

**STUDI PERENCANAAN JEMBATAN GELAGAR MENGGUNAKAN BETON
PRATEKAN DI DESA CURAH MALANG KECAMATAN RAMBIPUJI
KABUPATEN JEMBER**

(Uwf k'Mcuwa'Ref c'Lgo de丞p'F guc'E wtcj 'O cncpi 'Mcdwv cvgp'Lgo dgt'F gpi cp'Replcpi "
Dgpvcpi "77"o gvgt "+"

" Ugr vkc'p'T wkc'p'vq"

F qugp'Rgo dlo d'p'i "<"

K0'Rwq'Rtk' q'p'q. O V0=Cf k' c'Uwt { c'O cpi i cnc. UV0O V0'

Rtqi tco "Uwf k'Vgnpkn'Ukr kn'Hcmwcu'Vgnpkn'Wpkgtukcu'O wj co o cf k' c'j 'Lgo dgt "

Lr0'Mctko cv'6; .Lgo dgt'8: 343."K'f q'pgukc"

ABSTRAK

Wpwni'o gpwplepi "gnappo k'o cu{ctcnc'v'ugectc"ngugn'w'v'j cp"f cp" dgtngulpc'o dwpi cp." ucp' cv' r gtnw' cf cp{c"uctcpc" f cp" r teuctcpc" k'p'htcutw'w'w'0' F cnc'o "nc'kcp" k'p'k' w'f cni' vgtng' cu" o gpi gpc'k' go dcp' wpcp'lgo de丞p.'hctgpc'lgo de丞p'o gtw' cnc'p'r gngpi ncr 'f ctk'h'p'v'w'w'k'lc'nc'p'0"

F gpi cp'nc'p'f k'k'h'nc'w'k'p'cu" { cpi 'cf c'f cp'r tq'h'k'nc' gpc'o r cpi 'o g'nc'p'v'epi 'w'p'i ck' { cpi 'ewtco " f cp'w'p'i i k'o wnc'ck'dcplk' { cpi 't'gpf c'j . 'o cnc'f ki wpcnc'p'w'k' g'lgo de丞p'f gpi cp'nc'p'v'k'ng'p'f ctc'cp' f k'c'cu" { cnc'p'k'w'k' g'lgo de丞p'f gpi cp'o gpi i wpcnc'p'f g'nc'i ct'dg'v'p'r tcv'nc'p'f gpi cp'dgp'w'w'k' { cpi " f k'c'nc'p'c'nc'p'ugectc'nc'p'o r quk'f gpi cp'r nc'v'dg'v'p'dgt'w'nc'p'i 'd'k'uc'ugdc'i ck'nc'p'v'k'ng'p'f ctc'cp'0"

O g'v'q'f q'nc'i k'f ctk'u'w'f k'k'p'k'cf cnc'j "o go d'w'c'v'w'c'w'w'nc'k'cp'f cp'c'nc'k'uc'r gpc'o r cpi "i g'nc'i ct" dg'v'p' r tcv'nc'p' f gpi cp" dgp'vcpi " 77" o gvgt" uc'v'ku' vgt'v'gp'w." f gpi cp" o gpi i wpcnc'p' uc'p'f ct" r go dg'c'p'cp'f cp"i go r c'lgo de丞p' { cpi "dgt'nc'w'f k'k'f q'pgukc. " { cnc'p'k'UP K3947/4238'f cp"UP K' 4: 55/42380'

J cuki'o gpwplw'nc'p'dc'j y c'lc'nc'nc'p'w'et"i g'nc'i ct"3.4"o . "i g'nc'i ct" { cpi "f ki wpcnc'p'cf cnc'j " v'p'i i k'4.3"o . "dgt'dgp'w'w'k' f gpi cp'nc'w'r gpc'o r cpi "2.985"o ⁴. "o qo gp'k'p'gt'v'k'k'z'2.645: 3"o ⁶. " o w'w' dg'v'p'nc'p'92"O Rc0'Vgpf qp" { cpi "f ki wpcnc'p'uglwo nc'j "8." v'k'nc' "v'gpf qp"cf c"44"uc'p'f " dgt'f k'co cvgt"34.9"o o . "l'g'p'ki"o'ut'c'p'f "w'p'c'q'c'v'g'f "9"y k'g"u'w' r g'nc'i ct"CUVO "C/638"i tcf g"492" o'N'q'y 't'g'nc'v'v'k'p'o."r nc'v'nc'p'v'k'ng'p'f ctc'cp'v'gd'c'nc'47"eo "f gpi cp"o w'w'dg'v'p'nc'p'57"O Rc0'

M'c'v' M'w'p'ek'z'Dg'v'p'r tcv'nc'p.'K'O w'w'dg'v'p.'M'q'o r quk:'U'c'p'f . "V'g'p'f qp."UP K3947/"4238."UP K' 4: 55/42380'

A STUDY OF THE PLANNING OF THE GIRDER BRIDGE USING THE PRE-STRESSED CONCRETE IN CURAH MALANG, RAMBIPUJI, JEMBER

(A Case Study about the Bridge in Curah Malang, Jember with a Span of 55 meters Length)

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ABSTRACT

It is highly necessary to have infrastructure facilities in order to support the economy of the community as a whole and be sustainable. In this regards, it connects to the construction of a bridge because a bridge is a complement to the construction of the road.

Due to the existing traffic conditions and the cross section profile of a steep river and a low flood water level, a bridge which is considered as the type of deck bridges was used. That is the type of a bridge using pre-stressed concrete girder in the form of I which is carried out compositely/in suspension with ordinary reinforced concrete slabs as the vehicle floor.

The methodology of this study is to conduct a study and analysis of a cross section of the pre-stressed concrete girder with a specific static span of 55 meters using the standard loading for earthquake applicable in Indonesia, namely SNI 1725-2016 and SNI 2833-2016.

The results showed that the distance between the girder was 1.2 m, the girder used was 2.1 m, I-shaped, with a cross-sectional area of 0.763 m^2 , the moment of inertia of $I_x=0,42381 \text{ m}^4$, the concrete quality of $f'_c=70 \text{ MPa}$. There were 6 tendons used, each tendon had 22 strands with a diameter of 12.7 mm, the type of “strand uncoated 7 wire super strand” ASTM A-416 Grade 270 “Low relaxation”, the thickness of the vehicle floor plates was 25 cm with the concrete quality of $f'_c=35 \text{ MPa}$.

Keywords: the Pre-stressed Concrete, I, the Concrete Quality, Composite, Strands, Tendons, SNI 1725 - 2016, SNI 2833-2016.