

Road Maintenance of Route LB.4132 Junction with Highway No. 3196

Ban Pho Talad Kaew, Mueang District, Lopburi, Thailand



				
2025	Department Of Rural Roads	(24,816 Sq.M.)	Department Of Rural Roads	Road Maintenance Division

The Department of Rural Roads (DRR), through its Road Maintenance Division, undertook rehabilitation works on Road No. LB.4132, connecting Highway No. 3196 to Ban Pho Talad Kaew in Mueang District, Lopburi Province. The project involved complete reconstruction of the pavement structure, including the **base, subbase layer, and asphalt pavement surface**, across a 6-meter-wide carriageway. The construction covered the sections between km 6+342 – km 6+379, km 6+489 – km 10+163, and km 10+285 – km 10+710, totaling a length of 4.136 kilometers, with an overall project budget of 30 million THB.

The existing road was constructed along a natural canal embankment on soft clay soil, which led to two major types of issues: **Stability issues** and **Settlement issues**.

These issues stemmed from soil movement and inadequate bearing capacity of the foundation soils, resulting in pavement cracking, potholes, and other road surface’s damages. Furthermore, during flood events, rapid water level fluctuations in the canal—particularly rapid drawdowns—caused significant damage to the road. These conditions disrupted transportation, caused vehicle damage, posed safety risks, and greatly impacted local communities.



Issue



During Construction

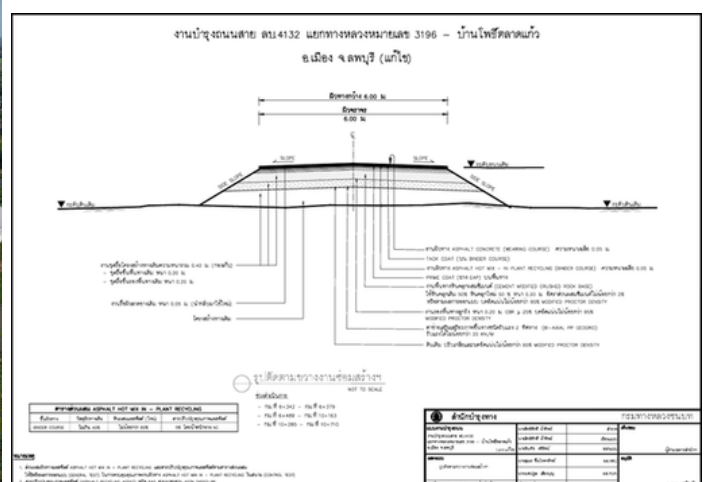
Maccaferri collaborated with DRR's Road Maintenance Division to conduct site assessments, collect water level data, soil layer profiles, and elevation information. Based on this analysis, a comprehensive solution was developed that involved **removal of the entire existing pavement structure**, including the asphalt surface, base, and subbase layer.

The pavement structure was reconstructed from the bottom up. However, due to budget constraints, it was essential to maximize the durability and service life of the new road. As such, **Subbase Improvement** was achieved by installing **MacGrid® EG**, a biaxial geogrid designed for soil stabilization, within the subbase layer. This geogrid serves to reinforce the pavement by providing tensile strength and distributing applied loads, significantly enhancing the overall stability of the pavement structure.

Following installation, the subbase layer was compacted to meet the standard requirement ($\text{CBR} \geq 25\%$), the base layer was compacted to meet its design standard ($\text{CBR} \geq 80\%$), and finally, **Asphalt Pavement Surface** was completed through the construction of a new asphalt pavement structure.



After Construction



Technical Drawing



GOOGLE MAPS



GOOGLE EARTH