



National Mapping Program Technical Instructions

Part 5

Publication Symbols

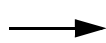
Standards for
1:24,000- and 1:25,000-Scale
Quadrangle Maps

CONTENTS

	Page
5. Publication Symbols.....	5-1
Feature Separate	
511 Projection and Highways	5-3
Projection.....	5-3
State Plane Grid	5-3a
Highways, Roads, and Related Features	5-4
Unpaved Landing Strips	5-8
Aircraft Facilities.....	5-8
512 Miscellaneous Culture and Bathymetry	5-9
Railroads and Related Features	5-9
Dams and Locks	5-11
Piers and Docks.....	5-12
Buildings and Related Features.....	5-13
Ruins and Sites	5-15
Caves, Mines, and Oil and Gas Wells	5-16
Transmission Lines, Pipelines, and Related Features	5-17
Control Data and Monuments	5-18
Other Features.....	5-19
Recreation Areas and Features.....	5-20
Cemeteries	5-21
Boundaries	5-21
Foreshore and Offshore Features (Topographic Maps).....	5-23
Bathymetric Contours (Topographic/Bathymetric Maps)	5-24
Bathymetric Features (Topographic/Bathymetric Maps)	5-25
Bathymetric Features (Topographic Maps)	5-26
512A Bathymetric Supplementary Contours (Topographic/Bathymetric Maps).....	5-27
513 UTM Grid	5-27a
514 Type for Interior and Margin Labels	5-28
Interior Names and Labels	5-28
Margin Type.....	5-28
514A Type for Civil Townships and Bathymetric Features.....	5-29
Civil Township Names	5-29
Bathymetric Feature Names	5-29
515 Miscellaneous Fills.....	5-30
Built-up Area	5-30
Masonry Dam	5-30
515A Non-National Forest Service System Lands	5-31
515B Railroad Yard Fill	5-32
516 Roads and Bathymetric Features.....	5-33
Roads and Related Features.....	5-33
Offshore Pipelines	5-35
517 Sand Pattern Fill.....	5-36
Foreshore and Offshore Features (Topographic Maps).....	5-36
Oil Sumps and Sludge Pits	5-36
518 Named Landforms	5-36a

CONTENTS

		Page
Feature Separate		
521	Highway Fill and Related Features	5-37
522	Recreation	5-38
523	Land Net.	5-39
	Public Land Survey System.	5-39
	Other Land Lines.	5-40
524	Type for Highways, Roads, Land Net, and Recreation.	5-42
	Highway and Road Route Markers	5-42
	Land Net Names and Labels.	5-43
	Recreation Names.	5-43
527	Boundary Enhancement	5-44
532	Contours.	5-45
	Contours and Related Features.	5-45
	Tailings Pond and Lava Flows	5-47
533	Supplementary Contours	5-48
534	Sand.	5-49
535	Disturbed Surfaces and Bathymetry	5-50
	Mines, Pits, and Lava Flows	5-50
	Intertidal Zone (Topographic/Bathymetric Maps).	5-50
	Reef Fill (Topographic/Bathymetric Maps).	5-50
535A	Former Disposal Sites and Mines	5-51
536	Type for Contour Values and Quadrangle Name	5-52
	Contour Values	5-52
	Quadrangle Name	5-52
537	Gravel Beach and Glacial Moraine.	5-53
538	Tailings Pond Fill	5-54
539	Glacial Retreat	5-54a
541	Drainage and Bathymetric Contours	5-55
	Streams and Shorelines	5-55
	Lakes and Ponds.	5-56
	Canals and Aqueducts	5-58
	Wells, Springs, and Siphons	5-59
	Glaciers and Permanent Snowfields	5-59
	Submerged Areas	5-60
	Rapids and Waterfalls	5-60
	Land Subject to Inundation	5-61
	Bathymetric Contours (Topographic/Bathymetric Maps)	5-61
541A	Crevasse Field	5-63
541B	Rapids Fill and Glacial Advance	5-63a
542	Type for Hydrographic Features	5-64
543	Marsh and Swamp Fill	5-65
544	Mangrove Fill	5-66
545	Perennial Water Fill	5-67
545A	Bathymetric Gradient Tint #1 (Topographic/Bathymetric Maps).	5-68
545B	Bathymetric Gradient Tint #2 (Topographic/Bathymetric Maps).	5-69
545C	Bathymetric Gradient Tint #3 (Topographic/Bathymetric Maps).	5-70
545D	Bathymetric Gradient Tint #4 (Topographic/Bathymetric Maps).	5-71
545E	Bathymetric Gradient Tint #5 (Topographic/Bathymetric Maps).	5-72



Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
Part 5: Publication Symbols

CONTENTS

Page

Feature Separate

545F	Bathymetric Gradient Tint #6 (Topographic/Bathymetric Maps)	5-73
545G	Bathymetric Gradient Tint #7 (Topographic/Bathymetric Maps)	5-74
546	Inundation Fill	5-75
547	Intermittent Water Fill	5-76
549	UTM Grid Tick	5-77
552	Woods and Mangrove	5-78
553	Scattered Trees	5-79
554	Shrubland	5-80
555	Orchard	5-81
556	Vineyard	5-82
557	Bathymetric Overprint (Topographic/Bathymetric Maps)	5-83

Index	5-84
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→ Appendix 5-A USGS Standard Pattern Screens	5A-1 ←
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Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
Part 5: Publication Symbols

TABLES

Page

Table

5-1	Color Composites and Feature Separations.	5-2
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SUMMARY OF CHANGES

Change Notice 2/02

Changes have been made to clarify symbol representations and to correct other minor errors or inconsistencies in the document.

Change Notice 4/99

Continuing agreements with the USDA Forest Service have prompted the addition, deletion, or modification of a number of symbols. The "Remarks" for a number of symbols were reworded or deleted to prevent confusion with capture condition or revision guidelines found in other standards. Other changes have been made to clarify symbol representations and to correct other minor errors or inconsistencies in the document.

Change Notice 12/95

This change notice was prompted by numerous technological enhancements as well as operational changes resulting from various ad hoc reviews to simplify paper map production. Further changes were made based on agreements with the USDA Forest Service for the single edition initiative. Several symbol changes were made to make this standard consistent with the Standards for 1:24,000 - Scale Digital Line Graphs and Quadrangle Maps. The USGS adopted several International symbol portrayals for recreational features. The full-line UTM grid was restored (except for single edition maps) to better facilitate use of paper maps with GPS applications.

Change Notice 9/94

In an effort to reduce costs of producing paper maps with digital processes, the division made several symbol changes. It was believed that the costs of collecting and symbolizing certain features outweighed the value added by these symbols. In addition, a number of changes were made to enhance readability and to be consistent with symbol references made by other newer standards.

Complete Revision 5/94

This complete revision was required due to numerous change notices, automated symbology generation capabilities and efficiencies, and most importantly, the initiative undertaken by both the USGS and the USDA Forest Service to produce single edition maps for quadrangles covering National Forest System lands.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

LIST OF PAGES

A complete and current copy of Part 5 of Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps consists of the pages (and most recent creation and revision dates) listed below.

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
5-ii	2/02	5-34	2/02	5-73	5/94
5-iii	2/02	5-35	2/02	5-74	5/94
5-iv	2/02	5-36	5/94	5-75	5/94
5-v	2/02	5-36a	4/99	5-76	9/94
5-vi	2/02	5-37	5/94	5-77	12/95
5-vii	2/02	5-38	4/99	5-78	5/94
5-1	4/99	5-39	4/99	5-79	5/94
5-2	4/99	5-40	12/95	5-80	4/99
5-3	4/99	5-41	12/95	5-81	5/94
5-3a	4/99	5-42	4/99	5-82	5/94
5-4	4/99	5-43	4/99	5-83	5/94
5-5	4/99	5-44	2/02	5-84	2/02
5-6	2/02	5-45	9/94	5-85	2/02
5-7	2/02	5-46	2/02	5-86	2/02
5-8	4/99	5-47	2/02	5-87	2/02
5-9	2/02	5-48	12/95	5-88	2/02
5-10	5/94	5-49	5/94	5-89	2/02
5-11	12/95	5-50	2/02	5-90	2/02
5-12	4/99	5-51	2/02	5-91	2/02
5-13	2/02	5-52	5/94	5-92	2/02
5-13a	2/02	5-53	5/94	5-93	2/02
5-14	12/95	5-54	5/94	5-94	2/02
5-15	12/95	5-54a	4/99	5-95	2/02
5-16	4/99	5-55	2/02	5-96	2/02
5-17	12/95	5-56	12/95	5-97	2/02
5-18	2/02	5-56a	12/95	5-98	2/02
5-19	2/02	5-57	2/02	5-99	2/02
5-20	2/02	5-58	4/99	5A-1	2/02
5-21	12/95	5-59	2/02	5A-2	2/02
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5-25	5/94	5-63a	4/99		
5-26	12/95	5-64	5/94		
5-27	5/94	5-65	5/94		
5-27a	12/95	5-66	5/94		
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5-29	5/94	5-68	2/02		
5-30	4/99	5-69	5/94		
5-31	2/02	5-70	5/94		
5-32	2/02	5-71	5/94		
5-33	5/94	5-72	5/94		

5. PUBLICATION SYMBOLS

→ These symbol specifications were developed jointly by the U.S. Geological Survey (USGS) and the U.S. Department of Agriculture, Forest Service, and are to be used for the final preparation of replacement or revision of primary series maps at scales of 1:20,000 through 1:63,360. These specifications will be used for all single edition projects, regardless of revision type. The Forest Service will provide the content for all features that are indicated by an asterisk for maps produced by the USGS under the single edition initiative.

Use the supplementary symbol specifications found in Part 6 when it is necessary to match existing symbolization, or if it is determined to be more efficient to do so. Part 6 symbology will be allowed for an entire set of feature types on single edition projects, even though the rest of the feature types are shown with the agreed upon Part 5 symbology, if it is determined to be more efficient. ←

→ The symbol depictions in this standard are representative of the actual symbols and are not produced to the specifications described herein. Refer to the specifications for generation of symbology. The type shown with the symbols does not define the type specifications; this information will be included on the style sheet appendices to Standards for Revised Primary Series Quadrangle Maps, Part 2, Specifications. Continue to refer to existing documentation until these appendices are released. ←

The USGS and the Forest Service employ different road classification schemes; both are represented in this standard. Under the USGS scheme, "highway" refers to USGS road class 1 and 2 features, and "road" refers to USGS road class 3, 4, and 5 features. Highways are depicted with cased symbology, and roads are screened; therefore, highways and roads appear on different feature separations. The Forest Service uses only cased road symbols; therefore, all highways and roads under the Forest Service scheme appear on a single separation.

The map symbols in the previous edition of Part 5 were organized according to the feature separate on which they were scribed using analog production methods. The symbols were further grouped under subheadings within each feature separation. This scheme has been maintained in this edition to avoid changing the symbol number for the existing symbology, because the symbol numbers are referenced in other documentation.

→ For maps prepared by analog or raster revision methods, generate the required feature separations from those listed in table 5-1. For maps prepared using digital product generation procedures, generate the minimum number of combined feature plates required for five color lithography reproduction. ←

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

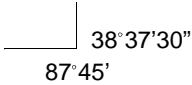




Table 5-1
 Color Composites and Feature Separations

	1-BLACK		
	511	Projection and Highways	
	512	Miscellaneous Culture and Bathymetry	
	512A	Bathymetric Supplementary Contours	
	513	UTM Grid	
	514	Type for Interior and Margin Labels	
	514A	Type for Civil Townships and Bathymetric Features	
	515	Miscellaneous Fills	
	515A	Non-National Forest System Lands	
	515B	Railroad Yard Fill	
	516	Roads and Bathymetric Features	
→	517	Sand Pattern Fill	
	518	Named Landforms	←
	2-RED		
	521	Highway Fill	
	522	Recreation	
	523	Land Net	
	524	Type for Highways, Roads, Land Net, and Recreation	
	527	Boundary Enhancement	
	3-BROWN		
	532	Contours	
	533	Supplementary Contours	
	534	Sand	
→	535	Disturbed Surfaces and Bathymetry	
	535A	Former Mines, Tailings, and Mine Dumps	←
	536	Type for Contour Values and Quadrangle Name	
	537	Gravel Beach and Glacial Moraine	
→	538	Tailings Pond Fill	
	539	Glacial Retreat	←
	4-BLUE		
	541	Drainage and Bathymetric Contours	
→	541A	Crevasse Field	
	541B	Rapids Fill and Glacial Advance	←
	542	Type for Hydrographic Features	
	543	Marsh and Swamp Fill	
	544	Mangrove Fill	
	545	Perennial Water Fill	
	545A	Bathymetric Gradient Tint #1	
	545B	Bathymetric Gradient Tint #2	
	545C	Bathymetric Gradient Tint #3	
	545D	Bathymetric Gradient Tint #4	
	545E	Bathymetric Gradient Tint #5	
	545F	Bathymetric Gradient Tint #6	
	545G	Bathymetric Gradient Tint #7	
	546	Inundation Fill	
	547	Intermittent Water Fill	
	549	UTM Grid Tick	
	5-GREEN		
→	552	Woods and Mangrove	
	553	Scattered Trees	
	554	Shrubland	←
	555	Orchard	
	556	Vineyard	
	557	Bathymetric Overprint	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 511 Feature Separate: **PROJECTION AND HIGHWAYS**

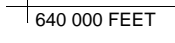
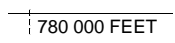
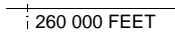
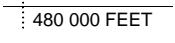
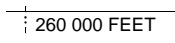
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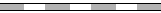




NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
PROJECTION				
1	NEATLINE		Lineweight .005"	Label corners on black separate (plate 514).
2	GRATICULE TICK		Lineweight .005" Tick length .10"	Interval 2.5 minutes. Label on black separate (plate 514).
3	GRATICULE INTERSECTION		Lineweight .005" Cross size .20" x .20"	Interval 2.5 minutes.
9	GRATICULE TICK (KENTUCKY AND TENNESSEE)		Lineweight .010" Tick length 0.125" (0.020" outside neatline, 0.005" neatline, 0.100" inside neatline)	Show graticule ticks at 1-minute intervals on quadrangles partially or wholly within Kentucky and/or Tennessee. Do not label. Show 2.5-minute ticks with symbol 511.2.
34	DATUM SHIFT TICK		Lineweight .004" Overall cross size .20" x .20" Inner cross size .08" x .08" Space .02"	





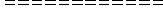


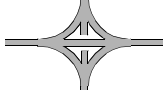
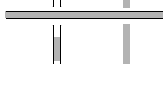
Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

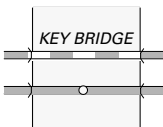
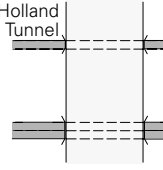
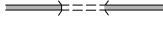

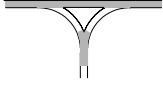

Plate: 511 Feature Separate: **PROJECTION AND HIGHWAYS**






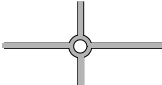
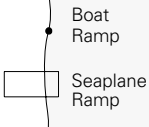
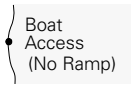
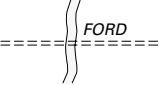
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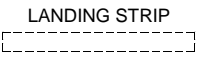
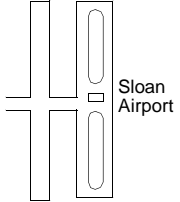
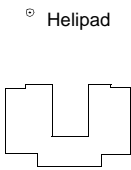

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
STATE PLANE GRID				
4	STATE PLANE COORDINATE TICK (PRIMARY)		Lineweight .003" Overall length .12" Inside neatline .02" Outside neatline .10"	Interval 10,000 feet. Use for major grid zone of map. Label on black separate (plate 514).
5	STATE PLANE COORDINATE TICK (SECONDARY)		Lineweight .003" Dash length .030" Space .015" Overall length .12" Inside neatline .02" Outside neatline .10"	Interval 10,000 feet. Label on black separate (plate 514).
6	STATE PLANE COORDINATE TICK (TERTIARY)		Lineweight .003" Dash length .035" Space .05" Dot diameter .006" Overall length .12" Inside neatline .02" Outside neatline .10"	Center dot in .05" space between dashes. Interval 10,000 feet. Label on black separate (plate 514).
7	STATE PLANE COORDINATE TICK (QUATERNARY)		Dot diameter .006" Overall length .12" Inside neatline .02" Outside neatline .10" Show six equally-spaced dots.	Interval 10,000 feet. Label on black separate (plate 514).
8	STATE PLANE COORDINATE TICK (QUINARY)		Lineweight .003" Dash length .03" Space .06" Dot diameter .006" Overall length .12" Inside neatline .02" Outside neatline .10"	Space dots evenly between dashes. Interval 10,000 feet. Label on black separate (plate 514).


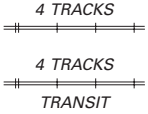
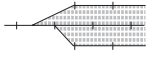
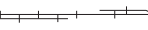


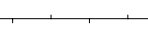

NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
HIGHWAYS, ROADS, AND RELATED FEATURES				
10	PRIMARY HIGHWAY (CLASS 1) SECONDARY HIGHWAY (CLASS 2)	 	Casing lineweight .003"	Minimum symbol width .02". Show fill on red separate (plate 521). Name on black separate (plate 514) if of regional significance. Name/label Toll Roads on black separate (plate 514).
11	PRIMARY HIGHWAY WITH MEDIAN STRIP (CLASS 1) SECONDARY HIGHWAY WITH MEDIAN STRIP (CLASS 2)	 	Casing lineweight .003"	Show 3 casings when the median is less than .01" wide and the overall width of the road is at least .05" or the overall width of a road with a median is less than .05". Minimum symbol width is .037". If the median is at least .01" wide and the overall width of the road is at least .05", treat as separate roadways.
12	CLASS 1 HIGHWAY UNDER CONSTRUCTION		Casing lineweight .003" Dash length .10" Space .02"	Label on black separate (plate 514). Show road fill on red separate (plate 521).
35*	LIGHT-DUTY ROAD PAVED (CLASS 3A)		Casing lineweight .003"	Overall symbol width .02". Show fill on black separate (plate 516).

NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
HIGHWAYS, ROADS, AND RELATED FEATURES				
36*	LIGHT-DUTY ROAD GRAVEL (CLASS 3B)		Casing lineweight .003"	Overall symbol width .02". Show fill on black separate (plate 516).
37*	LIGHT-DUTY ROAD DIRT (CLASS 3C)		Casing lineweight .003"	Overall symbol width .02". Show fill on black separate (plate 516).
38*	LIGHT-DUTY ROAD COMPOSITION UNSPECIFIED (CLASS 3)		Casing lineweight .003"	Overall symbol width .02". Applies if not otherwise classified by FS.
39*	UNIMPROVED ROAD (CLASS 4)		Casing lineweight .003" Dash .05" Space .02"	Overall symbol width .02"
40*	FOUR-WHEEL-DRIVE ROAD (CLASS 5)		Casing lineweight .003" Dash .05" Space .02"	Overall symbol width .02". Label on black separate (plate 514). Show change of road classification on red separate (symbol 521.4).
41	TRAIL		Lineweight .005" Dash .05" Space .02"	If trail has an FS identifier number, label on red separate (plate 524) for single edition quads. For National Scenic trails use symbol 522.6*.
42*	CUL-DE-SAC		Casing lineweight .003" Diameter .03"	
13	RAMPS		Break highway under overpass .02"	Minimum symbol width .015". Show fill (symbol 521.1) on red separate (plate 521).
14	HIGHWAY UNDERPASS HIGHWAY OVERPASS		Break space .02"	

NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
HIGHWAYS, ROADS, AND RELATED FEATURES				
15	HIGHWAY OR ROAD BRIDGE HIGHWAY OR ROAD DRAWBRIDGE		Cross and wing tick lineweight .003" Wing tick length .023" Wing tick angle 45° Drawbridge lineweight .003" Drawbridge circle diameter .045"	Name on black separate (plate 514) if of regional significance. If road width is greater than .035", then circle diameter is .06".
16	HIGHWAY TUNNEL WITHOUT MEDIAN HIGHWAY TUNNEL WITH MEDIAN		Casing lineweight .003" Dash length .05" Space .02"	Name on black separate (plate 514) if of regional significance. Minimum overall symbol width .037" for highway with median.
17	HIGHWAY OR ROAD TUNNEL WING AND CROSS TICK		Cross and wing tick lineweight .003" Wing tick length .023" Wing tick angle 45°	
43*	ROADS IN SERVICE, REST, OR OTHER PULLOFF AREA		Casing lineweight .003"	Minimum symbol width .02". Do not show fill. Label on black separate (plate 514).
19	HIGHWAY ISLAND			Minimum symbol size .02" in shortest dimension.
20	HIGHWAY ON DAM		Casing lineweight .008"	Minimum space between casings .014".

NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
HIGHWAYS, ROADS, AND RELATED FEATURES				
23	FOOTBRIDGE		Lineweight .003" Wing tick lineweight .003" Wing tick length .023" Wing tick angle 45° Break space .02"	Break highways, roads, and railroads for footbridges.
24	HIGHWAY OR ROAD FERRY		Lineweight .003" Dash length .05" Space .02"	Label on black separate (plate 514). Label as "MARINE HIGHWAY" on single edition maps only when provided by the Forest Service.
26	TOLLGATE		Lineweight .007"	Extend tick .02" beyond road casing. Label on black separate (plate 514).
44*	ROAD BLOCK, BERM, OR BARRIER		Lineweight .015" Length .10"	Center across road or trail. See symbol 521.5 for gate.
27	HIGHWAY OR ROAD SNOWSHED		Show to scale	
28	TRAFFIC CIRCLE		Show to scale	Road width of circle equals width of widest road entering circle. Omit inner circle when its diameter would be less than .03" at map scale.
45	BOAT RAMP SEAPLANE RAMP		Dot diameter .03" Lineweight .004"	Label on black separate (plate 514). Do not break shoreline or water fill.
47*	BOAT ACCESS, NO RAMP		Dot diameter .03"	Label on black separate (plate 514).
48*	FORD			Feature identified by label only. Label on black separate (plate 514).

NO.	FEATURE	SYMBOL	SPECIFICATIONS	REMARKS
UNPAVED LANDING STRIPS				
30	UNPAVED LANDING STRIP		Lineweight .003" Dash length .04" Space .02"	Minimum symbol width .02". Label on black separate (plate 514).
AIRCRAFT FACILITIES				
31	AIRPORT PAVED LANDING STRIP RUNWAY TAXIWAY APRON		Lineweight .003"	Minimum symbol width .02". Show runways wider than .02" to scale. Name/label on black separate (plate 514).
33	HELIPAD		Lineweight .003" Circle diameter .04" Dot diameter .006"	Show with outline when \geq .04" in the longest dimension. Label on black separate (plate 514).
46*	HELISPOT		Lineweight .003" Circle diameter .04" Dot diameter .006"	Label on black separate (plate 514).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RAILROADS AND RELATED FEATURES				
1	STANDARD GAUGE RAILROAD, SINGLE TRACK TRANSIT, SINGLE TRACK		Lineweight .005" Tie lineweight .003" Tie length .04" Tie spacing .20"	Label "TRANSIT" if appropriate on black separate (plate 514).
3	STANDARD GAUGE RAILROAD, MULTIPLE TRACKS TRANSIT, MULTIPLE TRACKS		Lineweight .003" Tie lineweight .003" Tie length .052" Tie spacing .20" Double crosstie width .017" Overall width .017"	If more than two tracks and at least 1 mile long, show double crossties where multiple line begins and ends. Label number of tracks on black separate (plate 514). Label "TRANSIT" if appropriate on black separate (plate 514).
6	RAILROAD YARD		Lineweight .005" Tie lineweight .003" Tie length .04" Tie spacing .20"	Show primary line(s) through RAILROAD YARD and the outermost tracks. Show fill on black separate (plate 515B).
7	RAILROAD SIDING		Main line lineweight .005" Siding lineweight .003" Tie lineweight .003" Tie length .04" minimum Tie spacing .20"	Do not align crossties on siding with crossties on main line. Show minimum of one crosstie on siding.
8	RAILROAD IN CLASS 1 AND 2 HIGHWAYS		Lineweight .003" Tie lineweight .003" Tie length .04" Tie spacing .20"	Center railroad between highway casings.
9	RAILROAD IN CLASS 3 AND 4 ROADS		Lineweight .003" Tie lineweight .003" Tie length .04" Tie spacing .20"	Center railroad in road.
10	NARROW GAUGE RAILROAD, SINGLE TRACK		Lineweight .005" Tie lineweight .003" Tie length .02" Tie spacing .20"	Alternate ties.
177*	RAILROAD IN LIGHT-DUTY ROAD		Lineweight .003" Tie lineweight .003" Tie length .04" Tie spacing .20"	Center railroad in road.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RAILROADS AND RELATED FEATURES				
12	NARROW GAUGE RAILROAD, MULTIPLE TRACKS		Lineweight .005" Tie lineweight .003" Tie length .02" Tie spacing .20" Double cross-tie width .017"	Alternate ties.
14	CARLINE		Lineweight .005" Tie lineweight .003" Tie length .04" Tie spacing .10"	
16	ROUNDHOUSE		Show to scale.	
17	TURNTABLE		Lineweight .003" Diagonal line angle 45°	Minimum circle diameter .06". If larger than or equal to .06" in diameter, show to scale.
19	SNOWSHED		Show to scale.	Minimum width .04".
20	RAILROAD UNDERPASS RAILROAD OVERPASS		Break space .02"	
21	RAILROAD BRIDGE RAILROAD DRAWBRIDGE		Lineweight .003" Cross tick length .035" minimum Wing tick lineweight .003" Wing tick length .023" Wing tick angle 45° Drawbridge circle diameter .045"	No cross-ties on bridges less than .40" in length at map scale. No cross-ties closer than .20" to bridge tick symbol. Name on black separate (plate 514) if of regional significance.
22	RAILROAD TUNNEL		Lineweight .005" Dash length .05" Space .02" Wing and cross tick lineweight .003" Cross tick length .02" Wing tick length .023" Wing tick angle 45°	Minimum symbol width .02". No cross-ties through tunnel. No cross-ties closer than .20" to tunnel ticks. Name on black separate (plate 514) if of regional significance.

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: **1-BLACK**


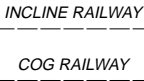
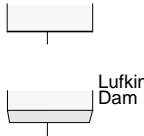
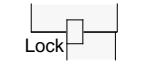

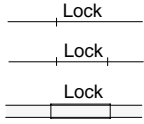
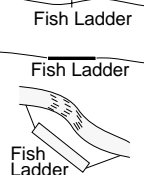

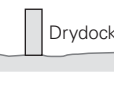


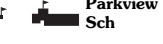
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RAILROADS AND RELATED FEATURES				
23	RAILROAD FERRY		Lineweight .003" Dash length .05" Space .02"	Label on black separate (plate 514). Do not show crossties on ferry symbol. Name on black separate (plate 514).
24	INCLINE RAILWAY COG RAILWAY		Lineweight .005" Dash length .10" Space .02"	Label on black separate (plate 514).
DAMS AND LOCKS				
35	WEIR MASONRY DAM		Lineweight .01" Perimeter lineweight .003"	Use for masonry dams and weirs. If width of dam exceeds .02", show perimeter to scale. Show fill on black separate (plate 515). Name on black separate (plate 514).
36	DAM WITH LOCK		Lineweight .003".007" Angles 45° Show locks to scale.	Point lock upstream. Label on black separate (plate 514).
37	DAM CARRYING ROAD		Lineweight .008"	For Class 3, 4, and 5 roads, show a .005" line on each side of road (touching road). See plate 511 for treatment of Class 1 and 2 highways.
38	CANAL LOCK		Lineweight .007" Tick length .023".04" Tick angle 45° For double-line drains, show locks to scale. Do not show ticks.	Point apex upstream. Label on black separate (plate 514).
39	FISH LADDER		Lineweight .007" Tick length .04" Lineweight .008" Lineweight .003"	Do not show steps on fish ladder. Label on black separate (plate 514). Show fill on blue separate (plate 545).

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
DAMS AND LOCKS				
40	FLOODGATE TIDEGATE SLUICE GATE		Lineweight .007" Tick length .04"	Label on black separate (plate 514).
41	MASONRY SPILLWAY		Lineweight .003"	Show perimeter line. Label on black separate (plate 514).
PIERS AND DOCKS				
43	NARROW BREAKWATER, PIER, JETTY, OR CAUSEWAY WHARF		Lineweight .007"	Do not break fill or shoreline.
44	WIDE BREAKWATER, PIER, JETTY, WHARF, OR CAUSEWAY		Lineweight .003" Show to scale	Break shoreline and fill.
45	COVERED PIER		Show solid to scale	Break shoreline and fill .
46	NARROW PIER RUIN		Lineweight .007" Dash length .02" Space .01"	
47	WIDE PIER RUIN		Lineweight .003" Dash length .02" Space .01"	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
PIERS AND DOCKS				
48	SEAWALL		Lineweight .007"	Break shoreline. Label "WALL" on black separate (plate 514) if length exceeds 1.0" at map scale.
49	DRYDOCK		Lineweight .007"	Break shoreline. Label on black separate (plate 514).
50	NONEARTHEN SHORE		Lineweight .007"	
BUILDINGS AND RELATED FEATURES				
52	BUILDING			Minimum symbol size .02" x .02" for buildings equal to or less than .05" in the longest axis. For buildings greater than .05" in the longest axis, show to scale. Do not show offsets less than .01". Use .017" x .017" minimum symbol size on 1:63,360-scale quadrangle maps.
54	SCHOOL		Flagpole lineweight .003" Flagpole length .04" Flag .02" x .03"	Minimum symbol size .02" x .02" for schools less than .05" in longest axis. If greater than .05" in longest axis, show to scale. Name on black separate (plate 514). Use symbol 512.178 for schools on 1:63,360-scale quadrangle maps.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK











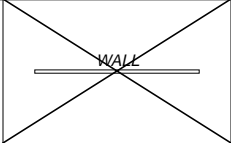




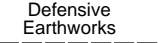


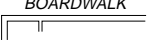



NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BUILDINGS AND RELATED FEATURES				
178	SCHOOL		Flagpole lineweight .003" Flagpole length .03" Flag .017" x .026"	Use only on 1:63,360-scale quadrangle maps. Minimum symbol size .017" x .017" for schools less than .05" in longest axis. If greater than .05" in longest axis, show to scale. Name on black separate (plate 514).
55	HOUSE OF WORSHIP		Cross lineweight .003" Cross length .04" Cross bar length .025" Bar from top .017"	Minimum symbol size .02" x .02" for houses of worship less than .05" in longest axis. If greater than .05" in longest axis, show to scale. Name on black separate (plate 514). Use symbol 512.179 for houses of worship on 1:63,360-scale quadrangle maps.
179	HOUSE OF WORSHIP		Cross lineweight .003" Cross length .03" Cross bar length .021" Bar from top .014"	Use only on 1:63,360-scale quadrangle maps. Minimum symbol size .017" x .017" for houses of worship less than .05" in longest axis. If greater than .05" in longest axis, show to scale. Name on black separate (plate 514).
56	COLLEGE UNIVERSITY		Flagpole lineweight .003" Flagpole length .04" Flag .02" x .03"	Show flag on administration building if known; otherwise show on most prominent building. Name on black separate (plate 514). Use symbol 512.180 for college/university on 1:63,360-scale quadrangle maps.
180	COLLEGE UNIVERSITY		Flagpole lineweight .003" Flagpole length .03" Flag .017" x .026"	Use only on 1:63,360-scale quadrangle maps. Show flag on administration building if known; otherwise show on most prominent building. Name on black separate (plate 514).
59	SEWAGE DISPOSAL PLANT WATER FILTRATION PLANT		Lineweight .003"	Minimum symbol size is a circle with diameter of .03". If greater than .03" along the shortest axis, collect to scale. Use perennial water fill on blue separate (plate 545). Label on black separate (plate 514).

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BUILDINGS AND RELATED FEATURES				
60	SWIMMING POOL		Lineweight .003" Minimum width .025"	Use perennial fill on blue separate (plate 545). Minimum width .025" at map scale.
61	MASONRY RESERVOIR FISH HATCHERY	Aquaculture 	Lineweight .003"	Minimum width .025" at map scale. Minimum symbol length .05". Use perennial fill on blue separate (plate 545). Label on black separate (plate 514).
62	COVERED WATER RESERVOIR	 Reservoir	Outline lineweight .003" Hatch lineweight .002" Hatch line spacing, center to center .02" Hatch 45° NE-SW	Minimum symbol width .025". Label on black separate (plate 514). Show fill on blue separate (plate 545).
63	WALL		Lineweight .007"	Use this symbol for walls not exceeding .017" in width at map scale. Label on black separate (plate 514).
64	PROMINENT WALL		Lineweight .003" Show to scale	Use this symbol for walls exceeding .017" in width at map scale. Label on black separate (plate 514).
65	TANK	 Water Tank		Minimum symbol size .03" in diameter. Use this symbol for tanks less than .03" in diameter. Tanks equal to or larger than .03" show to scale. If water tank or surge tank, label on black separate (plate 514).
67	COMPRESSOR STATION PUMPING STATION VALVE STATION	 Pumping Station  Valve Station	Outline lineweight .003" Dash length .04" Space .02"	Minimum symbol size .02" x .02". Show dashed outline to scale if feature is larger than .06" x .06". Show buildings within outline. Label on black separate (plate 514).
68	DRIVE-IN THEATER	 Drive-in Theater	Outline lineweight .003" Dash length .04" Space .02" Screen lineweight .008"	Show buildings. Label on black separate (plate 514).
175	BATTLE TRENCH BREASTWORKS REDOUBT		Lineweight .005" Dash length 0.1" Space .02"	Label "Defensive Earthworks" on black separate (plate 514).










Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BUILDINGS AND RELATED FEATURES				
69	WINDMILL WIND GENERATOR	 Generator	Lineweight .003" Triangle height .05" Triangle angles 75°, 30°, 75° Arms .045" Arm angles 70°, 110°	Center arms on feature. If dry or salt well, label on black separate (plate 514). Label wind generator "Generator" on black separate (plate 514).
70	COKE OVENS	 Coke Ovens	Outline lineweight .003" Fill lineweight .020" Dash length .03" Space .02"	Label on black separate (plate 514).
71	BOARDWALK	 BOARDWALK	Lineweight .003" Show to scale	Minimum symbol width .02". Label on black separate (plate 514).
72	LOCATED OBJECT LANDMARK OBJECT CAMPSITE	 Lookout	Lineweight .003" Circle diameter .04" Dot diameter .006"	Label on black separate (plate 514). For USGS/FS single edition maps, name lookout when lookout name is different than name of mountain where lookout is located.
RUINS AND SITES				
78	RUINS ARCHAEOLOGICAL SITE	 □ Ruins	Lineweight .003" Dash length .04" Space .02"	Minimum symbol size .02" x .02". Show dashed outline to scale if feature is larger than .06" x .06". Use this symbol for Hawaiian "Heiau." Name/label on black separate (plate 514).
79	CLIFF DWELLING	 Cliff Dwelling	Lineweight .003" Rectangle .02" x .03" Base length .06"	Align with contours, rectangle uphill, base downhill. Name/label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CAVES, MINES, AND OIL AND GAS WELLS				
80	CAVE ENTRANCE MINE ENTRANCE	 Cave	Lineweight .003" Arm length .033" Shaft length .067" Angle 90°	Place intersection of arms at portal with shaft pointing up slope. Orient shaft perpendicular to the contours. Name/label on black separate (plate 514).
81	MINE SHAFT	 Garnet Mine	Lineweight .003" Square .04" x .04" Show NW half solid	Name on black separate (plate 514).
82	PROSPECT	 Prospect	Lineweight .003" Overall length .067" Angles 60° and 120°	Label on black separate (plate 514).
83	WELL	 Well  DIAL OIL FIELD	Lineweight .003" Circle diameter .04"	Label "Well" on black separate (plate 514). Use also for offshore wells. Show representative pattern in congested area. Show well field name on black separate (plate 514). Label "Drill Hole" for nonproducing wells. Show offshore platforms with symbol 512.144.
84	QUARRY OPEN PIT MINE	 Quarry	Lineweight .003" Overall length .10" Length of arc .05" Angle 90°	Use when quarry or mine is less than .50" in shortest dimension at map scale. If quarry or mine is wider than .50" at map scale, show with brown tint only on brown separate (plate 535). Label on black separate (plate 514).
85	PIT	 Sandpit 	Lineweight .003" Overall length .10" Triangle .03" x .03" x .03" Angle 90°	Use when pit is less than .50" in shortest dimension at map scale. If pit is .50" or wider, show with brown tint only on brown separate (plate 535). Label on black separate (plate 514) as appropriate.
86	OIL SUMP SLUDGE PIT	 Oil Sump	Outline lineweight .003"	Show USGS 17 fill on black separate (plate 517). Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
TRANSMISSION LINES, PIPELINES, AND RELATED FEATURES				
90	TELEPHONE LINE	<i>TELEPHONE</i> 	Lineweight .005" Dash length .10" Space .02"	Label on black separate (plate 514).
91	POWER TRANSMISSION LINE		Lineweight .003" Dot diameter .017" Spacing of dots .20"	
92	POWER SUBSTATION	■ Substation 	Lineweight .003" Dash length .04" Space .02"	Minimum symbol size .02" x .02". Show dashed outline to scale if feature is larger than .06" x .06". Show buildings within outline. Label on black separate (plate 514).
93	ABOVEGROUND PIPELINE	<i>ABOVEGROUND PIPELINE</i> 	Lineweight .005"	Label on black separate (plate 514).
94	UNDERGROUND PIPELINE	<i>PIPELINE</i> 	Lineweight .005" Dash length .10" Space .02"	Label on black separate (plate 514). Show submerged pipeline on topographic-bathymetric maps on black separate (plate 516).
95	SKI LIFT TRAMWAYCABLEWAY MONORAIL CONVEYOR	<i>CABLEWAY TRAMWAY</i> 	Lineweight .005" Dash length .10" Space .02"	Label on black separate (plate 514).
176	ELEVATED PIPELINE	<i>ELEVATED</i> 	Lineweight .005" Wing tick lineweight .003" Wing tick length .023" Wing tick angle 45°	Label on black separate (plate 514) when length permits.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

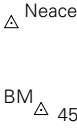



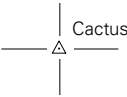
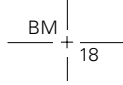






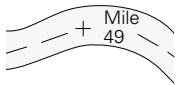




NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CONTROL DATA AND MONUMENTS				
99	HORIZONTAL CONTROL STATION (THIRD ORDER OR BETTER, PERMANENT MARK) WITH THIRD ORDER OR BETTER ELEVATION WITH CHECKED SPOT ELEVATION	 	Lineweight .003" Triangle side .07" Dot diameter .006"	Label on black separate (plate 514). On single edition quadrangles, add "(HARN)" to identify HARN stations.
100	VERTICAL CONTROL STATION (THIRD ORDER OR BETTER ELEVATION) WITH TABLET RECOVERABLE MARK, NO TABLET	 	Lineweight .003" Length .10" Angle 90°	Label on black separate (plate 514).
101	HORIZONTAL CONTROL STATION (COINCIDENT WITH FOUND SECTION CORNER)		Lineweight .003" Triangle side .07" Dot diameter .006"	Show triangle and omit corner. Align land lines with dot, spaced .033" from triangle. If in highway, break fill .02" from symbol. Label on black separate (plate 514).
102	BENCH MARK (COINCIDENT WITH FOUND SECTION CORNER)			Show section corner on red separate (plate 523). If in highway, break fill .02" from symbol. Label on black separate (plate 514).
104	BOUNDARY MONUMENT WITH THIRD ORDER OR BETTER ELEVATION WITH TABLET WITHOUT TABLET	 	Lineweight .003" Square .04" x .04" Dot diameter .006"	Orient symbol so that two sides are parallel to the south projection line. Label on black separate (plate 514).

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CONTROL DATA AND MONUMENTS				
105	REFERENCE MONUMENT		Lineweight .003" Square .04" x .04" Dot diameter .006"	
106	U.S. MINERAL OR LOCATION MONUMENT		Show solid triangle Base .06" Height .04"	Label "USMM" or "USLM" and number on black separate (plate 514).
107	BOUNDARY MONUMENT WITH NUMBER AND ELEVATION		Lineweight .003" Square .04" x .04" Dot diameter .006"	Orient symbol so that two sides are parallel to the south projection line. Label on black separate (plate 514).
108	SPOT ELEVATION		Lineweight .003" Length .06" Angles 90°	Use this symbol when there is no obvious identifiable feature. Label on black separate (plate 514).
109	RIVER MILEAGE MARKER		Lineweight .003" Length .08" Angles 90°	Orient symbol so that one axis is parallel to the south projection line. Break boundaries .02" from symbol. Show mileage on black separate (plate 514).
OTHER FEATURES				
112	CORRAL FEEDLOT STOCKYARD	 	Lineweight .003" Dash length .04" Space .02"	Minimum symbol size .04" x .04". Show dashed outline to scale if feature is larger than .06" x .06". Label on black separate (plate 514).
113	GAGING STATION TIDE STATION	 	Lineweight .003" Circle diameter .05" Show NW and SE sections solid	Divide into four equal sections. Show coincident gaging stations and bench marks. Label on black separate (plate 514). If Florida provides information, add "(Site)" for former tidal stations and station number for all tidal stations.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK








NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
OTHER FEATURES				
165*	FOREST HEADQUARTERS	 Forest Supervisor's Office	Height .275" Width .2" FS font 100.A	Label on black separate (plate 514).
166*	RANGER DISTRICT OFFICE	 Fish Lake	Height .15" Width .10" FS font 100.B	Show Ranger District name: on black separate (plate 514). Do not name if coincident with Forest Supervisor's office.
167*	GUARD STATION WORK CENTER	 Work Center	Height .15" Width .10" FS font 100.C.	Label on black separate (plate 514).
168*	SEAPLANE BASE SEAPLANE ANCHORAGE	 Sky Lake 	Circle .125" diameter FS font 100.b and 100.c.	Use circle for civil installations with docks, fuel, and other facilities. Do not use circle for anchorage without onsite facilities. Name on black separate (plate 514).
RECREATION AREAS AND FEATURES				
116	ROADSIDE PARK PICNIC AREA (REST SITE)	 Rest Area	Lineweight .003" Top length .05" Leg length .025" Legs angle 60°	Use symbol for rest sites < .01 sq. in. Label on black separate (plate 514). For parks not at roadside that are picnic areas, use symbol 522.2.
117	RECREATIONAL SLIDE	 Recreational Slide	Lineweight .005"	Label on black separate (plate 514).

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CEMETERIES				
120	SMALL CEMETERY		Lineweight .003" Dash length .04" Space .02"	Minimum symbol size .04" x .04". Show dashed outline to scale if feature is larger than .06" x .06". If space permits, place name or label inside boundary. Name/label on black separate (plate 514).
124	LARGE CEMETERY		Outline lineweight .003" Dash length .04" Space .02"	Use this symbol for cemeteries larger than .10" x .10" at map scale. If space permits, place name or label inside boundary. Name/label on black separate (plate 514).
BOUNDARIES				
123	NATIONAL BOUNDARY		Lineweight .016" Dash lengths .25" and .07" Space .033"	
124	STATE BOUNDARY TERRITORIAL BOUNDARY		Lineweight .012" Dash lengths .25" and .07" Space .033"	
125	COUNTY BOUNDARY PARISH BOUNDARY ALASKA BOROUGH BOUNDARY MUNICIPIO BOUNDARY JUDICIAL DIVISION BOUNDARY		Lineweight .010" Dash lengths .25" and .07" Space .033"	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **512** Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: **1-BLACK**


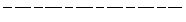
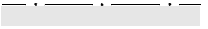
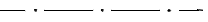


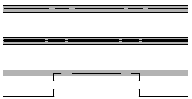
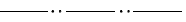
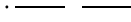

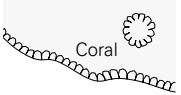




NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BOUNDARIES				
126	CIVIL TOWNSHIP BOUNDARY TOWN BOUNDARY DISTRICT BOUNDARY PRECINCT BOUNDARY BARRIO BOUNDARY		Lineweight .007" Dash length .17" Space .033"	

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: 1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BOUNDARIES				
127	INCORPORATED CITY, TOWN, VILLAGE, BOROUGH, OR HAMLET BOUNDARY		Lineweight .007" Dash lengths .08" and .04" Space .02"	
170	FEDERALLY ADMINISTERED AREA BOUNDARY		Lineweight .007" Dash Length .25" Space .10" Dot diameter .01" Center dot in .10" space	Name/label area on black separate (plate 514). Show Federal area boundary enhancement on red separate (plate 527).
128	STATE FOREST, MONUMENT, PARK, OR RESERVATION BOUNDARY LARGE COUNTY PARK BOUNDARY HAWAII FOREST RESERVE BOUNDARY HAWAII HOMESTEAD BOUNDARY		Lineweight .007" Dash length .25" Space .10" Dot diameter .01" Center dot in .10" space	Name/label on black separate (plate 514).
129	SMALL COUNTY PARK BOUNDARY CITY PARK BOUNDARY		Lineweight .003" Dash length .04" Space .02"	Show public and private golf courses by label only. Label on black separate (plate 514).
130	INDEFINITE BOUNDARY			Use half the normal lineweight for county and higher order boundaries. Use normal lineweight for all others. Label on black separate (plate 514).
131	BOUNDARY IN ROAD		Lineweight .003"	Do not reduce lineweight of boundary in divider or median strip.
171*	FOREST SERVICE ADMINISTRATIVE AREA BOUNDARY		Lineweight .005" Dash length .25" Dot diameter .008" Dash spacing .10"	Space dots evenly between dashes. Name/label area on black separate (plate 514).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BOUNDARIES				
172*	FOREST SERVICE RANGER DISTRICT BOUNDARY		Line weight .005" Dash length .25" Dot diameter .008" Space .10" Center dot in .10" space Place one dot for every two dashes.	Name/label line on black separate (plate 514).
173*	NATIONAL FOREST SYSTEM LAND STATUS OUTLINE		Lineweight .005"	Show tint for non-Forest Service lands on plate 515A.
FORESHORE AND OFFSHORE FEATURES (Topographic Maps)				
135	ROCK REEF CORAL REEF		Lineweight .003" Height of scallop .023" Width of scallop from leg to leg .045"	Show limits as shown. Show fill on black separate (plate 517). Label on black separate (plate 514). See "Bathymetric Features" on this plate for rock or coral reef on topographic-bathymetric maps.
136	ROCK, BARE OR AWASH (DANGEROUS TO NAVIGATION)		Lineweight .003" Length .05" Angles 60° Dot diameter .008" Dot spacing .017"	
137	ROCK, BARE OR AWASH		Lineweight .003" Length .05" Angles 60°	See "Bathymetric Features" on this plate for rocks on topographic-bathymetric maps.
138	GROUP OF ROCKS, BARE OR AWASH		Lineweight .003" Length .05" Angles 60° Dot diameter .008" Dot spacing .017"	See "Bathymetric Features" on this plate for rocks on topographic-bathymetric maps.
139	EXPOSED WRECK		Lineweight .003" Water line .120" Circle diameter .025" Mast .05" Show solid hull .10" x .037"	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
Part 5: Publication Symbols

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK


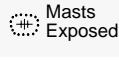



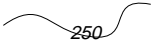
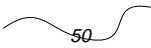
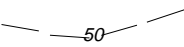
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
FORESHORE AND OFFSHORE FEATURES (Topographic Maps)				
140	EXPOSED WRECKAGE		Dot diameter .008" Dot spacing .017"	Label on black separate (plate 514).
141	MASTS EXPOSED OR SUNKEN WRECK		Lineweight .003" Length .08" Cross ticks .033" and .05" Tick spacing .017" Dot diameter .008" Dot spacing .017"	Label on black separate (plate 514).
142	SHOAL		Dot diameter .008" Dot spacing .017"	Label on black separate (plate 514).
143	AREA LIMITS		Lineweight .003" Dash length .10" Space .02"	Use for areas continuous from shore. Label on black separate (plate 514).
144	PLATFORM			Minimum symbol size .02" x .02". Platforms larger than .02" x .02" at map scale show to scale. Name/label on black separate (plate 514A).
BATHYMETRIC CONTOURS (Topographic/Bathymetric Maps)				
147	INDEX PRIMARY CONTOUR		Lineweight .010"	Label on black separate (plate 514). Do not break contour for contour value.
148	PRIMARY CONTOUR		Lineweight .004"	Label on black separate (plate 514). Do not break contour for contour value.
149	APPROXIMATE PRIMARY CONTOUR		Dash length .20" Space .06"	Use lineweight of index primary or primary contour. Label on black separate (plate 514). Do not break contour for contour value.

Plate: 512 Feature Separate: MISCELLANEOUS CULTURE AND BATHYMETRY CN: 1-BLACK

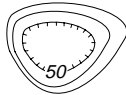
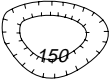
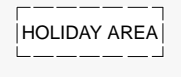



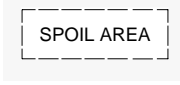



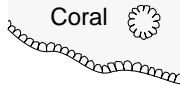
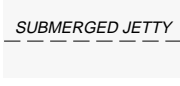
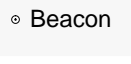
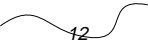
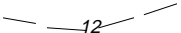
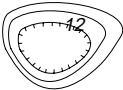

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BATHYMETRIC CONTOURS (Topographic/Bathymetric Maps)				
150	DEPRESSION PRIMARY CONTOUR		Tick lineweight .008" Tick length .015"	Show ticks on bottom contour only. Use lineweight of index primary or primary contour. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference, space ticks .10" apart. Label on black separate (plate 514).
151	RISE PRIMARY CONTOUR (INSIDE DEPRESSION)		Tick lineweight .008" Tick length .015"	Show ticks on bottom contour only. Use lineweight of index primary or primary contour. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference, space ticks .10" apart. Label on black separate (plate 514).
BATHYMETRIC FEATURES (Topographic/Bathymetric Maps)				
153	INADEQUATE SURVEY AREA AND HOLIDAY AREA		Lineweight .007" Dash length .10" Space .02"	Drop water fill inside outline. Retain water fill when area is not outlined. Label type of area on black separate (plate 514).
154	CHANNELS, LESS THAN 100' WIDE		Lineweight .007" Dash length .08" Space .03"	Use for channels less than .05" wide at map scale. Drop water fill inside area. Do not label.
155	CHANNELS 100'-400' WIDE		Lineweight .007" Dash length .16" Space .04"	Use for channels .05"- .20" wide at map scale. Drop water fill inside area. Do not label.
156	CHANNELS OVER 400' WIDE		Lineweight .007" Dash length .24" Space .05"	Use for channels over .20" wide at map scale. Drop water fill inside area. Do not label.

Plate: 512 Feature Separate: **MISCELLANEOUS CULTURE AND BATHYMETRY** CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BATHYMETRIC FEATURES (Topographic/Bathymetric Maps)				
157	SPOIL AREA		Lineweight .007" Dash length .10" Space .02"	Drop water fill inside area. Label on black separate (plate 514).
158	ROCK, BARE OR AWASH		Lineweight .003" Length .05" Angles 60°	See "Foreshore and Offshore Features" on this plate for rocks on topographic maps.
159	GROUP OF ROCKS, BARE OR AWASH		Lineweight .003" Length .05" Angles 60°	See "Foreshore and Offshore Features" on this plate for rocks on topographic maps.
160	SUNKEN ROCKS		Lineweight .003" Cross size .05" x .05" Angles 90°	
161	ROCK REEF CORAL REEF		Lineweight .003" Height of scallop .023" Width of scallop from leg to leg .045"	Show limits as compiled. Show fill on brown separate (plate 535). Label on black separate (plate 514). See "Foreshore and Offshore Features" on this plate for rock and coral reef on topographic maps.
162	SUBMERGED JETTY		Lineweight .008" Dash length .08" Space .04"	Label on black separate (plate 514) if 1.0" or longer.
BATHYMETRIC FEATURES (Topographic Maps)				
163	BEACON		Lineweight .003" Circle diameter .04" Dot diameter .006"	Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **512A** Feature Separate: **BATHYMETRIC SUPPLEMENTARY CONTOURS** CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BATHYMETRIC SUPPLEMENTARY CONTOURS (Topographic/Bathymetric Maps)				
1	SUPPLEMENTARY CONTOUR		Lineweight .006" Screen 30%, 150-line biangle	Label on black separate (plate 514). Do not break contour for contour value.
2	APPROXIMATE SUPPLEMENTARY CONTOUR		Lineweight .006" Dash length .20" Space .06" Screen 30%, 150-line biangle	Label on black separate (plate 514). Do not break contour for contour value.
3	SUPPLEMENTARY DEPRESSION CONTOUR		Lineweight .006" Tick lineweight .008" Tick length .015" Screen 30%, 150-line biangle	Show ticks on bottom contour only. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference, space ticks .10" apart. Label on black separate (plate 514).
4	SUPPLEMENTARY RISE CONTOUR (INSIDE DEPRESSION)		Lineweight .006" Tick lineweight .008" Tick length .015" Screen 30%, 150-line biangle	Show ticks on bottom contour only. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference, space ticks .10" apart. Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **513** Feature Separate: **UTM GRID**

CN: **1-BLACK**


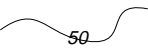
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
UTM GRID				
1	UTM GRID		Lineweight .002"	Show full line grid. 1 000-meter interval. Label on black separate (plate 514).

Plate: **514** Feature Separate: **TYPE FOR INTERIOR AND MARGIN LABELS** CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
INTERIOR NAMES AND LABELS				
1	INTERIOR NAMES AND LABELS	Calvary Ch MADISON CO GIBSON ROAD		Include type for place names, highway and road names, buildings, railways, and other symbols.
2	BATHYMETRIC CONTOUR VALUE			Do not break contour line. Align contour number with contour.
MARGIN TYPE				
3	MARGIN TYPE	38°37'30" 30' 640 000 FEET		Include graticule and grid values; collar and side panel type as shown on style sheet.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

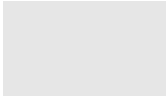

Plate: **514A** Feature Separate: **TYPE FOR CIVIL TOWNSHIPS AND BATHYMETRIC FEATURES CN: 1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CIVIL TOWNSHIP NAMES				
1	CIVIL TOWNSHIP NAME TOWN NAME DISTRICT NAME PRECINCT NAME BARRIO NAME	CHESTER	Screen 50%, 150-line biangle	
BATHYMETRIC FEATURE NAMES				
2	BATHYMETRIC FEATURE NAMES	<i>Pelican Reef</i> <i>Bulk Shoal</i>	Screen 50%, 150-line biangle	Include type for named banks, shoals, ledges, and other submarine features.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **515** Feature Separate: **MISCELLANEOUS FILLS**

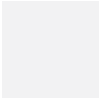
CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BUILT-UP AREA				
1	BUILT-UP AREA		Screen 8%, 120-line at 105°	
MASONRY DAM				
2	MASONRY DAM	 Lufkin Dam	Screen 8%, 120-line at 105°	Show outline on black separate (plate 512). Name on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **515A** Feature Separate: **NON-NATIONAL FOREST SYSTEM LANDS**

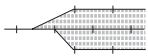
CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
NON-NATIONAL FOREST SYSTEM LANDS				
1*	NON-NATIONAL FOREST SYSTEM LANDS		Screen 5%, 120-line at 45°	Use on privately owned land within areas administered by the Forest Service.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **515B** Feature Separate: **RAILROAD YARD FILL**








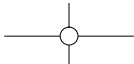
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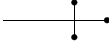
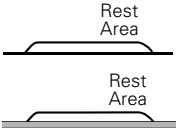
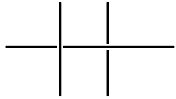
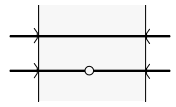
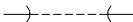
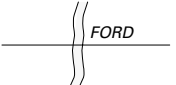

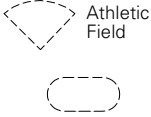
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RAILROAD YARD FILL				
1	RAILROAD YARD FILL		Pattern screen USGS 7C	Show primary line(s) through RAILROAD YARD and the outermost tracks on black separate (plate 512).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **516** Feature Separate: **ROADS AND BATHYMETRIC FEATURES**

CN:1-BLACK

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
ROADS AND RELATED FEATURES				
1	CLASS 3 ROAD		Show to scale Screen 50%, 150-line biangle	Minimum lineweight .015". *For USGS/FS single edition maps use symbols 511.35, 511.36, 511.37, and 511.38 for class 3 roads.
2	CLASS 3 ROAD WITH MEDIAN STRIP		Show to scale Screen 50%, 150-line biangle	Minimum lineweight .015". Do not show median strips .01" or less in width at map scale.
27*	LIGHT-DUTY ROAD FILL PAVED (CLASS 3A)		Screen 50%, 150-line biangle	Show casings (symbol 511.35) on black separate (plate 511).
28*	LIGHT-DUTY ROAD FILL GRAVEL (CLASS 3B)		Dash length .12" Space .06" Screen 50%, 150-line biangle	Show casings (symbol 511.36) on black separate (plate 511).
29*	LIGHT-DUTY ROAD FILL DIRT (CLASS 3C)		Dash length .04" Space .12" Screen 50%, 150-line biangle	Show casings (symbol 511.37) on black separate (plate 511).
4	CLASS 4 ROAD		Lineweight .007" Screen 50%, 150-line biangle	*For USGS/FS single edition maps use symbol 511.39 for class 4 roads.
5	CLASS 5 ROAD (4WD)		Lineweight .007" Screen 50%, 150-line biangle	Label on black separate (plate 514). Show change of road classification on red separate (plate 521). Use symbol 511.41 for trail. *For USGS/FS single edition maps use symbol 511.40 for 4WD roads.
6	TRAFFIC CIRCLE		Show to scale Screen 50%, 150-line biangle	Road width of circle equals width of widest road entering circle. Show circle solid if inner circle diameter is less than .03" at map scale.

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
ROADS AND RELATED FEATURES				
7	CUL-DE-SAC		Dot diameter .03" Screen 50%, 150-line biangle	
9	ROADS IN SERVICE, REST, OR OTHER PULLOFF AREA		Lineweight .015" Screen 50%, 150-line biangle	Label on black separate (plate 514). Use for rest sites >= .01 sq.in. *For USGS/FS single edition maps use symbol 511.43.
10	ROAD UNDERPASS ROAD OVERPASS		Break space .02"	
11	ROAD BRIDGE ROAD DRAWBRIDGE		Screen 50%, 150-line biangle	Show bridge ticks on black separate (plate 511). Name on black separate (plate 514) if of regional significance.
12	ROAD TUNNEL		Lineweight .015" Dash length .04" Space .02" Screen 50%, 150-line biangle	Show wing and cross ticks on black separate (plate 511). Name on black separate (plate 514) if of regional significance.
13	FORD			Feature identified by label only. Label on black separate (plate 514).
15	RACETRACK RACEWAY		Lineweight .020" Show to scale Screen 50%, 150-line biangle	Name/label on black separate (plate 514).
16	ATHLETIC FIELD		Lineweight .008" Dash length .05" Space .02" Screen 50%, 150-line biangle	Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **516** Feature Separate: **ROADS AND BATHYMETRIC FEATURES**

CN:1-BLACK

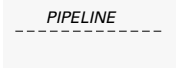
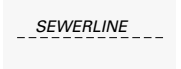

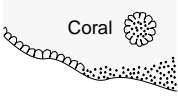

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
OFFSHORE PIPELINES				
23	SUBMERGED PIPELINE		Lineweight .006" Dash length .10" Space .02" Screen 50%, 150-line biangle	Label on black separate (plate 514A).
24	SUBMERGED SEWERLINE		Lineweight .006" Dash length .04" Space .02" Screen 50%, 150-line biangle	Label on black separate (plate 514A). Show on Topographic/Bathymetric maps only.

Plate: **517** Feature Separate: **SAND PATTERN FILL**

CN: **1-BLACK**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
FORESHORE AND OFFSHORE FEATURES (Topographic Maps)				
1	FORESHORE FLAT	 <p>Mud Flat</p>	Pattern screen USGS 17	Label on black separate (plate 514). If topographic-bathymetric map, show fill on brown separate (plate 535) .
2	ROCK REEF CORAL REEF	 <p>Coral</p>	Pattern screen USGS 17	Show sand pattern inside rock or reef limits that uncover. Show limits on black separate (plate 512). Label on black separate (plate 514). If topographic-bathymetric map, show fill on brown separate (plate 535).
OIL SUMPS AND SLUDGE PITS				
4	OIL SUMP SLUDGE PIT	 <p>Oil Sump</p>	Pattern screen USGS 17	Show outline on black separate (plate 512). Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **518** Feature Separate: **NAMED LANDFORMS**

CN: **1-BLACK**



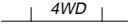
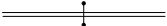
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
NAMED LANDFORMS				
1	FRACTURE	<i>FRACTURE</i> -----	Lineweight .005" Dash length .10" Dash spacing .02"	Name/label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **521**

Feature Separate: **HIGHWAY FILL AND RELATED FEATURES**







CN: **2-RED**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
HIGHWAY FILL AND RELATED FEATURES				
1	CLASS 1 HIGHWAY			Show casings on black separate (plate 511).
2	CLASS 2 HIGHWAY		Dash length .12" Space.12"	Show casings on black separate (plate 511).
4	CHANGE IN ROAD CLASSIFICATION		Lineweight .005" Length .07"	Show symbol at right angle to road.
5*	GATE		Lineweight .005 Dot diameter .017"	Extend tick .03" beyond road casing. Position center of dot at end of tick and centered on line.

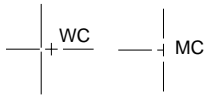

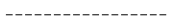
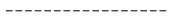
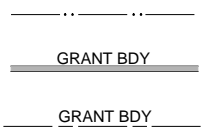


Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **522** Feature Separate: **RECREATION**

CN: **2-RED**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RECREATION				
1	CAMPGROUND	 EASLEY CREEK	Height .17" FS font 102.9	Name on red separate (plate 524) for Forest Service campgrounds only. Non-Forest Service campground names are not labeled. On Single Edition quadrangles, all public campgrounds are labeled with their proper names.
2	PICNIC AREA	 EASLEY RIVER	Height .17" FS font 102.D	Name on red separate (plate 524) for Forest Service picnic areas only. Non-Forest Service picnic areas are not named or labeled.
3*	TRAILHEAD		Height .17" FS font 102.7	
4*	WINTER RECREATION AREA		Height .17" FS font 102.I	
5*	SCENIC-BYWAY		Height .17" FS font 102.S	
6*	TRAIL, NATIONAL SCENIC, RECREATION, OR HISTORIC		Lineweight .008" Dash .05" Space .02"	Name on red separate (plate 524).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
PUBLIC LAND SURVEY SYSTEM				
1	TOWNSHIP OR RANGE LINE , DEFINITE	BASE LINE —————	Lineweight .010"	Label base line and name principal meridian on red separate (plate 524).
2	SECTION LINE, DEFINITE *MILITARY OR WARRANT LOT LINE	1 ————— 12	Lineweight .005"	
3	TOWNSHIP OR RANGE LINE, LOCATION APPROXIMATE	BASE LINE - - - - -	Lineweight .010" Dash length .10" Space .02"	Label base line and name principal meridian on red separate (plate 524).
4	SECTION LINE, LOCATION APPROXIMATE	- - - - -	Lineweight .005" Dash length .10" Space .02"	
18*	TOWNSHIP OR RANGE LINE, LOCATION DOUBTFUL	- - - - -	Lineweight .010" Dash length .10" Space .14"	
19*	SECTION LINE, LOCATION DOUBTFUL	- - - - -	Lineweight .005" Dash length .10" Space .14"	
5	FOUND SECTION CORNER	+ —+— 	Lineweight .010" Dash length .06" Space .033"	
6	FOUND CLOSING CORNER	—T— 	Lineweight .010" Dash length .06" Space .033"	

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
PUBLIC LAND SURVEY SYSTEM				
7	WITNESS CORNER MEANDER CORNER		Lineweight .010" Dash length .06" Space .033"	Label on black separate (plate 514).
20*	"WEAK" CORNER		Lineweight .005" Dash length .06" Space .033"	
16	PROTRACTED TOWNSHIP AND RANGE LINES		Lineweight .010" Dash length .03" Space .02"	Label base line and name principal meridian on red separate (plate 524).
17	PROTRACTED SECTION LINES		Lineweight .005" Dash length .03" Space .02"	
OTHER LAND LINES				
10	LAND GRANT LINE MINING CLAIM DONATION LAND CLAIM TRACT		Lineweight .005" Dash length .25" Dot diameter .008" Dash/dot spacing .033"	Show complete when coincident with single line stream. Show in road only if needed to clarify. If road carries red fill, label on red separate (plate 524), and omit boundary. When coincident with higher order boundary, label on red separate (plate 524) and omit grant line symbol.
11	LAND GRANT, HOMESTEAD, MINERAL, AND OTHER SPECIAL SURVEY MONUMENTS, WITH OR WITHOUT GEODETIC POSITION		Lineweight .003" Sides .04" Dot diameter .006"	Orient symbol so that two sides are parallel to the south projection line.
12	OTHER LAND SURVEYS: TOWNSHIP AND RANGE LINES		Dot diameter .012" Dot spacing .024" (Dot pattern USGS 31)	Dot spacing 0.03" center to center

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols







Plate: **523** Feature Separate: **LAND NET**

CN:2-RED


NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
OTHER LAND LINES				
13	OTHER LAND SURVEYS: SECTION LINES	Dot diameter .006" Dot spacing .018"	
14	OLD INDIAN TREATY LINE OLD INDIAN RESERVATION BOUNDARY	<div style="text-align: center;"> OLD INDIAN RES BDY ----- </div>	Lineweight .005" Dash length .25" Dot diameter .008" Dash/dot spacing .033"	Label on red separate (plate 524).
15	FENCE LINE FIELD LINE	-----	Lineweight .003" Dash length .10" Space .02"	

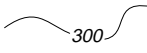
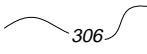
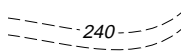

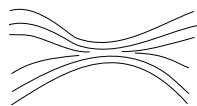



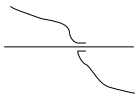
Plate: **524** Feature Separate: **TYPE FOR HIGHWAYS, ROADS,
 LAND NET, AND RECREATION**

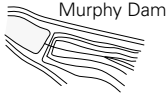
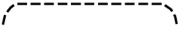
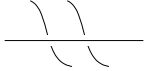




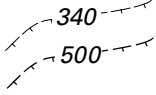
CN: **2-RED**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
HIGHWAY AND ROAD ROUTE MARKERS				
1	HIGHWAY AND ROAD ROUTE MARKERS		Interstate route U.S. route State route	Orient symbol so that the number is parallel to the south projection line.
3	ONE-WAY ARROW		Lineweight .005" Arrow length .10" Arrow width .050" Overall length .20"	Not used for divided highways.
4*	COUNTY OR SECONDARY STATE		Lineweight .008" Width at maximum extent .20" Height at maximum extent .20"	Orient symbol so that the number is parallel to the south projection line.
5*	NATIONAL FOREST, PRIMARY, SUITABLE FOR PASSENGER CARS		Lineweight .008" Width at maximum extent .20" Height .20"	Orient symbol so that the number is parallel to the south projection line. Symbol may be enlarged as necessary to accommodate 8-point type when used.
6*	NATIONAL FOREST, SECONDARY, SUITABLE FOR PASSENGER CARS		Lineweight .008" Width .25" Height .10"	Orient symbol so that the number is parallel to the south projection line. Box width may be enlarged to accommodate longer numbers.
7*	NATIONAL FOREST, SUITABLE FOR HIGH CLEARANCE VEHICLES		Lineweight .008" Width .06" Height .30"	Orient symbol so that the number is perpendicular to the south projection line. Box may be lengthened to accommodate route number.
8*	FOREST SERVICE TRAIL NUMBER	384		Orient number parallel to trail.
9*	TRAIL, NATIONAL SCENIC, RECREATIONAL, OR HISTORIC ROUTE	<i>PACIFIC CREST N S T</i>		

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
LAND NET NAMES AND LABELS				
2	LAND NET NAMES AND LABELS	23	T 13 N R 8 W	Include names and labels for public land survey system and other land net base lines, land grants, principal meridians, townships, and section numbers.
RECREATION NAMES				
10*	FOREST SERVICE CAMPGROUND OR PICNIC AREA NAMES	EASLEY CREEK		
11*	SCENIC BYWAY NAME	<i>NEBO LOOP SCENIC BYWAY</i>		Include names and labels for scenic byways.

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BOUNDARY ENHANCEMENT				
1	FEDERALLY ADMINISTERED AREAS BOUNDARY ENHANCEMENT		<p>Enhancement for exterior boundaries of federally administered areas width .10"</p> <p>Enhancement for interior boundaries of federally administered areas width .05"</p> <p>Enhancement for National Forest System land status outline width .10"</p> <p>Screen 20%, 150-line biangle</p>	<p>Show boundary line on black separate (plate 512). Place enhancement for exterior boundaries on side of Federal ownership. Center enhancement on boundary line for adjoining, subordinate, or overlapping Federally administered areas. Enhancement is continued when the reservation boundary line is suppressed due to coincidence with a higher order boundary.</p>



NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CONTOURS AND RELATED FEATURES				
1	INDEX CONTOUR		Lineweight .007"	Label on brown separate (plate 536). Align contour number with contour.
2	INTERMEDIATE CONTOUR		Lineweight .003"	Label on brown separate (plate 536). Align contour number with contour.
3	APPROXIMATE CONTOUR INDEFINITE CONTOUR		Dash length .07" Space .02"	Use lineweight of index or intermediate contour as appropriate. Label on brown separate (plate 536). Align contour number with contour.
25	OBSOLETE CONTOUR		Lineweight .003" Dash length .05" Space .02"	Use lineweight of index or intermediate contour as appropriate. Label on brown separate (plate 536). Align contour number with contour. Limited Update mapping only.
4	FEATHERING-OUT TREATMENT			Delete intermediate contours; feather ends. Space remaining contours evenly; maintain at least .005" space between contours.
5	CARRYING CONTOUR		Lineweight .007" if index contour is carried Lineweight .003" if only intermediate contours are carried	Show at cliffs, embankments, and similar features where contours merge.
6	DEPRESSION CONTOUR		Tick lineweight .003" Tick length .02" Tick spacing .12"	Use lineweight of index or intermediate contour as appropriate. Decrease spacing of ticks for small depressions.
7	ADJACENT DEPRESSION CONTOUR		Tick lineweight .003" Tick length .02" Tick spacing .04"	Tick spacing .04" on lowest contour. Increase space to .08" on succeeding contour. Use .12" space on all others.
8	CONTOURS AT DITCHES AND CANALS			On low gradient ditches and canals, turn contours upstream .08" and end.

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CONTOURS AND RELATED FEATURES				
9	LARGE EARTH DAM LARGE LEVEE			Show with contours when exaggeration is not necessary. Show masonry portion, if any, on black separate (plate 512) and break contours at masonry portion. Name/label on black separate (plate 514).
17	EARTHEN DAM OUTLINE		Lineweight .012" Dash Length .07" Space .02"	Shown when contours are not revised for new dams. Drop symbol where coincident with shorelines. Delete contours from inside the outlined area.
10	CONTOURS AT LEVEE OR SPOIL BANK		Break space .005"	
11	LEVEE DIKE DIVERSION DAM		Lineweight .015"	Use when levee is too small to be shown with contours. Label "LEVEE" as appropriate on black separate (plate 514).
12	LEVEE WITH ROAD OR RAILROAD		Lineweight .006"	Show line on both sides of road or railroad when space permits. Otherwise label "ROAD ON LEVEE" or "RAILROAD ON LEVEE" on black separate (plate 514).
13	SPOIL BANK		Lineweight .012" Dash length .07" Space .02"	
16	CONTINENTAL DIVIDE TENNESSEE VALLEY DIVIDE		Lineweight .012" Dash length .40" Space .10"	Name on black separate (plate 514).
26	INDEFINITE DEPRESSION CONTOUR		Lineweight .007" or .003" Tick lineweight .003" Tick length .02" Dash length .10" Dash spacing .02"	Use lineweight of index or intermediate contour. Label on brown separate (plate 536). Align contour number with contour.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **532** Feature Separate: **CONTOURS**

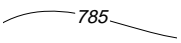

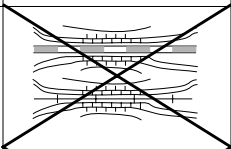
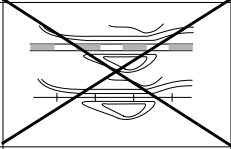
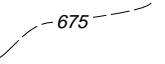
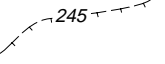
CN: **3-BROWN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
TAILINGS PONDS AND LAVA FLOWS				
22	TAILINGS POND SHORELINE		Lineweight .004" Dash length .07" Space .02"	Show fill on brown separate (plate 538). Label on black separate (plate 514).
24	LAVA FLOW OUTLINE		Lineweight .005" Dash length .10" Space .02"	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: 533 Feature Separate: **SUPPLEMENTARY CONTOURS**







CN: 3-BROWN


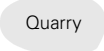
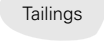
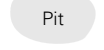
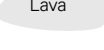
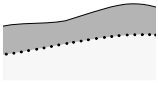
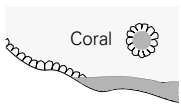
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
SUPPLEMENTARY CONTOURS				
1	SUPPLEMENTARY CONTOUR		Lineweight .005" Screen 30%, 150-line biangle	Label on brown separate (plate 536). Align contour number with contour.
2	SUPPLEMENTARY DEPRESSION CONTOUR		Lineweight .005" Tick lineweight .003" Tick length .02" Tick spacing .12" Screen 30%, 150-line biangle	Decrease tick spacing for small depressions. Adjust tick spacing when included with other depression contours. Label on brown separate (plate 536). Align contour number with contour.
3	SUPPLEMENTARY CONTOURS AT ROAD OR RAILROAD FILL		Lineweight .005" Tick lineweight .003" Tick length .02" Space .05" Screen 30%, 150-line biangle	Plot contours in correct position. Space .005" from road or railroad (line).
4	SUPPLEMENTARY CONTOURS AT ROAD OR RAILROAD CUT		Lineweight .005" Screen 30%, 150-line biangle	Plot contours in correct position. Space .005" from road or railroad (line).
5	SUPPLEMENTARY INDEFINITE CONTOUR		Lineweight .005" Dash length 0.1" Space .02" Screen 30%, 150-line biangle	Label on brown separate (plate 536). Align contour number with contour.
6	SUPPLEMENTARY INDEFINITE DEPRESSION CONTOUR		Lineweight .005" Dash length 0.1" Space .02" Tick lineweight .003" Tick length .02" Screen 30%, 150-line biangle	Label on brown separate (plate 536). Align contour number with contour.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **534** Feature Separate: **SAND**

CN: **3-BROWN**


NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
SAND				
1	SAND		Pattern screen USGS 17	Minimum size .63" in shortest dimension at map scale.
2	SAND DUNES		Pattern screen USGS 17	Label on black separate (plate 514).
3	WIDE WASH		Pattern screen USGS 17	Use for washes exceeding .025" in width at map scale. Show washes less than .025" wide on blue separate (plate 541).
4	SAND IN OPEN WATER		Pattern screen USGS 17	Use in areas other than tidal waters.
5	DRY LAKE DRY POND		Pattern screen USGS 17	Show outline on blue separate (plate 541).
6	MUD FLAT		Pattern screen USGS 17	Playa type flats only. Label on black separate (plate 514).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
MINES, PITS, AND LAVA FLOWS				
1	STRIP MINE		Screen 13%, 120-line at 105°	Label on black separate (plate 514).
3	QUARRY OPEN PIT MINE		Screen 13%, 120-line at 105°	Show tint if greater than .50". Use symbol 512.84 if less than .50". Label on black separate (plate 514).
4	TAILINGS MINE DUMP		Screen 13%, 120-line at 105°	Minimum size .50" in shortest dimension. Label on black separate (plate 514).
5	PIT		Screen 13%, 120-line at 105°	Show tint if greater than .50". Use symbol 512.85 if less than .50". Label on black separate (plate 514).
6	LAVA		Screen 13%, 120-line at 105°	Minimum size .50" in shortest dimension. Label on black separate (plate 514). Do not show tint on lava or lava flows in Hawaii.
INTERTIDAL ZONE (Topographic/Bathymetric Maps)				
10	AREA BETWEEN SHORELINE AND SOUNDING DATUM LINE		Screen 13%, 120-line at 105°	Show on topographic-bathymetric maps only. Show shoreline and sounding datum line on blue separate (plate 541).
REEF FILL (Topographic/Bathymetric Maps)				
11	ROCK REEF CORAL REEF		Screen 13%, 120-line at 105°	Use for reefs that uncover at sounding datum on topographic-bathymetric maps. See symbol 512.135 for symbol limits. Label on black separate (plate 514). Use fill on black separate (plate 517) for topographic maps.

→ Plate: **535A**

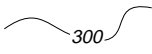
Feature Separate: **FORMER DISPOSAL SITES AND MINES**

CN: **3-BROWN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
FORMER DISPOSAL SITES AND MINES				
1	FORMER MINE FORMER MINE DUMP FORMER PIT FORMER QUARRY FORMER TAILINGS		Screen 8%, 120-line at 105°	Label on black separate (plate 514). Use for reclaimed, reverted, and converted mining features.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols



Plate: **536** Feature Separate: **TYPE FOR CONTOUR VALUES AND QUADRANGLE NAME** CN: **3-BROWN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CONTOUR VALUES				
1	CONTOUR VALUE			Include values for supplementary contours. Mask contours for labels. Align contour number with contour.
QUADRANGLE NAME				
2	QUADRANGLE NAME (TITLE PANEL)			Only applies to 7.5- x 15-minute folded maps.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **537** Feature Separate: **GRAVEL BEACH AND GLACIAL MORaine**


CN: **3-BROWN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRAVEL BEACH AND GLACIAL MORaine				
1	GRAVEL BEACH		Pattern screen USGS 22	Show only along tidal waters.
2	GLACIAL MORaine		Pattern screen USGS 22	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **538** Feature Separate: **TAILINGS POND FILL**


CN: **3-BROWN**









NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
TAILINGS POND FILL				
1	TAILINGS POND		Pattern screen USGS 19B	Show outline on brown separate (plate 532). Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **539** Feature Separate: **GLACIAL RETREAT**

CN: **3-BROWN**



NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GLACIAL RETREAT				
1	GLACIAL RETREAT		USGS 21C	Shown in area between old dashed line of glacier extent and new receded line of extent. Do not delete blue or brown contours.


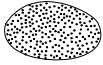
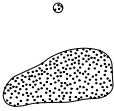
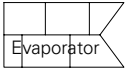

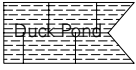
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
STREAMS AND SHORELINES				
1	SHORELINE		Lineweight .008"	
2	APPARENT SHORELINE		Lineweight .004"	Show on topographic-bathymetric maps only when apparent shoreline has been provided on NOS compilation.
3	INDEFINITE SHORELINE UNSURVEYED SHORELINE		Lineweight .004" Dash length .07" Space .02"	
4	SINGLE-LINE PERENNIAL STREAM		Lineweight .008"	
5	DOUBLE-LINE PERENNIAL STREAM		Lineweight .008" Arrow lineweight .005" Arrow length .1" Arrow width .05" Overall arrow length .2"	Minimum symbol width .025". Add arrow when needed to clarify direction of flow. Show fill on blue separate (plate 545).
6	BRAIDED STREAM		Outer stream lineweight .008" Inner stream lineweight .004"	
7	SINGLE-LINE INTERMITTENT STREAM		Lineweight .004"	
8	DOUBLE-LINE INTERMITTENT STREAM		Lineweight .004" Arrow lineweight .005" Arrow length .1" Arrow width .05" Overall arrow length .2"	Minimum symbol width .025". Add arrow when needed to indicate direction of flow. Show fill on blue separate (plate 547).






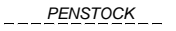

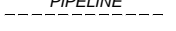
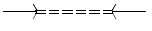
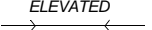
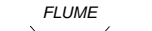
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
STREAMS AND SHORELINES				
10	UNSURVEYED PERENNIAL STREAM INDEFINITE PERENNIAL STREAM		Lineweight .008" Dash length .07" Space .02"	Minimum width .025" for double line stream.
11	UNSURVEYED INTERMITTENT STREAM INDEFINITE INTERMITTENT STREAM		Lineweight .004" Dash length .07" Space .02"	Minimum width .025" for double line stream.
12	PERENNIAL STREAM DISAPPEARING OR REAPPEARING AT SINK		Lineweight .008" Length of side of "V" .04"	Use 90° angle for single line streams. Point ticks 135° away from headline on double line streams.
13	NARROW WASH		Lineweight .004"	Show on brown separate (plate 534) when wider than .025".
14	PERMANENT CHANNEL IN WASH			Show as perennial or intermittent stream.
15	CHANNEL IN WATER AREA SUBMERGED STREAM		Lineweight .004" Dash length .07" Space .02"	Minimum symbol width .025". Close where double line ends. Leave open at dams. Label on blue separate (plate 542).
16	AIRBOAT TRAIL		Lineweight .008" Dash length .05" Space .02"	Label on blue separate (plate 542).
65	SEAPLANE LANDING AREA		Lineweight .004" Dash length .07" Space .02"	Label "SEAPLANE LANDING AREA" on blue separate (plate 542).
17	CAROLINA BAY		Lineweight .008" Dash length .07" Space .02"	

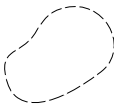


Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

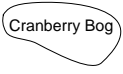
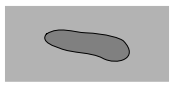
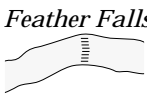


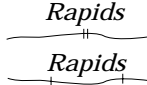
Plate: **541** Feature Separate: **DRAINAGE AND BATHYMETRIC CONTOURS** CN:**4-BLUE**

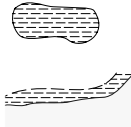
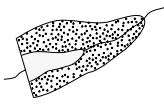
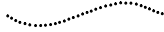
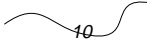
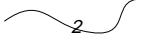
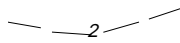
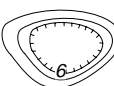
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
LAKES AND PONDS				
23	PERENNIAL LAKE OR POND PERENNIAL SALT LAKE OR POND	 	Circle diameter .03" Lineweight .004" Lineweight .008"	If shortest axis is less than .025" at map scale, show by minimum symbol. Include earthen features. Show fill on blue separate (plate 545). Label if salt on blue separate (plate 542).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
LAKES AND PONDS				
24	RESERVOIR SHORELINE	<i>Feather Reservoir</i> 	Lineweight .008"	Show fill on blue separate (plate 545). Name/label on blue separate (plate 542).
25	DRY LAKE DRY POND		Lineweight .004"	Show fill on brown separate (plate 534).
26	INTERMITTENT LAKE INTERMITTENT POND		Circle diameter .03" Lineweight .004" Lineweight .004"	If shortest axis is less than .025", show with minimum symbol. Show fill on blue separate (plate 547).
27	EVAPORATOR		Lineweight .004"	Show major separations. Label on black separate (plate 514).
28	SALT FLAT		Lineweight .004"	Label on black separate (plate 514).
29	DUCK POND		Lineweight .004"	Show major separations. Show fill on blue separate (plate 546). Label on black separate (plate 514).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CANALS AND AQUEDUCTS				
31	DOUBLE-LINE CANAL/DITCH AQUEDUCT PENSTOCK ABOVEGROUND WATER PIPELINE	   	Lineweight .008"	Minimum symbol width .025" for double line. Show fill on blue separate (plate 545). Name canal/ditch and label aqueduct, penstock, and aboveground pipeline on blue separate (plate 542). Use symbol for features at or near surface.
33	SINGLE-LINE CANAL/DITCH		Lineweight .004"	Name on blue separate (plate 542).
34	UNDERGROUND PENSTOCK UNDERWATER PENSTOCK UNDERGROUND AQUEDUCT UNDERWATER AQUEDUCT UNDERGROUND WATER PIPELINE SUBMERGED WATER PIPELINE	  	Lineweight .008" Dash length .05" Space .02"	Label on blue separate (plate 542). Use symbol for underground or underwater features.
35	AQUEDUCT TUNNEL		Lineweight .004" Overall width .02" Dash length .05" Space .02" Cross tick length .02" Wing tick lineweight .003" Wing tick length .023" Wing tick angle 45°	
36	ELEVATED PIPELINE FLUME	 	Lineweight .008" Wing tick lineweight .003" Wing tick length .023" Wing tick angle 45°	Label on blue separate (plate 542) when length permits.

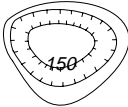
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
WELLS, SPRINGS, AND SIPHONS				
39	WATER WELL	○ Well	Lineweight .004" Circle diameter .04"	Use feature type as label on blue separate (plate 542). If well is an "Flowing Well" on blue separate (plate 542).
	GEYSER			
	FUMAROLE			
	MUD POT			
	GEOHERMAL WELL	○ Geothermal		
40	SPRING	● Spring	Dot diameter .03"	Name/label on blue separate (plate 542).
	SEEP			
41	SIPHON	— SIPHON —	Lineweight .008" Dash length .05" Space .02"	Label on blue separate (plate 542). Omit dashes unless two or more can be shown.
GLACIERS AND PERMANENT SNOWFIELDS				
42	GLACIER (EXTENT OF ICE)		Outline lineweight .005" Dash length .07" Space .02"	See Plate 539 for Glacial Retreat tint. See Plate 541B for Glacial Advance tint.
44	GLACIER OR PERMANENT SNOWFIELD (INDEFINITE CONTOURS)		Contour lineweight .007" and .003" Contour dash length .10" Contour space .02"	
66	GLACIER OR PERMANENT SNOWFIELD (INDEFINITE DEPRESSION CONTOURS)		Contour lineweight .007" and .003" Contour dash length .10" Contour space .02" Tick lineweight .003" Tick length .02"	

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
SUBMERGED AREAS				
49	CRANBERRY BOG		Lineweight .004"	Label on black separate (plate 514).
50	SUBMERGED WOODS			Show water fill on blue separate (plate 545). Show woodland on green separate (plate 552).
RAPIDS AND WATERFALLS				
51	WATERFALL ON WIDE DOUBLE-LINE STREAM		Lineweight .004" Tick length .033" Tick spacing .017"	Use this symbol on double-line streams. Label "Falls" on blue separate (plate 542). Name if important.
52	WATERFALL ON SINGLE-LINE STREAM		Lineweight .008" Tick length .05"	Label on blue separate (plate 542). Name if important.
53	RAPIDS ON DOUBLE-LINE STREAM		Lineweight .004" Tick length .02" to .04" Tick spacing .017" to .033"	Orient ticks parallel to shoreline and space irregularly. Label "Rapids" on blue separate (plate 542). Name if important.
54	RAPIDS ON SINGLE-LINE STREAM		Lineweight .008" Tick length .05" Tick spacing .02"	If extent of rapid is less than .04" in length, symbolize with double tick. If extent of rapid is equal to or greater than .04" in length, symbolize the beginning and end of the rapid with a single tick. Label on blue separate (plate 542). Name if important.

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
LAND SUBJECT TO INUNDATION				
56	LAND SUBJECT TO INUNDATION		Lineweight .004"	Delete contour when coincident. Show fill on blue separate (plate 546). In flat coastal areas where shoreline cannot be located, show indefinite shoreline symbol on blue separate (plate 541) for approximate limit of flooding.
57	AREA TO BE SUBMERGED		Lineweight .008"	Use for areas behind dams under construction. Show fill on blue separate (plate 547).
BATHYMETRIC CONTOURS (Topographic/Bathymetric Maps)				
59	SOUNDING DATUM LINE		Dot diameter .01" Space .01"	
60	INDEX CONTOUR		Lineweight .008"	Label on black separate (plate 514). Align contour number with contour.
61	INTERMEDIATE CONTOUR		Lineweight .004"	Label on black separate (plate 514). Align contour number with contour.
62	APPROXIMATE CONTOUR		Dash length .20" Space .06"	Use lineweight of index or intermediate contour. Label on black separate (plate 514). Align contour number with contour.
63	DEPRESSION CONTOUR		Tick lineweight .008" Tick length .015" Contour lineweight .008" or .004"	Show ticks on bottom contour only. Use lineweight of index or intermediate contour. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference, space ticks .10" apart. Label on black separate (plate 514).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **541** Feature Separate: **DRAINAGE AND BATHYMETRIC CONTOURS** CN:**4-BLUE**



NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BATHYMETRIC CONTOURS (Topographic/Bathymetric Maps)				
64	RISE CONTOUR (INSIDE DEPRESSION)		Tick lineweight .008" Tick length .015" Contour lineweight .008" or .004"	Show ticks on bottom contour only. Use lineweight of index or intermediate contour. On contours up to .50" in circumference, space ticks .04" apart; contours .50"-3.0" in circumference, space ticks .08" apart; contours over 3.0" in circumference space ticks .10" apart. Label on black separate (plate 514). Align contour number with contour.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **541A** Feature Separate: **CREVASSE FIELD**

CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
CREVASSE FIELD				
1	CREVASSE FIELD	Symbol to be determined.	Specification to be determined.	

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
RAPIDS FILL				
1	RAPIDS ON DOUBLE-LINE STREAM		USGS 21C	Overlay rapids pattern with hydrography pattern fill.
GLACIAL ADVANCE				
2	GLACIAL ADVANCE		USGS 21C	Show in area between old dashed line of glacier extent and new advanced line of extent. Do not delete blue or brown contours.

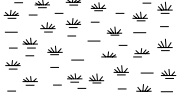



Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **542**

Feature Separate: **TYPE FOR HYDROGRAPHIC FEATURES**

CN: **4-BLUE**


NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
HYDROGRAPHIC FEATURE NAMES AND LABELS				
1	HYDROGRAPHIC FEATURE NAMES AND LABELS	<i>Jones Bog Mill Stream SWAN LAKE</i>		Include names and labels for water surface hydrographic features, depth curves, elevations, and soundings.


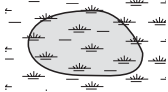



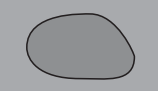
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
MARSH AND SWAMP FILL				
1	MARSH SWAMP		Pattern screen USGS 2	Clear from highways and railroads.
2	SUBMERGED MARSH SUBMERGED SWAMP		Pattern screen USGS 2	Clear from highways and railroads. Show water fill on blue separate (plate 545).
3	WOODED SWAMP		Pattern screen USGS 2	Clear from highways and railroads. Show woodland on green separate (plate 552).
4	SUBMERGED WOODED SWAMP		Pattern screen USGS 2	Clear from highways and railroads. Show shoreline on blue separate (plate 541). Show water fill on blue separate (plate 545). Show woodland on green separate (plate 552).
USGS Note: Marsh and swamp pattern may be shown on plate 541 when expedient.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **544** Feature Separate: **MANGROVE FILL**

CN: **4-BLUE**

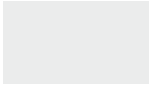
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
MANGROVE FILL				
1	MANGROVE		Pattern screen USGS 25	Show woodland on green separate (plate 552).
USGS Note: Mangrove fill may be shown on plate 541 when expedient.				

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
PERENNIAL WATER FILL				
1	PERENNIAL OPEN WATER AREA		Screen 13%, 120-line at 105°	Show shoreline on blue separate (plate 541).
2	SUBMERGED MARSH SUBMERGED SWAMP		Screen 13%, 120-line at 105°	Show shoreline on blue separate (plate 541). Show swamp fill on blue separate (plate 543).
3	SUBMERGED WOODED SWAMP		Screen 13%, 120-line at 105°	Show shoreline on blue separate (plate 541). Show swamp fill on blue separate (plate 543). Show woodland on green separate (plate 552).
4	SWIMMING POOL MASONRY RESERVOIR FISH HATCHERY SEWAGE DISPOSAL PLANT WATER FILTRATION PLANT		Screen 13%, 120-line at 105°	Show outline on black separate (plate 512).
6	COVERED WATER RESERVOIR		Screen 13%, 120-line at 105°	Show outline and hatching on black separate (plate 512). See symbol 512.62.
7	SUBMERGED WOODS		Screen 13%, 120-line at 105°	Show shoreline on blue separate (plate 541). Show woodland on green separate (plate 552).
USGS Note: All features on this plate are shown on plate 545B on topographic-bathymetric maps.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545A** Feature Separate: **BATHYMETRIC GRADIENT TINT #1**

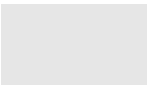
CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #1 (Topographic/Bathymetric Maps)				
1	FIRST WATER TINT		Screen 8%, 120-line at 105°	Show green overprint on green separate (plate 557).
USGS Note: Use 545A only if all seven gradient water tints are shown. If less than seven gradient water tints are shown, then begin the gradient water tints on plate 545B.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545B** Feature Separate: **BATHYMETRIC GRADIENT TINT #2**


CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #2 (Topographic/Bathymetric Maps)				
1	SECOND WATER TINT		Screen 13%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545C** Feature Separate: **BATHYMETRIC GRADIENT TINT #3**


CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #3 (Topographic/Bathymetric Maps)				
1	THIRD WATER TINT		Screen 20%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545D** Feature Separate: **BATHYMETRIC GRADIENT TINT #4**


CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #4 (Topographic/Bathymetric Maps)				
1	FOURTH WATER TINT		Screen 30%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545E** Feature Separate: **BATHYMETRIC GRADIENT TINT #5**


CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #5 (Topographic/Bathymetric Maps)				
1	FIFTH WATER TINT		Screen 40%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545F** Feature Separate: **BATHYMETRIC GRADIENT TINT #6**

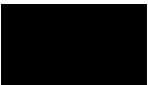
CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #6 (Topographic/Bathymetric Maps)				
1	SIXTH WATER TINT		Screen 50%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **545G** Feature Separate: **BATHYMETRIC GRADIENT TINT #7**

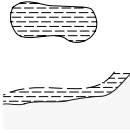
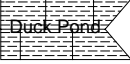
CN: **4-BLUE**


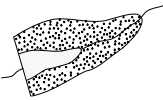

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
GRADIENT TINT #7 (Topographic/Bathymetric Maps)				
1	SEVENTH WATER TINT		Screen 60%, 120-line at 105°	Show green overprint on green separate (plate 557).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **546** Feature Separate: **INUNDATION FILL**

CN: **4-BLUE**

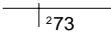
NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
INUNDATION FILL				
1	LAND SUBJECT TO INUNDATION		Pattern screen USGS 19B	Show outline on blue separate (plate 541). In flat coastal areas where shoreline cannot be located, show indefinite shoreline symbol on blue separate (plate 541) for approximate limit of flooding. Break water fill at approximate mean low or mean lower water line.
2	DUCK POND		Pattern screen USGS 19B	Label on black separate (plate 514). Show outline on blue separate (plate 541).

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
INTERMITTENT WATER FILL				
1	INTERMITTENT LAKE INTERMITTENT POND		Pattern screen USGS 8B 17	Show shoreline on blue separate (plate 541).
2	AREA TO BE SUBMERGED		Pattern screen USGS 8B 17	Show shoreline on blue separate (plate 541).
4	DOUBLE-LINE INTERMITTENT STREAM		Pattern screen USGS 8B 17	Show shoreline on blue separate (plate 541).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **549** Feature Separate: **UTM GRID TICK**

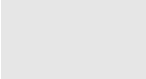



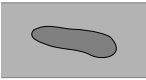
CN: **4-BLUE**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
UTM GRID TICK				
1*	UTM GRID TICK		Lineweight .003" Overall length .12" Inside neatline .02" Outside neatline .10"	1000-meter interval. Label on black separate (plate 514). Substitute for plate 513 on single-edition maps.

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **552** Feature Separate: **WOODS AND MANGROVE**

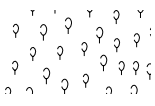
CN :**5-GREEN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
WOODS AND MANGROVE				
1	WOODS		Screen 40%, 120-line at 75°	
2	WOODED SWAMP		Screen 40%, 120-line at 75°	Show swamp fill on blue separate (plate 543).
3	SUBMERGED WOODED SWAMP		Screen 40%, 120-line at 75°	Show shoreline on blue separate (plate 541). Show swamp fill on blue separate (plate 543). Show water fill on blue separate (plate 545).
4	MANGROVE		Screen 40%, 120-line at 75°	Show mangrove fill on blue separate (plate 544).
5	SUBMERGED WOODS		Screen 40%, 120-line at 75°	Show shoreline on blue separate (plate 541). Show water fill on blue separate (plate 545).
USGS Note: Plates 552, 554, 555, and 556 can be prepared as separates, or, when expedient to do so, two or more of the plates can be combined.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **553** Feature Separate: **SCATTERED TREES**

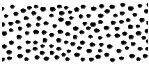
CN: **5-GREEN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
SCATTERED TREES				
1	SCATTERED TREES		Pattern screen AP-44	

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

→ Plate: **554** Feature Separate: **SHRUBLAND**

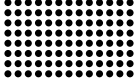
CN: **5-GREEN** ←

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
SHRUBLAND				
1	SHRUBLAND		Pattern screen USGS 20B	
USGS Note: Plates 552, 554, 555, and 556 can be prepared as separates, or, when expedient to do so, two or more of the plates can be combined.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **555** Feature Separate: **ORCHARD**


CN: **5-GREEN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
ORCHARD				
1	ORCHARD		Pattern screen USGS 26B	
USGS Note: Plates 552, 554, 555, and 556 can be prepared as separates, or, when expedient to do so, two or more of the plates can be combined.				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **556** Feature Separate: **VINEYARD**

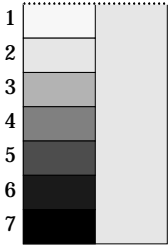
CN: **5-GREEN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
VINEYARD				
1	VINEYARD		Pattern screen USGS 7B	
<p>USGS Note: Plates 552, 554, 555, and 556 can be prepared as separates, or, when expedient to do so, two or more of the plates can be combined.</p>				

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

Plate: **557** Feature Separate: **BATHYMETRIC OVERPRINT**

CN: **5-GREEN**

NO.	FEATURE	SYMBOL	SPECIFICATION	REMARKS
BATHYMETRIC OVERPRINT (TOPOGRAPHIC/BATHYMETRIC MAPS)				
1	WATER TINT		Screen 8%, 120-line at 75°	Use for water areas from chart sounding datum line to maximum depth. Show blue fill on blue separate (plates 545A-545G).

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

-A-

	PLATE	NO.	PAGE
Airboat trail	541	16	5-56
→ Airport	511	31	5-8
→ Apron	511	31	5-8 ←
Aqueduct			
aboveground	541	31	5-58
underground	541	34	5-58
underwater	541	34	5-58
tunnel	541	35	5-58
Archaeological site	512	78	5-15
Area between shoreline and sounding datum line (topographic/bathymetric)	535	10	5-50
Area limits	512	143	5-24
Area to be submerged	541	57	5-61
Area to be submerged (fill)	547	2	5-76
Arrow, one-way	524	3	5-42
→ Athletic field	516	16	5-34 ←

-B-

Bathymetric contour			
approximate	541	62	5-61
depression	541	63	5-61
index	541	60	5-61
intermediate	541	61	5-61
rise, inside depression	541	64	5-62
sounding datum	541	59	5-61
value label	514	2	5-28
Bathymetric contour, primary			
approximate	512	149	5-24
depression	512	150	5-25
index	512	147	5-24
primary	512	148	5-24
rise, inside depression	512	151	5-25
Bathymetric contour, supplementary			
approximate	512A	2	5-27
supplementary	512A	1	5-27
supplementary depression	512A	3	5-27
rise, inside depression	512A	4	5-27
Bathymetric feature names	514A	2	5-29
Bathymetric gradient tint			
first	545A	1	5-68
second	545B	1	5-69
third	545C	1	5-70
fourth	545D	1	5-71
fifth	545E	1	5-72
sixth	545F	1	5-73
seventh	545G	1	5-74
overprint	557	1	5-83

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Battle Trench	512	175	5-14
Beach, gravel	537	1	5-53
Beacon (topographic)	512	163	5-26
Bench mark (coincident with found section corner)	512	102	5-18
Boardwalk	512	71	5-15
Boat access, no ramp*	511	47	5-7
Boat ramp	511	45	5-7
Boundary			
Alaska borough	512	125	5-21
barrio	512	126	5-21a
city park	512	129	5-22
civil township	512	126	5-21a
county	512	125	5-21
county park, large	512	128	5-22
county park, small	512	129	5-22
district	512	126	5-21a
federally administered area	512	170	5-22
Forest Service administrative**	512	171	5-22
Forest Service land status outline*	512	173	5-23
Forest Service ranger district*	512	172	5-23
Hawaii forest reserve	512	128	5-22
Hawaii homestead	512	128	5-22
in road	512	131	5-22
incorporated city, town, village, borough, or hamlet	512	127	5-22
indefinite	512	130	5-22
judicial division	512	125	5-21
municipio	512	125	5-21
national	512	123	5-21
Non-National Forest System Lands*	515A	1	5-31
old Indian reservation	523	14	5-41
old Indian treaty line	523	14	5-41
parish	512	125	5-21
precinct	512	126	5-21a
State	512	124	5-21
State forest, monument, park, or reservation	512	128	5-22
territorial	512	124	5-21
town	512	126	5-21a
Boundary enhancement (federally administered area)	527	1	5-44
Boundary monument			
with number and elevation	512	107	5-19
third order or better elevation, with tablet	512	104	5-18
third order or better elevation, without tablet	512	104	5-18
→ Braided stream	541	6	5-55 ←
Breakwater			
narrow	512	43	5-12
wide	512	44	5-12
Breastworks	512	175	5-14

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Bridge			
highway or road	511	15	5-6
railroad	512	21	5-10
road	516	11	5-34
Building	512	52	5-13
Built-up area	515	1	5-30

-C-

Cableway	512	95	5-17
Campground	522	1	5-38
name*	524	10	5-43
Campsite	512	72	5-15
Canal			
double-line	541	31	5-58
single-line	541	33	5-58
Canal lock	512	38	5-11
Carline	512	14	5-10
Carolina bay	541	17	5-56
Causeway			
narrow	512	43	5-12
wide	512	44	5-12
Cave entrance	512	80	5-16
Cemetery	512	120	5-21
Channel			
in water area	541	15	5-56
less than 100' wide (topographic/bathymetric)	512	154	5-25
100'-400' wide (topographic/bathymetric)	512	155	5-25
over 400' wide (topographic/bathymetric)	512	156	5-25
Cliff dwelling	512	79	5-15
Cog railway	512	24	5-11
Coke ovens	512	70	5-15
→ College	512	56	5-13a
College (for 1:63,360-scale quadrangle maps)	512	180	5-13a ←
Compressor Station	512	67	5-14
Continental Divide	532	16	5-46
Contour			
adjacent depression	532	7	5-45
approximate	532	3	5-45
at ditches and canals	532	8	5-45
at levee or spoil bank	532	10	5-46
bathymetric (see bathymetric contour)			
carrying	532	5	5-45
depression	532	6	5-45
feathering-out treatment	532	4	5-45
glacier or permanent snowfield, indefinite	541	44	5-59
glacier or permanent snowfield, indefinite depression	541	66	5-59
indefinite	532	3	5-45
indefinite depression	532	26	5-46

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Contour - continued			
index	532	1	5-45
intermediate	532	2	5-45
obsolete.	532	25	5-45
supplementary.	533	1	5-48
supplementary depression	533	2	5-48
supplementary indefinite.	533	5	5-48
supplementary indefinite depression.	533	6	5-48
Conveyor	512	95	5-17
Coral			
reef (topographic)	512	135	5-23
reef (topographic) (fill).	517	2	5-36
reef (topographic/bathymetric)	512	161	5-26
reef (topographic/bathymetric) (fill)	535	11	5-50
Corral	512	112	5-19
Cranberry bog	541	49	5-60
Crevasse field	541A	1	5-63
Cul-de-sac*	511	42	5-5
Cul-de-sac	516	7	5-34

-D-

Dam			
carrying road.	512	37	5-11
diversion	532	11	5-46
earthen outline	532	17	5-46
large earth.	532	9	5-46
masonry	512	35	5-11
masonry (fill)	515	2	5-30
with lock	512	36	5-11
Datum shift tick	511	34	5-3
Dike	532	11	5-46
Ditch			
double-line.	541	31	5-58
single-line	541	33	5-58
Diversion dam	532	11	5-46
Donation land claim	523	10	5-40
Drawbridge			
highway or road.	511	15	5-6
railroad	512	21	5-10
road.	516	11	5-34
Drive-in theater	512	68	5-14
Dry lake or pond (fill)	534	5	5-49
Dry lake or pond	541	25	5-57
Drydock	512	49	5-13
Duck pond	541	29	5-57
Duck pond (fill).	546	2	5-75

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

-E-

	PLATE	NO.	PAGE
Evaporator	541	27	5-57

-F-

Federally administered area boundary	512	170	5-22
→ Federally administered area boundary (enhancement)	527	1	5-44 ←
Feedlot	512	112	5-19
Fence line	523	15	5-41
Ferry			
highway or road	511	24	5-7
railroad	512	23	5-11
Field line	523	15	5-41
Fish hatchery	512	61	5-14
Fish hatchery (fill)	545	4	5-67
Fish ladder	512	39	5-11
Flat			
salt	541	28	5-57
foreshore	517	1	5-36
Floodgate	512	40	5-12
Flume	541	36	5-58
Footbridge	511	23	5-7
Ford (on class 3 road)	516	13	5-34
Ford (on unimproved road)*	511	48	5-7
Foreshore flat	517	1	5-36
→ Forest Headquarters*	512	165	5-20 ←
Forest System land status outline*	512	173	5-23
Forest System land status, non-national (fill)*	515A	1	5-31
Found closing corner	523	6	5-39
Found section corner	523	5	5-39
bench mark coincident with	512	102	5-18
Fracture	518	1	5-36a
Fumarole	541	39	5-59

-G-

Gaging station	512	113	5-19
Gate			
flood	512	40	5-12
gate*	521	5	5-37
sluice	512	40	5-12
tide	512	40	5-12
→ toll	511	26	5-7 ←
Geyser	541	39	5-59

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Glacial			
advance.....	541B	2	5-63a
moraine.....	537	2	5-53
retreat.....	539	1	5-54a
Glacier			
extent of ice.....	541	42	5-59
indefinite contours.....	541	44	5-59
indefinite depression contours.....	541	66	5-59
Graticule intersection.....	511	3	5-3
Graticule tick.....	511	2	5-3
Kentucky and Tennessee.....	511	9	5-3
Grave (see Cemetery).....	512	120	5-21
Gravel beach.....	537	1	5-53
Guard station*.....	512	167	5-20

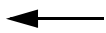
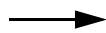
-H-

Helipad.....	511	33	5-8
Helispot*.....	511	46	5-8
Highway			
bridge.....	511	15	5-6
drawbridge.....	511	15	5-6
ferry.....	511	24	5-7
island.....	511	19	5-6
on dam.....	511	20	5-6
overpass.....	511	14	5-5
primary (class 1).....	511	10	5-4
primary (class 1) (fill).....	521	1	5-37
primary (class 1) with median strip.....	511	11	5-4
ramps.....	511	13	5-5
route markers.....	524	1-9	5-42
secondary (class 2).....	511	10	5-4
secondary (class 2) (fill).....	521	2	5-37
secondary (class 2) with median strip.....	511	11	5-4
snowshed.....	511	27	5-7
tunnel with median.....	511	16	5-6
tunnel without median.....	511	16	5-6
under construction, class 1.....	511	12	5-4
underpass.....	511	14	5-5
Holiday area (topographic/bathymetric).....	512	153	5-25
Homestead monument.....	523	11	5-40
Horizontal control station			
coincident with found section corner.....	512	101	5-18
with checked spot elevation.....	512	99	5-18
with third order or better elevation.....	512	99	5-18
House of worship.....	512	55	5-13a
House of worship (for 1:63,360-scale quadrangle maps).....	512	179	5-13a

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
-I-			
Inadequate survey area (topographic/bathymetric)	512	153	5-25
Incline railway	512	24	5-11
Intertidal zone (topographic/bathymetric)	535	10	5-50
-J-			
Jetty			
narrow	512	43	5-12
submerged (topographic/bathymetric)	512	162	5-26
wide	512	44	5-12
-L-			
Labels			
bathymetric contour value	514	2	5-28
contour value	536	1	5-52
county road*	524	4	5-42
highway route marker	524	1	5-42
hydrography feature	542	1	5-64
interior	514	1	5-28
land net	524	2	5-43
margin type	514	3	5-28
National Forest, high clearance vehicles*	524	7	5-42
National Forest, primary road*	524	5	5-42
National Forest, scenic byway*	524	11	5-43
National Forest, secondary road*	524	6	5-42
road route marker	524	1	5-42
trail, national scenic, recreational, or historic route*	524	9	5-42
trail number, Forest Service*	524	8	5-42
Lake			
dry	541	25	5-57
dry (fill)	534	5	5-49
intermittent	541	26	5-57
intermittent (fill)	547	1	5-76
perennial	541	23	5-56a
perennial (fill)	545	1	5-67
perennial salt	541	23	5-56a
perennial salt (fill)	545	1	5-67
Land grant line	523	10	5-40
Land grant monument	523	11	5-40
Land subject to inundation	541	56	5-61
Land subject to inundation (fill)	546	1	5-75
Landing strip			
paved	511	31	5-8
seaplane	541	65	5-56
unpaved	511	30	5-8



Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Landmark object	512	72	5-15
Lava	535	6	5-50
→ Lava flow outline	532	24	5-47 ←
Levee	532	11	5-46
large	532	9	5-46
with road or railroad	532	12	5-46
Located object	512	72	5-15
Location monument	512	106	5-19

-M-

Mangrove	544	1	5-66
Mangrove (fill)	552	4	5-78
Marsh	543	1	5-65
submerged	543	2	5-65
submerged (fill)	545	2	5-67
Masonry			
dam	512	35	5-11
dam (fill)	515	2	5-30
reservoir	512	61	5-14
spillway	512	41	5-12
Meander corner	523	7	5-40
Military or Warrant lot line	523	2	5-39
Mine			
dump	535	4	5-50
entrance	512	80	5-16
former	535A	1	5-51
former dump	535A	1	5-51
open pit	512	84	5-16
open pit (fill)	535	3	5-50
shaft	512	81	5-16
strip	535	1	5-50
Mineral monument	523	11	5-40
Mineral monument, U.S.	512	106	5-19
Mining claim	523	10	5-40
Monorail	512	95	5-17
Mud flat	534	6	5-49
Mud pot	541	39	5-59

-N-

Name			
barrio	514 A	1	5-29
bathymetric feature	514A	2	5-29
campground*	524	10	5-43
civil township	514A	1	5-29
district	514A	1	5-29
hydrographic feature	542	1	5-64
interior	514	1	5-28
land net	524	2	5-43

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

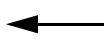
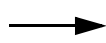
INDEX

	PLATE	NO.	PAGE
Name - continued			
picnic area*	524	10	5-43
precinct	514A	1	5-29
quadrangle (title panel)	536	2	5-52
→ scenic byway*	524	11	5-43 ←
town	514A	1	5-29
Neatline	511	1	5-3
Nonearthen shore	512	50	5-13
-O-			
Oil sump	512	86	5-16
Oil sump (fill)	517	4	5-36
Open pit mine	512	84	5-16
Open pit mine (fill)	535	3	5-50
Open water area, perennial	545	1	5-67
Orchard	555	1	5-81
Overpass			
highway	511	14	5-5
railroad	512	20	5-10
road	516	10	5-34
-P-			
Penstock			
aboveground	541	31	5-58
underground	541	34	5-58
underwater	541	34	5-58
Permanent snowfield			
extent of ice	541	42	5-59
indefinite contours	541	44	5-59
indefinite depression contours	541	66	5-59
Picnic area (rest site)	512	116	5-20
Picnic area	522	2	5-38
name*	524	10	5-43
Pier			
covered	512	45	5-12
narrow	512	43	5-12
narrow, ruin	512	46	5-12
wide	512	44	5-12
wide, ruin	512	47	5-12
Pipeline			
aboveground	512	93	5-17
aboveground water	541	31	5-58
elevated	512	176	5-17
elevated (water)	541	36	5-58
submerged	516	23	5-35
submerged water	541	34	5-58
underground	512	94	5-17

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Pipeline- continued			
underground water	541	34	5-58
Pit	512	85	5-16
former	535A	1	5-51
sludge	512	86	5-16
Pit (fill)	535	5	5-50
sludge (fill).	517	4	5-36
Platform	512	144	5-24
 Pond			
dry	541	25	5-57
dry (fill)	534	5	5-49
duck	541	29	5-57
duck (fill)	546	2	5-75
intermittent	541	26	5-57
intermittent (fill)	547	1	5-76
perennial	541	23	5-56a
perennial (fill).	545	1	5-67
perennial salt.	541	23	5-56a
perennial salt (fill)	545	1	5-67
Power substation	512	92	5-17
Power transmission line	512	91	5-17
Prospect	512	82	5-16
Pulloff area	516	9	5-34
Pulloff area*	511	43	5-6
Pumping station.	512	67	5-14
	-Q-		
Quarry	512	84	5-16
former	535A	1	5-51
Quarry (fill).	535	3	5-50
	-R-		
Racetrack	516	15	5-34
Raceway	516	15	5-34
Railroad			
bridge	512	21	5-10
drawbridge	512	21	5-10
ferry	512	23	5-11
in light-duty road*	512	177	5-9
in street (class 1 and 2 highways).	512	8	5-9
in street (class 3 and 4 roads).	512	9	5-9
narrow gauge, multiple tracks	512	12	5-10
narrow gauge, single track	512	10	5-9
overpass	512	20	5-10
roundhouse	512	16	5-10
siding.	512	7	5-9



Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Railroad - continued			
→ snowshed	512	19	5-10 ←
standard gauge, multiple tracks	512	3	5-9
standard gauge, single track	512	1	5-9
transit, multiple tracks	512	3	5-9
transit, single track	512	1	5-9
tunnel	512	22	5-10
→ turntable	512	17	5-10 ←
underpass	512	20	5-10
yard	512	6	5-9
yard (fill)	515B	1	5-32
Railway			
cog	512	24	5-11
incline	512	24	5-11
Ramp, boat or seaplane	511	45	5-7
Range line	523	1	5-39
location approximate	523	3	5-39
location doubtful*	523	18	5-39
other land surveys	523	12	5-40
protracted	523	16	5-40
Ranger district office*	512	166	5-20
Rapids			
on double-line stream	541B	1	5-63a
on single-line stream	541	54	5-60
Recreational slide	512	117	5-20
Redoubt	512	175	5-14
Reef			
coral (topographic)	512	135	5-23
coral (topographic) (fill)	517	2	5-36
coral (topographic/bathymetric)	512	161	5-26
coral (topographic/bathymetric) (fill)	535	11	5-50
rock (topographic)	512	135	5-23
rock (topographic) (fill)	517	2	5-36
rock (topographic/bathymetric)	512	161	5-26
rock (topographic/bathymetric) (fill)	535	11	5-50
Reference Monument	512	105	5-19
Reservoir			
covered water	512	62	5-14
covered water (fill)	545	6	5-67
masonry	512	61	5-14
masonry (fill)	545	4	5-67
Rest area	516	9	5-34
Rest area*	511	43	5-6
River mileage marker	512	109	5-19
Road			
block, berm, or barrier*	511	44	5-7
bridge	511	15	5-6
bridge (class 3 road)	516	11	5-34

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Road - continued			
change in classification	521	4	5-37
class 3	516	1	5-33
class 3 with median	516	2	5-33
class 4	516	4	5-33
class 5	516	5	5-33
drawbridge	511	15	5-6
drawbridge (class 3 road)	516	11	5-34
ferry	511	24	5-7
four-wheel drive (class 5)*	511	40	5-5
light-duty, dirt (class 3c)*	511	37	5-5
light-duty, dirt (class 3c)(fill)*	516	29	5-33
light-duty, composition unspecified (class 3)*	511	38	5-5
light-duty, gravel (class 3b)*	511	36	5-5
light-duty, gravel (class 3b)(fill)*	516	28	5-33
light-duty, paved (class 3a)*	511	35	5-4
light-duty, paved (class 3a)(fill)*	516	27	5-33
overpass	516	10	5-34
route markers	524	1-9	5-42
snowshed	511	27	5-7
tunnel (class 1 and 2 highway)	511	16	5-6
tunnel (class 3 road)	516	12	5-34
underpass	516	10	5-34
unimproved (class 4)*	511	39	5-5
Roadside park	512	116	5-20
Rock			
bare or awash (topographic)	512	137	5-23
bare or awash (topographic/bathymetric)	512	158	5-26
bare or awash (topographic: dangerous to navigation)	512	136	5-23
reef (topographic)	512	135	5-23
reef (topographic) (fill)	517	2	5-36
reef (topographic/bathymetric)	512	161	5-26
reef (topographic/bathymetric) (fill)	535	11	5-50
Rocks, group of			
bare or awash (topographic)	512	138	5-23
bare or awash (topographic/bathymetric)	512	159	5-26
sunken (topographic/bathymetric)	512	160	5-26
Roundhouse	512	16	5-10
Ruins	512	78	5-15
Runways	511	31	5-8

-S-

Salt flat	541	28	5-57
Sand	534	1	5-49
Sand dunes	534	2	5-49
Sand in open water	534	4	5-49

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Scenic byway name*	524	11	5-43
School	512	54	5-13
→ School (for 1:63,360-scale quadrangle maps)	512	178	5-13a ←
Seaplane anchorage*	512	168	5-20
Seaplane base*	512	168	5-20
Seaplane landing area	541	65	5-56
Seaplane ramp	511	45	5-7
Seawall	512	48	5-13
Section line	523	2	5-39
location approximate	523	4	5-39
location doubtful*	523	19	5-39
military or warrant lot line*	523	2	5-39
other land surveys	523	13	5-41
protracted	523	17	5-40
Seep	541	40	5-59
Service area	516	9	5-34
Service area*	511	43	5-6
Sewage disposal plant	512	59	5-13a
Sewage disposal plant (fill)	545	4	5-67
Sewerline, submerged (topographic/bathymetric)	516	24	5-35
Shoal	512	142	5-24
Shoreline	541	1	5-55
apparent	541	2	5-55
→ indefinite	541	3	5-55 ←
nonearthen	512	50	5-13
reservoir	541	24	5-57
tailings pond	532	22	5-47
unsurveyed	541	3	5-55
Shrubland	554	1	5-80
Siphon	541	41	5-59
Ski lift	512	95	5-17
Sludge pit	512	86	5-16
Sludge pit (fill)	517	4	5-36
Sluice gate	512	40	5-12
Snowfield, permanent (see Glacier or Permanent snowfield)			
Snowshed			
highway or road	511	27	5-7
railroad	512	19	5-10
Sounding datum line (topographic/bathymetric)	541	59	5-61
Special survey monument	523	11	5-40
Spillway	512	41	5-12
Spoil area (topographic/bathymetric)	512	157	5-26
Spoil bank	532	13	5-46
Spot elevation	512	108	5-19
Spring	541	40	5-59
State plane coordinate tick			
primary	511	4	5-3a
quaternary	511	7	5-3a

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
State plane coordinate tick - continued			
quintary	511	8	5-3a
secondary	511	5	5-3a
tertiary	511	6	5-3a
Stockyard	512	112	5-19
Stream			
braided	541	6	5-55
disappearing at a sink	541	12	5-56
double-line intermittent	541	8	5-55
double-line intermittent (fill)	547	4	5-76
double-line perennial	541	5	5-55
double-line perennial (fill)	545	1	5-67
indefinite intermittent	541	11	5-56
indefinite perennial	541	10	5-56
reappearing at a sink	541	12	5-56
single-line intermittent	541	7	5-55
single-line perennial	541	4	5-55
submerged	541	15	5-56
unsurveyed intermittent	541	11	5-56
unsurveyed perennial	541	10	5-56
Swamp	543	1	5-65
submerged	543	2	5-65
submerged (fill)	545	2	5-67
submerged wooded shoreline	541	1	5-55
submerged wooded (fill)	543	4	5-65
submerged wooded (fill)	545	3	5-67
submerged wooded (fill)	552	3	5-78
wooded	543	3	5-65
wooded (fill)	552	2	5-78
Swimming pool	512	60	5-14
Swimming pool (fill)	545	4	5-67

-T-

Tailings	535	4	5-50
former	535A	7	5-51
Tailings pond	532	22	5-47
Tailings pond (fill)	538	1	5-54
Tank	512	65	5-14
Taxiway	511	31	5-8
Telephone line	512	90	5-17
Tennessee Valley Divide	532	16	5-46
Tide station	512	113	5-19
Tidegate	512	40	5-12
Tollgate	511	26	5-7
Township line	523	1	5-39
location approximate	523	3	5-39
location doubtful*	523	18	5-39
other land surveys	523	12	5-40

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Township line - continued			
protracted	523	16	5-40
Tract.	523	10	5-40
Traffic circle	511	28	5-7
Traffic circle (class 3 road).	516	6	5-33
Trail	511	41	5-5
national scenic, recreation, or historic*	522	6	5-38
Trailhead*	522	3	5-38
Trees, scattered.	553	1	5-79
Tunnel			
aqueduct	541	35	5-58
highway with median	511	16	5-6
highway without median	511	16	5-6
mine entrance	512	80	5-16
railroad	512	22	5-10
road	516	12	5-34
wing and cross tick for highway or road	511	17	5-6
Turntable	512	17	5-10

-U-

Underpass			
highway	511	14	5-5
railroad	512	20	5-10
road	516	10	5-34
→ University	512	56	5-13a
University (for 1:63,360-scale quadrangle maps)	512	180	5-13a ←
UTM grid	513	1	5-27a
UTM grid tick*	549	1	5-77

-V-

Valve Station	512	67	5-14
Vertical control station			
recoverable mark, no tablet.	512	100	5-18
with tablet	512	100	5-18
Vineyard	556	1	5-82

-W-

Wall	512	63	5-14
Wash			
narrow	541	13	5-56
permanent channel in wash	541	14	5-56
wide	534	3	5-49
Water filtration plant	512	59	5-13a
Water filtration plant (fill)	545	4	5-67

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols

INDEX

	PLATE	NO.	PAGE
Waterfall			
on double-line stream	541	51	5-60
on single-line stream	541	52	5-60
"Weak" corner*	523	20	5-40
Weir	512	35	5-11
Well	512	83	5-16
geothermal	541	39	5-59
water	541	39	5-59
Wharf	512	44	5-12
Wind generator	512	69	5-15
Windmill	512	69	5-15
Winter recreation area*	522	4	5-38
Witness corner.	523	7	5-40
Wooded swamp.	543	3	5-65
Wooded swamp (fill)	552	2	5-78
submerged shoreline.	541	1	5-55
submerged (fill)	543	4	5-65
submerged (fill)	545	3	5-67
submerged (fill)	552	3	5-78
Woods	552	1	5-78
submerged	541	50	5-60
submerged (fill)	545	7	5-67
submerged (fill)	552	5	5-78
Work center*	512	167	5-20
Wreck			
exposed.	512	139	5-23
masts exposed or sunken	512	141	5-24
Wreckage, exposed	512	140	5-24

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
Part 5: Publication Symbols
Appendix 5-A

APPENDIX 5-A
USGS Standard Pattern Screens

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
Part 5: Publication Symbols
Appendix 5-A

→ The following table lists the pattern screens that are currently used on standard maps with Part 5 symbols. The alphanumeric designation, given in the left column, identifies the origin of the pattern. The patterns preceded by the designation "USGS" were developed by the U.S. Geological Survey; pattern AP-44 was obtained from the National Imagery and Mapping Agency (formerly Defense Mapping Agency).

Patterns that are always printed with solid ink, rather than being screened, are identified by the prefix and number alone; for example, USGS 2 and USGS 17.

Patterns that are always printed screened, rather than with solid ink, are designated "B" or "C"; for example, USGS 7B and USGS 7C. ←

Standards for 1:24,000- and 1:25,000-Scale Quadrangle Maps
 Part 5: Publication Symbols
 Appendix 5-A

USGS Standard Pattern Screens

PATTERN	DESCRIPTION		PRINCIPAL USE
USGS 2	Irregularly spaced tufts and lines	Solid pattern	Marsh or swamp
USGS 7B	Uniformly spaced rectangles Width: .014" Height: .019"	Screened 40% 120-line at 75°	Vineyard
USGS 7C	Space between rectangles: .006" Space between rows: .010"	Screened 30% 150-line biangle	Railroad yard fill
USGS 17	Irregularly spaced dots Average diameter .007"	Solid pattern	Sand, Intermittent water fill
USGS 19B	Dashed, horizontal 43-line rule Lineweight: .006" Length of dash: .045" Space between dashes: .012"	Screened .54 density biangle	Inundation fill Tailings pond fill
USGS 20B	Irregularly spaced and shaped daubs Average diameter: .020"	Screened 40% 120-line at 75°	Shrubland
USGS 21C	Wide, wavy, irregularly connected lines	Screened 40% 120-line at 105°	Rapids, Glacial advance/ retreat
USGS 22	Irregularly spaced dots interspersed with larger dots Diameter: (small dots): .004" Diameter: (large dots): .007"	Solid pattern	Gravel beach, Glacial moraine
USGS 25	Open-leaf drawing Lineweight: .005"	Solid pattern	Mangrove
AP-44	Open-leaf sketch drawing	Solid pattern	Scattered trees
USGS 26B	Uniformly spaced, solid circles Diameter: .036" Space: .017"	Screened 40% 120-line at 75°	Orchard