

TRANSPORTATION SEMINAR

I-girders method used to support existing railway operations during highway underpass construction

Friday, October 24, 2014
3:00pm to 4:30pm

Please join us in College Avenue Commons room 425 📍



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In metropolitan areas, when a highway underpass project is being planned to go beneath an existing railway corridor, there are a number of concerns that could have a significant impact on railway operations and highway construction safety. For example, how will the underpass construction construct without interruption of the existing railway operations? How to maintain the construction safety in both rail and highway operations? This presentation will bring a construction technology using I-girder systems to provide a solution for highway underpass projects constructing beneath the existing rail corridors. The I-girder systems have been proved as a reliable method for highway underpass construction without the interruption of railway operations. This type of I-girder steel frame systems has been widely used in several countries as a temporary “bridge” structure in support of dynamic rail movements during underpass construction. Depending on the span of underpass structures, a contractor can decide the number of I-girder units to be assembled and installed on site. This presentation will describe the construction procedures of the I-girder system installation and daily inspection processes. A case study will be used to demonstrate the applicability of I-girder systems in ensuring underpass project operations smoothly while maintaining existing railway operations in a safety manner. During the construction of underpass, the contractor encountered geotechnical issues that had a severe impact on the construction safety and the integrity of foundation and its nearby buildings. The presentation will discuss strategies that were used to mitigate the potential building collapses and foundation failures.



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