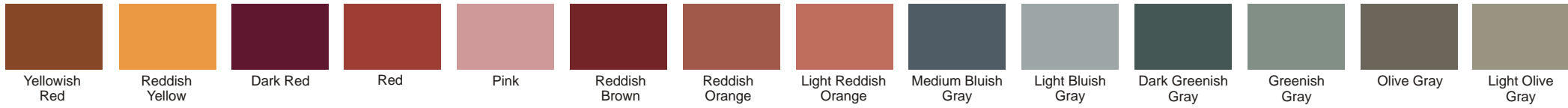
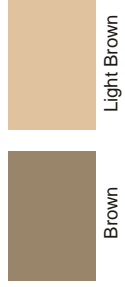
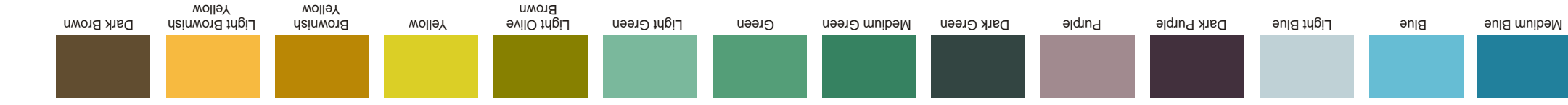
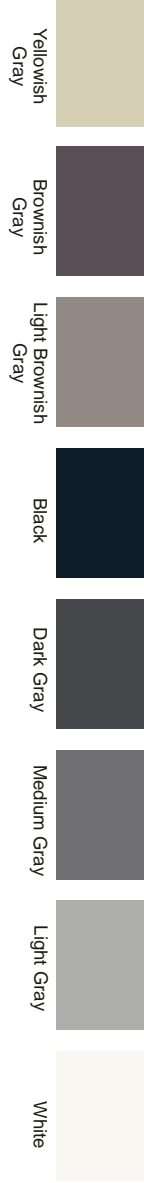
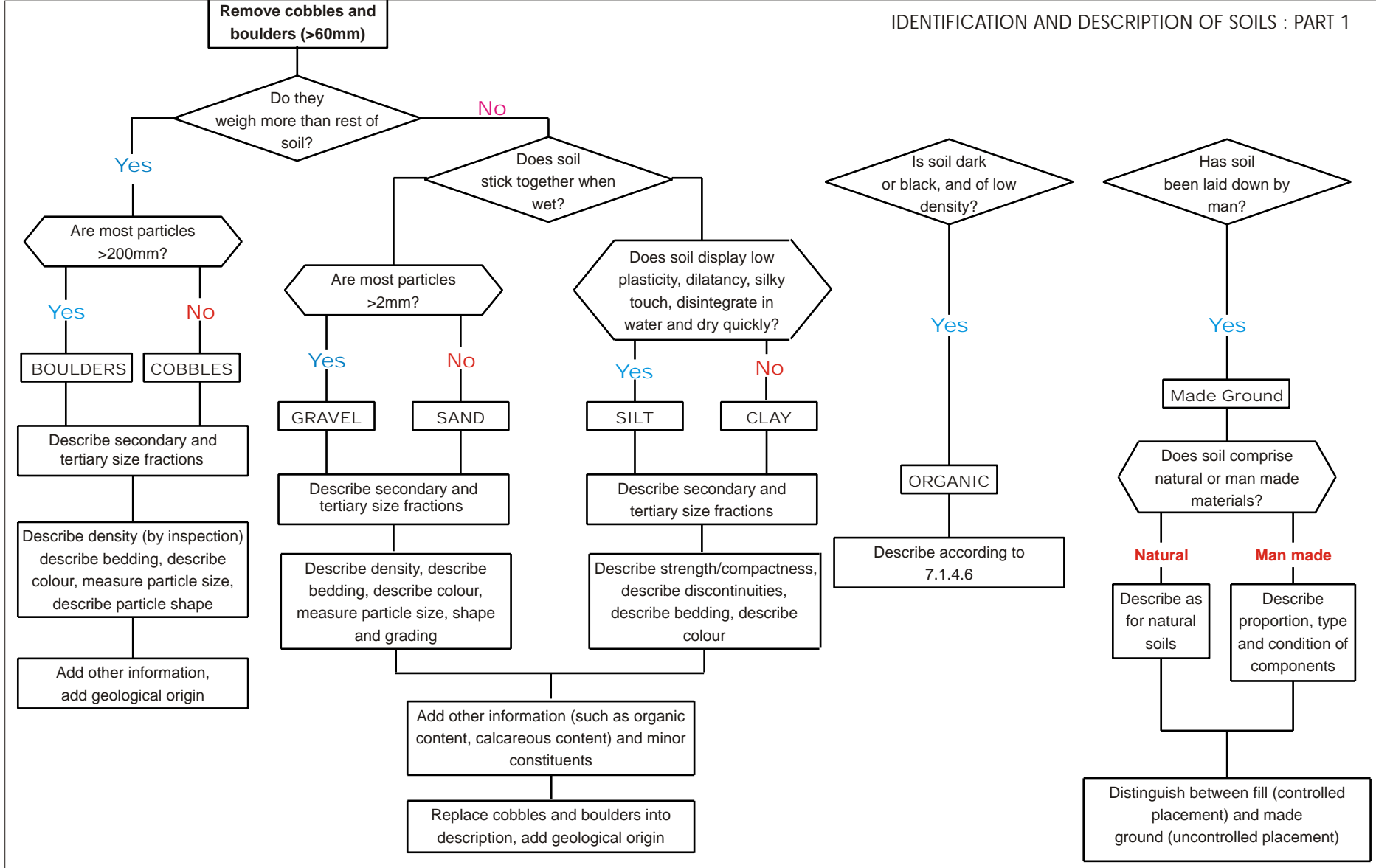




THESE ARE APPROXIMATE SOIL COMPARISON COLOURS. FOR MORE ACCURATE COLOURS, CONSULT MUNSEL SOIL COLOUR CHARTS
THE TWO TABLES ARE FROM CP BS9930 & DRAFT MALAYSIAN CP FOR SITE INVESTIGATION



IDENTIFICATION AND DESCRIPTION OF SOILS : PART 1



IDENTIFICATION AND DESCRIPTION OF SOILS : PART 2

Soil group	Density/compactness/strength		Discontinuities		Bedding		Colour	Composite soil types (mixtures of basic soil types)		Particle shapes	Particle size	PRINCIPAL SOIL TYPE	Visual identification	Minor constituents	Stratum name	Example descriptions						
	Term	Field test																				
Very coarse soils	Loose	By inspection of voids and particle packing	Scale of spacing of discontinuities		Scale of bedding thickness		Red Orange Yellow Brown Green Blue White	For mixtures involving very coarse soils, see 7.1.4.4.3		Angular	200	BOULDERS	Only seen complete in pits or exposures									
	Dense		Term	Mean spacing mm	Term	Mean thickness mm		Term	Approx. % ^(c) secondary				Sub angular	60			COBBLES	Often difficult to recover whole from boreholes				
Coarse soils (over about 65% sand and gravel sizes)	Borehole with SPT N-value		Very widely	Over 2000	Very thickly bedded	Over 2000	Light Dark Mottled	Slightly (Sandy ^(d))	< 5	Sub rounded	Coarse	GRAVEL	Easily visible to naked eye: particle shape can be described: grading can be described.		using terms such as: with rare with occasional with abundant/frequent/numerous	RECENT DEPOSITS. ALLUVIUM.	Medium dense light brown gravelly clayey fine SAND Gravel is fine					
	Very loose 0 - 4		Widely	2000 to 600	Thickly bedded	2000 to 600																
	Loose 4 - 10		Medium	600 to 200	Medium bedded	600 to 200																
	Medium dense 10 - 30		Closely	200 to 60	Thinly bedded	200 to 60																
	Dense 30 - 50		Very closely	60 to 20	Very thinly bedded	60 to 20																
	Very Dense > 50		Extremely closely	Under 20	Thickly laminated	20 to 6																
	Slightly cemented	Visual examination pick removes soil in lumps which can be abraded	Fissured	Breaks into block along unpolished discontinuities	Thinly laminated	Under 6							Alternating layers of different types requalified by thickness term in equal proportions. Otherwise thickness of and spacing between subordinate layers defined									
	Un-compacted	Easily moulded or crushed in the fingers	Sheared	Breaks into block along unpolished discontinuities	Inter-bedded																	
Compacted	Can be moulded or crushed by strong pressure in the fingers	Spacing terms also used for distance between partings, isolated beds or laminae, desiccation cracks, rootlets etc		Inter-laminated																		
Very soft 0-20	Finger easily pushed in up to 25mm																					
Soft 20-40	Finger pushed in up to 10mm																					
Firm 40-75	Thumb makes impression easily																					
Stiff 75-150	Can be indented slightly by thumb																					
Very stiff 150-300	Can be indented by thumb nail																					
Hard (or very weak mudstone) Cu > 300 kPa	Can be scratched by thumbnail																					
Fine soils (over about 35% silt and clay sizes)							SAND AND GRAVEL	about 50 ^(b)	Calcareous, Shelly, glauconitic, micaceous etc. using term such as	Fine	0.06	SILT	Only coarse silt visible with hand lens: exhibits little plasticity and marked dilatancy: slightly granular or silky to the touch: disintegrates in water: lumps dry quickly: possesses cohesion but can be powdered easily between fingers		MADE GROUND OR COLLUVIAL DEPOSITS ? etc.	Firm thinly laminated gray CLAY with closely spaced thick laminae of sand. (ALLUVIUM)						
													Term	Approx. % ^(c) secondary			Slightly calcareous	Coarse	0.02			
																				Slightly (sandy ^(d))	< 35	Very calcareous
													(sandy ^(e))	35 to 65 ^(a)			% defined on a site or material specific basis or subjective.	Fine	0.002			
																				Very (sandy ^(f))	> 65 ^(a)	

Organic soils	Firm	Fibres already compressed together	Fibrous	Plant remains recognizable and retains some strength	Transported mixtures	Colour	Contains finely divided or discrete particles or organic matter, often with distinctive smell, may oxidize rapidly. Describe as for inorganic soils using terminology above.	NOTES:	
					Spongy	Very compressible and open structure			pseudo-fibrous
Slightly organic sand	Dark grey	Very organic sand	e) Gravelly and/ or sandy						
Plastic	Can be moulded in hand and smears fingers	Amorphous	Recognizable plant remains absent	Organic sand	Dark grey	Accumulated in situ	f) Gravelly or sandy		
				Very organic clay or silt	Black			Peat	
						Predominantly plant remains, usually dark brown or black in colour, distinctive smell, low bulk density, Can contain disseminated or discrete mineral soils.			c) % coarse or fine soil type assessed excluding cobbles and boulders