Chapter 7

CONCLUSIONS

This paper studies the lateral earth pressure due to flexible and rigid surcharge loadings. Based on the test results, the flowing conclusions are made.

1. The measured earth pressure at-rest is in fairly good agreement with the Jaky's solution.

2. For the surcharge loading applied quite close (m = 0.1) to the face of the wall, the $\Delta\sigma_h$ measured near the top of the wall is significantly greater than that estimated with the method of image and design manual DM 7.2.

3. As the strip loading approaches the wall, the stress concentration zone under the footing moves closer to the unyielding wall, causing the $\Delta\sigma_h$ acting near the top of the wall to increase.

4. Terzaghi (1954) suggested that for a value of m less than 0.4, the pressure on the wall due to the line load should be determined as m = 0.4. Test results indicate that Terzaghi's suggestion fails to predict the horizontal pressure increase due to a strip surcharge loading.

5. The experimental R/H values are equal to or greater than the R/H values calculated with the method of image. The DM-7.2 method underestimates the point of application of the induced force increment ΔP_h

6. The test results due to the application of flexible and rigid footings are quite similar.