



Micro-Tunneling Challenges Beneath Of High-Traffic Highways

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ABSTRACT

Tehran Micro-Tunneling Project is currently being implemented by KAYSON Inc. in the area of Azadi Square and Mehrabad Airport with the diameters of 1600 and 1800 mm and a total length of 4985 meters. The route of this project is in vicinity of high-traffic municipal highways and numerous municipal subsurface utilities and infrastructures including subway, gas line, fuel line, high voltage power cable, surface water channels and so on. Considering above mentioned constraints, the preparation and implementation of structural operations for each shaft is challengeable and requiring specific measures and actions. Decreasing the number of shafts and increasing the length of micro-tunneling paths and covering a part of shaft structure's entrance through steel structures can be a solution to above mentioned challenges, which decreases the cost and construction time of the project as well as the impact on traffic load of highway and main roads adjacent to the project site. Therefore, it is very difficult to design a project route and shaft location due to its adjacency to highways as well as municipal subsurface utilities and infrastructures within the project site. The purpose of present paper was to conduct a case study on the challenges faced by micro-tunneling project in west of Tehran and how these challenges are managed by the contractor during executive operations.

Key words: Micro-Tunneling, Infrastructure, Traffic Constrains, Shaft Structure, Municipal Utilities.

1. INTRODUCTION

Increasing growth of Tehran city and consequently increasing water consumption and water transfer from other areas to Tehran have increased the production of wastewater and raised the level of underground aquifers in Tehran. This matter has the potential to cause health and environmental problems. Hence, it is very necessary to develop the municipal sewage system