국가연구개발 보고서원문 성과물 전담기관인 한국과학기술정보연구원에서 가공·서비스 하는 연구보고서는 동의 없이 상업적 및 기타 영리목적으로 사용할 수 없습니다.

〈 SUMMARY 〉

Purpose & Contents	The objective of this research is to develop an Integral Abutment Bridge system combined with the PSC I-type segmental girders using high-strength concrete (60～80MPa) and a variety of piles. Lately, There was a lot of heavy rain due to abnormal climate changes. And it cause floods damages frequently. But, pre-flex type that was primarily used for this terrain bridge's construction cost is too expensive. And it manufactured in construction field, so it require a large scale of construction site and long manufacture period. In this study, a low-depth bridge type is formed by using the moment distribution effect generated by the integration of the PSC segmental girders, which uses high-strength concrete, and high rigidity pile. The low depth Integral Abutment Bridge has numerous advantages including the following; easy construction of the under bridge space, economical, rapid constructability and superior maintenance. Therefore the low depth Integral Abutment Bridge was developed and a design method was put out.
Results	The high-strength concrete(60～80MPa) mixture ratio for low-depth spliced PSC I girder bridge of the Pre-flex degree was developed through the internal test. And this mixture ratio certified from the Public certification test agency. In order to reduce the depth of the bridge by adjusting the stiffness of the wall or upper-structure, a new type of pile whose stiffness is greater than that of the H-beam was needed. Therefore some tests were conducted to evaluate the stability and connecting performance of the composite behavior between the steel tube and concrete. For CFT piles, SC piles, etc theoretical analysis and experimental results showed a similar behavior. The results of the previously progressed element experiment are analyzed to produce a real experiment of the actual size bridge (L = 30.0m). From the result of the loading experiment until destruction and non-linear analysis, the stability of the real size bridge and experiment method was varified