



BY EMAIL ONLY

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**Investigation on the problems related to the misconnection
of private building sewers to stormwater drains**

1. Green Power, a local charitable green group, is gravely concerned about the water quality and ecology of river, coastal and marine environment.
2. The connection of private building sewers to stormwater drains is an illegal action that can induce serious environmental problems and threaten the aquatic ecology along the river channel and the sea. Related government departments are responsible to identify and instruct the property owners to fix the problem. The captioned investigation related to this issue is urgently needed.

Significance of the problems

3. The connection of private building sewers is regulated by the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations (Cap. 123I), stating that “*Drains and private sewers, provided for the carriage of foul water, shall, where there is a public sewer provided for the carriage of foul water at a suitable level and position within 30 m of the boundary of the lot on which the building, for which such drains or private sewers are provided, is erected, be connected to such public sewer. (L.N. 294 of 1976)*”. Meanwhile, the disposal of sewage to stormwater drains may violate the Water Pollution Control Ordinance (Cap. 358). Such misconnection of sewers is undoubtedly illegal and shall not be tolerated.

4. Sewage water generated from private buildings consists of blackwater (i.e. water from toilet flushing). The presence and extent of blackwater contamination in a water body can be indicated by the level of *Escherichia coli*, one of the bacteria found in feces of warm-blooded animals. Table 1 shows the level of *E. coli* measured at the upper part and lower part of the channelized urban section of three selected rivers in 2018. These channelized river sections are all connected with the outlets of stormwater drains adjacent to the old district. The figure revealed a prominent increase of *E. coli* when water flowing through these river sections. Since livestock farms and unsewered village houses are absent along the urban section of the selected rivers, the increase of *E. coli* (i.e. evidence of blackwater contamination) obtained from these rivers is very likely resulted from the misconnections of sewer, causing severe odor and environmental nuisance.

| | Upper part of the channelized urban section | | Lower part of the channelized urban section | |
|-----------------|---------------------------------------------|----------------------------------------|---------------------------------------------|----------------------------------------|
| | Monitoring station | Level of <i>E. coli</i> (counts/100mL) | Monitoring station | Level of <i>E. coli</i> (counts/100mL) |
| Lan Tsuen River | TR 12 | 2,400 | TR 12I | 36,000 |
| Tuen Mun River | TN 4 | 6,700 | TN 6 | 11,000 |
| Yuen Long Creek | YL 1 | 120,000 | YL3 | 1,000,000 |
| | YL 2 | 87,000 | | |

Table 1. Level of *E. coli* at the upper and lower part of the channelized river section in 2018 (Sources: *River Water Quality in Hong Kong in 2018*, EPD.

<https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/hkwqrc/files/waterquality/annual-report/riverreport2018.pdf>)

5. Blackwater contamination also threatens the river and marine ecosystem. Sewage-related bacteria and viruses can induce disease to aquatic life. Such infection can be transmitted and spread out through the natural food chain of the aquatic system and threaten human health through consumption of seafood. Furthermore, organic substances in the domestic sewage enhance the growth of algae and fungi in the water body in which take up excessive oxygen content. Aquatic life may be at risk of suffocation due to the potential condition of oxygen depletion.

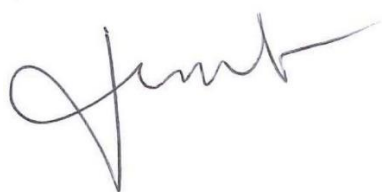
Recommendations

6. Effective law enforcement is crucial to tackling the captioned problems. In the current practice, the investigation will only be taken place by the officials upon receiving public complaints. Proactive inspection is hence urged to identify the hidden locations of misconnected sewers. From this point of view, a collaboration between the Environmental Protection Department (EPD), Drainage Service Department (DSD), and Building Department (BD) is particularly important. Formulation of an inter-departmental task force can be considered to analyze the intelligence between departments and coordinate joint-enforcement action. Regarding the difficulty to enter private building for inspection, the Building Authority shall not hesitate to excise its power given by the Building Ordinance (Cap. 123) to “*appoint authorized person to carry out investigation on drains or sewers of any building (that are) inadequate or in a defective or insanitary condition*”.

7. Apart from strict enforcement, the government departments shall also raise the public awareness of the captioned issue, provided that most of the general public does not recognize the differences between sewer and stormwater drain.

Thank you for your kind attention. We look forward to the investigation results and remedial measures.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'LO Wing-fung', with a long horizontal stroke extending to the right.

LO Wing-fung
Assistant Senior Education & Conservation Officer
GREEN POWER