

ABSTRAK

Tanah asli daerah Pantai Parangtritis, Bantul, Daerah Istimewa Yogyakarta adalah tanah pasir. Tanah pasir biasanya tidak memiliki daya ikat antar partikel satu sama yang lainnya. Pasir merupakan jenis tanah non kohesif. Tanah non kohesif mempunyai sifat antar butiran lepas (loose), hal ini ditunjukkan dengan butiran tanah yang akan terpisah-pisah apabila dikeringkan dan hanya akan melekat apabila dalam keadaan basah yang disebabkan oleh gaya tarik permukaan.

Penelitian ini menggunakan metode pengujian proktor standar dan California Bearing Ratio (CBR) tanpa rendaman. Pengujian proktor standar dilakukan pada tanah asli dan tanah asli dengan tambahan campuran Aspal Cutback SC₆₀₋₇₀ 1%, 2%, 3% dan 4%. Pengujian CBR diperam selama 1, 3, dan 7 hari. Sampel terdiri dari tanah asli dan tanah asli dengan tambahan campuran Aspal Cutback SC₆₀₋₇₀ 1%, 2%, 3% dan 4%. Sampel pengujian CBR dengan bahan tambah Aspal Cutback SC₆₀₋₇₀ menggunakan kadar air optimum yang diperoleh dari pengujian proktor standar pada setiap variasinya.

Hasil dari penelitian tanah asli didapatkan kadar air optimum 16,75% dan berat volume tanah kering 1,797 gr/cm³. Hasil pengujian CBR tanah asli dengan kadar air lapangan dan kadar air optimum didapat 5,222% dan 17,608%. Penambahan tanah asli + 1% Aspal Cutback SC₆₀₋₇₀ didapatkan nilai kadar air optimum sebesar 14,750% dan berat volume kering sebesar 1,818 gr/cm³, pada pengujian CBR dengan pemeraman 1, 3, dan 7 hari didapatkan nilai CBR sebesar 17,980%, 17,533%, dan 17,112%. Penambahan tanah asli + 2% Aspal Cutback SC₆₀₋₇₀ didapatkan nilai kadar air optimum sebesar 13,360% dan berat volume kering sebesar 1,861 gr/cm³, pada pengujian CBR dengan pemeraman 1, 3, dan 7 hari didapatkan nilai CBR sebesar 19,282%, 19,220%, dan 19,222%. Penambahan tanah asli + 3% Aspal Cutback SC₆₀₋₇₀ didapatkan nilai kadar air optimum sebesar 12,715% dan berat volume kering sebesar 1,865 gr/cm³, pada pengujian CBR dengan pemeraman 1, 3, dan 7 hari didapatkan nilai CBR sebesar 20,336%, 20,548%, dan 20,150%. Penambahan tanah asli + 4% Aspal Cutback SC₆₀₋₇₀ didapatkan nilai kadar air optimum sebesar 13,175% dan berat volume kering sebesar 1,853 gr/cm³, pada pengujian CBR dengan pemeraman 1, 3, dan 7 hari didapatkan nilai CBR sebesar 18,622%, 18,662%, dan 17,980%

Kata Kunci : Tanah Pasir, CBR, Stabilisasi, Aspal Cutback

ABSTRACT

The original soil of Parangtritis beach area, Bantul, D.I. Yogyakarta is a sand. Sand usually does not have the binding capacity between particles. Sand is a non-cohesive type of soil. Non-cohesive soil has properties between loose grains, this is indicated by soil particles that will be separated when dried and will only be attached when wet, caused by surface tensile forces. Non-cohesive soils have properties that are easily released between the granules, this is indicated by the soil particles which will be separated when dried and will only be attached when in a wet state caused by the surface tensile force.

This study uses proctor standard methods and unsoaked California Bearing Ratio (CBR). Standard proctor testing is done on original soil and the mix of original soil with asphalt 1%, 2%, 3% and 4%. CBR testing is cured for 1, 3, 7 days. The sample consists of original soil and the mix of original soil with asphalt 1%, 2%, 3% and 4%. CBR samples with Asphalt Cutback SC 60-70 is tested using optimum water content obtained from standard proctor test in each variation

The results of the study showed that the optimum moisture content of the original soil is 16.75% and maximum dry density is 1,818 gr/cm³. The result of CBR on the original soil with optimum water content and original water content are 17,608% and 5,222%. Addition of original soil + 1% Asphalt Cutback SC₆₀₋₇₀ obtained optimum moisture content of 14,750% and maximum dry density of 1,818 gr/cm³, on CBR testing with 1, 3 and 7 days curing the value of CBR are 17,980%, 17,533%, and 17,112%. Addition of original soil + 2% Asphalt Cutback SC₆₀₋₇₀ obtained optimum moisture content of 13,360% and maximum dry density of 1,861 gr/cm³, on CBR testing with 1, 3 and 7 days curing the value of CBR are 19,282%, 19,220%, and 19,222%. Addition of original soil + 3% Asphalt Cutback SC₆₀₋₇₀ obtained optimum moisture content of 12.715% and maximum dry density of 1.865 gr/cm³, on CBR testing with 1, 3 and 7 days curing the value of CBR are 20,336%, 20,548%, and 20,150%. Addition of original soil + 4% Asphalt Cutback SC₆₀₋₇₀ obtained optimum moisture content of 13.175% and maximum dry density of 1.853 gr/cm³, on CBR testing with 1, 3, and 7 days curing the value of CBR are 18,622%, 18,662%, and 17,980%.

Keyword : Sand, CBR, Stabilisation, Cutback Asphalt