Quality control in high way engineering

ABSTRACT

Because of quick construction and cost effectiveness, adjacent precast, prestressed
box girder bridges have been used nowadays more often for short-span bridges, and
the standardization of this modular bridge is highly desired. Maryland intends to
revise its current practice of using tie-rods for the transverse post-tensioning in slab
bridge design. The new design of using high strength rods will provide a more tightly
integrated modular slab bridge system with higher post-tensioning forces. With the
new design, the Maryland State Highway Administration is highly interested in the
performance of the new design, especially compared with the old design. This thesis
presents the procedure of test, live load test results and analysis results in association
with the finite-element model simulated in a newly-built bridge.