

## Study on Sewerage Quick Project in Uki City

Whole Term

Fiscal year 2009

Sewer development in unsewered area

### (Purpose of the Study)

This study was carried out as Sewerage Quick Project to verify the effectiveness of “Sewer lying along the road alignment” adopted in Uki City.

### (Results of the Study)

The item verified by this research and its result are shown in Table -1.

**Table-1 Result of Verification (Sewer lying along the road alignment)**

Items Verified	Results				
Cost Reduction	Area	Conventional method	Sewer lying along the road alignment	Ratio of reduction	Remarks
	Minamiogawa district Nagasaki district	106,310 thousand yen	84,000 thousand yen	21%	( Minamiogawa ) 46place→16place ( Nagasaki ) 28place→9place
	<ul style="list-style-type: none"> <li>• Since there would be no difference in deposition of solid in the sewer and the workability of maintenance equipments between the conventional method and adopted method, there also no difference in maintenance cost. (→ no reduction in maintenance cost)</li> </ul>				
Sewage flow conditions	<ul style="list-style-type: none"> <li>• At the some manholes downstream of steep slopes with merging or bending, splash of sewage to the invert was observed.</li> </ul>				
Deposition of sediments	<ul style="list-style-type: none"> <li>• There was no sediment deposition caused by using of bent pipe.</li> </ul>				
Construction period	Area	Conventional method	Sewer lying along the road alignment	Ratio of reduction	
	Minamiogawa district Nagasaki district	(Minamiogawa) 412 days (Nagasaki) 105 days	(Minamiogawa) 370 days (Nagasaki) 105 days	8%	
	<ul style="list-style-type: none"> <li>• In steep slope, the soil covering becomes shallower than the one by the conventional method and in the horizontal bending, number of manholes is reduced compared to the conventional method. Therefore, the construction period can be shortened.</li> </ul>				
Workability of Maintenance Equipments	<ul style="list-style-type: none"> <li>• Common maintenance equipments are available in the case of about 50m pipeline including some horizontal curves and vertical section bend.</li> </ul>				
Validity of measures against identifying location where manholes are omitted	<ul style="list-style-type: none"> <li>• Easy to locate the position by the rivet ticked with sewer mark on the road above bent pipe.</li> </ul>				
Influence on the Living Environment (noise, odor emission)	<ul style="list-style-type: none"> <li>• Levels of odor and noise were within the standards and no adverse impact to living environment was observed.</li> </ul>				

### (Conclusion)

No particular adverse effects were observed and satisfactory functioning, cost reduction and shortening of construction period by the adopted technologies were confirmed. The result of Study showed that the adopted technology is effective. Moreover, for the pipeline conditions such as steep slopes, invert of the manholes at the bends, data was collected related to required improvements. Also, the difficulty in movement of monitoring TV cameras was found.

- Joint Study with Uki City

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Keywords

Sewerage Quick Project, Sewer lying along the road alignment