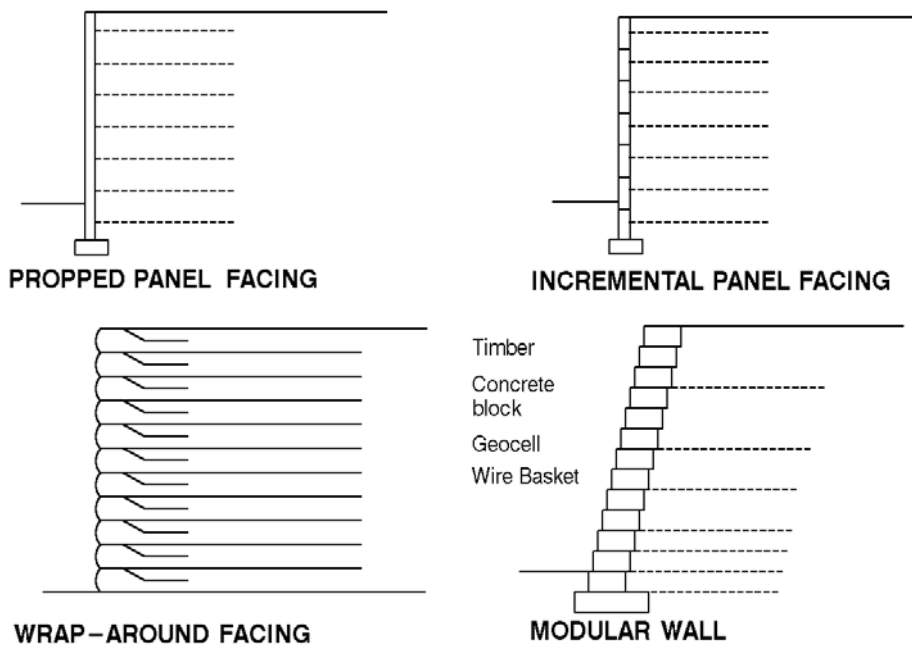




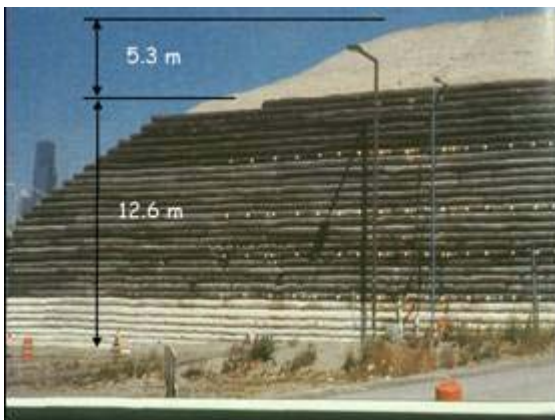
Geosynthetics in Walls

Prepared by R.J. Bathurst

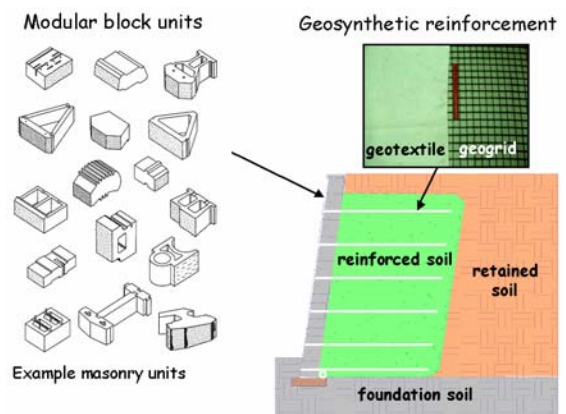
Horizontal layers of geosynthetic reinforcement can be included with retaining wall backfills to provide a reinforced soil mass that acts as a gravity structure to resist the earth forces developed behind the reinforced zone. Reinforcement types are geogrid, woven geotextile and polyester strap. The local stability of the backfill at the front of the wall is assured by attaching the reinforcement to facing units constructed with polymeric, timber, concrete or metallic wire basket materials comprised of a variety of shapes. In North America it has been shown that reinforced soil walls can be constructed for up to 50% of the cost of conventional gravity wall structures.



Example reinforced soil wall types



Temporary geotextile wrapped-face wall

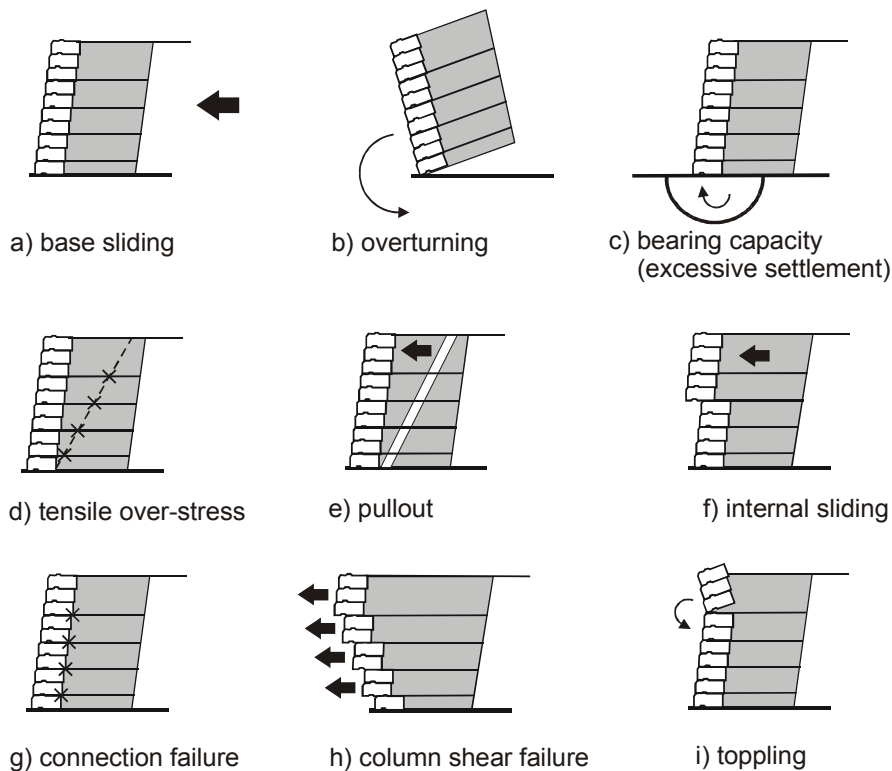


Components of modular masonry concrete (segmental wall)



Modular masonry concrete wall

Analysis and design calculations for reinforced soil walls are related to external, internal, facing and global mechanisms. Global modes refer to instability mechanisms that pass beyond the composite reinforced soil structure. These analyses are routinely handled using conventional slope stability methods of analysis.



Design modes for reinforced soil walls: a), b), c) external; d), e), f) internal; g), h), i) facing

About the IGS

The **International Geosynthetic Society (IGS)** is a non-profit organization dedicated to the scientific and engineering development of geotextiles, geomembranes, related products and associated technologies. The IGS promotes the dissemination of technical information on geosynthetics through a newsletter (IGS News) and through its two official journals (Geosynthetics International - www.geosynthetics-international.com and Geotextiles and Geomembranes - www.elsevier.com/locate/geotextmem). Additional information on the IGS and its activities can be obtained at www.geosyntheticsociety.org or contacting the IGS Secretariat at IGSec@aol.com

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