



INTISARI

Selain berfungsi sebagai akses jalan, Pemerintah mengharapkan Jembatan Pandansimo menjadi sarana rekreasi. Hal ini dibuktikan dengan penyediaan tiga plaza di tengah bentang. Ketiga plaza tersebut dapat diakses dari arah barat melalui akses masuk jalur pedestrian yang berada tepat sebelum oprit. Keselamatan, keamanan, dan kenyamanan menjadi faktor penting yang mempengaruhi tingkat kepuasan wisatawan. Mengingat lokasi berjarak kurang dari 10 km dari Sesar Opak, fungsi jalan sebagai arteri primer, serta pemanfaatannya sebagai sarana rekreasional yang memerlukan jalur pedestrian ramah difabel, tugas akhir ini mengevaluasi aspek keselamatan, keamanan dan kenyamanan wisatawan ketika melewati oprit. Hasil evaluasi tersebut kemudian digunakan sebagai dasar dalam perancangan ulang.

Evaluasi dan perancangan meninjau kesesuaian teknis jalur pedestrian, stabilitas *Back-to-back Mechanically Stabilized Earth Wall (BBMSE Wall)*, serta rencana anggaran biaya dari penerapan keduanya. Analisis kesesuaian teknis jalur pedestrian menggunakan Pedoman Perencanaan Teknis Fasilitas Pejalan Kaki No. 07/P/BM/2023 sedangkan stabilitas *BBMSE Wall* menggunakan metode *Allowable Stress Design (ASD)* sesuai FHWA-NHI-00-043 Tahun 2001. Stabilitas global *BBMSE Wall* menggunakan *software PLAXIS V. 20*. Rencana anggaran biaya dihitung berdasarkan *work breakdown structure* menggunakan acuan Surat Edaran Nomor 73/SE/Dk/2023.

Hasil analisis menunjukkan perlu dilakukan pelebaran jalur pedestrian menjadi sebesar 1.85 meter, penambahan landasan datar sebesar 1.5 meter setiap 9 meter, serta penambahan sejumlah fasilitas pedestrian. Stabilitas *BBMSE Wall* memenuhi standar *Federal Highway Administration (FHWA)* tahun 2001 pada kondisi statik tetapi belum memenuhi pada kondisi pseudostatik. Perancangan ulang dilakukan dengan penyesuaian jalur pedestrian dan optimasi panjang perkuatan menggunakan *geostrap* dan *geogrid*, tanpa mengubah jenis penutup muka. Rencana anggaran biaya meningkat sebesar 3.653% untuk *geostrap* dan 2.624% untuk *geogrid* dari desain eksisting. Meski demikian, peningkatan biaya tersebut diiringi dengan peningkatan stabilitas eksternal, internal maupun global, untuk kedua jenis perkuatan.

Kata kunci: Jalur pedestrian, *BBMSE Wall*, Pseudostatik, *Geostrap*, *Geogrid*

ABSTRACT

The government expects Pandansimo Bridge to also serve as a recreational facility as well. This is evidenced by three plazas in the main span, which are connected to the pedestrian road. The only access from the west side to the plazas is located before the bridge's oprit. Safety, security, and comfort are important factors affecting tourist satisfaction. Considering that the location is less than 10 km from the Opak Fault, the function of the road as a primary artery, and its use as a recreational facility that requires a disabled-friendly pedestrian path, this final project evaluated the safety, security, and comfort of tourists through the bridge's oprit. The results of the evaluation will be used as the basis for a redesign.

The evaluation and redesign examined the technical suitability of the pedestrian path, the stability of the Back-to-Back Mechanically Stabilized Earth Wall (BBMSE Wall), and the cost budget plan for the implementation of both. The suitability of the pedestrian path was analyzed using Pedestrian Facilities Technical Planning Guidelines No. 07/P/BM/2023 and the stability of the BBMSE Wall used the Allowable Stress Design (ASD) method according FHWA-NHI-00-043 (2001). The global stability of BBMSE Wall was analysed using PLAXIS V. 20. The cost budget was calculated based on the work breakdown structure using Letter No. 73/SE/Dk/2023.

The analysis results show the need for several adjustments, such as the pedestrian path (1.85 meters wide), flat platform (1.5 meters every 9 meters), and addition of pedestrian facilities. Besides, the stability of BBMSE Wall has accorded with the 2001's Federal Highway Administration (FHWA) standards under static conditions, but not pseudostatic conditions. The redesign involved adjusting the pedestrian path and optimizing the reinforcement length using geostrap and geogrid, without changing the facing type. The cost budget plan increases 3,653% for geostrap and 2,624% for geogrid from the existing design. However, there was also an increase in external, internal, and global stability for both types of reinforcement.

Keywords: *Pedestrian path, BBMSE Wall, Pseudostatic, Geostrap, Geogrid*