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Sewer Culvert Installation Method to Accommodate Underground Construction in an Urban Area with Narrow Streets

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Abstract : In recent years, a reconstruction project for sewer pipelines has been progressing in Japan with the aim of renewing old sewer culverts. However, it is difficult to secure a sufficient base area for shafts in an urban area because many streets are narrow with a complex layout. As a result, construction in such urban areas is generally very demanding. In urban areas, there is a strong requirement for a safe, reliable and economical construction method that does not disturb the public's daily life and urban activities. With this in mind, we developed a new construction method called the 'shield switching type micro-tunneling method' which integrates the micro-tunneling method and shield method. In this method, pipeline is constructed first for sections that are gently curved or straight using the economical micro-tunneling method, and then the method is switched to the shield method for sections with a sharp curve or a series of curves without establishing an intermediate shaft. This paper provides the information, features and construction examples of this newly developed method.

Keywords : micro-tunneling method, secondary lining applied RC segment, sharp curve, shield method, switching type
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