

NILIM has constructed a new full-scale experimental facility

September 8th, 2020

After earthquakes and other disasters, road steps may occur at the connections between embankment and bridges. (Fig.1)

This is because the settlement depth of the road base differs depending on the stiffness of the base materials. (Fig.2)

These steps disrupt the road network and interrupt the passage of emergency vehicles.



Fig.1 A step in approach section of the bridge

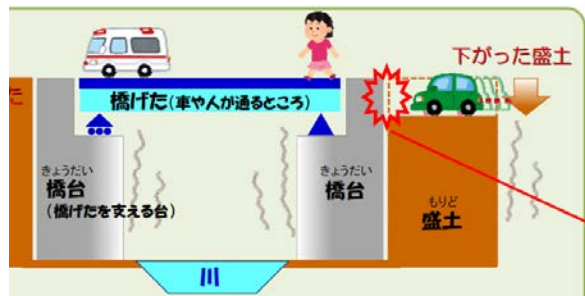


Fig.2 A step after an earthquake

For evaluating the technology to solve these problems, NILIM has constructed a new full-scale experimental facility (Fig.3). This facility is a reinforced concrete structure with a box culvert and a 1-meter thick concrete slab.

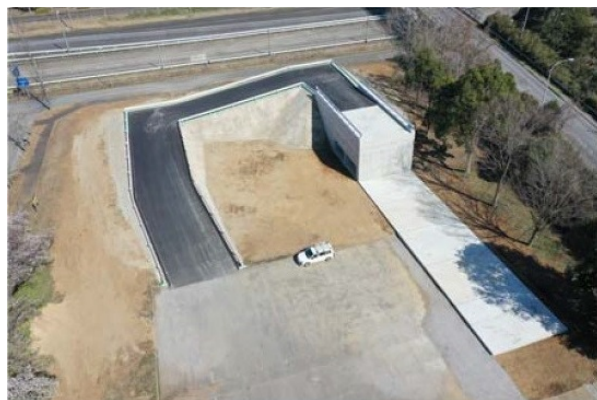


Fig.3 The appearance of the facility

An example of experimental process is following; first, embankment and pavement are constructed on jacks placed on the concrete slab. Next, the step is generated, by causing forced displacement on the embankment.

August and September 2020, NILIM conducted a joint experiment with Gifu University. In this experiment, a new pavement reinforcement technique developed by Gifu University was evaluated. (Fig.4 Fig.5)



Fig.4 The embankment is formed on the facility



Fig.5 The step after experiment (There are reinforcing materials on the left side.)

The following is a link to the video about the experiment (only Japanese).

<https://www1.gifu-u.ac.jp/~geotech/>

NILIM will continue to utilize this facility for considering measures for steps.