

東京の漏水防止

Prevention of Water Leakage in Tokyo

平成21年度版
2009



東京都水道局

Bureau of Waterworks, Tokyo Metropolitan Government

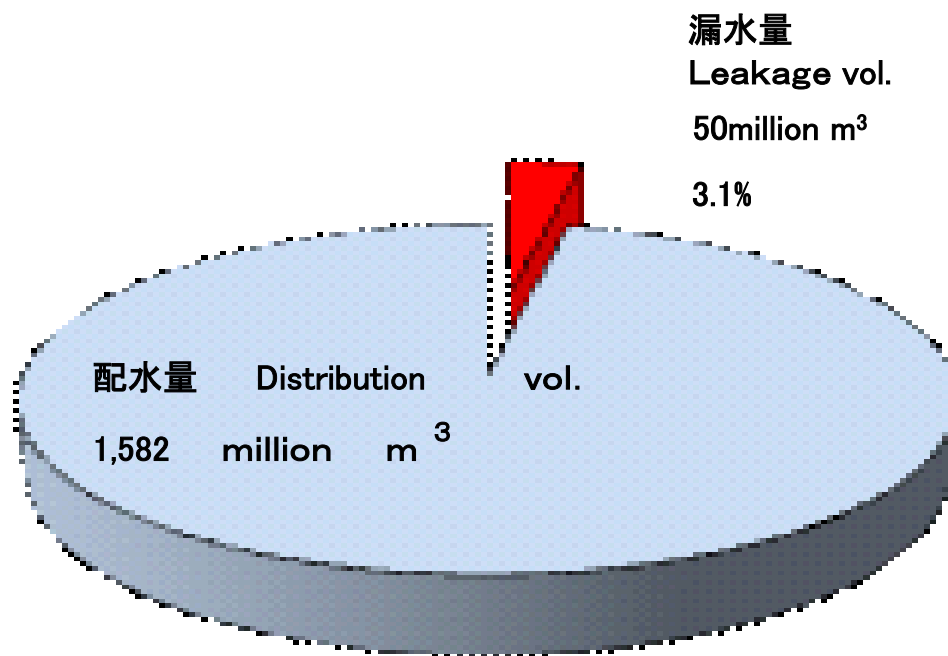


図 1 平成 20 年度 年間配水量と漏水量

Fig. 1 Annual distribution volume and leakage volume in FY 2008

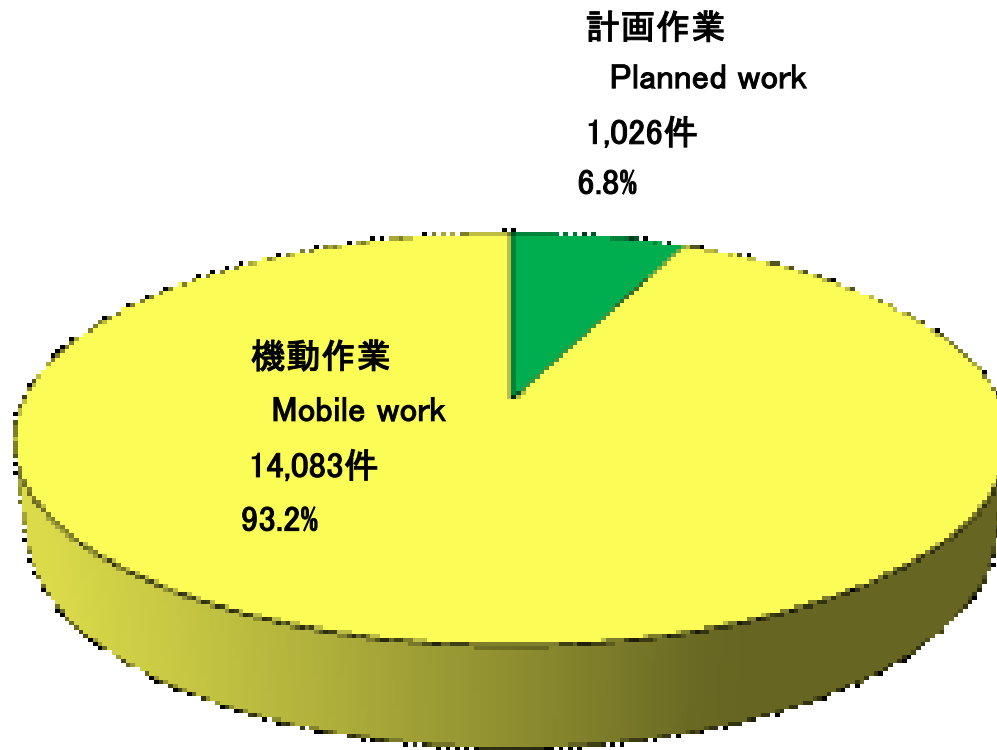


図2-1 機動作業と計画作業の比較
(修理件数)

Fig.2-1 Comparison between
Mobile work and Planned work
(Cases)

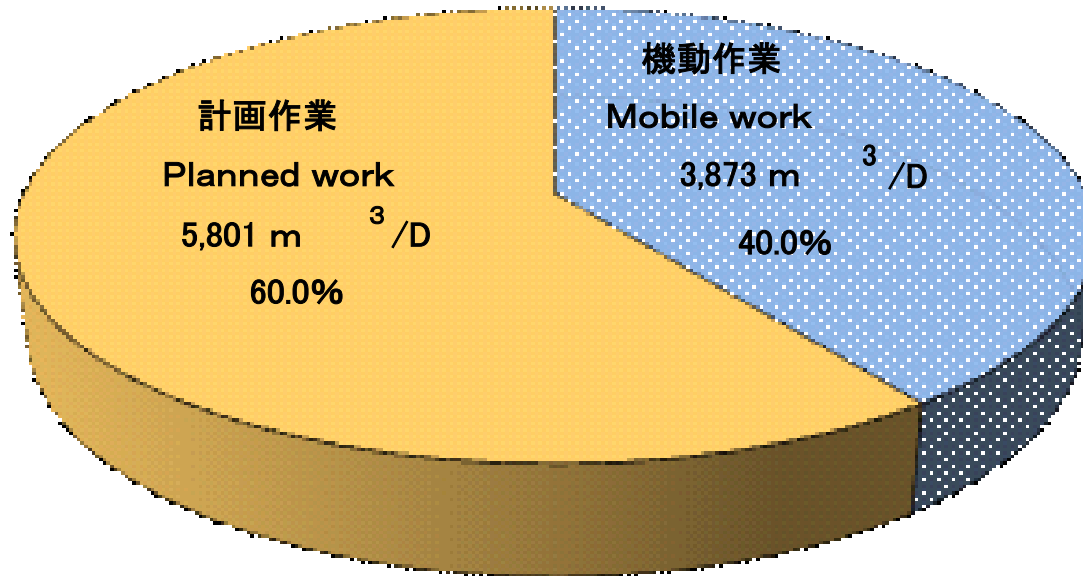


図2-2 機動作業と計画作業の比較

(漏水防止量:区部)

Fig. 2-2 Comparison between
Mobile work and Planned work
in the wards

(Prevention Volume)

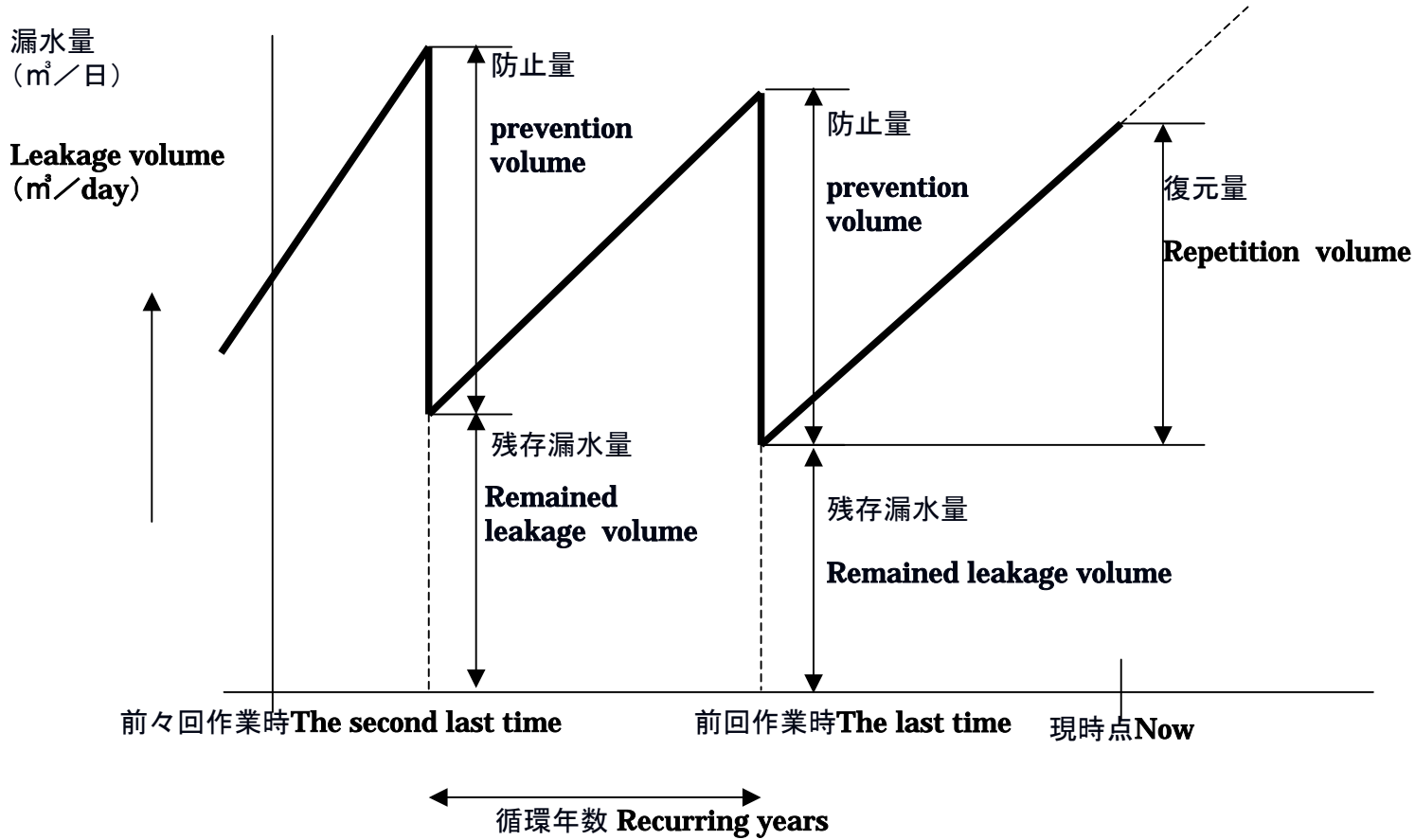


図3 漏水の復元 Fig. 3 Repetition of leakage

(1) 対策の体系 System of leakage prevention measures

東京都において現在実施している漏水防止対策は、次のように分類されます。

The leakage control measures that we take in Tokyo are classified as follows

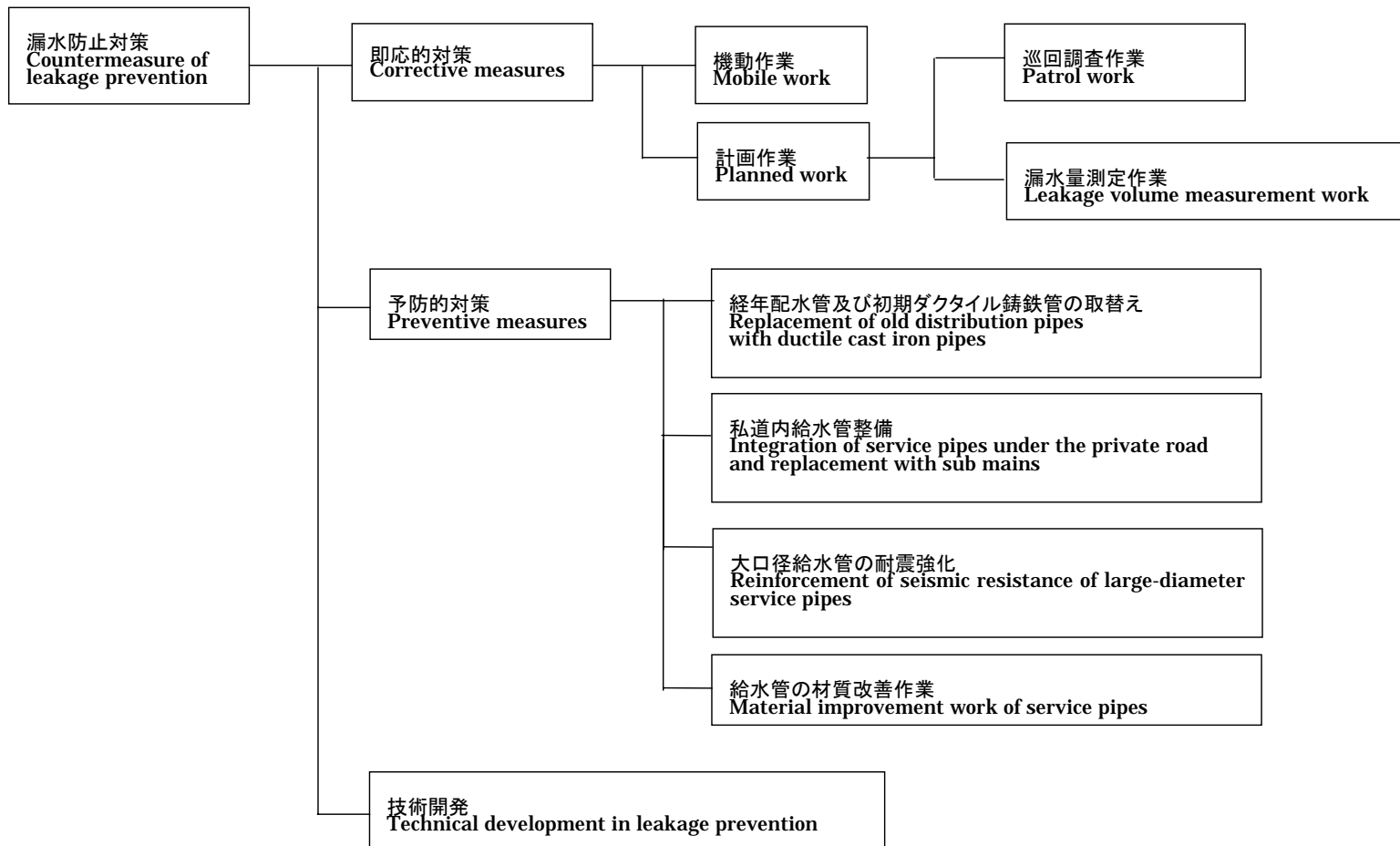
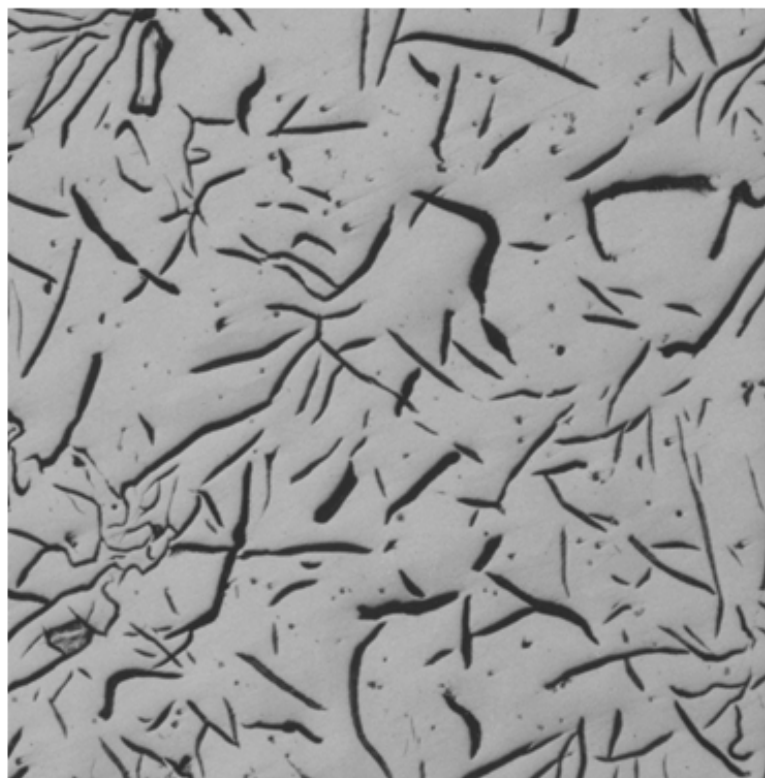
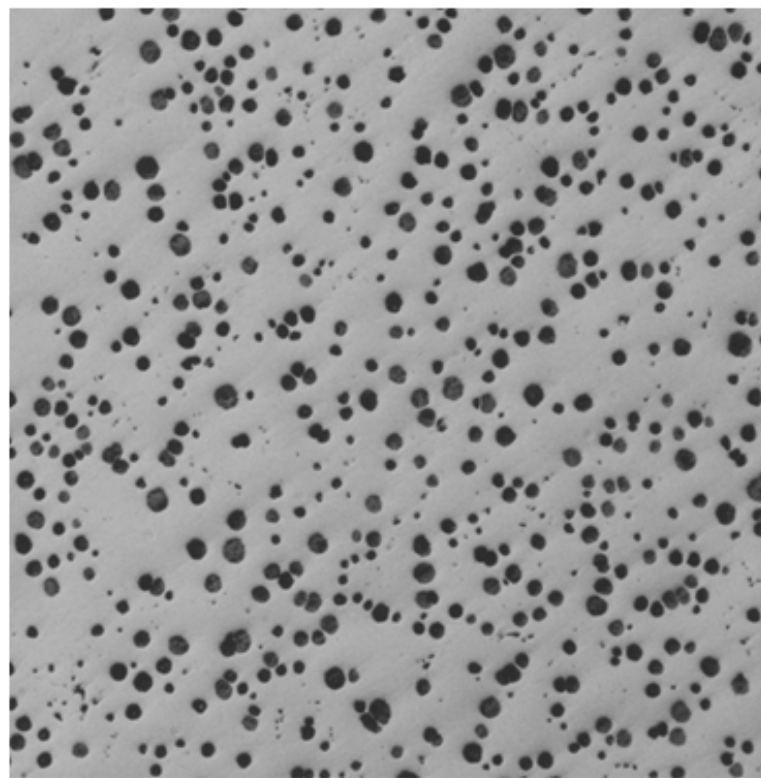


図4 漏水防止対策の体系 Fig. 4 System of leakage prevention measures



高級鑄鉄の組織
(Cast iron)

図-5 鑄鉄の組織



ダクタイル鑄鉄の組織
(Ductile cast iron)

Fig. 5 Micrograph of cast iron

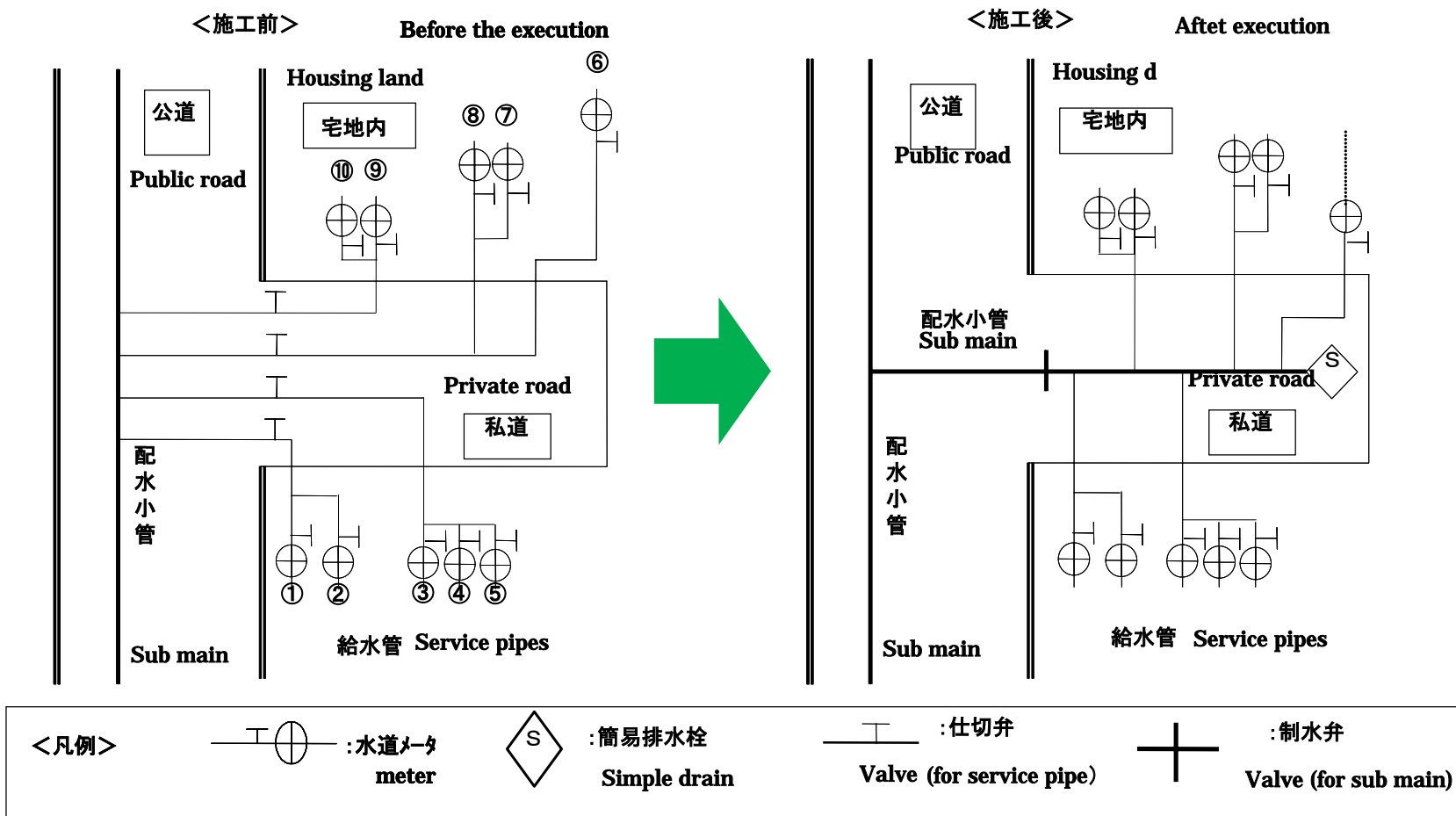


図6 私道内給水管整備

Fig. 6 Integration of service pipes under the private road and replacement with sub mains

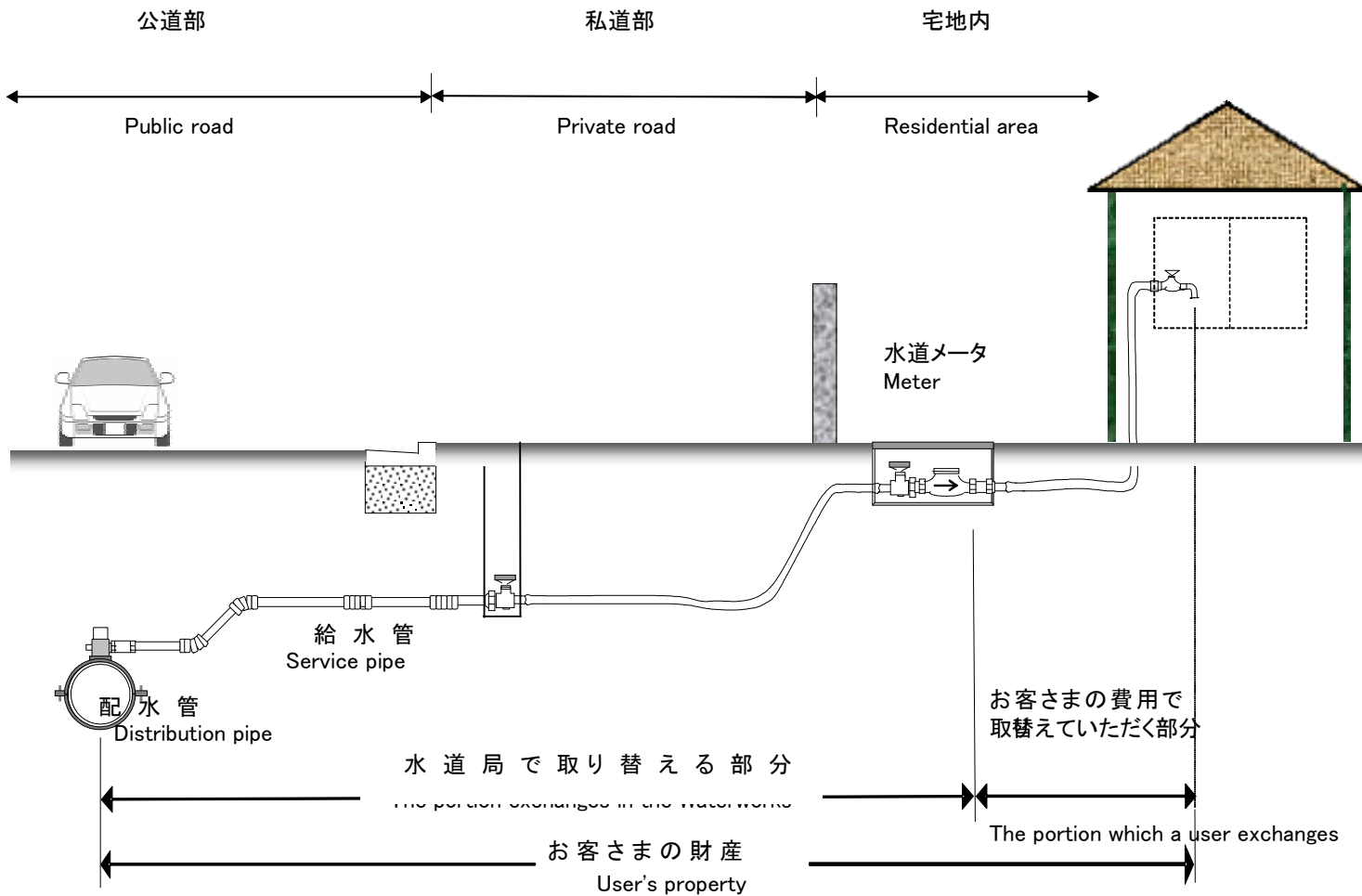
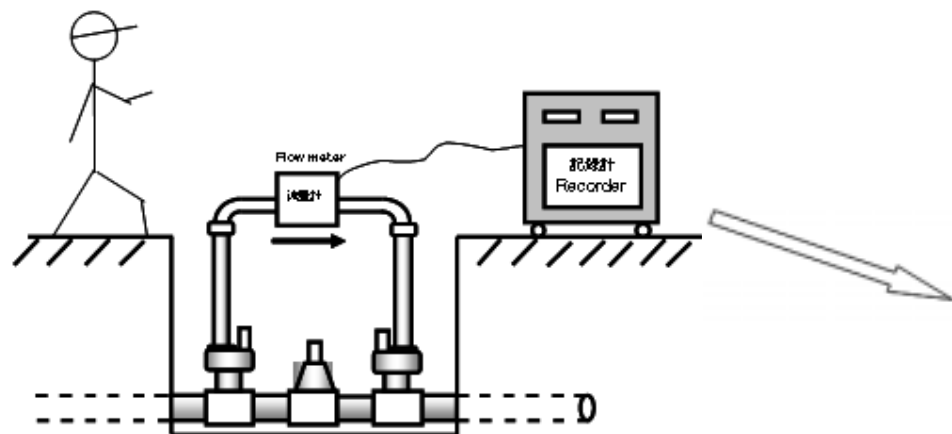
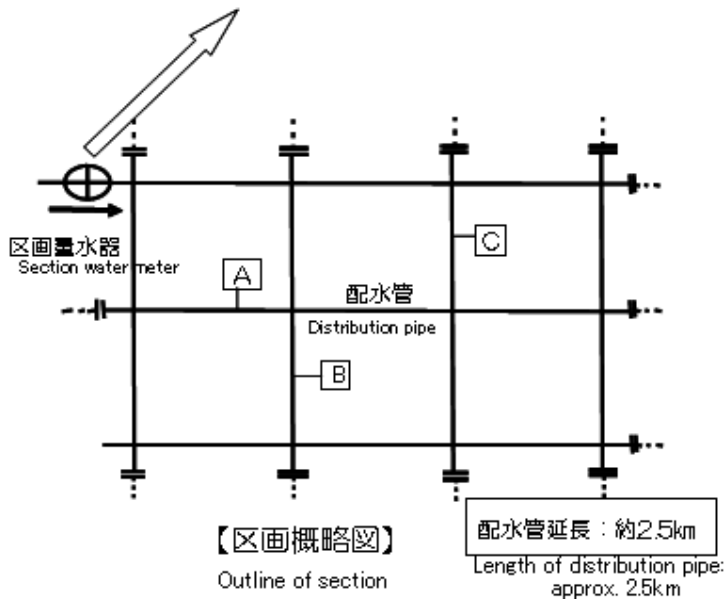


図7 給水管の材質改善 Fig. 7 Material improvement of service pipe

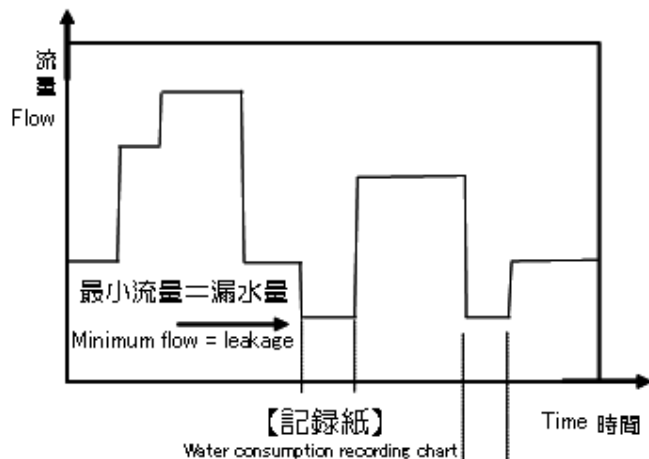


【区画量水器】section water meter

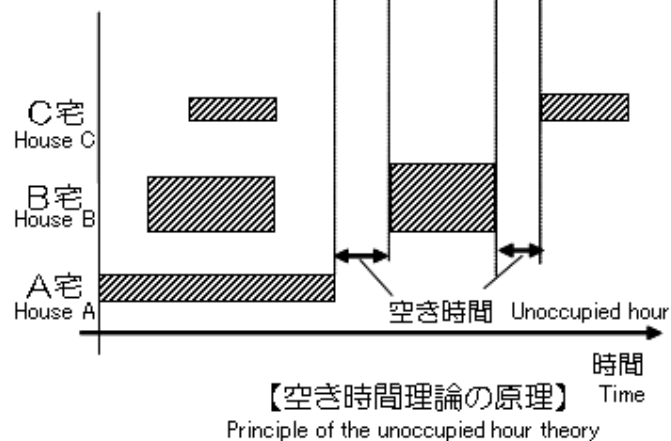


【区画概略図】
Outline of section

配水管延長：約2.5km
Length of distribution pipe:
approx. 2.5km



【記録紙】
Water consumption recording chart



【空き時間理論の原理】
Principle of the unoccupied hour theory

図-8 夜間最小流量測定法の原理

Fig. 8 Theory of minimum night flow measurement method



図9 可搬式最小流量測定装置 Fig.9 Portable minimum flow meter

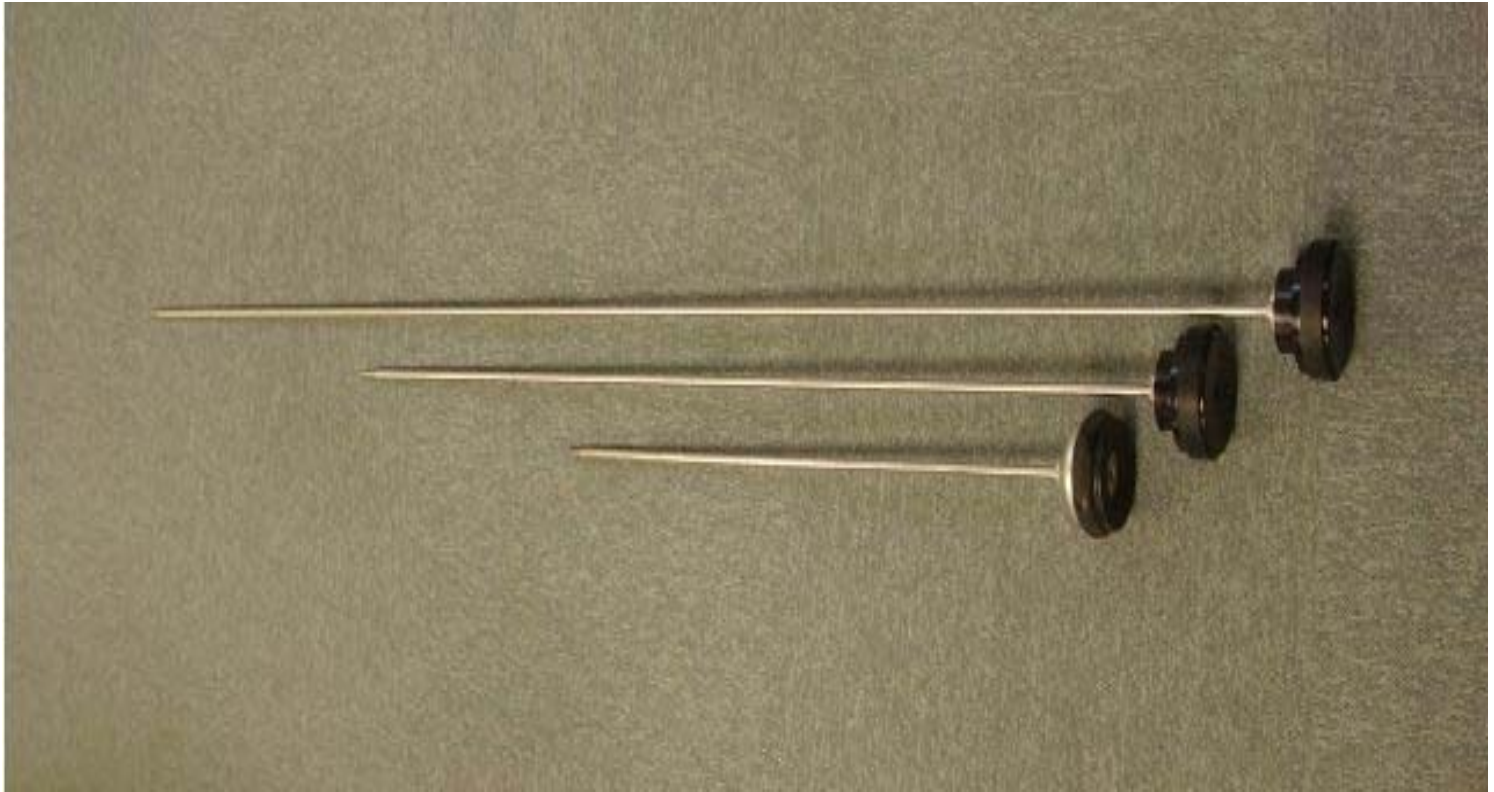


图10 音聽棒 Fig.10 Acoustic rod



図11 電子式漏水発見器 Fig.11 Electronic leakage detector

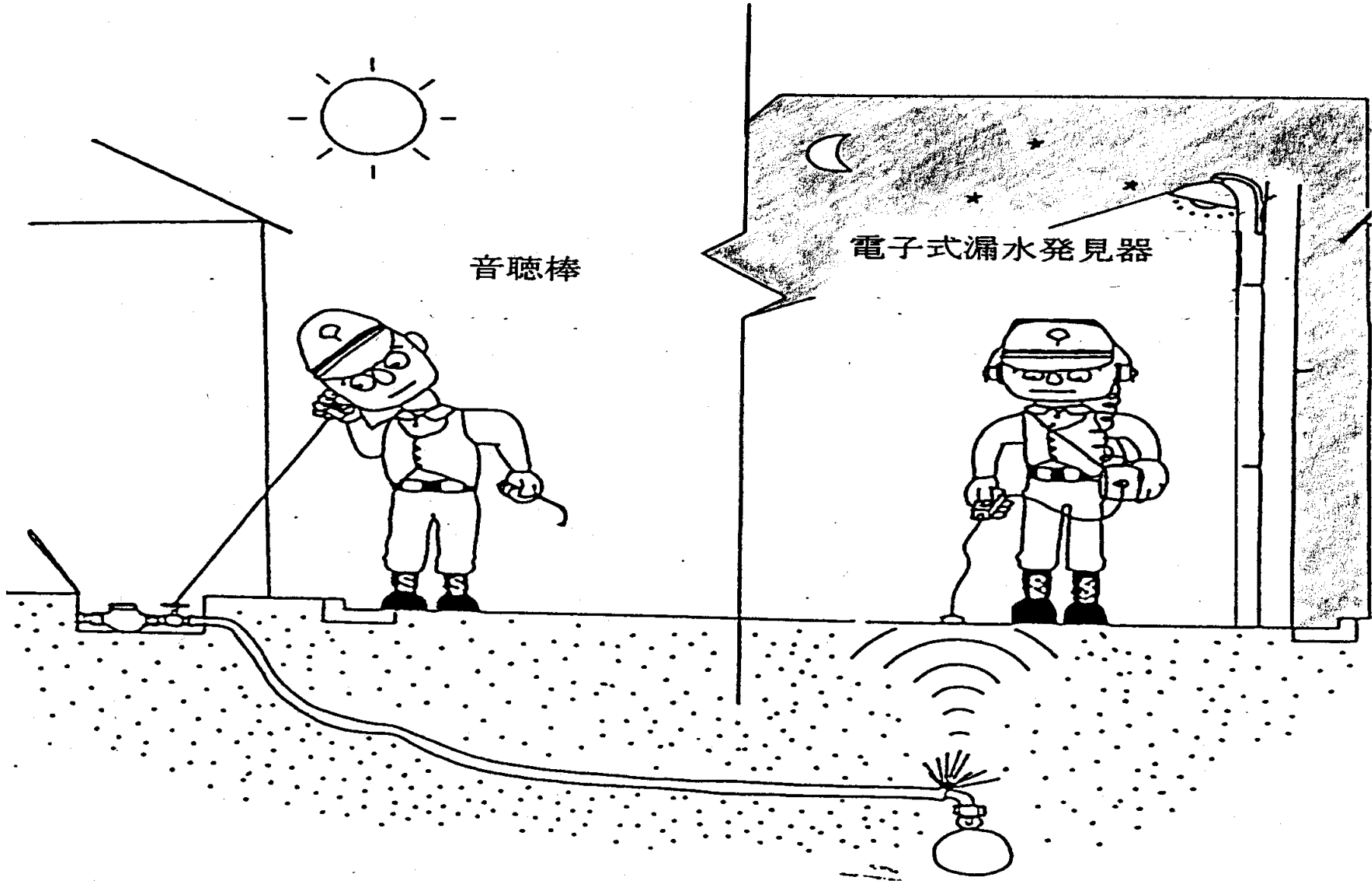


図12 音聴法による漏水探知法 Fig.12 Acoustic method

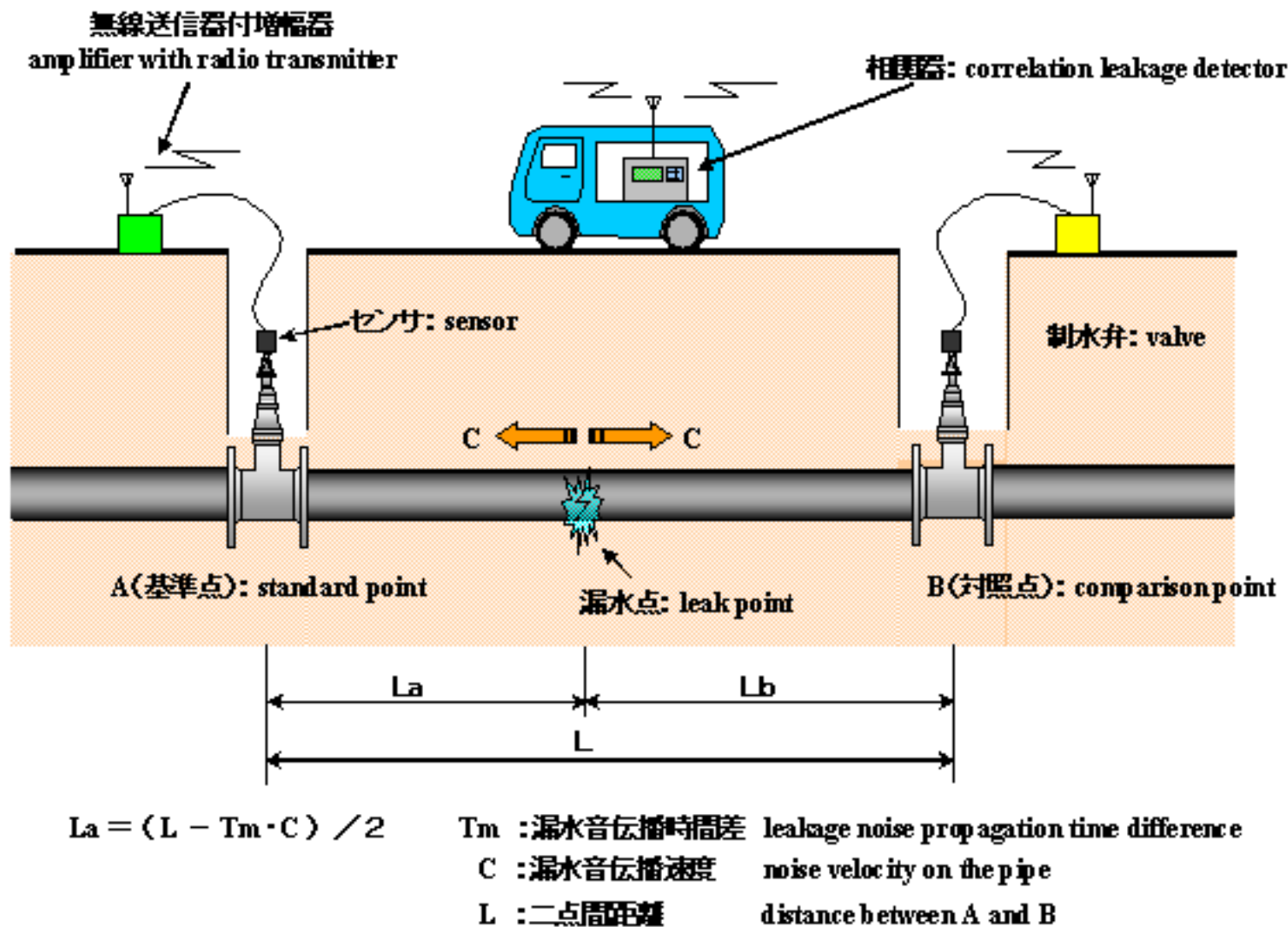


図13 相関式漏水発見装置の原理 Fig.13 Theory of the correlation method



図 1 4 相関式漏水発見装置
Fig. 1 4 Correlation type leakage detector

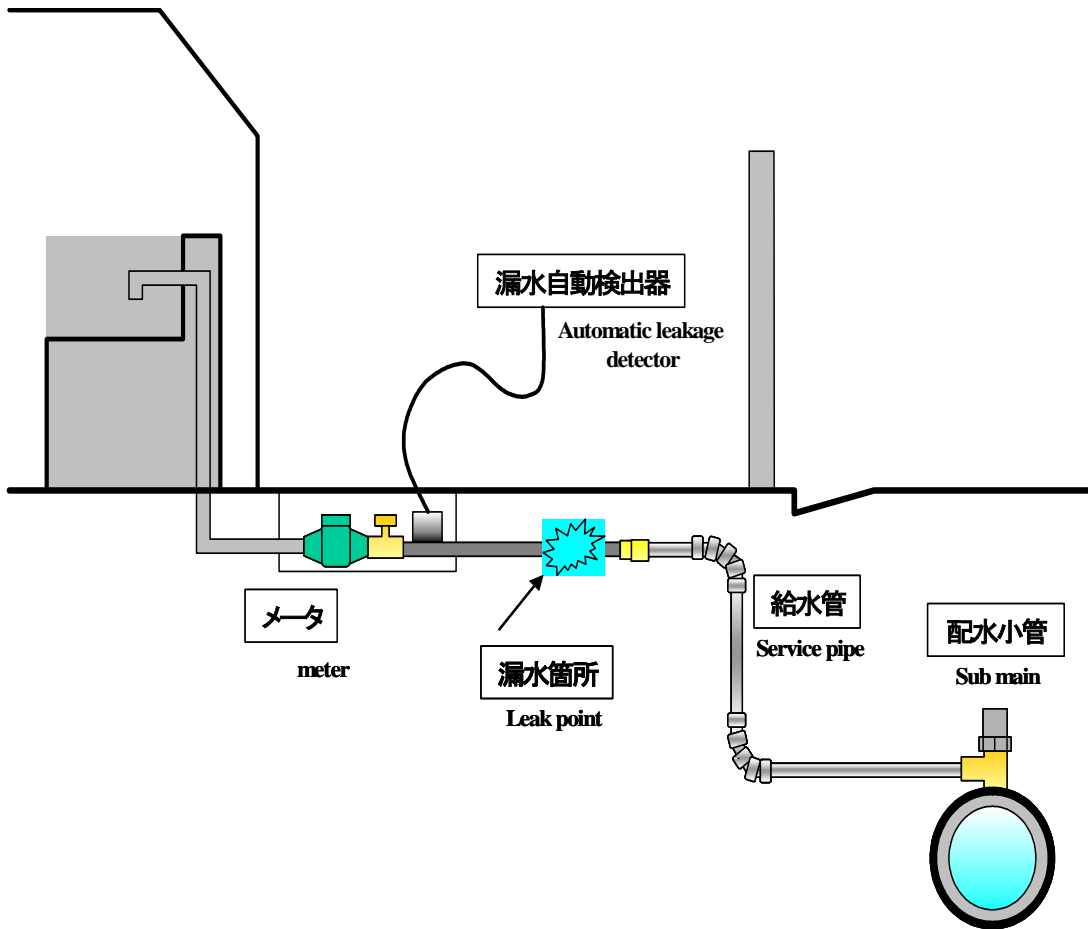


図15 時間積分式漏水発見器

Fig.15 Time integral type leakage detector



图17 金属管探知器 Fig. 17 Metal pipe locator



图18 打击音注入器 Fig. 18 Water hammer Generator