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Nashik Grey Water Recycling and Water Incentive Byelaws, 2009

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The Maharashtra Regional and
Town Planning Act, 1966.

Notification under section 37(2)
of ..

Regarding Regulation for Grey
Water Reuse in area within
Nashik Municipal Corporation.

GOVERNMENT OF MAHARASHTRA

Urban Development Department,
Mantralaya, Mumbai 400 032.

Dated 5th September, 2009.

NOTIFICATION

No. TPS-1109/1658/CR-285/09/UD-9: Whereas Development Control Regulations for Nashik Municipal Corporation (hereinafter referred to as "the said Regulations") have been sanctioned by Government in Urban Development Department under section 31(1) of the Maharashtra Regional and Town Planning Act, 1966 (hereinafter referred to as "the said Act") vide Notification No. TPS-1191/35/CR-88/UD-9, dated 28/9/1993 to come into force with effect from 16/11/1993;

And whereas, the said Regulations do not contain the provisions for Grey Water Reuse ;

The nature has bestowed many natural resources for survival of living-being. Water is one of them. It is therefore necessity of the time to utilize the source in such a way so as to last it longer. It is possible to use differently graded water recycled at minimal cost for different types of uses not warranting quality of potable water. It is not prudent to use potable high quality water for purposes like toilet flushing, gardening and other non contact non-potable purpose etc. These purposes can be well served by using moderately filtered/treated water. Such thoughtful action can not only lead to conserve precious water but can also increase the life of water main, sewer lines, water treatment plants and ultimately environment.

And whereas, the grey water (bathroom and kitchen) recycling bye-laws have been framed taking into consideration, the shortage of water, rise in population, increasing cost in purification of water, cost of water distribution, disposal of sewage and maintenance of environment. With this in mind, Government of India has issued Model Building Bye-Laws to all States requesting them to amend the Municipal Bye-Laws incorporating recycle and reuse of the waste water (hereinafter referred to as "the said Directives") ;

And whereas the Nashik Municipal Corporation vide its Marathi letter No. नगररचना/वशि/सिडको/२९०/२००९, dated 16th June, 2009 has submitted the modification proposal regarding incorporation of the special provision for Grey Water Reuse in Housing and Commercial Complexes in Nashik City as per the said Directives (hereinafter referred to as "the said Modification Proposal") ;

And whereas, after consulting the Director of Town Planning, Maharashtra State Pune and after making necessary enquiries the Govt. is of the opinion that the said Modification Proposal is necessary and should be sanctioned as per the Annexure appended to this Notification ;

Now therefore, in exercise of the powers conferred by sub-section (2) of section 37 of the said Act, the Government hereby finally sanctions the said Modification Proposal as per the ANNEXURE appended to this Notification and for that purpose amends the Urban Development Department Notification No. TPS 1191/35/CR-88/UD-9, dated 28th Sep. 1993;

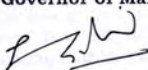
Note:-

A) A copy of the sanctioned Regulations for recycle and reuse of the waste water in area within Nashik Municipal Corporation i.e. ANNEXURE is kept open for inspection by the general public in the offices of the following officers for the period of one month:

- 1) The Municipal Commissioner, Nashik Municipal Corporation, Nashik.
- 2) The Deputy Director of Town Planning, Nashik Division, Nashik,
- 3) The Assistant Director of Town Planning, Nashik Branch, Nashik.

B) This notification is also available on Govt. web site
www.urban.maharashtra.gov.in

By order and in the name of the Governor of Maharashtra,


(Pradeep Gohil)
Section Officer

ANNEXURE

Nashik Municipal Corporation, Nashik

Bye Laws
For
Grey water Reuse
in
Housing & Commercial Complexes in Nashik

PREFACE

The nature has bestowed many natural resources for survival of living-being. Water is one of them. It is therefore necessary of the time to utilize the source in such a way so as to last it longer. It is possible to use differently graded water recycled at minimal cost for different types of uses not warranting quality of potable water. It is not prudent to use potable high quality water for purposes like toilet flushing, gardening and other non contact non-potable purpose etc.

These purposes can be well served by using moderately filtered/treated water. Such thoughtful action can not only lead to conserve precious water but can also increase the life of water main, sewer lines, water treatment plants and ultimately environment.

The grey water (bathroom and kitchen) recycling bye-laws have been framed taking into consideration the shortage of water, rise in population, increasing cost in purification of water, cost of water distribution, disposal of sewage and maintenance of environment

These bye-laws provide guidance for grey water recycling in multi unit residential and commercial buildings. These are intended for use of the building construction industry, system designers, operators, regulators and occupiers.

Aim of these bye-laws is to ensure that grey water system is operated to consistently produce water to the required quality and there is adequate arrangement to avoid cross connection or inappropriate use of water.

This decision has been taken by the Nashik Municipal Corporation, Nashik (NMC) as part of commitment made in the Memorandum of Agreement (MoA) signed with Govt. of India (GoI) and Govt of Maharashtra (GoM) while seeking financial assistance under Jawaharlal Nehru Urban Renewal Mission (JnNURM). In MoA, the recycling of grey and black water of residential buildings is a part of 'Eco-housing' and specific bye laws are expected to promote and regulate grey water recycling and reuse in residential and commercial premises in the corporation limits. The recycling of black water is presently proposed to be kept out of purview of this bye-law

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BYELAWS FOR NASHIK MUNICIPAL CORPORATION

(The Grey Water Recycling and Water Incentive Byelaws)

Whereas it is expedient to regulate the activities such as

- a. Acceptance of long-terms, intermittent, or temporary discharge of grey water waste/ industrial waste or other wastes to the Grey Water / sewerage system
- b. Establishment of grades of industrial wastes such as controlled waste, conditional waste and prohibited waste as the case may be
- c. Classification of domestic/industrial waste discharges against specified criteria
- d. Pretreatment of grey water. Sewage and grey water before it is accepted for reuse for the purpose of non-potable use
- e. Installation of flow meters, samplers or other devices to measure flow and quality of the sewage, recycled water and industrial waste discharge
- f. Pretreatment of Grey water and sewage as per classification before it is accepted for discharge to the sewerage system
- g. Separation of unpotable water plumbing and potable water plumbing
- h. Sampling and monitoring of industrial waste discharges to ensure compliance of conditions under the byelaw
- i. NMC to accept or refuse an industrial waste discharge
- j. Taxes to be levied to cover the cost of conveying, treating and disposing of and the associated costs of administration and monitoring
- k. Establishment of waste minimization and management programmes for industrial waste and household waste producers
- l. Encouraging the use of treated recycled water for non-potable use
- m. Tax benefits in water tax and sewerage tax for using recycled water for non-potable use

Definition

1. In this Byelaw

‘Access point’ means a place where access may be made to a private sewer for inspection (including sampling or measurement), cleaning or maintenance that meets the requirements of the municipal norms in that respect and also termed as an opening before “discharge”

‘Approved’ means approved in writing by an authorized officer of the NMC

‘Authorized officer’ means any person appointed by the Municipal commissioner of NMC for the purposes of acting as an authorized officer under this Byelaw

‘Characteristic’ means any of the physical or chemical characteristics of an commercial waste or/domestic waste referred to in schedule “B”

‘Discharge Management Plan’ means a plan for the monitoring, programming and controlling of the effluent from recycling water treatment plant and discharges in to the municipal sewage system.

‘Discharge’ or ‘Discharge of wastes’ means the removal of wastes from premises into the Grey Water system or by means of the system;

‘Disconnection’ means the physical cutting and /or sealing of the private sewer from the wastewater system

‘Domestic Wastewater’ means either wastewater that is typically discharged from premises that are used solely for residential activities or wastewater of the same character discharged from other premises.

‘Grey water’ means involving water from sinks, tubs, showers and washing

‘Industrial/Commercial premises’ means any premises which being used or intended to be used (whether for profit or not) for carrying on any trade, business, education, research or industry.

‘Commercial waste’ or ‘wastes’ are the waste removed from an industrial plant or other premises by way of discharge any liquid, with or without matter in suspension or solution therein. That is or may be discharged from trade premises in the course of any trade or industrial process or operation or in the course or any activity or operation of a like nature.

‘Inspector’ includes whomever the Municipal Commissioner has appointed in writing for the purpose of this Byelaw;

‘ISO 5667’ means the latest edition, complete with any amendments, of International standard ISO 5667:1994 Water Quality – Sampling:

Part 1: 1980 Guidance on the design of sampling programmes

Part 2: 1991 Guidance on sampling techniques

Part 3: 1994 Guidance on the preservation and handling of samples

Part 10: 1992 Guidance on sampling of Grey Waters

‘ISO TR 9824’ means the latest edition, complete with any amendments, of International Standard ISO TR 9824: Measurement of liquid flow in open channels:

Part 1: 1990 Measurement of free surface flow in closed conduits – Methods.

Part 2: 1990 Measurement of free surface flow in closed conduits – Equipment

‘Laboratory’ means the agency permitted to test the samples of industrial wastes or waste.

‘License’ means the license, is issued and renewed annually for the discharge of industrial wastes or other waste, given in writing by the Municipal Commissioner for purposes of this byelaw;

‘Mass limit’ means the total mass of any characteristic that is allowed to be discharged to the wastewater system over any twenty four hour period from any single point of discharge or collectively from several points of discharge

‘Maximum concentration’ means the peak concentration, in the wastewater, of any characteristic that may not be exceeded

‘Occupier’ for the purposes of an industrial plant/housing complexes or premises whoever in fact occupies a industry/premises or part of one, either as an owner, on rent or on lease in any other way;

‘Person’ includes a corporation sole and also a body of persons whether corporate or incorporate or partnership firm;

‘Point of discharge’ is the physical point where an industrial waste or waste discharge enters the wastewater system

‘Pretreatment’ means any processing of industrial waste or waste designed to reduce any characteristic in a waste, before discharge to the wastewater system.

‘Notice’ means a written communication issued by the Municipal Commissioner or his authorized officer to the ‘occupier’ of ‘property’ to provide the recycle facility within the premises.

‘Premises’ means either

- a) a property which is led under a separate card of title or for which a separate title card may be issued and in respect to which a building plans have been or may be issued, or
- b) a building which is in possession as an individual unit by a cross-lease, unit title or company lease and for which a certificate of title is available, or
- c) land held in public ownership, for a particular purpose, or
- d) separately assessed to Municipal taxes, individual unit within buildings

‘Private Sewer’ means that section of a sewer between the premises and the sewerage system

‘Prohibited industrial waste’ means a industrial waste having physical and chemical characteristics in excess of what is defined in Schedule “B” of this Byelaw

‘Publicly notified’ means published on at least one occasion in a newspaper circulating in the NMC’s territory, or under emergency conditions by the most practical means available at that time

‘Receiving waters’ means coastal waters or any natural waters, which will receive treated wastes

‘Sewerage system’ means all types of sewers, appurtenances, pumping stations, storage tanks, wastewater treatment facility plants, marine outfalls and other related structures owned by the urban local body and used for the reception, treatment and disposal of wastewater and also termed as ‘wastewater system’

‘Standard methods for the examination of water and wastewater’ means the latest edition complete with any amendments and supplements as published by Pollution Control Board

‘Storm water’ means all surface water run-offs resulting from precipitation

‘Temporary discharge’ means any discharge of an intermittent or short duration. Such discharges include the short-term discharge of an unusual waste from premises subject to an existing permit and the discharge of tinkered wastes.

‘Urban Local Authority’ means a local municipal authority of a town, regional council, or a union of towns conforming to Article 243Q of the Constitution of India

‘Waste’ means any water with matter in solution or suspension, domestic wastewater, or liquid waste and includes sewage for the purpose of this byelaw.

‘Waste minimization’ means the implementation on trade premises, of operations and restrictions, appropriate to the goal of reducing or eliminating the quantity and toxicity of wastes

‘Wastewater system’ means all types of sewers, appurtenances, pumping stations, storage tanks, wastewater treatments facility plants, marine outfalls and other related structures owned by the urban local authority and used for the reception, treatment and disposal of wastewater and also termed ‘sewerage system’

‘Zones’ means the drainage catchments areas of a City that are served by a separate wastewater/ sewage treatment plants.

Section A: Grev Water reuse Byelaws

1. Application of the Byelaws

1.1. These bye laws are applicable to all housing, commercial and industrial premises which fall in one of the following categories

Category 1: Housing complex having 150 tenements or more

Category 2: Three star or higher category hotels

Category 3: Commercial establishments, hostels having built up area 2000 sq.m. or more

1.2. Exemptions could be accorded under following circumstances, as decided by the authority;

- a) In case the existing premises cannot permit the provision of additional overhead tank for the purpose of the use of treated water
- b) If, in the existing structure, there is no space for installation of treatment facility and collection chamber

2. Discharge of wastes

2.1 The owner or occupier of premises shall discharge wastes/ sewage into the sewerage system and / or shall allow any other person to discharge the same from his premises into the system

2.2 Only in a manner, quantity, or quality that shall not cause damage to the sewerage system or to the flow of the sewage or to the treatment process thereof or not in excess of Municipal water supply received

2.3 Only with a valid permission in accordance with the provisions of this byelaw will be allow the occupier to connect the waste water/ sewerage to the municipal sewer and claim the benefits arising out of recycling of Grey water

2.4 In a nature or manner or in a way that shall not constitute a nuisance of foul gases or cause a public hazard or otherwise in compliance of this Byelaw

2.5 The recycled water shall be used for non potable, no contact purposes within premises and shall not be connected to sewage/ Waste Water system of NMC. However the waste generated by the recycle plant can be connected to NMC sewer network if it of the accepted quality.

3. Enforcement of Byelaws

3.1 In case of existing properties, Municipal Commissioner or his authorized office will issue a notice to the occupier for making arrangements of Reuse of Grey Water within specified time

3.2 In case of proposed/intending/under redevelopment properties, the occupier/developer/builder will submit an application directly or through his authorized consultant to the Municipal Commissioner with details of proposed

'Discharge Management Plan' along with the application for demand of water and permission to connect the Grey Water/ sewage to Municipal sewage system

4. Granting a Permission

- 4.1** Every premises will be granted permission for the discharge of industrial wastes or wastes to the municipal sewerage system only if the recycling measures for Grey Water and conditions set forth in Schedules to this Byelaw are fulfilled

5. Waste tests and their results

- 5.1** An occupier of an industrial plant or premises requiring a license shall provide to the Municipal Commissioner or an authorized officer once a year for the purpose of receiving a license, test results of the industrial wastes discharged from the plant or premises.
- 5.2** Without derogating the provisions specified in clause of byelaw 4, the occupier of a premises requiring a license or the occupier of a controlled plant or premises, shall provide to Municipal Commissioner test results of industrial wastes or waste discharged from the plant or premises at any time he is required in writing to do so by the Municipal Commissioner
- 5.3** The testing of wastes and the submission of the results shall be done in a manner in accordance with the terms and conditions prescribed by the Municipal Commissioner or an authorized officer in this regard.

This byelaw accords the authority of Municipal Commissioner, his agent or an authorized officer of their authority to visit the plant/premises at all reasonable time

6. Notice for testing of discharge

- 6.1** The Municipal Commissioner may order the testing of samples of industrial wastes or wastes as described in clause of byelaws 5 if he feels that the circumstances so demand and he may, by written notice, direct the plant or premises occupier to pay the expenses of performing such tests.
- 6.2** A controlled plant whose occupier received notice as stated in clause of byelaw(5) shall comply the provisions of byelaw(4) prescribed above for that purpose

7. Operational Permission for the Grey Water Recycling Treatment Plant

7.1 Municipal Commissioner may determine on the basis of test results of the wastes that were provided to him or that were performed at his instance or behalf, that a recycled water plant is fulfilling the requirements and will issue permission in writing to put the plant on permanent to the occupier

7.2 The occupier shall operate the plant as specified

8. Separation of Grey Water

8.1 The wastes from toilets in the premises will be separated from grey water that is of bathroom and kitchen wastes by means of separate down take discharge system. The grey water shall be recycled by providing recycling plant and shall be reused for non-potable purposes after storing the same in the distinctly separate tank by means of purple colored down take pipes. The water quality shall conform to standards of non potable water. The recycled water shall be tested once in six months and the results shall be made available to Municipal Commissioner or his authorized officer whenever demanded

The make-up connection to the system will be done at the collection tank of the treated water, through a free fall if from Municipal water connection, but preferably from local source like bore well

9. Conditional Waste Discharge Permission

9.1 Waste discharges of the conditional type plant will be allowed on the issue of a conditional permission provided the conditional type plant has recycling and reuse of water facility and not exceeding limits given in as per MPCB norms

10. Mandatory notice regarding charges

10.1 An occupier of a premises shall inform the Municipal Commissioner or his authorized officer of any change in the quantity, nature or quality of the wastes discharged from his plant or premises, the manner of their discharge or extra requirement of external supply of water immediately if the change is likely to cause discharge of wastes in variation or violation of license issued under these Byelaws

11. Authority to change license/notice conditions

- 11.1 The Municipal Commissioner or his authorized officer, having given a license or a notice in writing by the authority vested in him by this byelaw, may revoke, modify or stipulate conditions to the license or notice if satisfied on inspection of the plant, premises or test reports

12. Interference with the Authority

- 12.1 Interference with the authority of the Municipal Commissioner or his agent or with the authorized officer is strictly prohibited

13. Delivery of Notice/Permission

- 13.1 Notice/ Permission required by this Byelaw shall be deemed to have been delivered lawfully if it is given into the hand of their intended receiver acknowledgement, or delivered to his place of residence or his place of occupation or place known to be so with acknowledgement, or if sent by registered mail to the same person according to his place of residence, or normal place of employment recently known to be so If it is not possible to make the delivery as stated, the notice will be assumed to have been delivered lawfully if the notice is pasted in a conspicuous place in one of the above stated locations

14. Corrective action

- 14.1 Any person violating the provisions of these byelaws shall be fined Rs. 5000/- only on the day of detection and if the violation continues shall be fined Rs. 100/- for every day as corrective action after a written notice from the Municipal Commissioner or his authorized officer is delivered to him.
- 14.2 Failure to operate (as determined by the Inspector or authorized officer of NMC from the observations of test results and/ or physical verification) the recycling plant will attract a penalty of Rs. 500/- per day and /or disconnection or water connection.

15. Authorization of officers

- 15.1 Municipal Commissioner will authorize his officers/inspectors and will delegate the necessary powers for carrying various duties under this byelaw

Section B: Water incentive Byelaws

16. Separate plumbing for grey water and provision of recycling for new buildings

16.1 Every developer/builder shall provide the newly constructed building with the provision of separate down take plumbing for grey water, recycling water plant, storage and reuse fittings before selling the building

17. Separate plumbing for grey water and provision of recycling for existing buildings

17.1 Every existing building/ residential structure shall provide with the provision of recycled water plant and relevant adequate separate plumbing for grey water and reuse fittings

18. Reuse of water strictly for not potable non contact use

18.1 The reuse of water will be strictly for not potable use by means of providing a distinctly separate reuse system colored in purple. The non-contact uses shall be restricted to toilet flushing, drip irrigation of trees/shrubs, sub-surface irrigation of lawns and recharge of ground water.

19. No cross-connection of potable and not potable water

19.1 There shall not be cross-connection of fitting of the potable and not potable water at any point. The recycled water systems shall be maintained at a lower operating pressure than that of the potable water system. Precautions should be taken at the make-up connection to prevent cross contamination

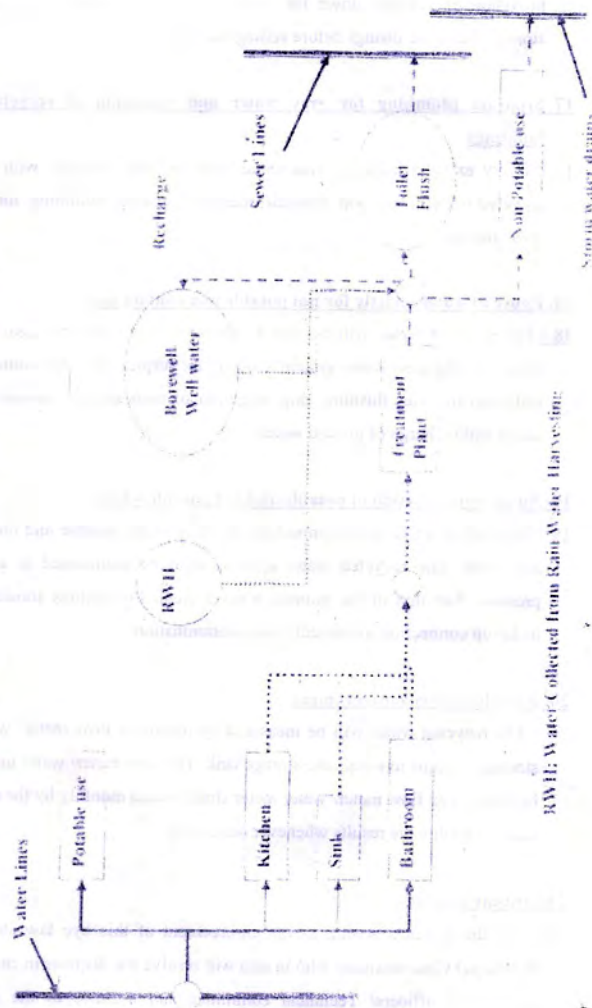
20. Recycled water measurement

20.1 The recycled water will be measured by means of flow meter/ water meter before storing the same in a separate storage tank. The flow meter/ water meter will be sealed by NMC. The flow meter/ water meter shall be read monthly by the occupier and shall make available the results whenever demanded.

21. Dispute resolution

21.1 All the disputes arising in the enforcement of this bye law shall be referred to Municipal Commissioner who in turn will resolve the disputes in consultation with his Authorized officers/ Technical committee and intimate to the occupier/ builder/ developer. The decision of the Municipal Commissioner will be final and binding on the occupier

Conceptual Grey Water Recycle System Proposed under Bye laws



RWH: Water Collected from Rain Water Harvesting