

**32nd Annual Soil Mechanics and Foundation
Engineering Conference Proceedings**

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**Earth-Retention Systems
Temporary and Permanent**

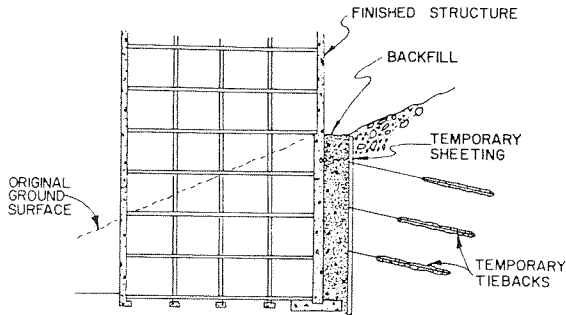
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Meeting Preprint

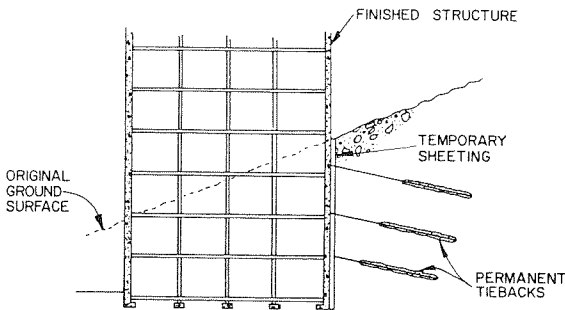
C. Unbalanced Lateral Pressure

Figure 10 shows permanent tiebacks used to support unbalanced earth pressures which result when a building is constructed on a sloping site or into a hillside. A normal building foundation is not designed to resist these forces. When designing tieback walls of this type, care must be taken to ensure that the wall and the building can accommodate relative movements. If the wall is rigidly connected to the structure, relative movements could cause damage. A separate retaining wall may be built in order to prevent wall deformations from affecting the building, or the building can be designed to accommodate the movements. This application is illustrated in the permanently tiedback wall constructed along the cliff for the Adult Detention Center for Ramsey County in Downtown St. Paul.

FIGURE 10.
UNBALANCED LATERAL PRESSURES



10a. Structure Designed to Resist
Unbalanced Lateral Pressures



10b. Permanent Tiebacks Used to
Resist Unbalanced Lateral Pressures