

NAME AND MAP SYMBOL	LITHOLOGY	SOIL DEVELOPMENT AND WEATHERING	POROSITY (percent voids)	PERMEABILITY (as compared with well sorted coarse sand, here classed as highly permeable and clay here classed as very slightly permeable to impermeable)	WORKABILITY (includes excavability and compactability)	SLOPE STABILITY (measured in terms of historical success to geologic time)		SEPTIC TANK STABILITY (refers to relative stability for a given structure on different map units)	FOUNDATION CONDITIONS	POSSIBLE OR REPORTED USE	UNIT WEIGHT (pounds per cubic foot) (dry)	COMPRESSIBILITY	SHEDDING STRENGTH (for compacted materials)
						MASS STABILITY ^{1/2}	EROSION SUSCEPTIBILITY						
Artificial fill and artificial beach deposits (af, afb)	Extremely variable. Chiefly materials derived from units adjacent to fill site. Locally includes patches of trash. Artificial beach deposits, etc. composed chiefly of medium to coarse quartz sand	None	45-50 loose; 10-40 where well compacted	Variable; generally low to moderate, except where there is considerable silty clay. Permeability of artificial beach deposits varies from high to moderate. Very low for controlled compacted fill	May be excavated by hand except where materials are composed of coarse trash. Artificial beach deposits easily to very easily excavated by hand. Difficult to drill where trash exists	Low to moderate. Low to moderate. Higher where well compacted. Artificial beach deposits low and commonly free running	Very high to moderate	Variable; conditioned largely by character of underlying materials and thickness of fill. Poor on uncontrolled fill to good on controlled compacted fill	Poor where loose; good where controlled compacted	75-90 loose; 100-120 compacted	Variable. High to moderate; increased by water content. Low where compacted under engineering supervision	Variable but commonly low. High where compacted under engineering supervision	
Alluvium (al)	Variable, chiefly poorly sorted sandy to gravely material with sand-silt-clay matrix. Material in West Hollywood-eastern Beverly Hills area composed chiefly of granitic, angular, coarse sand to pebbles size fragments. Better sorted and generally finer grained away from mountain front. Commonly poorly bedded, but locally well bedded. Generally slightly to moderately indurated	Varies from none to moderate soil development. Surface water channel contains abundant organic debris and A horizon locally extends to depths in excess of 3 ft, particularly in central part of area. Maximum depth of weathering probably in excess of 10 ft	47-56 near mountain front; elsewhere 40-50	Low to locally high lateral permeability; generally low vertical permeability	May be excavated by hand except where characterized by high clay content. Easily excavated with power equipment. Good compactability	Low to moderate. Reflects permeability, and topographic setting	Moderate to high. Extensively silted locally	Fair	At times variable. Conditions poor at base of mountain but become fair to good away from mountain front	Possible source of top soil for gardens. Possible fill	75-90 near mountain front; 80-100 in flatter areas	Moderate to high	Low to moderate
Flood-plain deposits (fp)	Chiefly well sorted fine to medium sand. Locally underlain at 5-10 ft by clean gravely material or silty layers. Moderately well bedded, generally poorly indurated	Not well known. Organic rich A horizon developed over much of most of flood plain, but average thickness unknown	35-45	Low to high lateral permeability; generally low vertical permeability	May be excavated by hand. Good compactability	Not well known. Not probably low to moderate	High	do.	Poor. May vary from good to poor depending on density	Possible source of top soil for gardens. Possible fill	90-120	Generally moderate to high increasing with depth	Low to moderate increasing with depth. High for clean gravels
Marsh deposits (ma)	Not well known, but probably consist chiefly of interbedded organic-rich tidal mud and fine-grained flood-plain deposits	Not well known. Uppermost zones characterized by presence of extensive organic debris	35-70	Probably low	May be excavated by hand	Unknown; probably low	Unknown; probably high	poor	poor to fair	Possible source of top soil for gardens	Extremely variable depending on organic content; 30-80	Generally high	Generally low
Swamp deposits (sa)	Chiefly organic debris as very thin veneer over earlier deposits	Slight or none	Unknown	Low	May be easily excavated by hand	Unknown; probably extremely low	Unknown; probably high	do.	Very poor	Possible source of humus for gardens	Not predictable owing to high organic content	Probably very high	Probably very low
Recent beach deposits (rb)	Chiefly well-sorted medium-grained quartz sand. Some mica and shell fragments. Local pebbly lenses. Moderately well bedded	None	35-55	High	May be easily to very easily excavated by hand. Good compactability	Low. Generally will stand in cuts no greater than angle of repose (1:1-1.5:1)	Very high. Susceptible to wind erosion as well as that by running water	Fair	Fair increasing to good with depth	Good quality fill when compacted. Possibly suitable as foundry sand or as blending sand for concrete aggregate	85-110	Low to moderate	Moderate to high
Modern dune sand (da)	Almost exclusively very well sorted medium to coarse coarse-grained quartz sand. Small amounts of rock and shell fragments. Well bedded	None	do.	High	May be easily to very easily excavated by hand. Good compactability	Low. Generally will stand in cuts no greater than angle of repose (1:1-1.5:1)	do.	Poor to fair	Poor increasing to moderately good at sand dune depths	Good quality fill when compacted. Has been used as foundry sand and as blending sand for concrete aggregate	do.	Low to moderate decreasing with depth	Moderate to high
Older alluvium (alo)	Chiefly poorly sorted sandy to gravely material in sand-silt matrix. Locally relatively clean. Deposits in western part of area composed chiefly of silt and phyllite fragments; silt and phyllite fragments diminish and granitic materials become more prominent to the east. Moderately well bedded. Generally slightly to moderately indurated	Moderate soil development. A horizon commonly 1-3 ft thick, but in some places generally only a few inches thick. Evidence of weathering common 10-20 ft below surface and usually manifested by staining from oxide development	30-45	Low to locally high lateral permeability; generally low vertical permeability	May be excavated by hand, except where characterized by high clay content. Easily excavated with power equipment. Good compactability	Moderate to high. Stands in 1:1 cuts for periods in excess of 5 years without evidence of massive failure. Has stood in vertical faces along some mountain flanks for time of years with relatively little slumping	Moderate to high	Good	Fair to good	Possible fill. Clay-silt zones have been exploited in the manufacture of bricks	90-120	Moderate to low increasing with depth	Generally moderate to high; becoming lower in weathered zones
Cap deposits (ca)	Chiefly poorly sorted argillaceous sand and siltstone. Commonly contains angular pebbly material. Essentially unbedded. Commonly very well cemented	Moderate soil development. A horizon generally about 2 ft thick with very thin organic rich zone. Weathering locally extends to depths of 10-15 ft commonly obscuring completely character of unweathered material. Soil develops on this unit distinctly earlier than that characteristic of other units in this area	25-45	Generally low to very low except where extensively weathered; moderate permeability in extensively weathered zones	Generally excavated by hand with extreme difficulty. Good compactability	High when well cemented but moderate to low where extensively weathered	Low to moderate	poor.	Fair to excellent	Possible fill	90-130	Moderate to high in upper 3 ft becoming lower with depth	Moderate where weathered; high below weathered zone
Ancient dune sand (da, da1, da2, da3)	Chiefly medium to coarse quartz sand with some rock fragments and a few flakes of mica. Well bedded and cross-bedded. Locally well indurated	Poor to moderate soil development. A horizon locally developed to depth of 3 ft but in some places generally less than 1 inch thick. B horizon characterized by concentration of iron oxide and development of precipitation laminae of iron oxide. Evidence of weathering locally extends to depths in excess of 25 ft	30-50	Low to high lateral permeability. Vertical permeability high below weathered zone, but becomes progressively lower toward the surface	Excavated by hand with some below the weathered zone, but becomes very difficult to excavate by hand near surface. Good compactability	Moderate to low. Unstable. Stands in 1:1 slopes below weathered zone and local free running. In weathered zone commonly stands in vertical cuts for periods in excess of 1 year without evidence of massive failure	Moderate to high. Materials become progressively more susceptible to erosion downward	Fair to good	Poor increasing to moderately good at considerable depths	Possible fill	85-100	Low to moderate	Moderate to high
B formation (ba)	Chiefly coarse to medium-grained sand, commonly pebbly to cobble. Locally contains lenses or layers of very fine sand to clay-silt. Well bedded and cross-bedded. Generally slightly to moderately indurated; silt zones commonly well indurated	Extremely variable soil development, varying to fact that it has been protected by younger deposits throughout much of its extent. A horizon of iron oxide staining commonly extends to depths in excess of 10 ft	do.	High to low lateral permeability; generally low to moderate vertical permeability	Generally may be excavated by hand. Easily excavated with power equipment. Good compactability	Moderate. Stands in 1:1 cuts 10 ft or more in depth for periods of 5 years or more without evidence of massive failure. Stands in shallow vertical cuts during dry season	Moderate to high	do.	Fair near surface to excellent for deeper footings	Source of sand and gravel for concrete aggregate. Good quality fill when blended	do.	Moderate to high in upper 3 ft becoming lower with depth	Moderate where weathered; high below weathered zone
Gravelly facies (ga)	Pebbly to cobble material in coarse to medium sand matrix. Moderately well bedded. Generally slightly to moderately indurated	do.	25-45	High to moderate	do.	Moderate. Stands in 1:1 cuts for periods of 5 years or more without evidence of massive failure. Will stand in shallow vertical cuts during dry season	Moderate to high	do.	do.	Source of sand and gravel for concrete aggregate. Value as aggregate is questionable owing to locally abundant silt and phyllite fragments. Good quality fill when blended	70-130	do.	do.
Sand facies (sa)	Well sorted medium to coarse-grained sand. Well bedded. Poorly consolidated to unconsolidated	do.	40-55	High to moderate	Generally easily excavated by hand. Good compactability	Low to moderate. Commonly stands in 1:1 cuts for periods of 1 year or more without evidence of massive failure. Locally free running	High to moderate	do.	do.	Possible source of sand for concrete aggregate. Good quality fill when blended	80-100	Generally low. Moderate where unconsolidated	Generally moderate to high
Very fine sand to clay-silt facies (sa1)	Chiefly silt to very fine sand. Locally clay rich. Noticeable lithologic variation from bed to bed common within this unit. Well bedded. Generally at least moderately indurated and commonly well indurated	Not well known, but soil development probably comparable to other facies of formation	35-50	Generally low	May be excavated by hand with difficulty. Generally easily excavated with power equipment. Good compactability	Moderate. Stands in 1:1 cuts for periods of 1 year or more without evidence of massive failure. Will stand in shallow vertical cuts during dry season	Moderate	do.	do.	Possible fill	85-110	Moderate to high where weathered; low below weathered zone	Generally moderate but may be low along bedding planes when wet
Ancient silt (sa2)	Chiefly very fine sand to silt. Considerable mica. Well bedded. Moderately to slightly indurated	Unknown in this area	40-55	Low to moderate lateral permeability; low vertical permeability	Generally may be excavated by hand. Easily excavated with power equipment. Good compactability	Moderate to low. Stands in 1:1 cuts for periods of 1 year or more without evidence of massive failure	Moderate to high	do.	do.	Possible fill	80-100	Low to moderate	do.
A formation (Ta)	Chiefly silt to very fine sand, but clay rich in northeastern part of Baldwin Hills. Generally uniform in composition throughout unit. Commonly well bedded. Moderately well indurated	Moderate soil development. A horizon averages about 2 ft in thickness, but commonly less than 2 inches thick. Evidence of weathering observed locally to depths of 10 ft	30-45	Generally low	May be excavated by hand with difficulty. Easily excavated with power equipment. Good compactability	Moderate. Stands in 1:1 cuts for periods of 1 year or more without evidence of massive failure. High vertical cuts known to have failed massively	Moderate to low	do.	Poor where loose and weathered; good in deeper unweathered zone	Possible fill	85-100	Moderate to high where weathered; low below weathered zone	do.
Silt formation (Tp)	Chiefly silt to clay-silt shale. Massively well developed locally. Moderately well indurated	Unknown in this area	35-45	Low to very low	Excavated by hand with considerable difficulty. Generally easily excavated with power equipment. Good compactability	Not well known, but probably moderate to high	Low to moderate	do.	Good in deeper unweathered zones	Possible fill	90-110	do.	do.
Modelo formation (lower member) (Ta1)	In exposures south of Sunset Blvd. Unit composed almost entirely of coarse to medium-grained sandstone locally interbedded with very thin shale beds. Sandstone beds range from several inches to several feet in thickness. Sandstone generally well cemented. Locally well jointed	Protected from weathering and soil development in exposure south of Sunset Blvd.	30-35 in shale beds; 2-15 in sandstone	Low to moderate lateral permeability; generally low vertical permeability	Excavated by power equipment with some difficulty; locally may require blasting. Compactability generally good except in more massive sandstone units	Generally high to very high when the strike is oblique	Very low	do.	Poor where weathered; good to excellent in unweathered condition	Possible fill	Extremely variable	Generally low becoming moderate to high in weathered zones	Moderate to high but may be low along bedding planes
Pre-Tertiary granitic rocks (pGr)	South of Sunset Blvd., unit composed of medium to coarse-grained micaceous granitic rocks, commonly highly jointed and sheared	A horizon commonly less than 2 ft thick with poorly developed humus. Extensively weathered, particularly in highly sheared and fractured zones. Upper 1-1.5 ft commonly unconsolidated as intrusive igneous rock and evidence of weathering common 40 or more ft below surface	Very low; becoming higher in sheared and fractured zones	Very low except in highly fractured and sheared zones	Weathered or altered rock probably difficult to excavate by power equipment. Blasting may be necessary in fresh rock. Compactability poor except in highly sheared or weathered zones	High to very high in relatively unfractured fresh rock to low or moderate in sheared zones highly weathered zones	Very low in fresh rock to moderate in highly weathered zones	do.	Good to excellent	Possible fill. Fresh rock possible source of fill. Decomposed material possibly suitable as surfacing material	100-170	Generally very low becoming moderate to high in weathered zones	Moderate where weathered or extensively altered; very high below weathered zone
Undifferentiated deposit (ud)	Not specifically investigated in this report. Composed chiefly of silt, phyllite, cherts, granitic rocks, sandstone, and some shales. Generally very well indurated. Commonly highly jointed and sheared	Extremely variable soil development. Although A horizon commonly poorly developed, evidence of weathering commonly extends several feet beneath the surface, particularly in sheared zones	Generally low; becoming higher in sheared and weathered zones	Generally low except in sheared zones	Fairly within extreme limits	Variable	Generally low	do.	do.	do.	130-170	Generally low becoming moderate to locally high in weathered zones	Extremely variable

1/ Where there is a range of properties indicated, the first limiting adjective describing that range identifies the dominant property; for example, the phrase "coarse to medium sand" indicates that the coarse fraction dominates.
2/ Assume bedding to be horizontal; stability tends to be reduced where bedding dips out of slope.