

**17—LANDSLIDE AND MASS-WASTING FEATURES**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
17.1	Outline of slip surface of landslide—Identity and existence certain, location accurate		linecolor 60% black lineweight .2 mm H-8 (60% black)	May be used to outline area of slip surface of landslide if desired. Do not use to outline landslide deposits (use a map-unit boundary contact instead).
17.2	Outline of slip surface of landslide—Identity or existence questionable, location accurate		12.0 mm .75 mm	
17.3	Outline of slip surface of landslide—Identity and existence certain, location approximate		3.5 mm	
17.4	Outline of slip surface of landslide—Identity or existence questionable, location approximate		.75 mm .75 mm	
17.5	Outline of slip surface of landslide—Identity and existence certain, location inferred		1.5 mm	
17.6	Outline of slip surface of landslide—Identity or existence questionable, location inferred		.75 mm .75 mm	
17.7	Outline of slip surface of landslide—Identity and existence certain, location concealed		.5 mm	
17.8	Outline of slip surface of landslide—Identity or existence questionable, location concealed		.75 mm .75 mm	
17.9	Area of slip surface of landslide		pattern 431-K in 50% black (rotated so lines parallel slip direction)	Downslope edge of slip surface is usually concealed by landslide deposits or debris materials. Landslide arrows may be shown singly or in pairs.
17.10	Direction of downslope movement of landslide		outline of slip surface [lineweight .2 mm, in 60% black] contact [lineweight .15 mm]	
17.11	Landslide deposits—Arrows show direction of downslope movement		50°/ 2.0 mm arrow lineweight .175 mm length and curve of arrow may vary	
17.12	Head or main scarp of landslide—Active, sharp, distinct, and accurately located. Hachures point down scarp		all lineweights .25 mm hachure height 1.0 mm; spacing 1.75 mm	Place line along crown of scarp. May be shown in red or other colors.
17.13	Head or main scarp of landslide—Inactive, subdued, indistinct, and (or) approximately located. Hachures point down scarp		.5 mm 3.0 mm	
17.14	Head or main scarp of landslide—Showing height (in meters). Hachures point down scarp		0.8 HI-7	
17.15	Head or main scarp of rotated block in landslide—Arrow shows direction of oblique slip. Hachures point down scarp		5.0 mm 2.5 mm 15° arrow lineweight .175 mm	
17.16	Internal or minor scarp in landslide—Active, sharp, distinct, and accurately located. Hachures point down scarp		all lineweights .25 mm hachure height .75 mm; spacing 1.25 mm	
17.17	Internal or minor scarp in landslide—Inactive, subdued, indistinct, and (or) approximately located. Hachures point down scarp		.5 mm 2.0 mm	
17.18	Internal or minor scarp in landslide—Showing height (in meters). Hachures point down scarp		0.3 HI-6	
17.19	Internal or minor scarp of rotated block in landslide—Arrow shows direction of oblique slip. Hachures point down scarp		4.5 mm 15° 2.0 mm arrow lineweight .175 mm	

\*For more information, see general guidelines on pages A-i to A-v.

**17—LANDSLIDE AND MASS-WASTING FEATURES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
17.20	Main toe of landslide—Active, sharp, distinct, and accurately located		3.0 mm lineweight .25 mm	Place line along base of toe; sawteeth on over-riding block.
17.21	Main toe of landslide—Inactive, subdued, indistinct, and (or) approximately located		.5 mm 3.0 mm	May be shown in red or other colors.
17.22	Minor toe, internal thrust fault, or pressure ridge in landslide—Active, sharp, distinct, and accurately located		2.5 mm lineweight .25 mm	
17.23	Minor toe, internal thrust fault, or pressure ridge in landslide—Inactive, subdued, indistinct, and (or) approximately located		.5 mm 2.0 mm	
17.24	Minor toe, internal thrust fault, or pressure ridge in landslide, showing transport reversal—Active, sharp, distinct, and accurately located		lineweight .25 mm .85 mm 5.0 mm 60°	
17.25	Minor toe, internal thrust fault, or pressure ridge in landslide, showing transport reversal—Inactive, subdued, indistinct, and (or) approximately located		.5 mm 2.0 mm	
17.26	Right flank of landslide or right-lateral shear feature—Active, sharp, distinct, and accurately located		15° lineweight .25 mm 5.0 mm arrow lineweight .175 mm	Arrow shows sense of lateral movement. Place arrow on side of moving ground or on displaced earth materials.
17.27	Right flank of landslide or right-lateral shear feature—Inactive, subdued, indistinct, and (or) approximately located		.5 mm 3.0 mm	
17.28	Right flank of landslide or right-lateral shear feature—Concealed by landslide deposits or debris materials		.5 mm 3.0 mm	In cross section, can also be used to show plane of slope failure. May be shown in red or other colors.
17.29	Right flank of landslide or right-lateral shear feature—Showing amount of offset (in meters)		2.3 2.3 HI-7	
17.30	Left flank of landslide or left-lateral shear feature—Active, sharp, distinct, and accurately located		2.5 mm lineweight .25 mm 5.0 mm arrow lineweight .175 mm	
17.31	Left flank of landslide or left-lateral shear feature—Inactive, subdued, indistinct, and (or) approximately located		.5 mm 3.0 mm	
17.32	Left flank of landslide or left-lateral shear feature—Concealed by landslide deposits or debris materials		.5 mm 3.0 mm	
17.33	Left flank of landslide or left-lateral shear feature—Showing amount of offset (in meters)		2.3 2.3 HI-7	
17.34	Open tension crack or fracture on landslide		hachure height .5 mm all lineweights .2 mm 1.5 mm	Hachures point into crack.
17.35	Tension crack or fracture on landslide (1st option)		all lineweights .2 mm 1.0 mm	May be shown in red or other colors.
17.36	Tension crack or fracture on landslide (2nd option)		1.2 mm all lineweights .2 mm dash .375 mm; space .325 mm	
17.37	Tension crack or fracture on landslide (3rd option)		lineweight .2 mm 1.2 mm	
17.38	En echelon cracks or fractures on landslide, indicating right-lateral shear		15° crack lineweights .2 mm 5.0 mm arrow lineweight .175 mm	Arrow shows sense of lateral movement. May be shown in red or other colors.
17.39	En echelon cracks or fractures on landslide, indicating left-lateral shear		2.5 mm crack lineweights .2 mm 5.0 mm arrow lineweight .175 mm	
17.40	Anticlinal soft-sediment fold, buckle fold, bulge, or linear ridge on landslide		line length can vary 2.0 mm lineweight .25 mm arrow lineweight .175 mm	May be shown in red or other colors.
17.41	Dome structure or bulge on landslide		line length can vary 60° 1.0 mm	
17.42	Synclinal soft-sediment fold or linear depression on landslide		line length can vary lineweight .25 mm 1.0 mm arrow lineweight .175 mm	
17.43	Basin structure or depression on landslide		1.0 mm line lengths can vary 60° .75 mm	

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**17—LANDSLIDE AND MASS-WASTING FEATURES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS*	NOTES ON USAGE*
17.44	Crest line of lateral levee on landslide (1st option)		lineweights .175 mm 1.0 mm 1.5 mm 0.65 mm 60°	
17.45	Crest line of lateral levee on landslide (2nd option)		lineweights .175 mm 1.0 mm 1.5 mm 0.65 mm 60°	
17.46	Path of gully on landslide		all lineweights .2 mm 1.375 mm 4.5 mm 1.575 mm 25°	
17.47	Soil creep or incipient sliding on landslide		lineweight .2 mm 1.0 mm 6.75 mm 1.5 mm 20°	Arrow points downhill. May be shown in red or other colors.
17.48	Spring, seep, or drainage (runoff) on landslide		lineweight .2 mm circle diameter 1.5 mm; tail length 3.0 mm	Tail points downhill. May be shown in red or other colors.
17.49	Sag pond or closed depression on landslide (mapped to scale)		all lineweights .175 mm hachure height .875 mm; spacing 1.25 mm	Hachures point into depression.
17.50	Hummock on landslide (mapped to scale)		all lineweights .175 mm hachure height .875 mm; spacing 1.25 mm	Hachures point away from hummock.
17.51	Hummock on landslide (shown as point symbol when too small to outline at map scale)		all lineweights .175 mm 60° circle diameter 1.5 mm 0.875 mm	
17.52	Tilt direction of surface of landslide		4.0 mm 1.125 mm 2.0 mm 30° lineweight .2 mm 2.0 mm	Usually shown on special-purpose landslide activity maps.
17.53	Tilt direction of surface of landslide—Showing angle of tilt		14 HI-6	May also be shown in red or other colors.
17.54	Displacement vector—Showing bearing		lineweight .2 mm 1.75 mm 6.75 mm 25°	
17.55	Displacement vector—Showing bearing and distance		1.3 HI-7	
17.56	Active, reactivated, or historically active debris flow, showing a sharply defined morphology		4.0 mm 1.5 mm 20° color 100% magenta	Usually shown on special-purpose landslide activity maps.
17.57	Dormant-young debris flow, showing a fresh and uneroded morphology but having no evidence of historic activity		color 50% magenta	If necessary, alphanumeric characters may be added to help distinguish landslide areas.
17.58	Active, reactivated, or historically active landslide (mapped to scale), showing a sharply defined morphology		fill color 60% magenta	May also be shown in red or other colors.
17.59	Dormant-young landslide (mapped to scale), showing a fresh and uneroded morphology but having no evidence of historic activity		fill color 40% magenta	
17.60	Dormant-mature landslide (mapped to scale), showing a smoothed and eroded morphology		fill color 20% magenta	
17.61	Dormant-old or relict landslide (mapped to scale), showing a weak morphology		fill color 8% magenta	
17.62	Rock slide, slump, block-glide landslide, rotational landslide, or Toreva block, consisting of a relatively intact mass of displaced materials		draft as shown 0.5 mm all lineweights .3 mm 90°	Usually shown on special-purpose landslide activity maps.
17.63	Earth flow, consisting of a relatively thick and jumbled mixture of displaced materials		draft as shown all lineweights .3 mm 90°	May also be shown in red or other colors. If necessary, symbols may be enlarged or reduced.
17.64	Debris slide, consisting of a loose and relatively shallow veneer of displaced materials		4.5 mm 1.0 mm all lineweights .3 mm 90°	
17.65	Debris-slide slope (mapped to scale), consisting of coalesced scars of landslides and debris flows that are too small or numerous to be shown at map scale		fill color 20% black	Usually shown on special-purpose landslide activity maps.

\*For more information, see general guidelines on pages A-1 to A-v.