

# **PERENCANAAN JETTY PASIR BARU MUARA BATANG NARAS KABUPATEN PADANG PARIAMAN**

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## **Abstrak**

Sumatera Barat banyak terdapat sungai-sungai. Di Sumatera Barat sungai-sungai ini mengalir dan bermuara ke pantai Barat Sumatera Barat. Saat ini muara sungai Batang Naras mengalami pendangkalan oleh transport sedimen sejajar pantai sehingga menyulitkan kapal-kapal nelayan keluar masuk untuk berlabuh di dermaga perikanan yang ada di muara Batang Naras. Untuk mengatasi permasalahan tersebut perlu dibangun bangunan pengaman pantai yang disebut jetty. Permasalahan ini diangkat menjadi tugas akhir dengan judul perencanaan jetty Pasir Baru muara Batang Naras Kabupaten Padang Pariaman. Dalam perencanaan ini dihitung hujan rencana dengan empat metoda yaitu distribusi normal, distribusi gumbel, distribusi log normal, dan distribusi log person III. Dari hasil perhitungan dengan menggunakan data curah hujan 10 tahunan didapat debit banjir rencana  $611,45 \text{ m}^3/\text{dt}$ . Tinggi gelombang 1,69 m dengan periode 5 dt, tinggi gelombang pecah 1,83 m, kedalaman gelombang pecah 2,20 m, run up gelombang 2,93 m. Tinggi jetty 7,36 m, panjang jetty 75 m, lebar puncak 3 m, lebar jetty 32,44 m, kelandaian 1 : 2, material menggunakan batu alam. Stabilitas terhadap guling  $Fr \geq SF = 6,2 \geq 1,5$ , terhadap geser  $FS \geq SF = 5,58 \geq 1,5$ , dan daya dukung tanah  $10452 \text{ kg/m}^3$ . Analisa dimensi jetty aman terhadap geser, guling dan daya dukung tanah.

**Kata kunci : sedimen, curah hujan, gelombang, jetty, stabilitas**

**Pembimbing 1**

**Pembimbing II**

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# **DESIGN OF JETTY PASIR BARU COASTAL BATANG NARAS DISTRICT PADANG PARIAMAN**

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## **Abstrack**

The Province of West Sumatera has several rivers. These rivers flows and end up to the West Coast of Sumatera Island. Currently Batang Naras river experienced sedimentation due to sediment tranport which is occur in line of it's coastline and interfere fishermans to dock their boasts at the Batang Naras fish port. In order to provide solution due to such sedimentation problem, it was considered necessary to construct coastal structure of Jetty. The above problem was set to become the topic for this research under the title of the Design of Batang Naras, Pasir Baru Coastal Structure Jetty, Padang Pariaman District West Sumatera. In this research,return period rainfall was calculated using 4 different methods of Normal Distribution,Log Normal Distribution,Gumbel Distribution and log person III distribution. Result analysis of the 10 years return period rainfall is 611.45m<sup>3</sup>/dt of river discharge,1.69m wave height,5 period,1.83m breakwater height,2.20m breakwater depth,2.90 wave run up,the height and the length of the structure are 7.36m,75m respectively,3m top width and 32.44m wide and 1:2 slope,the design material for the structure is mountainous rock. Stability towards rolling  $Fr \geq SF = 6,2 \geq 1,5$ , Stability towards friction  $FS \geq SF = 5,58 \geq 1,5$ , soil bearing capacity analysis of the structure is safe towards friction,rolling and soil bearing capacity.

**Key word : sediment,rainfall,wave,jetty,stability**

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