

## **Seismic Design Method for Shield Tunnels in the Condition of Change in Ground Conditions in the Longitudinal Direction**

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The authors investigated influence of seismic motion on shield tunnels that are located in areas with varying ground conditions. This research revealed that the bigger inclination angle of boundary between basic layer and soft layer becomes, the bigger sectional force such as axial force, bending moment and shear stress becomes. In addition, the sectional force obtained by the equivalent stiffness beam model was found to be larger than that obtained by the beam-spring model. This research also confirmed that the results by the beam-spring model when the inclination angle is 5.9 degree is satisfied with the verification.