ABSTRACT

Bridge is a structure carrying a road, path, railroad, or canal across a river, ravine, road, railroad, or other obstacle. Bridge makes a physical connection between two things. Nowadays, variations of bridge based on its function, construction material, and structure type are rapidly developed.

Flyover is a bridge above the existing road. It is a kind of bridge based on location. Based on construction material, it is prestressed concrete bridge. The location of Jombor flyover is at the intersection of north ring road of Yogyakarta city. Former design was continues box girder prestressed concrete.

In this final assignment, the flyover will be redesigned using simple beam box girder prestressed concrete. The slope of the structure is 5%, it causes the loads must be proyected to horizontal and vertical directions.

The redesigned consist of barrier, lining, prestessed box girder and lower structure i.e. bridge pier, pile caps, and foundation. The abutment and bridge pier foundation use bore pile. The loading refers to Bridge Management System (BMS 1992).

Keywords: flyover, prestress, box girder, bore pile.