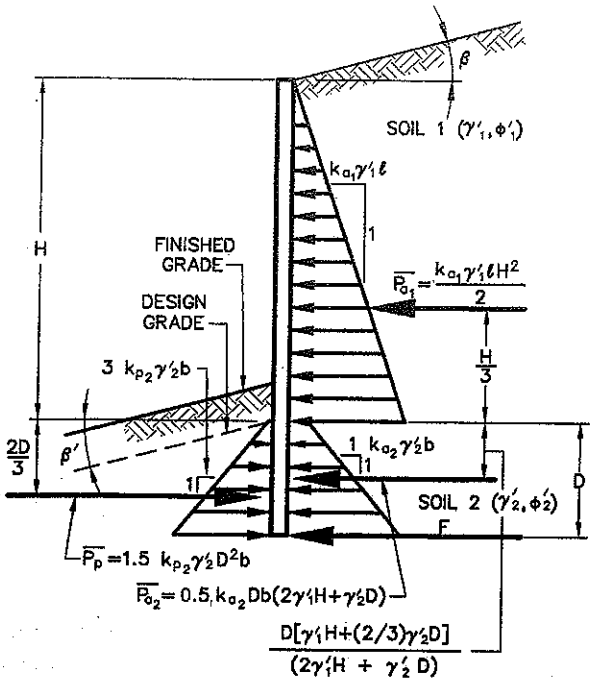
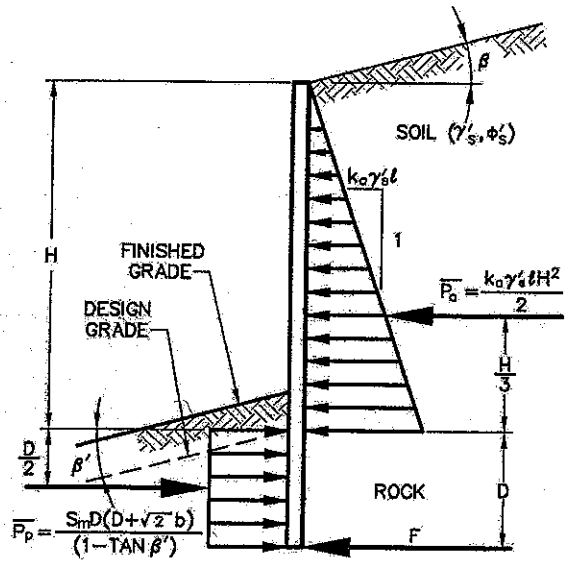


b = ACTUAL WIDTH OF EMBEDDED DISCRETE VERTICAL WALL ELEMENT BELOW DESIGN GRADE IN PLANE OF WALL (FT.).

Figure 3.11.5.6-1 Unfactored Simplified Earth Pressure Distributions for Permanent Nongravity Cantilevered Walls with Discrete Vertical Wall Elements Embedded in Granular Soil.



b = ACTUAL WIDTH OF EMBEDDED DISCRETE VERTICAL WALL ELEMENT BELOW DESIGN GRADE IN PLANE OF WALL (FT.).

Figure 3.11.5.6-2 Unfactored Simplified Earth Pressure Distributions for Permanent Nongravity Cantilevered Walls with Discrete Vertical Wall Elements Embedded in Rock.

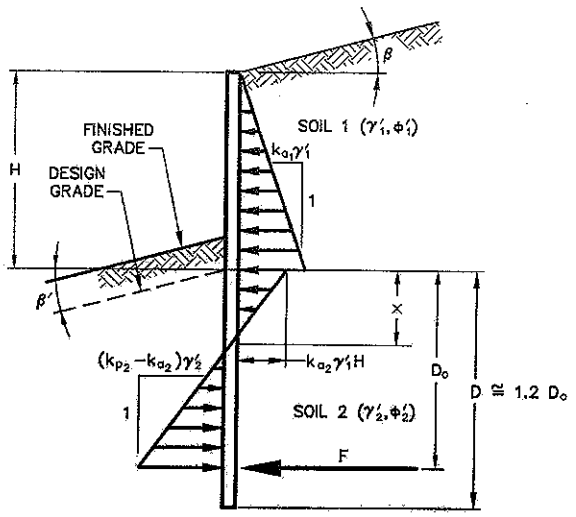
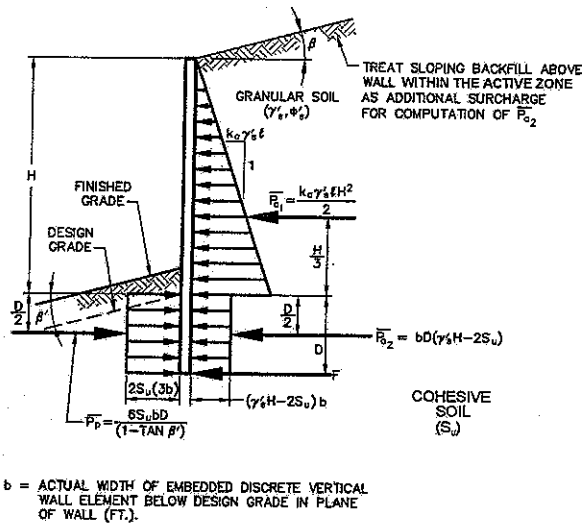
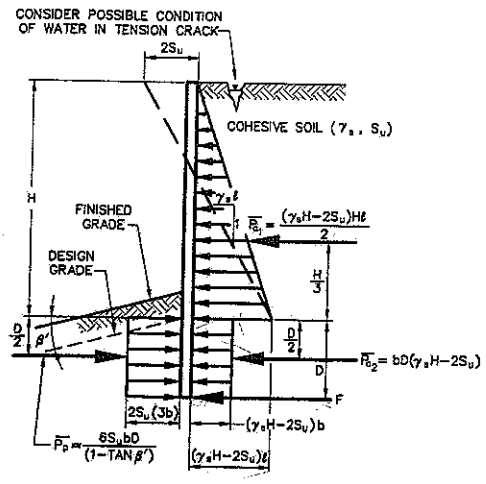


Figure 3.11.5.6-3 Unfactored Simplified Earth Pressure Distributions for Permanent Nongravity Cantilevered Walls with Continuous Vertical Wall Elements Embedded in Granular Soil Modified After Teng (*1962*).



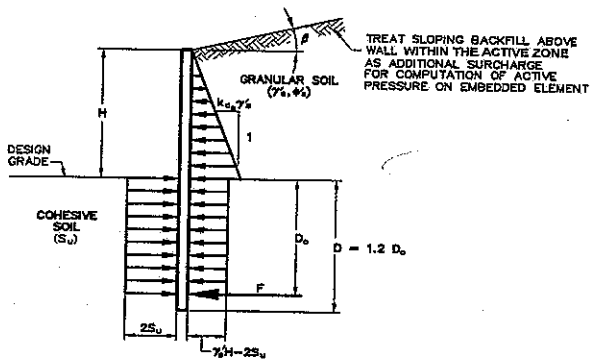
b = ACTUAL WIDTH OF EMBEDDED DISCRETE VERTICAL WALL ELEMENT BELOW DESIGN GRADE IN PLANE OF WALL (FT.).

Figure 3.11.5.6-4 Unfactored Simplified Earth Pressure Distributions for Temporary Nongravity Cantilevered Walls with Discrete Vertical Wall Elements Embedded in Cohesive Soil and Retaining Granular Soil.



b = ACTUAL WIDTH OF EMBEDDED DISCRETE VERTICAL WALL ELEMENT BELOW DESIGN GRADE IN PLANE OF WALL (FT.).

Figure 3.11.5.6-5 Unfactored Simplified Earth Pressure Distributions for Temporary Nongravity Cantilevered Walls with Discrete Vertical Wall Elements Embedded in Cohesive Soil and Retaining Cohesive Soil.



NOTE: FOR WALLS EMBEDDED IN GRANULAR SOIL, REFER TO FIGURE 3.11.5.6-3 AND USE FIGURE 3.11.5.6-5 FOR RETAINED COHESIVE SOIL WHEN APPROPRIATE.

NOTE: FOR WALLS EMBEDDED IN GRANULAR SOIL, REFER TO FIGURE 3.11.5.6-3 AND USE FIGURE 3.11.5.6-7 FOR RETAINED COHESIVE SOIL WHEN APPROPRIATE.

Figure 3.11.5.6-6 Unfactored Simplified Earth Pressure Distributions for Temporary Nongravity Cantilevered Walls with Continuous Vertical Wall Elements Embedded in Cohesive Soil and Retaining Granular Soil Modified After Teng (*1962*).

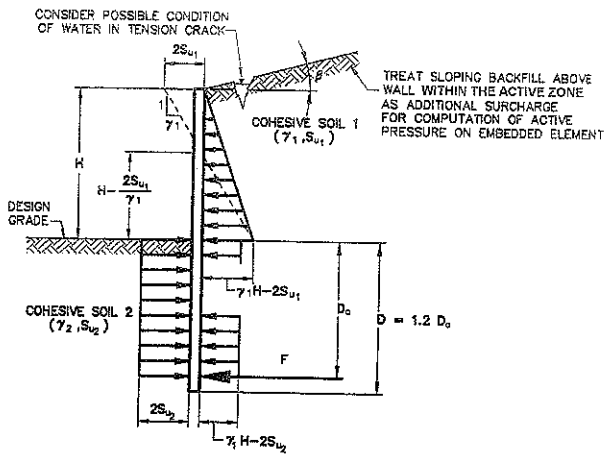


Figure 3.11.5.6-7 Unfactored Simplified Earth Pressure Distributions for Temporary Nongravity Cantilevered Walls with Continuous Vertical Wall Elements Embedded in Cohesive Soil and Retaining Cohesive Soil Modified After Teng (*1962*).

3.11.5.7 Apparent Earth Pressures For Anchored Walls

For anchored walls constructed from the top down, the earth pressure may be estimated in accordance with Articles 3.11.5.7.1 or 3.11.5.7.2.

In developing the design pressure for an anchored wall, consideration shall be given to wall displacements that may affect adjacent structures and/or underground utilities.

3.11.5.7.1 Cohesionless Soils

The earth pressure on temporary or permanent anchored walls constructed in cohesionless soils may be determined using Figure 1, for which the maximum ordinate, p_a, of the pressure diagram is computed as follows:

C3.11.5.7

In the development of lateral earth pressures, the method and sequence of construction, the rigidity of the wall/anchor system, the physical characteristics and stability of the ground mass to be supported, allowable wall deflections, anchor spacing and prestress and the potential for anchor yield should be considered.

Several suitable apparent earth pressure distribution diagrams are available and in common use for the design of anchored walls, Sabatini et al. (*1999*); Cheney (*1988*); and U. S. Department of the Navy (*1982a*). Some of the apparent earth pressure diagrams, such as those described in Articles 3.11.5.7.1 and 3.11.5.7.2, are based on the results of measurements on anchored walls, Sabatini et al. (*1999*). Others are based on the results of measurements on strutted excavations, Terzaghi and Peck (*1967*), the results of analytical and scale model studies, Clough and Tsui (*1974*); Hanna and Matallana (*1970*), and observations of anchored wall installations (*Nicholson et al. 1981*); Schnabel (*1982*). While the results of these efforts provide somewhat different and occasionally conflicting results, they all tend to confirm the presence of higher lateral pressures near the top of the wall than would be predicted by classical earth pressure theories, due to the constraint provided by the upper level of anchors, and a generally uniform pressure distribution with depth.