



Wastewater and Solid Waste Management in Provincial Centers

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TEMPLATE FOR A LOCAL REGULATION ON DRAINAGE, SEWERAGE AND WASTEWATER TREATMENT IN VIETNAMESE CITIES

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INTRODUCTION & RATIONALE

“Wastewater and Solid Waste Management in Provincial Centers” (WMP) is an ODA program sponsored by the German Government. The objective of WMP is the enhancement of wastewater management and related services in six provincial urban cities and the contribution to better environmental conditions, the reduction of seasonal inundations, and the improvement of water quality in the adjacent drainage channels and rivers. WMP contains of two main modules:

- Financial Cooperation (FC), jointly financed by the German Development Bank (KfW) and the Government of Vietnam (GoV), and
- Technical Cooperation (TC), implemented by German Technical Cooperation Agency (GTZ) and the German Development Service (DED), in close cooperation with the Ministry of Construction (MOC).

Whereas the FC module focuses on the investment into new infrastructure facilities for wastewater and solid waste management in currently six provincial cities in Vietnam, the TC module consists currently of two components. These are

- TC Component 1: “Capacity Development for the MOC”, and
- TC Component 2: “Capacity Development for Wastewater Management”, also referred to as the “WWM project”.

TC Component 2 commenced in February 2005 and officially launched its second phase in August 2008. The second phase is scheduled to be finalized in July 2011.

The TC Component 2 (WWM), provides capacity building services to local governments and public wastewater operators (WWC) in six provincial urban centers in Vietnam, including the cities of Bac Ninh, Hai Duong, Vinh, Can Tho, Soc Trang and Tra Vinh.

Among other tasks, the capacity building activities focus on the re-organization of the wastewater operators and the creation of favorable institutional framework conditions at local government level for fostering effective and efficient wastewater management.

Hence, the WWM project is assigned to develop institutional guidelines and legal documents.

This template for a local regulation on wastewater management serves the urgent need to assist local governments and wastewater operators in the implementation of national laws and regulations, such as Decree 88/2007/ND-CP and Circular 09/2009/TT-BXD.

It has been designed to give a clear and detailed guidance on all aspects of local wastewater management, and to clarify the relations between the owner of the sewage / drainage system, its operator and the urban population. It will later be supplemented by related documents, such as Management Contracts, Service Contracts and Service Standards.

The WWM team sincerely hopes to provide hereby a useful tool for a modern wastewater management in Vietnam.

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CHAPTER I: GENERAL PROVISIONS

Article 1: Legal basis

1.1. This regulation is based on the following legal regulations:

- Law on Environmental Protection No 52/2005/QH11 by the National Assembly of The Socialist Republic of Vietnam
- Law on Enterprises No 60/2005/QH11 by the National Assembly of The Socialist Republic of Vietnam
- Decree 88/2007/ND-CP by the Government of the Socialist Republic of Vietnam dated May 28, 2007 on Drainage and Sewerage for Urban Areas and Industrial Zones
- Decree 67/2003/ND-CP by the Government of the Socialist Republic of Vietnam dated June 13, 2003 on Environmental Protection Charges for Wastewater
- Decree 04/2007/ND-CP by the Government of the Socialist Republic of Vietnam dated January 8, 2007 on the Revision and Supplementation of some Articles of Decree 67/2003/ND-CP.
- Circular 09/2009/TT-BXD by the Ministry of Construction on defining detailed guidelines to implement some contents of Decree 88/2007/ND-CP on Drainage and Sewerage in Urban Areas and Industrial Zones
- *Local requirements (e.g. existing local water resource management plans, master plans, urban development plans, etc.)*

Article 2: Scope and subjects of application

2.1. This regulation is applied for drainage/sewerage activities in all urban areas (class 1 to class 5) and stipulates the rights and obligations of organizations, individuals and households involved in drainage/sewerage activities in the urban areas. For rural residential areas where conditions permit the construction of public drainage/sewerage systems, the application of this regulation is encouraged.

2.2 This regulation does not apply to industrial parks, economic zones, export processing zones, hi-tech parks (below referred to as industrial parks for short) in [Name] province [or city]. Industrial parks connected to public sewer systems are considered as indirect dischargers of non-domestic waste water.

Article 3: Elements of the drainage/sewerage system in _____ province [or city]

3.1. The drainage/sewerage system of _____ city consists of:

- Sewers for wastewater and drains for storm water in the case of a separated system, or combined sewers for mixed wastewater and storm water in the case of a combined system (primary and secondary mains);
- Tertiary network (including open ditches) which is used for the collection and transportation of wastewater or storm water;
- Connection points of the sewers and drains for connecting dischargers to the public drainage/sewerage system; this includes inspection chambers and the connection pipes from the inspection chambers to the tertiary sewers;

- Structures such as manholes, street inlets, combined sewer overflows, etc. are also part of the drainage/sewerage network;
- Wastewater and storm water pumping stations and related pumping mains;
- Regulation lakes and channels;
- Outlets for discharge of storm water or treated wastewater to receiving water bodies;
- Centralized and decentralized Wastewater treatment plants (including laboratory);
- Sludge treatment facilities.

3.2. The drainage/sewerage system of _____ city is classified as [*select one of the three types below*]:

- Combined drainage/sewerage systems are systems carrying both, wastewater and storm water.
- Separate drainage/sewerage systems are systems carrying wastewater and storm water separately;
- Semi-separate drainage/sewerage systems are combined drainage/sewerage systems with combined sewer overflows (CSO) and interceptors for separation and transportation of wastewater to treatment plants.

Article 4: Interpretation of terms

4.1. “Wastewater” is all water which changed its characteristics after being used by households, industries, businesses or others.

4.2. “Domestic wastewater” is water that changed its characteristics after being used by humans' daily-life activities such as eating and drinking, bathing and washing for personal hygiene, etc.

4.3. “Non-domestic wastewater” or “other wastewater” is wastewater other than domestic wastewater as defined in Clause 4.2 above.

4.4. “Storm water” is precipitation running off from sealed surfaces and transported by a drainage/sewerage system. It may be a source of pollution.

4.5. “Sludge” is organic and/or inorganic residue from septic tanks, sewer cleaning, and lake or channel dredging or wastewater treatment. Sludge from different sources may differ in characteristics and level of pollution.

4.6. “Drainage/sewerage system” is the combination of all infrastructural facilities and their elements as described in Article 3 in this regulation.

4.7. “Inspection chamber” is an element of the public drainage/sewerage system. It is located in front of discharger's premises and it serves the purpose to inspect and clean the respective discharger's internal pipe system.

4.8. “Connection pipe” is a pipe connecting the inspection chamber and a tertiary, secondary or primary sewer.

4.9. “Connection point” is the location where a connection pipe enters a sewer (either tertiary, secondary or primary sewer).

4.10. "Discharging point" is an outlet in the drainage/sewerage system or on an outlet on a direct discharger's premises where wastewater or storm water is directly discharged into the environment.

4.11. "Connection permission" is a written document indicating the agreement of the drainage/sewerage system operator after receiving and studying the discharger's application for connection. This content: (i) location of the connection, (ii) technical requirements for the connection, (iii) time for installation of the connection, (iv) operator's responsibilities for financing and installation.

4.12. "Interceptor" is a main sewer line with combined sewer overflows that gathers and transports wastewater to a treatment plant.

4.13. "Catchment area" is a defined area where storm water and wastewater is collected and transported to treatment plants or discharging points.

4.14. "Receiving water bodies" are ponds, lakes, rivers, streams, canals, groundwater and oceans receiving treated or untreated wastewater.

4.15. "Direct dischargers" are those that discharge storm water and wastewater directly into the environment.

4.16. "Indirect dischargers" are those that discharge storm water and wastewater into the public drainage/sewerage system.

4.17. "Customers" are the owners of the land use rights, of houses, of industrial and commercial sites and also administration offices and business and service entities as defined in Article 2, Item 5 of Decree 88/2007/ND-CP that are benefiting from drainage/sewerage services and / or have signed a service contract with the operator of the drainage/sewerage system.

4.18. "Drainage/sewerage operator" is a legal entity that is selected by the owner of a drainage/sewerage system to manage, operate and maintain the system and provide services as agreed on in a management contract.

4.19. "Drainage/sewerage services" are all public services provided by the drainage/sewerage operator, who is assigned to operate and maintain the drainage/sewerage system, including the collection, transportation and disposal of wastewater and storm water.

4.20. "Drainage/sewerage activities" are all activities related to the provision of drainage/sewerage services as well as the planning, design, management, operation and maintenance of, and investment into drainage/sewerage systems as defined in Article 3 of this regulation.

4.21. "Operation and maintenance" means all routines or periodic actions taken by the drainage / sewerage system operator to fulfil contractual requirements, assure proper system performance, extend system longevity, and/or assure the system meets performance requirements

4.22. "Service contract" [*hợp đồng dịch vụ*] is a legal document that is signed between the operator of the drainage/sewerage system and its customers.

4.23. “Service Standards” means the level of service quality, set and provided by the operator. It is a criterion for assessing the performance of the operator.

4.24. “Management contract” [*hợp đồng quản lý*] is a legal document that is signed between the owner of a drainage/sewerage system and the drainage/sewerage operator that is selected by the owner to partly or entirely manage, operate and maintain that system.

4.25. “Wastewater tariff” [*biểu giá thoát nước*] is the (structured) unit price that dischargers have to pay for drainage/sewerage services. The unit prices for different categories of dischargers or wastewaters can differ.

4.26. “Wastewater charge” [*tiền dịch vụ thoát nước*] is the total amount of money a discharger has to pay monthly/quarterly [*to be decided by operator*] based on the consumed volume of piped water and the wastewater tariff applicable for the respective discharger.

4.27. “Chemical oxygen demand (COD)” is the measurement of the amount of oxygen in water consumed for chemical oxidation of pollutants.

4.28. “Decentralized wastewater treatment (DWWT)” (*Xử lý nước thải phi tập trung*) is a concept to provide wastewater treatment solutions in areas not yet connected to centralized wastewater treatment plants, or areas that do not allow a connection to centralized treatment plants for technical, financial or legal reasons, at or near the place of waste water generation. The term DWWT also applies to applications where wastewater needs to be treated prior to the discharge into existing sewer systems (hospitals, factories, etc.).

Article 5: Application of wastewater effluent standards

5.1. Wastewater effluent standards are applicable as stipulated in Clause 2 of Article 6 of Decree No. 88/2007/ND-CP.

5.2. Other wastewater (non-domestic) discharged into the public drainage/sewerage system must meet the standards for indirect discharge into drainage / sewerage systems as mentioned in Annex 2. In case of not meeting the standards, non-domestic wastewater must be pre-treated to meet the standards before discharge into the public drainage/sewerage system.

CHAPTER II: INSTITUTIONAL AND ORGANIZATIONAL ARRANGEMENTS FOR DRAINAGE / SEWERAGE MANAGEMENT IN THE PROVINCE

Article 6: Overall Arrangement

6.1. The general responsibility of providing basic drainage/sewerage services belongs to the city's authorities *in accordance with assignment of the Provincial people's committee...* In order to provide the services to urban inhabitants, the urban authorities are responsible for master-planning (on drainage, waste water and sludge treatment), investment, including system expansion, and operations, in coordination with Provincial People's Committee.

6.2. Urban authorities *[to be clarified based on local conditions]* are entitled to transfer selected tasks to a qualified external party or operator.

6.3. All domestic and non-domestic dischargers in the service area are obliged to pay for the drainage/sewerage services.

6.4. The Department of Construction of City/Province *[to be clarified based on local conditions]* is the professional institution responsible for setting up technical standards and specifications, and advice the owner and operator on how to comply with technical regulations.

6.5. The Department of Natural Resources and Environment, on behalf of PPC is monitoring and controlling WW discharge to receiving water bodies. They are responsible for charging the Environmental Protection Fee according to Decree 67/2003/ND-CP and 04/2007/ND-CP.

6.6. Department of Finance is responsible to advise City PC *[to be clarified based on local conditions]* to allocate budget for WWM according to the management contract to supplement the revenue from wastewater tariff.

6.7. The Department of Planning and Investment is responsible for advising the city PC on new investments and the extension of existing drainage / sewerage systems.

6.8. People's Committees at ward/commune/town level, heads of residential hamlets *[khu phố]* and living quarters *[khu dân cư hoặc tổ]* shall be responsible for closely coordinating with the operator of the drainage/sewerage system, mass organizations and social organizations on public information, education and communication. They shall guide organizations, households, individuals and foreigners living in the city to protect the drainage/sewerage facilities/system. They shall timely detect and prevent violations that might have a negative impact on the environment (water sources) and damage or destroy drainage/sewerage facilities.

Article 7: Ownership

7.1. The owner of the entire drainage/sewerage system of _____ city is the City people's committee of _____ city. *[In accordance with assignment of the Provincial people's committee.]*

Article 8: Rights and obligations of storm water and wastewater dischargers

8.1. Every producer of domestic and non-domestic wastewater has the right and the obligation to connect to the public drainage/sewerage system if this is constructed and ready for use in front of the wastewater producer's premises. This has to happen within three months after being requested to connect.

8.2. Every discharger connected to the public drainage/sewerage system has the right to

- be provided with drainage/sewerage services as defined in this regulation;
- request the drainage/sewerage operator to timely repair or recover the drainage/sewerage system in case of damages to the system;
- be compensated for losses/damages caused by the drainage/sewerage operator in accordance with civil law.

8.3. For newly constructed houses or other structures the connection must be realized before the building or structure goes into operation.

8.4. In case more than one discharger exists on one property the above mentioned right and the obligation concerns all dischargers.

8.5. Once a year all dischargers of non-domestic wastewater have to measure their daily wastewater volume and COD value on their own expense. This has to be done by an independent third party (DONRE, certified lab, etc). Results have to be submitted to the operator of the drainage/sewerage system within three weeks after the sample has been taken.

8.6. Indirect dischargers of non-domestic wastewater must treat their wastewater prior to discharge into the public drainage/sewerage system in case the quality of the wastewater exceeds effluent values as stated in Annex 2.

8.7. Direct dischargers who treat their wastewater prior to discharge must

- meet the effluent standards for effluent discharge into the environment (see Annex 1);
- have the local authorities' (DONRE) permission to discharge effluent into the environment;
- have the agreement of the drainage/sewerage operator not to connect to the public drainage/sewerage system.

8.8. Indirect dischargers have to install a lifting station on own expenses if it is not possible to connect by gravity to the public drainage/sewerage system.

8.9. Indirect dischargers shall register for using drainage/sewerage services by signing a service contract with the drainage/sewerage operator.

8.10. Indirect dischargers are responsible to make sure that all storm water and wastewater generated within the boundaries of their premises are collected and transported to the drainage/sewerage system.

8.11. All indirect dischargers are obliged to pay for drainage/sewerage services

8.12 All dischargers damaging properties of others, drainage/sewerage systems or the environment are required to compensate for losses or damages.

Article 9: Rights and obligations of the owner of the drainage/sewerage system

9.1. The owner of the drainage/sewerage system has to enter into a management contract with a suitable operator, and to fulfill all contractual duties.

9.2. The selection of an operator has to be done through competitive bidding.

9.4. The owner of the drainage/sewerage system has to pay the operator the agreed management contract price. For that, the owner shall assign the operator to collect and use collected wastewater charges as revenue. In case the revenue is not sufficient to cover all services as agreed in the management contract, the owner of the drainage/sewerage system has to pay the difference.

9.5. The owner of the drainage/sewerage system has to provide sufficient resources for the extension of the system and plays the role of the investor.

Article 10: Rights and obligations of the operator of the drainage/sewerage system

10.1. The drainage/sewerage system operator of _____ city / town is to be selected by the owner of the drainage/sewerage system and is assigned for his duties via a management contract stipulating clearly rights and obligations of the contract parties.

10.2. Wastewater becomes the property of the operator of the drainage/sewerage system at the moment of discharge into the public drainage/sewerage system.

10.3. The rights given the drainage/sewerage system operator shall include the following:

- Enter into service contracts with customers and execute all activities in accordance to the service contract;
- Collect the wastewater charges and use them as revenue for fulfilling contractual obligations;
- Be compensated on time for all costs related to the provision of drainage/sewerage services as agreed on in the management contract and claim compensation for financial losses, caused by late payments in accordance to the management contract;
- Make proposals to competent authorities for review, supplementation or amendment to standards, operational procedures, and technical - economic norms related to drainage/sewerage activities;
- Report to the owner of the drainage / sewerage system and relevant authorities any violations by organizations and individuals that impact on drainage/sewerage activities.

10.4. The duties of the drainage/sewerage system operator stipulated in the management contract shall include the following:

- Operate and maintain the drainage/sewerage system, ensure the provision of drainage/sewerage services in terms of quality and quantity to customers in accordance to agreed management and service contracts;
- Receive and process applications for drainage/sewerage services, and sign service contracts with customers;

- Manage assets invested by the owner as agreed on in the management contract, including the establishment, maintenance and update of an asset documentation system;
- Monitor and report on the performance of the wastewater system to the asset owner;
- Inspect and evaluate the status of the drainage/sewerage system, ensuring that the wastewater is collected, treated and discharged to the environment as agreed, taking corrective measures to repair incidents and damages in a timely manner;
- Compensate for losses/damages caused to customers as agreed in the service contract;
- Handle complaints on drainage/sewerage services in an effective and timely manner
- Operate and maintain the entire drainage/sewerage system and mobile assets in accordance with approved standard operation procedures;
- Monitor all indirect dischargers, including the establishment and maintenance of a discharger database;
- Develop investment and development plans for the drainage/sewerage system and submit them to the drainage/sewerage system owner for approval;
- Develop and submit tariff proposals as described in Article 21 of this regulation.

Article 11: Management Contract

11.1. The management contract to be signed between the owner and operator of the drainage/sewerage system shall be based on the guidance provided in Annex 1 of Circular 09/2009/TT-BXD. It shall cover at least the following principal contents:

- Legal basis
- The contracting parties
- The content of the contract
 - Definition of terms (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 1)
 - Objects and purpose of the contract (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 2)
 - Description of the drainage/sewerage system and the service area (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 4)
 - Stipulation on technical limitations of inputs to the drainage/sewerage system (operator's liability in case rainfalls exceed system's capacity, natural disasters, etc.)
 - Asset documents of the drainage/sewerage system (if no documents are available, the owner has to choose a way to establish them) (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 6)
 - Customer database (if no database is available, the operator has to choose a way to establish it)
 - Scope and content of work (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 5)
 - Service standards (refer to Article 17 of this regulation)

- Stipulation on agreed outputs from the operation and maintenance of the drainage/sewerage system (technical procedures and standards, quality of effluent as stipulated in Annex 1, quality and disposal of sludge, performance indicators, etc.)
- Contract supervision (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 9)
- Contract type (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 10)
- Contract price (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 11)
- Acceptance, commissioning and payment (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 12)
- Rights and obligations of contracting parties (refer to Article 10 and 11 of this regulation)
- Adjustment of the contract (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 14)
- Termination of the contract (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 15)
- Dispute settlement (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 16)
- Sub-contractor (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 17)
- Contract insurance (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 18)
- Contract guarantee (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 19)
- Application law (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 20)
- Force majeure (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 21)
- Miscellaneous (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 22)
- Duration and validity of the contract (refer to Circular 09/2009/TT-BXD, Annex 1 – Article 3)

CHAPTER III: DRAINAGE/SEWERAGE SERVICES

Article 12: Drainage/sewerage service contract

12.1. A drainage/sewerage service contract is a legal document signed between the selected drainage/sewerage operator and connected customers who discharge storm water and/or wastewater into the drainage/sewerage system.

12.2. The drainage/sewerage service contract shall include the following items:

- Contracting parties;
- Connection points;
- Type of discharged wastewater;
- Category of customer according to the classification;
- Service quality to be provided;
- Rights and duties of the parties as defined in this regulation;
- Wastewater tariffs, method of calculation for the charge, payment;
- Sanctions for breach of the service contract;
- Effluent standards for indirect discharge into the public drainage / sewerage system (see Annex 2);
- Other terms and conditions agreed by both parties.

12.3. The service contract shall be signed within 15 working days after the completion of installation works for the connection to the drainage/sewerage system.

Article 13: Connection of customers

13.1. The connection to the public drainage/sewerage system can only be made after obtaining connection permission from the drainage/sewerage system operator.

13.2. All connection pipes and inspection chambers are part of the drainage/sewerage system and are designed, constructed, repaired, replaced or removed by the owner of the system or his contracted operator.

13.3. Every customer will be provided:

- in catchment areas of combined sewerage systems one common connection for the combined wastewater and storm water discharge;
- in catchment areas with a separated sewerage system one connection to the wastewater sewer and one connection to the storm water drain.

13.4. Only by way of exemption the drainage/sewerage system operator will allow that two or more customers are connected to one common connection pipe and inspection chamber. In this case the system operator determines the location of the inspection chamber.

13.5. The internal sanitation system of the discharging customer, from the in-house sanitation facilities to the inspection chamber stays under the responsibility of connected customer/discharger, including construction, operation and maintenance.

13.6. The drainage/sewerage system operator will control the proper execution of the construction of the house connection from the house to the inspection chamber concerning material quality and workmanship of the connection works. This control doesn't release the customer from their responsibility for providing a sustainable house connection.

13.7. The responsibility to protect premises, households and other structures against backwater from the public drainage/sewerage system stays always with the customers. Necessary protection measures shall be realized by the connected customer at own costs.

Article 14: Cleaning and emptying of septic tanks

14.1. Septic tanks operated by private households, commercial businesses and public institutions need to be cleaned and emptied on a regular basis, according to design parameters and on their own expenses. The drainage/sewerage system operator is obliged to make the necessary arrangements, give technical advice and supervise and coordinate related activities.

Article 15: Access to wastewater disposal facilities

15.1. Access to wastewater disposal installations and information about technical conditions of the wastewater disposal installations on the customers premises have to be provided to the drainage/sewerage operator at any time by the discharging customer.

15.2. The operator has the right to take samples of the discharged wastewater on the customer premises at any time. The results of this sampling may serve as a basis for billing.

Article 16: Connection exemption

16.1. In case a customer's premise is located close to a receiving water body and the quality of discharged wastewater is meeting the effluent requirements, the connection exemption may be allowed.

Article 17: Service standards

17.1 The drainage/sewerage system operator must establish "service standards" and make public for customers' reference. Service standards shall be included in the management contract as an inseparable document.

Article 18: Temporary interruption, termination of drainage/sewerage services

18.1. Drainage/sewerage services can be temporarily interrupted in case the drainage/sewerage system needs to be repaired or replaced. This action shall be informed to the customers as soon as possible, but at least 1 day prior to the interruption. The operator has to make sure that inconveniences to the customers will be minimized and to provide a temporary alternative drainage solution.

18.2. The drainage/sewerage operator is not allowed to terminate drainage/sewerage services, except in cases as stated in the drainage/sewerage service contract signed with the customers. Customers, who fail to fulfill the payment responsibilities or make changes and repairs to drainage/sewerage system without mutual agreement and therewith violate

drainage/sewerage regulations, shall be liable for legal sanctions. Also, water supply entities shall terminate their services on request made by the drainage/sewerage operator.

18.3. In case drainage/sewerage customers violate regulations on drainage/sewerage without any negative effects on the environment, the drainage/sewerage operator shall issue a first notice on the violation to request customers to overcome this matter. If customers don't repair their mistakes within 15 days since the first notice addressed to them, the drainage/sewerage operator shall issue a second notice. In case customers don't repair their mistakes within 15 days after issuing of the second notice, the drainage/sewerage operator shall terminate the service in accordance with service contracts and legislations; at the same time water supply company shall terminate the water supply on the request by the drainage/sewerage operator. Additionally, the drainage/sewerage operator is allowed to block wastewater connections to the sewer system.

18.4. In case drainage/sewerage customers violate regulations on drainage/sewerage with negative effects on the environment, the drainage/sewerage operator shall make a report and request customers to repair their mistakes immediately. If customers do not follow the request, the drainage/sewerage operator shall terminate the service and request the water supply entity to stop water supply services; and customers shall be treated according to legislations. Additionally, the drainage/sewerage operator is allowed to block wastewater connections to the sewer system.

CHAPTER IV: WASTEWATER CHARGES AND FINANCING OF WASTEWATER MANAGEMENT

Article 19: Guiding Principle

19.1 All customers discharging wastewater into the drainage/sewerage system shall pay for the services provided by the operator. Full cost recovery of all O&M and investment costs shall be introduced through a gradually increasing wastewater charge to all customers.

Article 20: Subjects to wastewater charges

20.1. All indirect dischargers discharging wastewater into the drainage/sewerage system shall be responsible for the payment of wastewater charges as set up in this regulation.

20.2. All direct dischargers discharging wastewater directly into the environment shall pay environment protection fees applied for wastewater as stipulated in the Government Decree 67/2003/ND-CP, dated June 13, 2003 and Decree 04/2007/ND-CP, dated January 8, 2007 on the revision and supplementation of some articles of the Decree 67/2003/ND-CP.

Article 21: Submission of tariff proposals to authorized agencies for approval

21.1. Drainage/sewerage operators shall be responsible for developing and submitting wastewater tariff proposals with different options to authorized agencies for approval in accordance with Articles 54 and 55 of Decree No. 88/2007/ND-CP.

21.2. The wastewater tariff proposals for each wastewater tariff option should consist of the following information:

- Assessment on clean water usage and wastewater disposal in the locality.
 - Clean water usage by different customers.
 - Clean water tariff and roadmap for clean water tariff increase
 - Usage of clean water from piped water supply system and none-piped water supply sources.
 - Assessment on wastewater flows based on by types of wastewaters and dischargers.
- Assessment of demand, investment possibility for development of drainage/sewerage system at locality.
- Explanation of O&M expenses, corresponding to each stage of drainage/sewerage development and service quality improvement.
- Projected revenues from wastewater tariff are calculated for three levels of cost recovery are as follows:
 - Recovery of full O&M cost.
 - Recovery of full O&M cost and depreciation cost of equipment and machinery, financed from the owner's capital sources.

- Recovery of full O&M costs, and depreciation costs of equipment, machinery and construction civil works, financed from the owner's capital sources.
- Assessment and forecast of socio-economic development, living standards, current household incomes in the service areas for next five year period, including changes on living standard, inflation rate over a certain period and household affordability. The assessment of the household affordability is based on:
 - For domestic dischargers, the ratio between monthly wastewater bill and average monthly household income should not exceed 3%
 - For non-domestic dischargers, Article 23 applies.
- Recommendations of specific wastewater tariff levels and roadmap for increasing wastewater tariff, based on O&M costs, costs for refunding the investment loan (if any) and revenue from wastewater tariff, and a possible level of subsidy from the local authority in correspondence with all three levels of cost recovery.

Article 22: Determination of the wastewater volume for calculating wastewater charges

22.1. In case dischargers of domestic wastewater use piped water, the volume of wastewater subject to charges equals 100% of the volume of consumed water as stated in the water bill.

22.2. In case dischargers of domestic wastewater do not use piped water, the volume of wastewater subject to charges is determined based on flat rate of 4m³/person/month. This figure needs to be reviewed on a regular basis depending on the improvement of living standards.

22.3. In case dischargers of non-domestic wastewater use piped water supply, the volume of wastewater for charging equals 80% of consumed water volume according to the water bill. The dischargers or the drainage/sewerage operator may install a wastewater meter to measure the volume of the discharged wastewater.

22.4. In case dischargers of non-domestic wastewater use water from other sources, the volume of wastewater subject to charges is determined based on 80% of the raw water metering. Dischargers of non-domestic wastewater are responsible for purchasing, installing and operating raw water meters and other auxiliary equipment. If the discharger fails to install a raw water meter, the service provider is entitled to bill based on his best estimation.

22.5. Key principles of the tariff system include:

- Local authorities have to develop and implement a pro-poor policy to subsidize certified poor households in the service area;
- Tariff structure has to distinguish between different customer groups (households, administration, industry, commerce, etc.);
- The operator is entitled to propose either flat rates or a progressive tariff for drainage/sewerage services. A progressive tariff means that higher unit prices are charged for wastewater discharge exceeding a certain volume or concentration of pollutants.

Article 23: Determination of pollutant loads for non-domestic wastewater charges

23.1. For non-domestic wastewater, charges are determined based on pollutant loads measured by the concentration of COD (mg/l).

23.2. The concentration of COD is determined based on test results carried out by qualified labs as stated in Item b, Clause 2, Article 42, of the Decree 88/2007/ND-CP dated May 28, 2007 of the Government, and made on the discharger's own expense.

23.3 If a discharger of non-domestic wastewater fails to provide information on pollutant loads, the maximum coefficient as stated in Article 53 of Decree 88/2007/ND-CP dated May 28, 2007 of the Government, will be applied.

Article 24: Collection of wastewater charges

24.1. For dischargers using water from a centralized water supply system, the collection of wastewater charges shall be made together with the water bill.

24.2. In case water supply and sewerage/drainage services are provided by different entities, the drainage/sewerage operator has to provide sufficient information on the quality of non-domestic wastewater for each customer to the water supply service provider for the calculation of the wastewater charges. Information is provided at a time which is agreed upon by both parties. The water supply service provider is entitled to reserve an agreed share of the waste water tariff for collection services.

24.3. The drainage / sewerage operator or a suitable entity to be identified by the operator shall collect wastewater charges directly from customers that do not use water from piped water supply system.

24.4. All wastewater charges shall be transferred to a dedicated account opened by the drainage/sewerage operator in the provincial state treasury, and exclusively made available to the drainage/sewerage operator to cover his expenses.

Article 25: Tariff adjustment mechanism

25.1. The wastewater tariff shall be reviewed at least every two years after full cost recovery has been achieved, and adjusted in case

- the inflation exceeds 10% compared to the latest tariff adjustment;
- there is a significant change in the required quality of services;
- there is a change in government policies and regulations;
- there is a major change in national and regional social and economic development.

Article 26: Government subsidies and roadmap for phasing out subsidies

26.1. In case the actual revenue from wastewater charges is not sufficient to cover the full costs (total O&M costs plus depreciation for mechanical and electrical equipment plus depreciation for civil structures), the local authorities are required to provide supplementary budgets for full cost coverage.

26.2. A roadmap for phasing out subsidies shall be proposed in tariff proposals as outlined in Article 21.

Article 27: Use of wastewater charge revenues

27.1. Revenue collected from wastewater charges shall exclusively be used for drainage/sewerage activities, such as

- payment for O&M services;
- payment for wastewater charge collection services;
- Investment for sustaining and developing the drainage/sewerage system.

Article 28: Mechanism for financing system expansions

28.1. Costs for expansion of the drainage/sewage system shall be fully covered by the owner of the drainage/sewerage system, based on proposals by the operator of the drainage/sewage system. This includes all elements of the system from inspection chambers, trunk mains, and treatment plants to the outlet.

28.2. All investments into the drainage/sewerage system between the inspection chamber and the location where wastewater is generated shall be covered by the relevant discharger.

28.3. The owner of the drainage/sewerage system may assign the drainage/sewage operator to manage the investment projects.

CHAPTER V: PROHIBITED ACTIONS AND ENFORCEMENT

Article 29: Prohibited actions

29.1. The following actions with regards to drainage/sewerage management in the all urban centers of the province/city [*needs to be adjusted to local conditions*] are prohibited:

- Destruction of drainage/sewerage systems;
- Obstruction of the inspection of drainage/sewerage activities;
- Incompliance with regulations on ground levels as new construction, improvement and rehabilitation of infrastructure are carried out in urban areas;
- Connecting to drainage/sewerage systems without agreement or permission of the operator;
- Discharge of wastewater into drainage/sewerage systems or receiving water bodies that fails to meet required wastewater quality standards;
- Dilution of wastewater to achieve required wastewater quality standards or transfer of pollutant into the environment, such as the air or soil;
- Blocking street inlets or disposing of substances or things that are not storm water or wastewater into drainage/sewerage systems;
- Provision of false information that negatively affects legal rights and benefits of other organizations or individuals involved in drainage/sewerage activities;
- Taking advantage of legal position and authority to trouble and extort other organizations and individuals who are involved in drainage/sewerage systems activities;
- Other actions that violate the legislative regulations on drainage/sewerage disposal.

Article 30: Inspection

30.1. The owner of the drainage/sewerage system shall carry out regular inspections on drainage/sewerage regulation compliance; detect and deal with violations of the drainage/sewerage regulation and report to the authorities so that sanctions can be imposed on the violators according to the law.

Article 31: Settlement of complaints and denouncements

31.1. Organizations and individuals shall be given the rights to make complaints and denouncements of violations against Drainage/Sewerage regulations.

31.2. Settlement of complaints and denouncements shall be carried out in accordance with the laws on complaints and denouncements.

31.3. Within the duration of complaints, denouncements or lawsuits, organizations and individuals shall have to follow decisions of the authorities in Drainage/Sewerage management. Upon the issuance of settlement decisions of complaints and denouncements by state authority or valid judgment by court, the settlement decisions shall have to be carried on.

Article 32: Dealing with violations

32.1. All disputes over drainage/sewerage activities, sewerage facilities, drainage/sewerage entity, and drainage/sewerage customers shall be solved in accordance with this regulation. In case it is impossible to apply this regulation, the resolution of dispute shall be done in accordance with Government Decree No.88/2007/ND-CP dated 28th May, 2007.

32.2. Organizations and individuals shall detect, prevent and petition for timely handling with violations against Drainage/Sewerage regulations.

32.3. Organizations and individuals shall detect, prevent and petition for timely handling with violations against drainage/sewerage regulations.

32.4. Organizations and individuals that violate prohibited actions in drainages/sewerage activities as stipulated in item a of the Article 2 under this Decree, depending on the violation natures and levels, shall be subject to item b of the Article 2 under this regulation.

32.5. Violation committers shall have to compensate for losses in case that violations of drainage/sewerage regulations cause losses/damages to benefits of the Government, organizations and individual.

32.6. The authorization of administrative sanction, the punishment and level of violation handling shall be determined in accordance with the Ordinance on the handling of violations of administrative regulations dated 06/07/1995 and Government Decree No.48/1997/ND-CP dated 05th May 1997 on handling administrative regulation violations related to construction management, housing and urban technical infrastructure work management.

32.7 If the discharger provides false information on quality and quantity of his wastewater, he shall be subject to administrative sanctions or criminal proceedings as regulated by law.

Article 33: Commendation and Reward

33.1. Organizations, households and individuals who detect violations of the above mentioned regulations and timely report to responsible drainage/sewerage entity, ward PCs, commune PCs and Town PCS shall be given commendation and reward as current regulation.

CHAPTER VI: IMPLEMENTATION PROVISIONS

Article 34: Effective date

34.1. This regulation shall be effective since date.....

Article 35: Implementation responsibility

35.1. The Operator will be responsible for guiding the implementation of this Regulation; guiding organizations and households who discharge wastewater into receiving waters in implementing provisions of this Regulation appropriately.

35.2. The director of the Department of Construction, People's Committees at district level and the drainage/sewerage operator, are responsible for the implementation of this regulation.

35.3. Any difficulties facing during the implementation shall be timely reported to City People Committee, Department of Construction Department for the solution.

ON BEHALF OF _____ PEOPLE'S COMMITTEE

CHAIRMAN

ANNEX 1: Effluent Standards for wastewater discharge into receiving water body

QCVN 01:2008/BTNMT National technical regulation on WW from natural rubber processing industry

QCVN 08:2008/BTNMT National technical regulation on surface water quality

QCVN 14:2008/BTNMT National technical regulation on domestic wastewater

QCVN 11:2008/BTNMT National technical regulation on WW from aquatic product processing industry

QCVN 12:2008/BTNMT National technical regulation on WW from paper and pulp industry

QCVN 13: 2008/BTNMT National technical regulation on WW from textile industry

QCVN 24: 2009/BTNMT National technical regulation on Industrial Waste Water

QCVN 25: 2009/BTNMT National technical regulation on leachate from landfill

ANNEX 2: Effluent Standards for indirect discharge into the public drainage / sewerage system

These limit values are obligatory for all industrial or commercial wastewater dischargers. The table below is part of any service contract between the operator and industrial / commercial dischargers.

Resulting from special local conditions the operator of the public sewerage system may introduce higher treatment requirements.

Details on how to apply and enforce this table shall be regulated in the management contract signed between the operator and the owner of the drainage / sewage system.

Parameters and Substances	Unit	Limitation value	Remarks
Temperature	0°C	40	
pH-value		6.5 – 10.0	
Odour		Not bad	
COD	mg/l	2000	Minimum BOD/COD ratio = 1:4 for COD >2000 mg/l the COD/BOD ratio must be < 2:1
Fat and vegetable oil	mg/l	200	
Mineral oil + grease	mg/l	20	100mg/l if central WWTP can remove it
Absorbable organic halogenic hydro carbons (AOX)	mg/l	0.5	Only applicable if local conditions allow
Light extractable halogenic hydro-carbons	mg/l	0.5	Only applicable if local conditions allow
Phenol	mg/l	100	If bio-degradable
Colour			Content so low that colour not detectable in the effluence of the central WWTP
Arsenic	mg/l	0.3	
Mercury	mg/l	0.05	If effluent standard of central WWTP achievable
Lead	mg/l	2.0	If effluent standard of central WWTP achievable
Cadmium	mg/l	0.2	If effluent standard of central WWTP

Parameters and Substances	Unit	Limitation value	Remarks
			achievable
Chromium VI	mg/l	0.2	
Chromium total	mg/l	1.0	
Copper	mg/l	1.0	
Zinc	mg/l	5.0	
Nickel	mg/l	1.0	
Tin	mg/l	1.0	
Cyanic	mg/l	0.2	
PCB	mg/l	0.05	
Sulphide	mg/l	2.0	
Sulphate	mg/l	600	
Fluouride	mg/l	20	
Nitrogen: NH ₄ -N + NH ₃ – N	mg/l	200 100	If central WWTP > 5000 PE ¹ or 500 m ³ /day If central WWTP < 5000 PE or 500 m ³ /day
NO ₂ – N (Nitrite)	mg/l	10	
Phosphorous	mg/l	15	

¹ = Population Equivalent