

## ビルピット排水の悪臭指導に関する検討報告書

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Research on Control of Odor released from Wastewater pumped from Underground Pit to Sewers

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### 概要

ビルピット排水は、ピットの構造や維持管理等の問題により、高濃度の硫化水素を含む場合がある。硫化水素は、下水道施設排出後、空气中に放散され悪臭の元となり、生活環境悪化や都市イメージ低下、下水道施設の劣化を引き起こすため、下水道管理上の大きな問題となっている。

本検討では、下水道管理担当者が効率的かつ効果的に悪臭対策を実施するために、下水道施設である汚水桝に硫化水素計を設置し、悪臭防止法による規制基準値超過を判定するとともにビル管理者に指導する手法の提案を行った。また、ビルピット排水による悪臭の実態調査を行い、汚水桝と悪臭の原因となる硫化水素が生成されるピット排水における臭気指数及び硫化水素ガス濃度の関係及び水質による硫化水素発生傾向を明らかにした。

キーワード : ビルピット、汚水桝、硫化水素、臭気指数、悪臭防止法、悪臭対策

### Synopsis

In the downtown of Japanese big cities, lots of buildings with underground floors are in place. In order to carry wastewater from the underground floor to public sewers, pumps are used because underground floors are below the level of cleanout leading to public sewer. In some pits, wastewater remains for many hours because entering wastewater amount is so small that pumps do not operate regularly. This causes anaerobic reaction of wastewater in the pits. When the pumps start operating, corroded wastewater is discharged to public sewers releasing H<sub>2</sub>S gas. The odorous gas comes up to the busy streets nearby through gully pots in combined sewer system or openings of manhole or cleanout covers in separate and combined system. Lots of citizen complaints are coming to sewer operators for this problem. Our research tries to facilitate the enforcement of odor control law to solve the problem. The owners of buildings with underground pits are subjected to the law. Enforcing odor control law is the job of environmental affairs section in municipalities while the detection of problematic pits is made possible by sewer operators through the H<sub>2</sub>S gas detectors placed in cleanouts. The problem has been neglected due to sectionalism and evasiveness. Parameters of odor control enforcement in this problem are H<sub>2</sub>S concentration in wastewater or sensory dilution-to-threshold measurement for wastewater. Our research focuses on the relationship between these enforcing parameters in wastewater and commonly measured H<sub>2</sub>S gas concentration in cleanouts. The result is expected to be used for the smooth communication between sewer operators and environmental affairs section so that enforcement is duly conducted.

Key Words : Pit, House inlet, Hydrogen sulfide, Enforcing odor control law, odor control measures

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