

ABSTRAK

Ruas jalan dengan nomor 086 yaitu ruas jalan Batas Kota Sumedang – Cijelag telah yang mengalami kerusakan yang besar akibat longsoran pada jalur utama penghubung antar kota tepatnya di KM 68+800, letak kejadian longsoran berada di Kecamatan Tomo, Kabupaten Sumedang, Provinsi Jawa Barat. Kelongsoran yang terjadi mengakibatkan kegiatan transportasi baik orang maupun jasa menjadi terganggu dan terhambat.

Analisis longsoran yang telah dilakukan merupakan akibat oleh adanya rembesan air permukaan dan tingginya MAT di bawah badan jalan yang membuat jenuh tanah lapukan lempung (serpih) yang berada dibawah timbunan serta adanya perlemahan kaki lereng akibat gerusan sungai dan pengaruh pasang surut sungai. Sehingga telah dilakukan alternatif penanganannya berupa Dinding Penahan Tanah (DPT) dengan Fondasi Borpile.

Stabilitas struktur Dinding Penahan Tanah memiliki faktor keamanan (FK) guling = 2,48 (aman) dan FK geser = 0,48 (tidak aman), sehingga diperlukan fondasi tiang (borpile) untuk meningkatkan FK stabilitas gesernya. Fondasi borpile yang direncanakan terbuat dari beton dengan diameter 80 cm dengan panjang 32 m. Digunakan fondasi borpile grup dengan susunan 2 x 10 tiang dapat digunakan dengan FK daya dukung = 4,37, penurunan yang terjadi 2,50 mm, maksimum pergerakan pilecap sebesar 14,30 mm.

Kata Kunci : longsoran, Dinding Penahan Tanah (DPT), Fondasi Borpile, faktor keamanan (FK), FK guling, FK geser, FK daya dukung, penurunan, maksimum pergerakan pilecap

ABSTRACT

The road section number 086, namely the Sumedang City - Cijelag Boundary road section, has suffered major damage due to landslides on the main connecting route between cities, precisely at KM 68 + 800, the location of the landslide incident is in Tomo District, Sumedang Regency, West Java Province . The landslide that occurred resulted in disruption and obstruction of transportation activities for both people and services.

The landslide analysis that has been carried out is the result of surface water seepage and the high MAT under the road body which saturates the clay rotting soil (shale) under the embankment and the weakening of the slopes due to scouring of the river and the influence of river tides. So that an alternative treatment has been made in the form of a Soil Retaining Wall (DPT) with a Borpile Foundation.

The structural stability of the Retaining Wall has a safety factor (SF) overturning = 2.48 (safe) and SF slip = 0.48 (unsafe), so a pile foundation (borpile) is needed to increase the FK of its shear stability. The planned borpile foundation is made of concrete with a diameter of 80 cm and a length of 32 m. A group borpile foundation is used with an arrangement of 2 x 10 piles, it can be used with SF bearing capacity = 4.37, settlement that occurs is 2.50 mm, the maximum pilecap displacement is 14.30 mm.

Keywords: *landslides, Retaining Wall (DPT), Borpile Foundation, safety factor (SF), SF rolling, SF slip, SF bearing capacity, settlement, maximum pilecap displacement*