

# RE-PLANNING THE UPPER STRUCTURE BRIDGE ROADS DATUK LAKSAMANA WITH T- GIRDER USING SNI 1725-2016

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## ABSTRACT

*The Datuk Laksamana Road Bridge with a length of 20 m and a width of 3 m, which connects Bukit Batu Village and Sukajadi Village, Bukit Batu District, is a bridge built with reinforced concrete construction with repaired wooden floors, adjusted for the floor structure and damaged bridges weathering. For this reason, a new bridge structure was planned with the T-Girder structure.*

*The design of this bridge has referred to SNI 1725-2016 concerning loading for bridges and SNI T-12-2004 regarding concrete structure planning for bridges. With the hope of getting a structure design that is safe and in accordance with applicable standards.*

*From the design results, the bridge is planned with a length of 20 m and a width of 7.5 m, for the bridge floor plate obtained a negative moment value of 26.27 kNm using 200 mm thickness, the same dimensions of positive and negative flexural reinforcement that is the main reinforcement D16 - 200 mm and reinforcement for D13 - 300 mm. The sidewalk slab is obtained from the main reinforcement D16 - 200 mm and longitudinal reinforcement D13 - 400 mm. Railing walls obtained flexural reinforcement 2 $\phi$ 12 mm and shear reinforcement  $\phi$ 8-100 mm. Stepping plate lengthwise and transverse direction obtained the same reinforcement dimensions D16 - 200 mm. Beam girder uses dimensions of 600 mm  $\times$  1300 mm with 5 pieces of girder, for flexural reinforcement obtained 18D32 mm tensile reinforcement and compressed reinforcement 5D32 mm, while shear reinforcement  $\phi$ 12-100 mm and body reinforcement obtained 8 $\phi$ 12 mm. Diaphragm beams using dimensions of 300 mm  $\times$  500 mm obtained by tensile reinforcement and compressive reinforcement equal to 3D16 mm, while shear reinforcement  $\phi$ 12 - 150 mm and body reinforcement obtained 2 $\phi$ 12 mm. Meanwhile for placement, the dimensions of 440 mm  $\times$  400 mm  $\times$  129 mm were obtained. The need for reinforcing steel for plain U 24 is 2794.01 kg and U 32 uilr is 21354.28 kg. The budget plan is obtained for Rp. 1,314,700,000.*

**Keyword** : T-girder, BBS, RAB