rates have been consulted with the affected households during consultation and the households have agreed with the compensation rates for their affected trees and crops.

52. Compensation and site clearance for the project had been carried out by the local authorities (Cua Lo Town People's Committee) from 2012 to 2016. Detailed compensation plans are approved in the following documents:

- For pumping station and office building in Nghi Huong ward, Cua Lo town, Nghe An province: detailed compensation plan approved in Document No. 20 / TC-KH dated 26 / 12/2012 of People's Committee of Cua Lo Town. Clean land was handed over first phase to the investor according to Decision no.44/QD-UBND dated 30 January, 2018 of Nghe An PPC's.
- For construction of the water treatment plant in Nghi Hoa commune, Nghi Loc district, Nghe An province: detailed compensation plan approved in Decision No. 2393 / QD-UBND dated December 28, 2012 of Nghi Loc District People's Committee. Cua Lo Water Supply JS Company signed a land lease contract no. 208/HD-TD dated 01 November, 2017 with Nghe An PPCs.
- For construction of clean water pipelines: Compensation and payment for households is carried out in the form of direct agreement with people on compensation unit prices to ensure replacement costs. Compensation has been completed quickly under the consent of all affected households and handover of clean ground to the contractors (before May 25, 2018). Because this was an unexpected expense, the contractor paid this person directly without the receipt.

53. The amount of temporary compensation for affected assets during the construction of the transmission pipeline is VND 25,759,070, including:

- Trung Tien hamlet, Nghi Quang commune, Nghi Loc district: 19,166,570 VND
- Dong Quyen block, Nghi Thu ward, Cua Lo town: 4,939,500 VND
- Hoa Dinh, Nghi Thu ward, Cua Lo town: 1,653,000 VND

54. Clearance payment has been completed. Updated in social environment monitoring report for the last 6 months of 2018

Updates on consultation activities during the monitoring period (with supporting documentation)

- Collect the decision approving the adjustment of detailed construction planning 1/500 item Office of Water Plant of Cua Lo Town of People's Committee of Nghe An Province on April 26, 2019
- Resettlement Due Diligence Report (Items: Network pipeline) was being prepared and will be submitted to ADB for approval.

Hand over land process:

55. Land area is planned before adjustment

- + Items of pumping stations and operating houses: 12,240,3m2
- + Water plant items: 80,754 m2

56. Land area allocated after adjustment

- + Construction items of the pumping station and office building: the clean ground was handed over to Investor the first phase according to Decision no.44/QD-UBND dated 30 January, 2018 of Nghe An PPC's. The ground handed over is 10,739.3m2, at Nghi Huong ward.
- + Construction item of water supply plant: Cua Lo Water Supply JS Company signed a land lease contract no. 208/HD-TD dated 01 November, 2017 with Nghe An PPCs. The hired area based on contract no. 208/HD-TD is 80,754m2, with a land lease term of 50 years.

57. **Grievance:**

During the social environmental monitoring period for the first 6 months of 2019. Ho Thi Huong - a social expert of the project, supervised two land clearance issues assessed from the previous reporting period. The following results:

- For pumping station and office building in Nghi Huong ward, Cua Lo town, Nghe An province:
 - + Till June 2019, there had been no complaints from local people and authorities recorded about the negative environmental and social impacts caused by the project construction.
 - + As already mentioned in the previous periodic report, there are two households who do not agree to receive the compensation according to the land price of the decision of Nghe An Provincial People's Committee (VND 1,027,000/m2), with an area of 3000m2. These households would like to get a higher unit price.

The solution proposed by the Project Management Board of Cua Lo Water Joint Stock Company is to adjust the detailed construction planning dossier of 1/500 items of Office and booster pump station in Nghi Huong Ward, Cua Lo Town. Designing document made by Vietnam Water and Environment Joint Stock Company (VIWASE). Due to the large amount of construction land of the project, this is in fact a work of adjusting the construction site to be narrowed in accordance with the current period, so the scope of land acquisition to be reduced.

On November 24, 2018, Cua Lo Water Supply Joint Stock Company sent a report to the People's Committee of Nghe An province about adjusting the detailed construction planning of 1/500 scale of Cua Lo Town Water Office and Plant under the project. Project: Upgrading and expanding the water supply system of Cua Lo town. The purpose of not recovering land of 02 households with complaints. By April 26th, 2019, Nghe An Provincial People's Committee issued Decision No. 1381 / QD-UBND on approving the adjustment of detailed planning for construction of pumping station and office building at a scale of 1/500 in Ward Nghi Huong, Cua Lo town – attached in appendix 1

- For construction of the water treatment plant in Nghi Hoa commune, Nghi Loc district, Nghe An province:
 - + Till June 2019, there had been no complaints from local people and authorities recorded about the negative environmental and social impacts caused by the project construction.

- + As already mentioned in the previous periodic report, although a land lease contractor has been signed, however, there are eight (08) remaining graves on this area have not been removed.
- + Based on Official Dispatch No. 51 / CV-CNCL dated January 22th, 2019 of Cua Lo Water Supply Joint Stock Company sent to Vietnam Water and Environment Joint Stock Company to adjust the redesign of embankment, shifted toward the lake 13m. (adjustment drawing and annotation of 08 graves are attached in Appendix 2).
- + Purpose of adjusting the scene: Do not affect the use function of the pre-sedimentation lake and do not relocate 8 earth graves. These 8 graves are no longer in Nghi Hoa water plant area.
- + Impact: 08 graves are no longer located within Nghi Hoa water plant. However, in the process of constructing the fence of Nghi Hoa water plant, the contractor should pay attention to the construction work, not affecting these 08 graves.
- For construction of transmission pipeline:
 - + As stated in the previous report, the construction of the clean water transmission pipeline only temporarily affects people. Up to now, 100% volume has been completed. Work on return the premises is being carried out smoothly.

6.2 As for Gender

58. Related to gender equality during approach, participation, and beneficiary from the project, Consultants has consulted to Investor and relevant contractors in order to ensure gender equality and give priorities to women, who participate into public consultation, community-based monitoring. Representatives of the local Women's Union are always invited to the consultation meeting for comments on the project. Consultants also consulted with Investor and contractors in order to guarantee gender equality and give priorities to women, who want to work in the project (including during both construction phase and the subsequent operational phase).

Table 19: Gender action plan

Date of update: 30th June 2019

| Project output | Gender Action Plan | Updated Progress | | | | | | | Issues/challenges and Recommendation | | | | | | | | | | | | | | |
|--|--|--|----------|---------------------|---------------------|---------------|--------------------------|--|--------------------------------------|---------------------------------------|----------|---------------------|---------------------|---------------|--------------------------|--------|------|------|-----|------|-----|------|--|
| Output 1: Increased coverage planning and construction of water supply and distribution systems | T.1. At least 40% of residents consulted on construction design and planning are women | <p><u>Achieved</u></p> <p>The project conducted four consultations in Nghi Tan - Cua Co and Nghi Hop wards in Nghi Loc district on water supply issues for local people. There are 115 people, of which 45 are women.</p> <p>In May 2018, the project management board also conducted a consultation meeting in Nghi Thu ward and Nghi Quang commune to solve piping construction problems and pay support to 61 households with pipelines. delivery passes. There were 61 participants, of which 27 were women.</p> <p>To date, A total of 176 attendees involved in consultation meetings, of whom 72 were female, made up 40.9%.</p> | | | | | | | | | | | | | | | | | | | | | |
| | T.2. 100% coverage of identified poor and women headed HH within the project area. | <p><u>On-going/Achieved</u></p> <p>PMU commits to 100% connection for poor households in the project area when the water supply network is completed.</p> <p>The percentage is calculated by the number of households that have been connected to the clean water pipelines as follows:</p> <table><tr><td></td><td>Total number of households connected.</td><td>Poor HHs</td><td>Poor HHs connected.</td><td>% Poor HHs coverage</td><td>Poor and FFHs</td><td>% Poor and FHHs coverage</td></tr><tr><td>Cua Lo</td><td>7352</td><td>1763</td><td>630</td><td>100%</td><td>474</td><td>100%</td></tr></table> | | | | | | | | Total number of households connected. | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | Cua Lo | 7352 | 1763 | 630 | 100% | 474 | 100% | |
| | | Total number of households connected. | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | | | | | | | | | | | | | | | | |
| Cua Lo | 7352 | 1763 | 630 | 100% | 474 | 100% | | | | | | | | | | | | | | | | | |
| A.1. Equal employment | <p><u>Achieved</u></p> | | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|--|--------------------------------------|---------|----------|-----------|----------------|-------|-------------------|-------|------------------|----|----|-----|---------------------|----|-----|-------|-------|-----|-----|-----|--|
| | opportunities and equal pay for equal work for women and men in civil works | <p>The policy of the Cua Lo water supply company and the construction contractor is to always create the maximum working and living conditions for the teams of workers working on the site.</p> <p>The construction teams deploy the contracting volume of work items</p> <p>As noted at the Nghi Hoa water plant project. Each group of workers has 6 people, women account for 50%.</p> <p>The average salary is 300,000 VND / day / person for female workers. and VND 350,000 / person / day for male employees</p> | | | | | | | | | | | | | | | | | | | | | |
| | T3. Target 30% female laborers in unskilled civil works with support of local Women’s Unions | <p><u>On-going/Achieved</u></p> <p>The total number of workers working at the construction site of the contractors is recorded as follows:</p> <table border="1"> <tr> <td>Contractor personnel statistics.</td> <td>Females</td> <td>Total</td> <td>% Female</td> </tr> <tr> <td>Hà Huy Company</td> <td>45</td> <td>140</td> <td>32,1%</td> </tr> <tr> <td>ViWaseen Company</td> <td>33</td> <td>90</td> <td>36%</td> </tr> <tr> <td>Vinaconex12 Company</td> <td>39</td> <td>114</td> <td>34,2%</td> </tr> <tr> <td>Total</td> <td>117</td> <td>344</td> <td>34%</td> </tr> </table> | Contractor personnel statistics. | Females | Total | % Female | Hà Huy Company | 45 | 140 | 32,1% | ViWaseen Company | 33 | 90 | 36% | Vinaconex12 Company | 39 | 114 | 34,2% | Total | 117 | 344 | 34% | |
| Contractor personnel statistics. | Females | Total | % Female | | | | | | | | | | | | | | | | | | | | |
| Hà Huy Company | 45 | 140 | 32,1% | | | | | | | | | | | | | | | | | | | | |
| ViWaseen Company | 33 | 90 | 36% | | | | | | | | | | | | | | | | | | | | |
| Vinaconex12 Company | 39 | 114 | 34,2% | | | | | | | | | | | | | | | | | | | | |
| Total | 117 | 344 | 34% | | | | | | | | | | | | | | | | | | | | |
| | T4. Target 30% female employment in technical (field and laboratory), community liaison and managerial roles in PMU (and or WSC) | <p>The number of women working for Cua Lo Water Supply Company are 15 out of employees, accounting for 31,25%.</p> <table border="1"> <tr> <td>field</td> <td>Total</td> <td>% Female</td> </tr> <tr> <td>Technical</td> <td>2/15</td> <td>13,3%</td> </tr> <tr> <td>Community liaison</td> <td>4/15</td> <td>26,7%</td> </tr> </table> | field | Total | % Female | Technical | 2/15 | 13,3% | Community liaison | 4/15 | 26,7% | | | | | | | | | | | | |
| field | Total | % Female | | | | | | | | | | | | | | | | | | | | | |
| Technical | 2/15 | 13,3% | | | | | | | | | | | | | | | | | | | | | |
| Community liaison | 4/15 | 26,7% | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | | | | | | | | | | Issues/challenges and Recommendation |
|----------------|---|---|-------|------|--------|-------|-------|--------|----------|------|-------------------|--------------------------------------|
| | | Managerial roles | | | 2/15 | | 13,3% | | | | | |
| | | Customer service | | | 7/15 | | 46,7% | | | | | |
| | T5. Target 25% women in CSBs (at ward level), CRCs and PMUs | <u>On-going/Achieved</u> Each community monitoring board has 5 members. There are 3 males and 2 females, accounting for 40% This index is basically satisfactory | | | | | | | | | | |
| | | CSBs | | | CRCs | | | PMU | | | % of total female | |
| | | Female | Total | % | Female | Total | % | Female | Total | % | | |
| | Cua Lo | 20 | 50 | 40.0 | 4 | 12 | 33,3 | 2 | 7 | 28.5 | 34.3 | |
| | A2. Train all CSB members–men and women–on various aspects of project oversight | <u>On-going/achieved</u> 5 people in every community monitoring board were all trained on environmental protection monitoring until the project was completed. | | | | | | | | | | |
| | | | | | Female | | Total | | % Female | | | |
| | | Nghi Hoa water plant | | | 5 | | 5 | | 100% | | | |
| | | Booster pumping station | | | 5 | | 5 | | 100% | | | |
| | | Transmission pipeline | | | 20 | | 20 | | 100% | | | |
| | | Total | | | 30 | | 30 | | 100% | | | |
| | A3. Separate women’s latrines and living quarters at construction sites | <u>Achieved</u> At the construction site, there are separate toilets for men and women. The toilets are built according to the technical design of the project. | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | | | | | Issues/challenges and Recommendation | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|-------|-----------|-------|-------------|--------------------------------------|-------------------|--|-----------|-------|-------------|-------------------|-------|-----|----|------|------|------|----|---|-----|-----|-------|-------|-----|-------|-------|--|
| Output 2: Improved business planning, asset and financial management Improve operation and maintenance, improve strategic analysis and planning of the water supply companies and effective monitoring and evaluation | A4. Water tariff increase agreed at midterm review with gender and affordability considerations | According to the approved project, the water price increases according to the schedule of 2 years. Each time the increase ups to 24%. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | The ability to pay is calculated in detail according to the price increase schedule which ensures that poor households pay less than 6% of their total income is acceptable. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | During the mission in 2019, gender experts collaborated with PMU to re-examine the affordability of poor households following the decision to raise water prices of Nghe An Provincial People's Committee in Decision No. 41/2018 / QD-UBND, October 2, 2018. After interviewing 100 households in the project area about agreeing to pay clean water prices at the annual increase according to the decision of the provincial People's Committee, the results are as follows: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table><tr><td colspan="2"></td><td>Frequency</td><td>Ratio</td><td>Actual rate</td><td>Accumulated ratio</td></tr><tr><td rowspan="3">Value</td><td>yes</td><td>95</td><td>95.0</td><td>95.0</td><td>95.0</td></tr><tr><td>no</td><td>5</td><td>5.0</td><td>5.0</td><td>100.0</td></tr><tr><td>Total</td><td>100</td><td>100.0</td><td>100.0</td><td></td></tr></table> | | | | | | | | Frequency | Ratio | Actual rate | Accumulated ratio | Value | yes | 95 | 95.0 | 95.0 | 95.0 | no | 5 | 5.0 | 5.0 | 100.0 | Total | 100 | 100.0 | 100.0 | |
| | | | | Frequency | Ratio | Actual rate | | Accumulated ratio | | | | | | | | | | | | | | | | | | | | | |
| Value | yes | 95 | 95.0 | 95.0 | 95.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | no | 5 | 5.0 | 5.0 | 100.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total | 100 | 100.0 | 100.0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5% of interviewed households do not agree to pay if water price increases and switch to another type. However, the water price for poor households remains at VND 6500 / m3 compared to Decision No. 37/2016 / QD-UBND of Nghe An Provincial People's Committee. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A5. Provide gender awareness training for all levels of WSC, project staff, subproject steering committees, CSBs, and consultants to increase sensitivity on | 15/15 female employees of Cua Lo Water Supply Joint Stock Company and local Women's Union have been trained and trained on gender awareness. reach rate of 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation |
|----------------|---|---|--------------------------------------|
| | water and gender issues, including through exposure visits for female staff of WSC and Women's Union members. | | |
| | T6. Target 50% female staff for new recruits in each PMU and water companies/enterprises in technical and project management positions | <u>Achieved</u> Currently, Cua Lo Water Supply PMU has 7 members. There are two staff recruited during the project, all of them are females. Accounting for 100% of new employees | |
| | T7. Ensure 30% female staff participation in training on technical issues like water supply management, scheme operations and maintenance (including NRW reduction) | <u>Achieved</u> Currently, the company is sending 3 staffs to study at the Nghe An water supply plant. 01 out of 3 are female, accounting 33%. | |
| | A6. Partner with Women's Union and Community Health | The Women's Union of communes and wards in the project area has actively provided statistics of grassroots women | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation |
|----------------|--|--|--------------------------------------|
| | Centers in IEC planning and delivery that target both male and female residents and local authorities' representatives equally | <p>The chairperson of the Women's Union of the communes / wards provided input during the drafting of the IEC document to raise awareness about clean water among the local people.</p> <p>PMU of Cua Lo Water Supply Joint Stock Company cooperates with the People's Committee of Cua Lo Town; Television in Cua Lo town; Local Women's Union, to prepare communication materials and broadcast on Cua Lo Town Radio</p> <p>During the implementation of the project, the Government of Cua Lo Town also closely directed to overcome the bad works of the project. Besides, the TV station and the press always timely reported the work that has been done in the water supply project in Cua Lo town. Help people capture information and raise awareness about clean water. Specifically:</p> <p>https://baonghean.vn/cong-ty-cp-cap-nuoc-cua-lo-mo-rong-cong-suat-cap-nuoc-10000-m3-ngay-161245.html</p> <p>http://cualo.vn/chu-tich-hdnd-thi-xa-cua-lo-khao-sat-mot-so-van-de-cu-tri-kien-nghi-ve-du-an-cap-nuoc-sach/</p> <p>https://www.moitruongvadothi.vn/tai-nguyen/nuoc/cua-lo-nghe-an-dau-tu-he-thong-cap-nuoc-dong-bo-hien-dai-a64103.html</p> | |
| | A7. Gender-responsive IEC materials integrating women's issues and needs, disseminated through channels accessed by women | The IEC document has met the gender information within the scope of the project | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation |
|--|---|---|--------------------------------------|
| | T8. Ensure 30% of meter readers and 50% of IEC facilitators employed by WSC and PMU are women | There are 13-meter readers, of which, 100% of them are women and 11 staff work as communication facilitators, account to 100%. | |
| | A8. During construction, inform women of water supply interruption schedules to enable better household planning and minimize disruptions | In the first 6 months of 2019, the construction of transmission pipelines does not affect the current situation of water supply. | |
| | A9. Disaggregate customer feedback by sex for use in future planning and in project quarterly reports and biannual GAP Progress Reports | <p>There are currently no feedback or complaints from the community.</p> <p>The Cua Lo water supply company receives feedback from people through two channels of information</p> <ol style="list-style-type: none"> 1. From the hotline phone number: 0383943177 2. Customer support department: 091 314 87 68 | |
| Output 3: Effective NRW reduction | A10.Publicize water tariff roadmap which integrates gender and affordability concerns informed by VWU participation in | <p>The route for price increase is published in the feasible study report at the People's Committees of 11 wards/communes under the project.</p> <p>Prior to the preparation of the project report, the project team consulted in 11 wards, including representatives of local women's unions.</p> | |

| Project output | Gender Action Plan | Updated Progress | Issues/challenges and Recommendation | | | | | | | | | | | | |
|----------------|---|---|--------------------------------------|---------------|--------------------------|---------------------|---------------|--------------------------|--------|------|-----|------|-----|------|--|
| | roadmap planning exercises | Clean water price in Cua Lo town is taken by Cua Lo water supply joint stock company according to unit price of Nghe An clean water joint stock company approved in Decision No. 41/2018 / QD-UBND Nghe An province on valuing urban clean water consumption produced and supplied by Nghe An Water Supply Joint Stock Company. ³ Note: In this decision gender issues have not been addressed | | | | | | | | | | | | | |
| | A11.Ensure appropriate monitoring mechanism and staff resourcing for the implementation of decree 117/2007 and Decree 124/2011 to ensure lifeline tariff and free connections to 100% of identified poor and women-headed households. | <p>The PMU is in compliance with the law to ensure that 100% of poor and female headed households have access to clean water</p> <p>Mr. Tri who takes responsibility of social safeguard in PMU is assigned to monitor free connections for poor households and keep a record of connection confirmations when completing the project.</p> <p>The social supervisor will update the situation to the project completion report</p> <table><tr><td></td><td>Poor HHs</td><td>Poor HHs connected.</td><td>% Poor HHs coverage</td><td>Poor and FFHs</td><td>% Poor and FHHs coverage</td></tr><tr><td>Cua Lo</td><td>1763</td><td>630</td><td>100%</td><td>474</td><td>100%</td></tr></table> | | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | Cua Lo | 1763 | 630 | 100% | 474 | 100% | |
| | Poor HHs | Poor HHs connected. | % Poor HHs coverage | Poor and FFHs | % Poor and FHHs coverage | | | | | | | | | | |
| Cua Lo | 1763 | 630 | 100% | 474 | 100% | | | | | | | | | | |

³ <https://baonghean.vn/de-xuat-giam-gia-tieu-thu-nuoc-sach-tai-khu-vuc-do-thi-cua-nhieu-huyen-233948.html>

CRC = Compensation and Resettlement Committee; CSB = Community Supervision Board; HH = Household; IEC = Information, Education and Communication; MBC = Metering, Billing and Collection; PMU = Project Monitoring Unit; VWU = Viet Nam Women's Union; WSC = Water Supply Company.

7 Conclusion and recommendation

For Environment

59. By the time of reporting (June 30th, 2019), basically the project's EMPs has been implemented well by the contractors and PMU. However, there are some following issues those need to be solved, including:

60. For EMP compliance:

The existence from the previous period to this stage has been basically implemented by compliance contractors. Include:

- equipped with anti-noise button for workers operating Nghi Hoa water plant,
- There has been watering activity to reduce dust on construction sites
- Connect wastewater drainage system to the general drainage system in the category of booster pump station and office.
- There have been sufficient safety variables on site
- Having a waste collection and transportation unit is Nghi Loc Green Environment Company

Exist:

- At 2 construction sites of Nghi Hoa water plant and booster pump station and office house: Some workers have been working without person protection equipment PPE (shoes, safety helmets). The contractor should supervise and remind more regularly.

For Resettlement

61. The compensation process was complied with Vietnamese laws and regulations and also adapting with ADB's social safeguards policies.

Issues for site clearance from the previous period to the supervision period in the first 6 months of 2019 have been completely solved, including:

- 02 households by Office and booster pumping station in Nghi Huong ward, Cua Lo town was not affected by changing design
- 08 earth tombs will not be relocated by adjusting the fence design of Nghi Hoa water plant to narrow the construction area.

62. Finalize and submit DDR (Items Network pipeline) to ADB for approval

63. It is recommended that contractors, construction supervision consultants pay more attention to the protection of workers' health and safety; Ensure traffic safety near the construction site when people pass through here.

8 Appendix

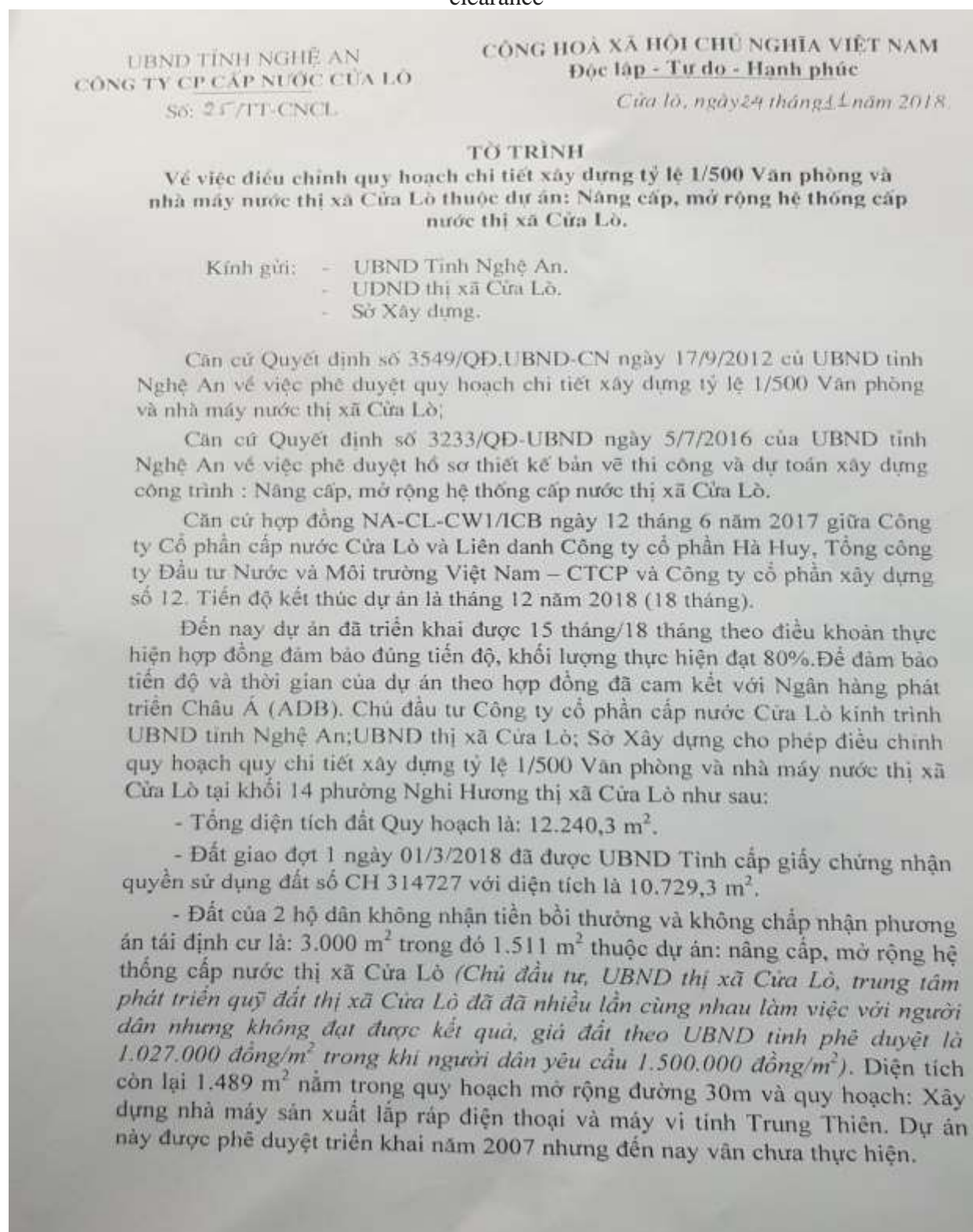
- Appendix 1: Statement & Decision to adjust details of pumping station and office building rate of 1: 500
- Appendix 2: Official dispatch to adjust the embankment and pre-sedimentation lake
- Appendix 3: Results of analysis of environmental samples during construction phase

Appendix 1: Statement & Decision to adjust details of pumping station and office building rate of 1: 500

Report No. 25 / TT-CNCL dated November 24, 2018 to the People's Committee of Nghe An province on adjusting the detailed construction planning of 1/500 scale of Cua Lo water plant style

Content: Reduce the planned area from 12240.3 m² to 10,739.3 m²

Purpose: Do not recover land of 02 households who do not accept compensation for site clearance



Để không làm ảnh hưởng đến tiến độ chung về việc giải ngân và quyết toán của dự án cuối tháng 12/2018 theo hợp đồng đã ký kết. Công ty CP cấp nước Cửa Lò kính trình UBND tỉnh Nghệ An; UBND thị xã Cửa Lò; Sở Xây dựng cho phép điều chỉnh quy hoạch chi tiết xây dựng tỷ lệ 1/500 Văn phòng và nhà máy nước thị xã Cửa Lò theo giấy chứng nhận quyền sử dụng đất số CH 314727 (không lấy đất của 02 hộ dân) đảm bảo đúng tiến độ, cam kết với nhà tài trợ và đúng qui định của Luật đầu tư xây dựng hiện hành.

Trân trọng cảm ơn!

Nơi nhận:

- Như trên;
- Ban QLDA;
- Lưu VP/c.ty

TM. HỘI ĐỒNG QUẢN TRỊ



Nguyễn Hữu Luận

Decision No. 1381 / QĐ - UBND Nghe An of April 26, 2019 adjusting the detailed construction planning of 1/500 scale of Van Phong items and booster pumping station of Cua Lo Town water plant in the ward. Nghi Huong, Cua Lo town. Nghe An Provincial People's Committee agrees that the planned area after adjustment is: 10,739.3 m²

**ỦY BAN NHÂN DÂN
TỈNH NGHỆ AN**

Số: *1381* /QĐ-UBND

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

Nghệ An, ngày *26* tháng *4* năm 2019

QUYẾT ĐỊNH

Phê duyệt điều chỉnh quy hoạch chi tiết xây dựng tỷ lệ 1/500 Văn phòng và nhà máy nước thị xã Cửa Lò tại phường Nghi Hương, thị xã Cửa Lò.

ỦY BAN NHÂN DÂN TỈNH NGHỆ AN

Căn cứ Luật Tổ chức chính quyền địa phương năm 2015;

Căn cứ Luật Quy hoạch và đô thị 2009; Luật Xây dựng 2014;

Căn cứ Nghị định số 44/2015/NĐ-CP ngày 06/5/2015 của Chính phủ quy định chi tiết một số nội dung về quy hoạch xây dựng;

Căn cứ Quyết định số 36/2017/QĐ-UBND ngày 16/3/2017 của UBND tỉnh Nghệ An về việc Quy định phân công, phân cấp quản lý quy hoạch xây dựng trên địa bàn tỉnh Nghệ An;

Căn cứ Quyết định số 3549/QĐ-UBND-CN ngày 17/9/2012 của UBND tỉnh về việc Phê duyệt quy hoạch chi tiết xây dựng tỷ lệ 1/500 Văn phòng và nhà máy nước thị xã Cửa Lò tại phường Nghi Hương, thị xã Cửa Lò.

Căn cứ Quyết định số 3233/QĐ-UBND ngày 05/7/2016 của UBND tỉnh về việc phê duyệt hồ sơ thiết kế BVTC và dự toán xây dựng công trình Nâng cấp mở rộng Hệ thống cấp nước thị xã Cửa Lò.

Xét đề nghị của Sở Xây dựng tại văn bản thẩm định số 709/SXD-HTKT ngày 14/3/2019,

QUYẾT ĐỊNH:

Điều 1. Phê duyệt điều chỉnh quy hoạch chi tiết xây dựng tỷ lệ 1/500 Văn phòng và nhà máy nước thị xã Cửa Lò tại phường Nghi Hương, thị xã Cửa Lò do Công ty CP Cấp nước Cửa Lò làm chủ đầu tư, với các nội dung chính như sau:

1. Tên hồ sơ: Điều chỉnh Quy hoạch chi tiết xây dựng (tỷ lệ 1/500) Văn phòng và nhà máy nước thị xã Cửa Lò tại phường Nghi Hương, thị xã Cửa Lò.

2. Chủ đầu tư: Công ty Cổ phần Cấp nước Cửa Lò (Địa chỉ: Phường Nghi Hương, thị xã Cửa Lò, tỉnh Nghệ An).

3. Vị trí khu đất quy hoạch xây dựng: Tại thửa đất số 450, tờ bản đồ số 14 thuộc khối 14, phường Nghi Hương, thị xã Cửa Lò, đã được Sở Tài nguyên và Môi trường cấp Giấy chứng nhận quyền sử dụng đất có số ký hiệu CH314727 ngày 01/3/2018. Các phía tiếp giáp cụ thể như sau:

- Phía Bắc giáp: Đất xây dựng công trình đầu mối;
- Phía Nam giáp: Đường quy hoạch 29,5m;

- Phía Đông giáp: Đường quy hoạch 29,5m;
- Phía Tây giáp: Đất quy hoạch dự án của Công ty Thiên Phú và đất ở dân cư.

4. Nội dung quy hoạch xây dựng:

4.1. Về quy mô đất đai:

- Tổng diện tích khu đất quy hoạch là 10.739,3m² theo Giấy chứng nhận quyền sử dụng đất có số ký hiệu CH314727 ngày 01/3/2018 do Sở Tài nguyên và Môi trường cấp, được giới hạn bởi đường nối các điểm A,B,C,D,F,G,E,A (theo bản vẽ quy hoạch). Trong đó:

- + Diện tích xây dựng công trình: 1.206,4 m².
- + Diện tích sân, đường nội bộ: 3260,0 m².
- + Diện tích cây xanh: 6.272,9 m².
- Mật độ xây dựng công trình: 11,30 %.
- Tầng cao xây dựng từ 1 – 3 tầng.

4.2. Về quy hoạch xây dựng các công trình kiến trúc: Các hạng mục công trình được thể hiện trong bản vẽ quy hoạch như sau:

- (01) Công chính;
- (02) Công phụ.
- (03) Nhà hành chính, 03 tầng, Sxd = 191m².
- (04) Nhà công vụ + nhà ăn, 01 tầng, Sxd = 147m².
- (05) Gara xe ô tô, 01 tầng, Sxd = 84m².
- (06) Gara xe 2 bánh, 01 tầng, Sxd = 22,8m².
- (07) Trạm biến áp, 01 tầng, Sxd = 16m².
- (08) Trạm bơm, 01 tầng, Sxd = 99m².
- (09) Nhà bảo vệ, 01 tầng, Sxd = 12,25m².
- (10) Nhà kho vật tư thiết bị và xưởng gia công cơ khí, 01 tầng, Sxd = 61,35m².
- (11) Sân bãi tập kết vật tư thiết bị, Sxd = 2099,0 m².
- (12) Bể chứa nước sạch, Sxd = 400,0m².
- (13) Nhà hội trường, 01 tầng, Sxd = 173,0 m².
- (14) Sân thể thao, Sxd = 243,7 m².

4.3. Về quy hoạch hạ tầng kỹ thuật:

- San nền: Căn cứ vào cao độ hiện trạng dự án để thiết kế cao độ san nền của các hạng mục công trình cho phù hợp với quy hoạch chung của khu vực;
- Thoát nước mưa: Nước mặt được thu gom toàn bộ qua hệ thống mương dẫn về hệ thống thoát nước chung của khu vực dự án

- Nước thải sinh hoạt: Phải được xử lý qua bể tự hoại xây dựng đúng quy cách, đạt tiêu chuẩn vệ sinh môi trường mới được xả vào hệ thống mương thoát nước thải chung của khu vực;

- Chất thải rắn: Phải được thu gom toàn bộ, phân loại và vận chuyển về khu xử lý chất thải rắn tập trung theo đúng quy định.

5. Ban hành kèm theo Quyết định này bộ bản vẽ Điều chỉnh mặt bằng quy hoạch chi tiết xây dựng tỷ lệ 1/500 Văn phòng và nhà máy nước thị xã Cửa Lò tại phường Nghi Hương, thị xã Cửa Lò (thay thế Quy hoạch đã được UBND tỉnh phê duyệt tại Quyết định số 3549/QĐ.UBND-CN ngày 17/9/2012).

Điều 2. Chủ đầu tư chịu trách nhiệm:

1. Phối hợp với Sở Xây dựng, Sở Tài nguyên và Môi trường, chính quyền địa phương, các cơ quan liên quan tổ chức công bố, cắm mốc, quản lý quy hoạch và thực hiện các bước tiếp theo đúng quy định hiện hành của Nhà nước.

2. Tổng hợp đầy đủ hồ sơ quy hoạch được UBND tỉnh phê duyệt nộp cho Sở Xây dựng và các cơ quan có thẩm quyền, mỗi cơ quan 01 bộ để lưu trữ.

3. Tổ chức lập thiết kế kỹ thuật, đầu tư xây dựng các hạng mục công trình phải đảm bảo theo đúng quy hoạch được duyệt, đảm bảo an toàn cho các công trình của dự án và các công trình lân cận và chịu mọi trách nhiệm trong quá trình triển khai thi công xây dựng.

Điều 3. Quyết định này có hiệu lực kể từ ngày ký.

Chánh Văn phòng UBND tỉnh; Giám đốc các Sở: Xây Dựng, Tài nguyên và Môi trường; Chủ tịch UBND thị xã Cửa Lò; Chủ tịch UBND phường Nghi Hương; Thủ trưởng các cơ quan liên quan và Chủ đầu tư căn cứ quyết định thi hành./.

Nơi nhận:

- Như điều 3;
- Chủ tịch UBND tỉnh (b/c);
- PCT CN UBND tỉnh;
- CVP UBND tỉnh;
- Tr.P CN UBND tỉnh;
- Lưu VT, CN(MT);

TM. ỦY BAN NHÂN DÂN
KT. CHỦ TỊCH
PHÓ CHỦ TỊCH



Lê Ngọc Hoa

Translation of Appendix 1

PEOPLE'S COMMITTEE OF NGHE AN PROVINCE
CUA LO WATER SUPPLY JOINT STOCK COMPANY
(CLWSC)

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom - Happiness

Cua Lo, Nov 24, 2018

Report

Regarding the adjustment of detailed construction plannings of 1/500 scale of Cua Lo town office and water plant under the project: Upgrading and expanding Cua Lo provincial water supply system

| | |
|--------|---|
| Dear : | - Nghe An Provincial People's Committee |
| | - Cua Lo Town People's Committee |
| | - Facility construction |

Pursuant to Decision No. 3549 / QĐ. UBND - CN dated September 17, 2012 of Nghe An Provincial People's Committee approving the detailed construction planning of 1/500 scale of Cua Lo Town Water Office and Plant

Pursuant to Decision No. 3233 / QĐ - UBND dated July 5, 2016 of Nghe An Provincial People's Committee approving construction drawing design documents and construction cost estimates of works: Upgrading and expanding the water supply system Cua Lo town.

Based on the NA - CL - CW1 / ICB contract dated June 12, 2017 between Cua Lo Water Supply Joint Stock Company and the Joint Venture of Ha Huy Joint Stock Company, Vietnam Water and Environment Investment Corporation - JSC and Construction Joint Stock Company No. 12. The project completion schedule is December 2018 (18 months).

Up to now, the project has been implemented for 15 months / 18 months under the terms of contract performance to ensure on schedule, the implementation volume reaches 80%. To ensure the progress and duration of the project according to the contract committed with the Asian Development Bank (ADB). Investor of Cua Lo Water Supply Joint Stock Company submits to People's Committee of Nghe An province; People's Committee of Cua Lo Town; Department of Construction allows adjustment of detailed construction planning of 1/500 scale of Office and Water Plant of Cua Lo Town at Block 14, Nghi Huong Ward, Cua Lo Town as follows:

- The total planning land area is: 12,240.3m²
- The land allocated for the first phase on March 1, 2018 has been issued a land use right certificate No. CH 314727 with an area of 10,729.3m²
- Land of two households who do not receive compensation money and do not accept the resettlement plan is: 3,000m² of which 1,511m² of the project: upgrading and expanding the Cua Lo town water supply system (The investor, the People's Committee of Cua Lo town, the land fund development center of Cua Lo town has repeatedly worked with people. However, if people do not achieve the results, the land price approved by the Provincial People's Committee is VND1,027,000/m² while the people request VND500,000/m²). Remaining area 1,489m² is in the 30m road expansion planning and planning: Building Trung Thien phone and computer assembly factory. This project was approved in 2007 but has not been implemented yet.

In order not to affect the overall progress of the disbursement and settlement of the project by the end of December 2018 under the signed contract of Cua Lo Water Supply Joint Stock Company to submit to the People's Committee of Nghe An province, People's Committee of Cua Lo Town, Department of Construction allows adjusting the detailed construction plan of 1/500 scale of Cua Lo Town Office and Water Plant according to the land use right certificate CH 314727 (without taking land from 02 households) to ensure on schedule, commitments with donors and the provisions of the current Construction Investment Law.

Appendix 2: Official dispatch to adjust the embankment and pre-sedimentation lake

Official Letter No. 51 / CV-CNCL dated January 22, 2019 to Vietnam Water and Environment Joint Stock Company on adjusting the construction of embankments along the embankment profile
Purpose: Removing 08 land graves from Nghi Hoa water plant without having to relocate and clear the ground..

CÔNG TY CỔ PHẦN CẤP NƯỚC CỬA LÒ
DỰ ÁN: NÂNG CẤP, MỞ RỘNG HỆ THỐNG CẤP NƯỚC CỬA LÒ
Số: 51/CV-CNCL Cửa Lò, ngày 22 tháng 01 năm 2019.

Kính gửi: - Công ty cổ phần nước và môi trường Việt Nam.

Căn cứ Quyết định số 3233/QĐ-UBND ngày 5/7/2016 của UBND tỉnh Nghệ An về việc phê duyệt hồ sơ thiết kế bản vẽ thi công và dự toán xây dựng công trình : Nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò.

Căn cứ công văn số 101/UBND-CN ngày 05/01/2017 của UBND tỉnh Nghệ An về việc đẩy nhanh tiến độ các dự án cấp nước và xử lý nước thải thị xã Cửa Lò.

Căn cứ vào hồ sơ thiết kế điều chỉnh hồ sơ lắp tư vấn thiết kế đã trình.

Chủ đầu tư Công ty cổ phần cấp nước Cửa Lò có ý kiến như sau:

- Điều chỉnh lại tuyến bờ kè tại vị trí mô đất phía ngoài sông cạnh đường vào khu mộ tổ dòng họ Nguyễn Quốc và vị trí bờ kè trước khu mộ tổ cụ thể:

+ Tại vị trí mô đất tận dụng phía dọc bờ sông (gần cửa phai hồ thu) thực tế mô đất, bờ kè bám theo địa hình nhằm giảm khối lượng đào đắp và không cần phải di chuyển đường điện hiện có, dự kiến vị trí bờ kè sẽ dịch vào phía hồ so với thiết kế điều chỉnh khoảng 13m.

+ Tại vị trí trước mộ tổ dòng họ tổ Nguyễn Quốc là di tích lịch sử của tỉnh, tạo cảnh quan và không ảnh hưởng tới công năng sử dụng hồ nên điều chỉnh lại vị trí này (bản vẽ kèm theo). Đồng thời kiểm tra trên thực tế hiện trường tại vị trí điều chỉnh này có lạch nước để lại do khai thác đất sét làm gạch trước đây là một dải bùn non chiều sâu >5m nên đặt bờ kè ở đây yêu cầu xử lý nền phức tạp.

Chủ đầu tư Công ty cổ phần cấp nước Cửa Lò đề nghị đơn vị tư vấn thiết kế Công ty cổ phần nước và môi trường Việt Nam kiểm tra và điều chỉnh lại phù hợp với nội dung trên.

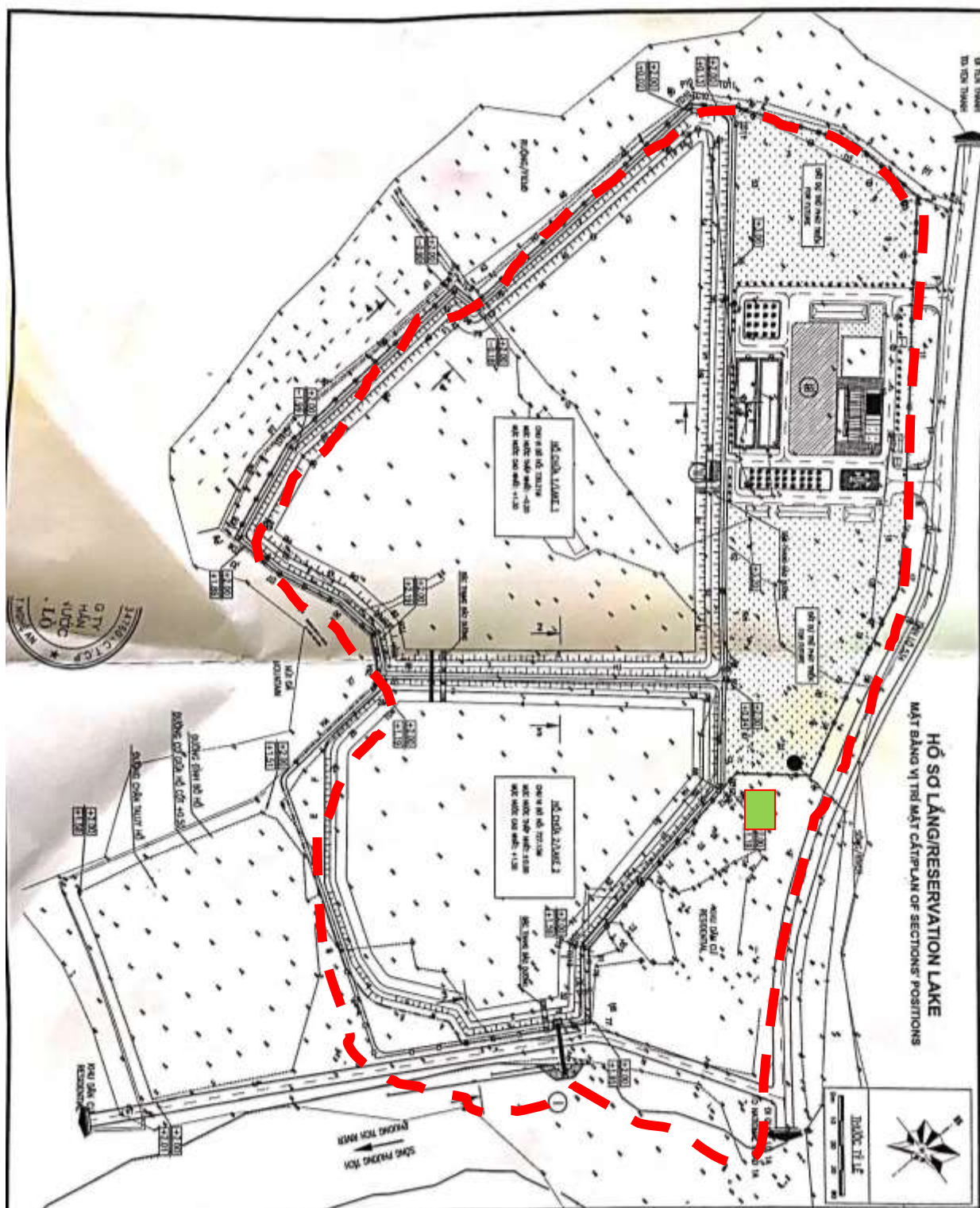
Trân trọng cảm ơn ./.

Nơi nhận:

- Như trên;
- Ban QLDA;
- Lưu VP/c.ty



BAN QLDA CẤP NƯỚC CỬA LÒ
TRƯỞNG BAN
CÔNG TY
CỔ PHẦN
CẤP NƯỚC
CỬA LÒ
TX CỬA LÒ - T. NGHỆ AN
Nguyễn Hữu Luận





Map before adjustment

Ghi Chú/ Note

| | | | |
|---|--|---|---|
|  | Vị trí 08 ngôi mộ Location of 08 graves |  | Tường bao nhà máy nước Wall of water factory |
|---|--|---|---|

Map after adjustment

Ghi Chú/ Note


| | | | |
|---|--|---|---|
|  | Vị trí 08 ngôi mộ Location of 08 graves |  | Tường bao nhà máy nước Wall of water factory |
|---|--|---|---|

Appendix 3: Results of analysis of environmental samples during construction phase




Sample analysis results of the 1st quarter

The results of analysis of air samples (k1, k2, k3) of the 1st quarter of 2019

Laboratory: Phuong Nam Center for environmental analysis and measurement.



TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM
Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363

PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 656.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN

2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An

3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.

3. Loại mẫu: Mẫu không khí, tiếng ồn

4. Vị trí lấy mẫu:

- + Khu vực đường Nguyễn Sinh Cung
- + Khu vực đường Nguyễn Huệ
- + Khu vực đường Mai Thúc Loan

5. Ngày lấy mẫu: 16/03/2019

Kí hiệu: Tọa độ:

KK1 X: 2078456; Y: 601044

KK2 X: 2079042; Y: 602877

KK3 X: 2079131; Y: 602965


Ngày trả kết quả: 22/03/2019

| TT | Thông số | DVT | Phương pháp thử | Kết quả | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|--------------------|---------|------|------|-----------------------|
| | | | | KK1 | KK2 | KK3 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 29 | 28 | 28,7 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 78 | 75 | 79 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN-ASKK | 620 | 612 | 627 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,2 | 1,5 | 1,0 | - |
| 5 | Hướng gió | - | GPS 64s | TB | TB | TB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 142 | 155 | 151 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1820 | 1992 | 1908 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 148 | 132 | 135 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 127 | 144 | 141 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878-2:2010 | 62 | 58 | 60 | 70 ⁽¹⁾ |

Ghi chú:


- " " Tức là không quy định;
- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.
- (1): QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.
- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích



Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**



Nguyễn Thị Duyên

The results of analysis of air samples (k4, k5, k6, k7) of the 1st quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **467.../PHUONGNAM/2019**

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:
 - + Tại đường Bình Minh (đối diện khách sạn Bạt Tối)
 - + Tại đường Bình Minh (đối diện KS Sài Gòn – Kim Liên)
 - + Tại trạm bơm tăng áp, gần đường Sào Nam
 - + Khu vực Nhà máy nước Nghi Hòa
5. Ngày lấy mẫu: 16/03/2019

Kí hiệu: Tọa độ:
 KK4 X: 2078428 ; Y: 601032
 KK5 X: 2079017; Y: 602885
 KK6 X: 2078904; Y: 600476
 KK7 X: 2080285; Y: 591345

Ngày trả kết quả: 22/03/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|-----------------------|---------|------|------|------|-----------------------|
| | | | | KK4 | KK5 | KK6 | KK7 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 29,4 | 29,2 | 29,0 | 28,8 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 77 | 75 | 76 | 72 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN- ASKK | 612 | 608 | 625 | 615 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,4 | 1,2 | 1,8 | 2,0 | - |
| 5 | Hướng gió | - | GPS 64s | TB | TB | TB | TB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 162 | 158 | 147 | 140 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1902 | 1872 | 1884 | 1808 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 144 | 151 | 135 | 140 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 137 | 125 | 118 | 112 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878- 2:2010 | 61 | 60 | 64 | 66 | 70 ⁽¹⁾ |

Ghi chú:

- " " Tức là không quy định;
- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.
- (1): QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên

The analysis results of surface water samples (NM1, NM2, NM3) of the 1st quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 458.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu: Nước mặt trên cầu Phương Tích (điểm 1)
Nước mặt trên cầu Phương Tích (điểm 2)
Nước mặt ở sông Rao Trường
5. Ngày lấy mẫu: 16/03/2019
- Kí hiệu: NM1 NM2 NM3
Tọa độ: X: 2080175; Y: 591458
X: 2079981; Y: 591657
X: 2077848; Y: 595975
Ngày trả kết quả: 22/03/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|------------|---|---------|-------|------|------------------------------|
| | | | | NM1 | NM2 | NM3 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,4 | 7,5 | 7,2 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 5,9 | 6,1 | 5,8 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 20,2 | 22,5 | 26,0 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 13,2 | 13,5 | 12,0 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 38,5 | 37 | 41,3 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,4 | 0,45 | 0,6 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E:2012 | 6,0 | 6,2 | 7,5 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,03 | 0,032 | 0,04 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,12 | 0,1 | 0,17 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,48 | 0,46 | 0,61 | 1 |
| 11 | Coliform | MPN/100 ml | TCVN 6187-2:2009 | 4.200 | 4300 | 4800 | 7.500 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.

- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên



The analysis results of surface water samples (NM4, NM5, NM6) of the 1st quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **489**.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu: Nước mặt tại Sông Cẩm
Nước mặt tại ao hồ phường Nghi Hương
Nước mặt ao hồ xã Nghi Khánh
5. Ngày lấy mẫu: 16/03/2019

Kí hiệu: Tọa độ:
NM4 X: 2085195; Y: 594926
NM5 X: 2078916; Y: 602599
NM6 X: 2080244; Y: 599749

Ngày trả kết quả: 22/03/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|----------|--|---------|-------|-------|------------------------------|
| | | | | NM4 | NM5 | NM6 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,2 | 7,0 | 7,4 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 4,9 | 5,2 | 5,0 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 22,5 | 26,2 | 26,8 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 13,2 | 14,4 | 12,7 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 32,7 | 35,2 | 37 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,52 | 0,55 | 0,6 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ E:2012 | 5,7 | 6,4 | 5,8 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,028 | 0,035 | 0,03 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,21 | 0,18 | 0,2 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,62 | 0,54 | 0,55 | 1 |
| 11 | Coliform | mg/l | TCVN 6187-2:2009 | 4500 | 4.200 | 4.300 | 7.500 |

Ghi chú:

- "-" tức là không quy định;
- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.
- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích

Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**

Nguyễn Thị Duyên



The results of vibration measurement results (R1; R2; R3; R4) of the 1st quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC MÔI TRƯỜNG PHƯƠNG NAM

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **468**.../PHUONGNAM/2019

- Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
- Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
- Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
- Loại mẫu: Độ rung
- Vị trí lấy mẫu:
 - + Tại Cầu phương Tích (tuyến ống truyền tải)
 - + Tại Cầu Rao Trường (tuyến ống truyền tải)
 - + Tại đường Sào Nam (tuyến phân phối)
 - + Tại đường Bình Minh (tuyến phân phối)
- Ngày lấy mẫu: 16/03/2019

Kí hiệu: Tọa độ:
 R1 X: 2078017; Y: 591456
 R2 X: 2077846; Y: 595972
 R3 X: 2080282; Y: 591340
 R4 X: 2079230; Y: 603300

Ngày trả kết quả: 22/03/2019

| TT | Thông số | ĐVT | Phương pháp | Kết quả | | | | QCVN 27:2010/BTNMT |
|----|----------|-----|----------------|---------|----|----|----|-----------------------|
| | | | | R1 | R2 | R3 | R4 | |
| 1 | Độ rung | dB | TCVN 6963:2001 | 65 | 63 | 64 | 61 | 75 |

Ghi chú:

- "-" Tức là không quy định;
- QCVN 27:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về độ rung.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.
- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích

Nguyễn Thị Xuân

KT.Giám đốc Trung tâm

Phó Giám Đốc

Nguyễn Thị Duyên

Sample analysis results of the 2nd quarter

The results of analysis of air samples (k1, k2, k3) of the 2nd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **SL7**.../PHUONGNAM/2019

- Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
- Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
- Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
- Loại mẫu: Mẫu không khí, tiếng ồn
- Vị trí lấy mẫu:
 - + Khu vực đường Nguyễn Sinh Cung
 - + Khu vực đường Nguyễn Huệ
 - + Khu vực đường Mai Thúc Loan
- Ngày lấy mẫu: 08/06/2019

Kí hiệu: Tọa độ:
KK1 X: 2078456; Y: 601044
KK2 X: 2079042; Y: 602877
KK3 X: 2079131; Y: 602965

Ngày trả kết quả: 16/06/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 05:2013/BTNMT |
|----|--------------------|-------------------|--------------------|---------|------|------|-----------------------|
| | | | | KK1 | KK2 | KK3 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 34 | 35 | 35,2 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 65 | 61 | 62 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN-ASKK | 550 | 562 | 548 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 2 | 2,2 | 1,8 | - |
| 5 | Hướng gió | - | GPS 64s | ĐB | ĐB | ĐB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 164 | 148 | 156 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1882 | 1825 | 1720 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 150 | 142 | 128 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 118 | 102 | 109 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878-2:2010 | 64 | 61 | 62 | 70 ⁽¹⁾ |

Ghi chú:

"-" Tức là không quy định;

- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.

- ⁽¹⁾: QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích

**KT.Giám đốc Trung tâm
Phó Giám Đốc**

Nguyễn Thị Xuân

Nguyễn Thị Duyên



The results of analysis of air samples (k4, k5, k6, k7) of the 2nd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **SKK**...../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu không khí, tiếng ồn
4. Vị trí lấy mẫu:
 - + Tại đường Bình Minh (đối diện khách sạn Bạn Tôi)
 - + Tại đường Bình Minh (đối diện KS Sài Gòn – Kim Liên)
 - + Tại trạm bơm tăng áp, gần đường Sào Nam
 - + Khu vực Nhà máy nước Nghi Hòa
5. Ngày lấy mẫu: 08/06/2019

Kí hiệu: Tọa độ:
 KK4 X: 2078428 ; Y: 601032
 KK5 X: 2079017; Y: 602885
 KK6 X: 2078904; Y: 600476
 KK7 X: 2080285; Y: 591345

Ngày trả kết quả: 16/06/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | | QCVN 05:2013/BTNM T |
|----|--------------------|-------------------|-----------------------|---------|------|------|------|---------------------------|
| | | | | KK4 | KK5 | KK6 | KK7 | |
| 1 | Nhiệt độ | °C | QCVN 46:2012/BTNMT | 34,5 | 34 | 36 | 34,2 | - |
| 2 | Độ ẩm | % | QCVN 46:2012/BTNMT | 68 | 61 | 60 | 64 | - |
| 3 | Áp suất khí quyển | atm | HD81-PPDN- ASKK | 584 | 602 | 618 | 592 | - |
| 4 | Vận tốc gió | m/s | QCVN 46:2012/BTNMT | 1,9 | 2,5 | 2,0 | 1,6 | - |
| 5 | Hướng gió | - | GPS 64s | ĐB | ĐB | ĐB | ĐB | - |
| 6 | Bụi tổng số (TSP)* | µg/m ³ | TCVN 5067:1995 | 178 | 166 | 141 | 147 | 300 |
| 7 | CO | µg/m ³ | HD24-PPT-CO | 1981 | 1948 | 1820 | 1810 | 30000 |
| 8 | SO ₂ | µg/m ³ | TCVN 5971:1995 | 128 | 142 | 112 | 122 | 350 |
| 9 | NO ₂ | µg/m ³ | TCVN 6137:2009 | 115 | 108 | 92 | 104 | 200 |
| 10 | Tiếng ồn | dBA | TCVN 7878- 2:2010 | 64 | 62 | 62 | 65 | 70 ⁽¹⁾ |

Ghi chú:

"-" Tức là không quy định;

- QCVN 05:2013/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng không khí xung quanh.

- ⁽¹⁾: QCVN 26:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về tiếng ồn.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên



The analysis results of surface water samples (NM1, NM2, NM3) of the 2nd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: 556.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu: Nước mặt trên cầu Phương Tích (điểm 1)
Nước mặt trên cầu Phương Tích (điểm 2)
Nước mặt ở sông Rao Trường
5. Ngày lấy mẫu: 08/06/2019

Kí hiệu: Tọa độ:
NM1 X: 2080175; Y: 591458
NM2 X: 2079981; Y: 591657
NM3 X: 2077848; Y: 595975

Ngày trả kết quả: 16/06/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|------------|---|---------|-------|-------|------------------------------|
| | | | | NM1 | NM2 | NM3 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,0 | 7,2 | 7,6 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 6,0 | 6,2 | 5,5 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 24,1 | 24,5 | 25,0 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 11,8 | 11,1 | 12,7 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 35,2 | 38 | 44,8 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,6 | 0,71 | 0,58 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E.2012 | 4,8 | 5,4 | 6,5 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,02 | 0,022 | 0,018 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,1 | 0,12 | 0,22 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,35 | 0,4 | 0,52 | 1 |
| 11 | Coliform | MPN/100 ml | TCVN 6187-2:2009 | 3.900 | 3800 | 4200 | 7.500 |

Ghi chú:

"-" Tức là không quy định;

- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.

- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Xuân


Nguyễn Thị Duyên

The analysis results of surface water samples (NM4, NM5, NM6) of the 2nd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: Số.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực Dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Mẫu nước mặt
4. Vị trí lấy mẫu: Nước mặt tại Sông Cấm
Nước mặt tại ao hồ phường Nghi Hương
Nước mặt ao hồ xã Nghi Khánh
5. Ngày lấy mẫu: 08/06/2019

Kí hiệu: Tọa độ:
NM4 X: 2085195; Y: 594926
NM5 X: 2078916; Y: 602599
NM6 X: 2080244; Y: 599749

Ngày trả kết quả: 16/06/2019

| TT | Thông số | ĐVT | Phương pháp thử | Kết quả | | | QCVN 08-MT:2015/ BTNMT |
|----|-------------------------------|----------|---|---------|-------|-------|------------------------------|
| | | | | NM4 | NM5 | NM6 | |
| 1 | pH | Thang pH | TCVN 6492:2011 | 7,5 | 7,3 | 7,6 | 5,5-9 |
| 2 | DO | mg/l | TCVN 7325:2016 | 5,8 | 5,5 | 6,0 | ≥4 |
| 3 | COD | mg/l | SMEWW 5220C:2012 | 18,0 | 21,2 | 26,2 | 30 |
| 4 | BOD ₅ (20°C) | mg/l | TCVN 6001:2008 | 10,5 | 12,8 | 11,0 | 15 |
| 5 | TSS | mg/l | TCVN 6625:2000 | 38,2 | 40,5 | 36,8 | 50 |
| 6 | NH ₄ ⁺ | mg/l | EPA Method 350.2 | 0,72 | 0,79 | 0,58 | 0,9 |
| 7 | NO ₃ ⁻ | mg/l | SMEWW 4500-NO ₃ ⁻ .E:2012 | 4,4 | 5,2 | 5,0 | 10 |
| 8 | NO ₂ ⁻ | mg/l | TCVN 6178:1996 | 0,018 | 0,021 | 0,02 | 0,05 |
| 9 | PO ₄ ³⁻ | mg/l | TCVN 6202:2008 | 0,12 | 0,31 | 0,28 | 0,3 |
| 10 | Dầu mỡ | mg/l | SMEWW 5520B:2012 | 0,41 | 0,48 | 0,6 | 1 |
| 11 | Coliform | mg/l | TCVN 6187-2:2009 | 3900 | 4.400 | 4.000 | 7.500 |

Ghi chú:

- " " Tác là không quy định;
- QCVN 08-MT:2015/BTNMT: Quy chuẩn kỹ thuật quốc gia về chất lượng nước mặt.
- Cột B1: Dùng cho mục đích tưới tiêu, thủy lợi hoặc các mục đích sử dụng khác có yêu cầu chất lượng nước tương tự hoặc các mục đích sử dụng như loại B2.
- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

Trưởng phòng phân tích


Nguyễn Thị Xuân

**KT.Giám đốc Trung tâm
Phó Giám Đốc**


Nguyễn Thị Duyên

The results of vibration measurement results (R1; R2; R3; R4) of the 2nd quarter of 2019
Laboratory: Phuong Nam Center for environmental analysis and measurement.



**TRUNG TÂM PHÂN TÍCH VÀ ĐO ĐẠC
MÔI TRƯỜNG PHƯƠNG NAM**

Địa chỉ: Số 15 Đoàn Thị Điểm- Phường 4 - Tp. Vũng Tàu.
Điện Thoại: 0254.3563356 Fax: 0254.3563363



PHIẾU KẾT QUẢ PHÂN TÍCH

Số: **569**.../PHUONGNAM/2019

1. Khách hàng: Công ty Cổ phần tư vấn đầu tư và Môi trường VINAGREEN
2. Địa chỉ: LK 18, khu đô thị Hadico 30, xóm 20, xã Nghi Phú, Tp Vinh, Nghệ An
3. Địa điểm lấy mẫu: Khu vực dự án nâng cấp, mở rộng hệ thống cấp nước thị xã Cửa Lò, tỉnh Nghệ An.
3. Loại mẫu: Độ rung
4. Vị trí lấy mẫu:
 - + Tại Cầu phương Tích (tuyến ống truyền tải)
 - + Tại Cầu Rao Trường (tuyến ống truyền tải)
 - + Tại đường Sào Nam (tuyến phân phối)
 - + Tại đường Bình Minh (tuyến phân phối)
5. Ngày lấy mẫu: 08/06/2019

Kí hiệu: Tọa độ:
 R1 X: 2078017; Y: 591456
 R2 X: 2077846; Y: 595972
 R3 X: 2080282; Y: 591340
 R4 X: 2079230; Y: 603300

Ngày trả kết quả: 16/06/2019

| TT | Thông số | DVT | Phương pháp | Kết quả | | | | QCVN 27:2010/BTNMT |
|----|----------|-----|----------------|---------|----|----|----|-----------------------|
| | | | | R1 | R2 | R3 | R4 | |
| 1 | Độ rung | dB | TCVN 6963:2001 | 62 | 60 | 64 | 65 | 75 |

Ghi chú:

"-" tức là không quy định;

- QCVN 27:2010/BTNMT: Quy chuẩn kỹ thuật quốc gia về độ rung.

- Kết quả chỉ có giá trị đối với mẫu thử nghiệm.

- Không được trích sao một phần kết quả này nếu không được sự đồng ý của PTN.

Trưởng phòng phân tích


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