RESEACH ON PRACTICAL USE OF UNDERGROUND INFILTRATION TECHNOLOGY OF ROAD RAIN WATER

Abstract : Recently urban floods frequently occur caused by localized torrential rain. Therefore the Designated Urban River Inundation Prevention Act was enacted in June 2003, whereby roadways in designated areas must be equipped with means for controlling rainwater runoff. Permeable pavement is a likely candidate, but it has rarely been applied to roadways. Therefore, its durability and sustainability in runoff control performance have not been validated enough. Thus, to confirm the applicability of permeable pavement to roadways, its durability and performance were examined in this study through experiments on test pavement within the Pavement Test Field of PWRI and on actual roadways. The results for test pavement at PWRI showed that the installation of a drainage pipe on the subgrade upper surface or an increase in the base course thickness was effective for retaining pavement durability even in the case of subgrade comprising cohesive soils. In addition, the results of observing test pavement constructed on actual roadways showed that pavement durability was retained in four or five years after the test pavement sections were opened to traffic. But rainwater runoff control was not retained at some test pavement sections.

Key words : permeable asphalt pavement in traffic roads durability, rainwater runoff control, test pavement in actual road