

## Glossary of Terms

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**Aesthetic design.** Design undertaken to improve appearance.

**Bioengineering.** 'The use of living vegetation, either alone or in conjunction with non-living plant material and civil engineering structures, to stabilise slopes and/or reduce erosion' or 'the use of any form of vegetation, whether a single plant or collection of plants, as an engineering material, i.e. one that has quantifiable characteristics and behavior'.

**Broadcasting.** The dispersal of seed by mechanical or manual means.

**Climbing plant/climber.** A plant whose natural habit is to climb upwards, relying for support on another tree, shrub, or on a slope or man-made structure. Some climbers could also hang down from the crest of the slope surface.

**Coping feature.** Separate top to a wall or parapet.

**Creeping plant/creeper.** Creepers usually spread by vegetative propagation on flat surfaces, forming a carpet-like appearance.

**Ecological habitat.** The environmental conditions that dictate the variety and type of living organisms which live in a given locality.

**Ecological value.** The relative value assigned to habitats or living organisms in any given location.

**Establishment works.** Active horticultural maintenance works undertaken to ensure healthy growth and development of plant material in the period immediately following planting.

**Establishment Period.** The contractually defined period of time immediately following the completion of planting during which establishment operations are carried out.

**Exotic.** Non-native plant material, i.e. originating from another part of the world.

**Groundcover plant.** Any low, dense-growing plant including ferns or herbaceous plants whose natural habit is to grow low and close to the ground and which is capable of covering the ground surface.

**Hydro-mulching.** Planting technique consisting of the application of a mulch of fibrous organic material in an aqueous suspension by low pressure spray onto a slope surface to create a layer of planting medium. The mulch is often mixed with grass/shrubs seeds.

**Hydroseeding.** The application of grass or grass/tree seed in combination with mulch, fertilizer and soil binding agent in an aqueous suspension by high pressure spray onto a soil surface to establish surface vegetation.

**Hydro-sprigging.** The application of individual grass plants in an aqueous suspension by high pressure spraying.

**Indigenous plant species.** Plant species living or occurring naturally in an area (in biogeographical context); also commonly referred to as native species.

**Invasive species.** Plant species that may adversely affect the habitats they invade, or that have since become a nuisance through rapid growth, often to the detriment of existing plant species.

**Landscape architect.** A professionally trained, qualified and registered practitioner of landscape architecture.

**Landscape hardworks.** The use of inert surface finishes or cladding to treat the surfaces of man-made structures and other engineering elements to make them visually more attractive. Such finishes may include masonry, sprayed concrete, concrete facing panels and the like.

**Landscape softworks.** All works of a horticultural nature, which include the placing, cultivation and preparation of topsoil and subsoil layers, and the supply and planting of trees, shrubs and other plant material, together with any works associated with these.

**Landscape treatment.** Enhancement of the appearance of a slope using landscape softworks or hardworks, or a combination of both.

**Landscape value.** An objective evaluation of the relative worth of a landscape or landscape element.

**Micro-climate.** The small-scale climatic characteristics pertaining to a given site or locality.

**Mitigation measures.** Engineering works carried out to mitigate risk from natural terrain failures, which may comprise natural terrain stabilisation works and/or natural terrain defense works. Landscaping should be carried out in association with such engineering works.

**Natural terrain.** Natural sloping ground generally unaltered by man, although within a natural hillside there may be portions of man-made slopes and areas of disturbed terrain. The characteristics of natural terrain varies both in terms of steepness, soil type and extent of weathering, the presence of boulders and rock outcrops, natural drainage lines, previous landslide scars, and the presence and types of vegetation.

**Ornamental.** Plants with distinct decorative characteristics.

**Pioneer species.** A plant species that establishes and grows to maturity quickly, and that is used within a planting design to form a rapid vegetative cover which can modify the micro-climatic conditions to favour slower growing native plants. Removal of pioneer species may be required, after a few years of growth, to promote more rapid natural regeneration.

**Pit planting.** The planting of plants in excavated pits which are then backfilled with topsoil.

**Plant species.** Particular variety of plant.

**Plant type.** Grass, shrubs, trees, climbers, groundcover, etc.

**Planting season.** The most favourable time of year for planting.

**Seedling.** A tree, typically one to two years old, with a single stem, well-developed root system and a height of between 150 mm and 900 mm.

**Self-supporting plant.** Plant capable of surviving without the need for physical support.

**Shrub.** A woody perennial plant with a bushy habit, often with several stems arising near the base.

**Slope engineering elements.** Engineering components used in the formation, stabilisation and operation of man-made slopes and natural terrain; including concrete soil nail heads and grillages, concrete drainage channels, associated catchpits, concrete access stairways, concrete berms, sprayed concrete, buttresses for rock stabilisation and the like.

**Slope furniture.** Elements that do not form part of the slope, but are required to facilitate safety or maintenance, e.g. handrails, metal stairways, access gates, fences, etc.

**Slope works.** Any engineering works to form, stabilise, upgrade, repair, restore or maintain either a man-made slope or retaining wall, or works to repair landslide scar or mitigate the potential effects of landslides on natural terrain.

**Slope rehabilitation works.** Combinations of slope engineering works and landscape works to improve slope safety and enhance the visual appearance particularly to slope areas described as degraded landscape. Examples include former quarry faces and slopes on old landfills.

**Soil pocket.** A small self-contained volume of soil capable of supporting plant growth.

**Standard tree.** A tree with a sturdy straight stem at least 1800 mm high from soil level to the lowest branch, a stem diameter of 45 mm to 75 mm measured at a height of 600 mm above soil level, a well balanced branching head or a well defined straight and upright leader with branches growing out from the stem with reasonable symmetry, according to species and a total height above soil level of between 2.75 m and 3.5 m.

**Sustainable.** Capable of being sustained, or maintained at a steady level without exhausting natural resources or causing ecological damage.

**Trailing plant.** Plants whose natural growth habit is to extend and droop over surfaces.

**Tree.** A woody perennial plant with a trunk diameter of 95 mm or more at a height of 1.3 m above the ground level.

**Tree thinning.** A tree removal practice that reduces tree density and competition amongst trees in a stand. Thinning concentrates growth on fewer, high-quality trees and generally enhances tree vigour. Heavy thinning can benefit wildlife through the increased growth of ground vegetation.

**Tree transplanting.** The uplifting of a tree (or other plant) from its original location, then transporting and replanting it in a new location.

**Turfing.** The laying of cut grass sods to create a grass sward.

**Understorey.** Plant species that naturally grow in the lower levels of woodland.

**Undesirable vegetation.** Plants which have dispersed or invaded into a landscaped area and which are regarded as invasive or not in compliance with the landscape objectives, together with plants which have overgrown to obstruct drainage channel or maintenance access.

**Visual amenity/quality.** An evaluation of the relative visual worth of a landscape or visual landscape element.

**Water retaining agro-polymers.** Proprietary polymer crystals which absorb moisture and when mixed with soil can improve its water holding capacity and the amount of water available for plant growth.

**Whip.** A tree specimen, typically two to three years old, with a single central stem well furnished with side branches, a well-developed and vigorous root system and a height of between 900 mm and 2000 mm.

**Woodland.** An area covered with trees, typically with an understorey of shrubs and herbaceous plants.

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## **MAJOR GEOTECHNICAL ENGINEERING OFFICE PUBLICATIONS**

### **土力工程處之主要刊物**

#### **GEOTECHNICAL MANUALS**

Geotechnical Manual for Slopes, 2nd Edition (1984), 302 p. (English Version), (Reprinted, 2011).

斜坡岩土工程手冊(1998)，308頁(1984年英文版的中文譯本)。

Highway Slope Manual (2000), 114 p.

#### **GEOGUIDES**

Geoguide 1 Guide to Retaining Wall Design, 2nd Edition (1993), 258 p. (Reprinted, 2007).

Geoguide 2 Guide to Site Investigation (1987), 359 p. (Reprinted, 2000).

Geoguide 3 Guide to Rock and Soil Descriptions (1988), 186 p. (Reprinted, 2000).

Geoguide 4 Guide to Cavern Engineering (1992), 148 p. (Reprinted, 1998).

Geoguide 5 Guide to Slope Maintenance, 3rd Edition (2003), 132 p. (English Version).

岩土指南第五冊 斜坡維修指南，第三版(2003)，120頁(中文版)。

Geoguide 6 Guide to Reinforced Fill Structure and Slope Design (2002), 236 p.

Geoguide 7 Guide to Soil Nail Design and Construction (2008), 97 p.

#### **GEOSPECS**

Geospec 1 Model Specification for Prestressed Ground Anchors, 2nd Edition (1989), 164 p. (Reprinted, 1997).

Geospec 3 Model Specification for Soil Testing (2001), 340 p.

#### **GEO PUBLICATIONS**

GCO Publication No. 1/90 Review of Design Methods for Excavations (1990), 187 p. (Reprinted, 2002).

GEO Publication No. 1/93 Review of Granular and Geotextile Filters (1993), 141 p.

GEO Publication No. 1/2006 Foundation Design and Construction (2006), 376 p.

GEO Publication No. 1/2007 Engineering Geological Practice in Hong Kong (2007), 278 p.

GEO Publication No. 1/2009 Prescriptive Measures for Man-Made Slopes and Retaining Walls (2009), 76 p.

GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes (2011), 217 p.

#### **GEOLOGICAL PUBLICATIONS**

The Quaternary Geology of Hong Kong, by J.A. Fyfe, R. Shaw, S.D.G. Campbell, K.W. Lai & P.A. Kirk (2000), 210 p. plus 6 maps.

The Pre-Quaternary Geology of Hong Kong, by R.J. Sewell, S.D.G. Campbell, C.J.N. Fletcher, K.W. Lai & P.A. Kirk (2000), 181 p. plus 4 maps.

#### **TECHNICAL GUIDANCE NOTES**

TGN 1 Technical Guidance Documents