

GUIDANCE NOTES FOR THE APPLICATION OF RAINWATER COLLECTION SYSTEMS

The construction of rainwater collection systems for any purpose whatsoever is regulated by Section 31 of the Sewerage and Drainage Act. The owner, developer, QP or PE shall submit an application to obtain the approval of PUB under s.31 and comply with the following requirements:

1. PUB's Requirements

- a) There shall be no inter-connection between the potable and non-potable water pipes. A vertical physical air gap of at least 150mm shall be provided between the potable water discharge point and the top of the rainwater collection tank to ensure no risk of contamination to the potable water supply.
- b) The pipes and fittings, which are served by the non-potable water system, shall be clearly differentiated from the potable water system by means of colour coding. The pipes shall be marked clearly at intervals with the wording: 'Non-potable water. 'Not for drinking'.
- c) All water service works shall be carried out in accordance with the Public Utilities (Water Supply) Regulations and Singapore Standard SS 636:2018- Code of Practice for Water Services. All water fittings used shall also comply with the standards stipulated by PUB, which can be found at <http://www.pub.gov.sg/https://www.pub.gov.sg/compliance/watersupplyservices/standards>.

2. Pollution Control and Environmental Health Requirements

- a) The collected rainwater shall be used strictly for non-potable purposes and shall be limited to general washing (not including washing of hands/face, showering, bathing and brushing of teeth as these activities may lead to the accidental ingestion of the non-potable water), toilet flushing and landscape irrigation only. To prevent the unwitting use of the harvested rainwater for potable purposes, please also display clearly at the points of use the label “non-potable use only/not for drinking”.
- b) The owner/operator of the rainwater collection system shall implement the necessary management control and water quality monitoring measures so as to ensure that only clean and uncontaminated rainwater will be collected by the system.
- c) Waste water generated from the use of rainwater in general washing shall be collected and discharged into the public sewer in accordance to the allowable discharge limits stipulated in the Sewerage and Drainage Act, Chapter 294 and Sewerage and Drainage (Trade Effluent) Regulations. Such waste water is not allowed to be discharged into any storm drain or onto any land as it could cause water pollution or land contamination problem.

- d) Rainwater from roofs / open spaces and any unused / uncontaminated rainwater from the rainwater collection system are not allowed to be discharged into the public sewer. Instead, it shall be discharged into a watercourse or other collection medium in accordance to the allowable discharge limits stipulated in Singapore Standard SS593: Code of Practice for Pollution Control.
- e) The rainwater collection tank shall be mosquito proof in accordance to the "Guidelines on Mosquito Prevention in Domestic Rainwater Collection System for Non-potable Uses". A copy of the Guidelines is available on NEA website at: <https://www.nea.gov.sg/docs/default-source/resource/guidelines-on-mosquito-prevention-in-domestic-rainwater-collection-system-for-non-potable-uses.pdf>

3. General Conditions

- a) The collected rainwater is only allowed for non-potable use within the owner's own premises.
- b) Any transaction or sale of the collected rainwater by the owner to other parties for use at other premises is not allowed.
- c) In the event of excessive drought, which is to be assessed and determined by PUB, the owner shall, for the purposes of conservation of water resources, upon receiving such direction from PUB, forthwith cease using the rainwater or precipitation collected by the rainwater collection system.
- d) The owner shall ensure that the rainwater collection system is designed with a bypass system to allow rainwater to be directly channeled into any drains or watercourses, upon any direction issued pursuant to 3(b) above.
- e) Should any tax, charge or fee be levied in the future in relation to such use, collection or discharge of rainwater, the owner shall pay such tax, charge or fee upon reasonable notice being given to the owner.
- f) In granting any approval for the construction of rainwater collection systems, PUB may, in its discretion, impose any additional conditions as it thinks fit.
- g) When there is a change in ownership of the rainwater collection system, the owner shall ensure that the new owner is informed of all the conditions that have been previously imposed, unless otherwise specified by PUB.
- h) Prior to installation of the rainwater collection system, the owner or developer shall appoint an appropriate Qualified Person (who is a Professional Engineer in Mechanical for a pumped rainwater collection system, or a Professional Engineer in Civil for gravity flow rainwater collection system) to prepare the submission and supervise the installation in accordance to the requirements stipulated in para 1 to 3

above. The Professional Engineer shall submit an Application for the rainwater collection system to PUB, Building Plan Unit (BPU) for approval.

- i) The owner shall notify PUB in writing if there is any alteration or deviation to the approved rainwater collection system during its operation. Under such circumstances, PUB may require the owner to lodge a new Application for the rainwater collection system as a result of the alteration or deviation.

4. Requirements of Submission

- a) The followings are required in the Application:
 - i. Cover letter
 - ii. Technical write-up
 - iii. Catchment area
 - iv. Storage tank size
 - v. Estimated usage
 - vi. Purpose of usage
 - vii. Calculations
 - viii. Proposal plans which include location plan, site plan, relevant floor plans, catchment plan, tank details and water reticulation schematic drawing for the system.
 - ix. Any other documents as required by PUB
- b) The Application, endorsed by the PE, shall be submitted in *pdf* format via email to the Building Plan Unit (BPU) at Pub_bpu@pub.gov.sg.

5. Application Process

- a) Before submitting the Application, the Applicant is advised to pre-consult on the rainwater collection proposal. Developers/Owners/Professional Engineers/interested parties can email to ivy_poon@pub.gov.sg for enquiries / request for pre-consultation, or call the BPU Hotline at 67313512 for further clarifications..
- b) The processing time is 14 working days upon receipt of a complete PE's submission of all required information and documents as stipulated in 4(a).
- c) The Notice of Approval will be granted once all relevant conditions and requirements have been complied with.