

**National Mapping Program
Technical Instructions**

Part 3 Transportation

**Standards for 1:24,000-Scale
Digital Line Graphs and
Quadrangle Maps**

**U.S. Department of the Interior
U.S. Geological Survey
National Mapping Division**

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 3: Transportation

CONTENTS

	Page
3. Transportation	
Aircraft Facility	3-1
Bridge	3-7
Cul-de-sac	3-16
Draw Span	3-20
Ford	3-24
Gate	3-28
Helipad	3-37
Interchange	3-41
Junction	3-46
Lane	3-50
Monorail	3-56
Railway	3-60
Railway Yard	3-73
Rest Site	3-77
Road	3-81
Route	3-127
Runway/Apron/Taxiway	3-135
Traffic Inspection Facility	3-144
Trail	3-149
Tunnel	3-153
Tunnel Entrance	3-162
Turntable	3-166
Underpass	3-170

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 3: Transportation

LIST OF PAGES

A complete and current copy of Part 3 of Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps consists of the pages (and most recent creation or revision dates) listed below.

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
3-ii	4/96	3-28	4/96	3-58	4/96
3-iii	4/01	3-29	4/96	3-59	4/96
3-iv	4/01	3-30	4/96	3-60	4/01
3-1	4/96	3-31	4/96	3-61	4/01
3-2	4/96	3-32	4/96	3-62	4/01
3-3	4/96	3-33	4/96	3-63	4/96
3-4	4/96	3-34	4/96	3-64	4/96
3-5	4/96	3-35	4/96	3-65	4/96
3-6	4/96	3-36	4/96	3-66	4/96
3-7	4/96	3-37	4/96	3-67	4/96
3-8	4/96	3-38	4/96	3-68	4/96
3-9	4/96	3-39	4/96	3-69	4/96
3-10	4/96	3-40	4/96	3-70	4/96
3-11	4/96	3-41	4/96	3-71	4/96
3-12	4/96	3-42	4/96	3-72	4/96
3-13	4/96	3-43	4/96	3-73	4/96
3-14	4/96	3-44	4/96	3-74	4/96
3-15	4/96	3-45	4/96	3-75	4/96
3-16	4/96	3-46	4/96	3-76	4/96
3-17	4/96	3-47	4/96	3-77	4/96
3-18	4/96	3-48	4/96	3-78	4/96
3-19	4/96	3-49	4/96	3-79	4/96
3-20	4/96	3-50	4/96	3-80	4/96
3-21	4/96	3-51	4/96	3-81	4/96
3-22	4/96	3-52	4/96	3-82	4/96
3-23	4/96	3-53	4/96	3-83	4/96
3-24	4/96	3-54	4/96	3-84	4/96
3-25	4/96	3-55	4/96	3-85	4/01
3-26	4/96	3-56	4/96	3-86	4/01
3-27	4/96	3-57	4/96	3-87	4/96

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 3: Transportation

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
3-88	4/96	3-124	4/96	3-160	4/96
3-89	4/96	3-125	4/96	3-161	4/96
3-90	4/96	3-126	4/96	3-162	4/96
3-91	4/96	3-127	4/96	3-163	4/96
3-92	4/96	3-128	4/96	3-164	4/96
3-93	4/96	3-129	4/96	3-165	4/96
3-94	4/96	3-130	4/96	3-166	4/96
3-95	4/96	3-131	4/96	3-167	4/96
3-96	4/96	3-132	4/96	3-168	4/96
3-97	4/96	3-133	4/96	3-169	4/96
3-98	4/96	3-134	4/96	3-170	4/96
3-99	4/96	3-135	4/96	3-171	4/96
3-100	4/96	3-136	4/96	3-172	4/96
3-101	4/96	3-137	4/96	3-173	4/96
3-102	4/96	3-138	4/96	3-174	4/96
3-103	4/96	3-139	4/96		
3-104	4/96	3-140	4/96		
3-105	4/96	3-141	4/96		
3-106	4/96	3-142	4/96		
3-107	4/96	3-143	4/96		
3-108	4/96	3-144	4/96		
3-109	4/96	3-145	4/96		
3-110	4/96	3-146	4/96		
3-111	4/96	3-147	4/96		
3-112	4/96	3-148	4/96		
3-113	4/96	3-149	4/96		
3-114	4/96	3-150	4/01		
3-115	4/96	3-151	4/96		
3-116	4/96	3-152	4/96		
3-117	4/96	3-153	4/96		
3-118	4/96	3-154	4/96		
3-119	4/96	3-155	4/96		
3-120	4/96	3-156	4/96		
3-121	4/96	3-157	4/96		
3-122	4/96	3-158	4/96		
3-123	4/96	3-159	4/96		

AIRCRAFT FACILITY - An area where aircraft can take-off and land, usually equipped with associated buildings and facilities.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Aircraft Facility Type	Function or purpose
Airport	Facility used primarily by conventional, fixed wing aircraft
Heliport	Facility used primarily by rotary wing aircraft
Seaplane Base	Facility used primarily by seaplanes
Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Operational Status	State or condition
Abandoned	Intact but not maintained or intended for use
Operational	Usable and intended for use
Under Construction	Construction has begun but is not completed
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of **AIRCRAFT FACILITY** is the extent of the area encompassing all associated structures.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If AIRCRAFT FACILITY is named,
 Then capture.

Attribute Information

Source Interpretation Guidelines

All

Verify ALL named AIRCRAFT FACILITIES with: The U.S. Government Flight Information Publication entitled "Airport and Facilities Directory" by the U.S. Department of Commerce, NOAA/NOS.

Graphic

Type placement may be used to help determine the extent of AIRCRAFT FACILITY.

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: AIRCRAFT_FACILITY_A001
 Dimension: 2

NAM

AFT

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Aircraft Facility Type	Airport, Heliport, or Seaplane Base	N/A	Aircraft Facility Type and Name: Color: Black Style: UL CAPS or C/lc Size: 7-10 Spacing: 0-2
Name	(Alphanumeric)		
Operational Status	Operational		

Symbol#: AIRCRAFT_FACILITY_A002
 Dimension: 2

[NAM]

[AFT]

([OPS])

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Aircraft Facility Type	Airport, Heliport, or Seaplane Base	N/A	Aircraft Facility Type: Color: Black Style: UL CAPS or C/lc Size: 7-10 Spacing: 0-2
Name	(Alphanumeric)		Name: Color: Black Style: UL CAPS or C/lc Size: 7-10 Spacing: 0-2
Operational Status	Abandoned or Under Construction		Operational Status: Color: Black Style: UL CAPS or C/lc Size: 7-10 Spacing: 0-2

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If AIRCRAFT FACILITY is within RESERVATION, and AIRCRAFT FACILITY Name =
 RESERVATION Name,
 Then do not show Name.

Placement

TBD

EXAMPLES

Apra Harbor, GU (Abandoned)
Arcadia, FL (Under construction)
Auburndale, FL (Browns Seaplane Base)
Buffalo City, NC (Harmon Field (Abandoned), and AIRCRAFT FACILITY in RESERVATION)
Hialeah, FL
Mount Tabor, OR-WA
Page, AZ
Park Place, TX
Pearl Harbor, HI
Poplar, MT
Portland, IN
Seattle North, WA (US Naval Air Station)
Seattle South, WA
Tallahassee, FL
Ypsilanti West, MI

BRIDGE - A structure spanning and providing passage over a waterway, railroad, or other obstacle.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Cover Status	Existence of a cover
Covered	
Not Covered	
Deck Status	Existence of multiple decks
Double Decked	
Not Decked	
Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of BRIDGE is the extent of the span as defined by the edges of the deck and the end abutments.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Above		UNDERPASS

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If BRIDGE is captured from a graphic, and is a covered bridge, and is shown without wing ticks, and crosses a 1-dimensional feature,
 Then BRIDGE is represented as a 0-dimensional basic feature object.

If BRIDGE is < 0.0625 " along the shortest axis, and does not meet the Representation Conditions for a 0-dimensional basic feature object,
 Then BRIDGE is represented as a 1-dimensional basic feature object.

If BRIDGE IS ≥ 0.0625 " along the shortest axis, and does not meet the Representation Conditions for a 0-dimensional basic feature object,
 Then BRIDGE is represented as a 2-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

If BRIDGE is ≥ 0.12 " along the longest axis and carries a transportation feature,
Or
If BRIDGE is a covered bridge or a drawbridge,
Or
If BRIDGE is a foot bridge and spans a road or railway,
Or
If BRIDGE is a foot bridge and is ≥ 0.025 " along the longest axis,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

If a bridge does not meet capture conditions and carries RAILWAY or ROAD over another RAILWAY or ROAD,
Then capture RAILWAY or ROAD, and UNDERPASS to allow definition of the relationship between RAILWAY or ROAD and the feature over which it passes.

If a bridge does not meet capture conditions and carries RAILWAY, ROAD, or TRAIL over CANAL/DITCH or STREAM/RIVER,
Then capture only RAILWAY, ROAD, or TRAIL.

If BRIDGE carries multiple features,
Then it is delineated and represented at the greatest horizontal extent.

If BRIDGE carries a hydrographic feature,
Then collect in the theme Hydrography.

If BRIDGE meets capture conditions and carries RAILWAY, ROAD, or TRAIL,
Then capture both BRIDGE, and RAILWAY, ROAD, or TRAIL.

If BRIDGE is captured,
Then also capture UNDERPASS.

Graphic

Named BRIDGES over double-line drains, symbolized without bridge wing ticks, are captured from shoreline to shoreline.

BRIDGES symbolized with bridge wing ticks are captured from wing tick to wing tick.

Revision - General

Revision - Standard

Revision - Limited

Deck Status = Unspecified for newly collected BRIDGES, if the number of decks is not readily discernible. Retain Deck Status on existing BRIDGES.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: BRIDGE_P001
 Dimension: 0

NAM
 Covered
 Bridge

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Cover Status	Covered	N/A	Label and Name: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Name	(Alphanumeric) or Unspecified		

Symbol#: BRIDGE_L001
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Cover Status	Covered	<u>Headline</u> Color: Black Lineweight: 0.003" Positioning: placed at each end of line, perpendicular to line Headline Length: 0.02" unless width of symbol entering BRIDGE is \geq 0.02", then length = width of symbol entering BRIDGE	Label and Name: Color: Black Style: UI CAPS Size: 7 Spacing: 0
Name	(Alphanumeric) or Unspecified	<u>Line</u> Color: Black Lineweight: 0.003" <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of line, at 135 degrees from headline (inside angle between wing tick and headline)	

Symbol#: BRIDGE_L002
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Cover Status	Not Covered	<u>Headline</u> Color: Black Lineweight: 0.003"	Deck Status and Name: Color: Black Style: UI CAPS Size: 7 Spacing: 0
Deck Status	Double Decked, Not Decked	Positioning: placed at each end of line, perpendicular to line <u>Headline Length: 0.02"</u> unless width of symbol entering BRIDGE is \geq 0.02", then length = width of symbol entering BRIDGE	
Name	(Alphanumeric) or Unspecified	<u>Line</u> Color: Black Lineweight: 0.003"	
		<u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of line, at 135 degrees from headline (inside angle between wing tick and headline)	

Symbol#: BRIDGE_A001
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Cover Status	Not Covered	<u>Area Perimeter</u> Color: Black	Deck Status and Name: Color: Black Style: UI CAPS Size: 7 Spacing: 0
Deck Status	Double Decked, Not Decked	Lineweight: 0.003"	
Name	(Alphanumeric) or Unspecified	<u>Headline</u> Color: Black Lineweight: 0.003" Positioning: placed at each end of area, perpendicular to center line of BRIDGE Headline Length: equal to the width of symbol entering BRIDGE <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of line, at 135 degrees from headline (inside angle between wing tick and headline)	

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If BRIDGE coincides CANAL/DITCH, RAILWAY, or ROAD,
 Then suppress_section.

If BRIDGE is < 0.12" and coincides DRAWSPAN,
 Then suppress_section.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If Deck Status = Not Decked,
Then do not show Deck Status label.

Placement

If Name or Label cannot be positioned parallel to symbol,
Then change to:

Style: UL C/lc
Size: 7
Spacing: 0

EXAMPLES

Alexandria, VA (Woodrow Wilson Memorial Bridge)
Leola, PA (Covered BRIDGE)
North Shore, LA (Footbridges (unlabeled))
San Fransisco North, CA (Double decked BRIDGE)
Seattle South, WA (Double decked viaduct)
Waipahu, HI (Footbridge)

CUL-DE-SAC - The round or circular section of the end of a dead-end street.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of CUL-DE-SAC is the extent of the road surface, excluding the shoulders and curbs.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional		> 0	
1-dimensional			
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If CUL-DE-SAC is on a class 3 road, and does not contain an island,
Then capture.

Attribute Information

N/A

Source Interpretation Guidelines

All

Do not capture dead-end roads with islands as CUL-DE-SAC. See ROAD.

Graphic

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

.		Symbol#: CUL_DE_SAC_P001 Dimension: 0
---	--	--

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	Dot Color: Black Screen: 50%, 150-line biangle Diameter: 0.03" <u>Symbol Orientation</u> Origin: center of circle	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

DRAW SPAN - The movable portion of a bridge deck.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of DRAW SPAN is the edge of the bridge section which can be moved.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional		> 0	
1-dimensional			
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

Capture all.

Attribute Information

N/A

Source Interpretation Guidelines

All

If DRAW SPAN is captured,
Then capture BRIDGE.

Graphic

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

○		Symbol#: DRAW_SPAN_P001 Dimension: 0
---	--	---

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	Circle Color: Black Lineweight: 0.003" Diameter: 0.045"	N/A

○		Symbol#: DRAW_SPAN_P101 Dimension: 0
---	--	---

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	Circle Color: Black Lineweight: 0.003" Diameter: 0.06"	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If DRAW SPAN symbol_coalesces DRAW SPAN,
 Then resymbolize to width of ROAD.

If DRAW SPAN coincides ROAD, and ROAD is ≥ 0.035 " along the shortest axis,

Then resymbolize using P101.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Alexandria, VA 1983 (Woodrow Wilson Memorial Bridge)
Annapolis, MD 1978 (Spa Creek, College Creek, Severn River)
Indian Beach, LA 1979 (BRIDGE labeled "Small Craft Passage")
Moss Bluff, LA 1975
North Shore, LA 1979 (BRIDGE labeled "Large Craft Passage")
Ocean City, MD 1972 (US Route 50 Bridge)
Queenstown, MD 1986 (Kent Island Narrows)
South River, MD 1978 (Severn River Bridge)
Wrightsville Beach, NC 1970

FORD - A location in a body of water for a road or trail crossing where the physical characteristics of the bottom, water depth, and approaches permit passage without a bridge or ferry.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of FORD is the extent of the edges of the traffic lanes across the body of water and the SHORELINES.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			< 0.025"
1-dimensional			≥ 0.025"
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If FORD provides passage for a class 2 or class 3 ROAD,

Or

If FORD provides passage for a class 4 or class 5 ROAD and is ≥ 0.025 " along the longest axis,

Then capture.

Attribute Information

Source Interpretation Guidelines

All

Do not capture hard surfaced "low water" bridges as FORD. See BRIDGE.

Do not capture fords on trails.

If FORD meets capture conditions,

Then capture both FORD and ROAD.

If FORD does not meet capture conditions,

Then capture only ROAD.

Graphic

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Delete existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

NAM
 Ford

Symbol#: FORD_P001
 Dimension: 0

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	N/A	Label and Name: Color: Black Style: UI C/lc Size: 6 Spacing: 0

NAM
 FORD

Symbol#: FORD_L001
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	N/A	Label and Name: Color: Black Style: UI CAPS Size: 6 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If name or label cannot be positioned parallel to symbol
Then change to:

Style: UL C/lc
Size: 7
Spacing: 0

Placement

TBD

EXAMPLES

Barber, AK
Lakewood, OH
Wolf Creek Pass, CO

GATE - A structure that may be swung, drawn, or lowered to block an entrance or passageway.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Gate Type	Function or purpose
Road	Gate blocking entrance to a road
Access Restrictions	Constraints on use
Restricted	Public with restricted public use
Toll	Travel fee is collected at entry or exit
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of GATE is the extent of the structure.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If GATE is associated with a 1-dimensional feature,
 Then GATE is represented as a 0-dimensional basic feature object.

If GATE is associated with a 2-dimensional feature,
 Then GATE is represented as a 1-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

If GATE is for restricting road access or for collecting road tolls,
 Then capture.

Attribute Information

Source Interpretation Guidelines

All

If GATE is associated with a hydrographic feature,
 Then collect in the theme Hydrography.

If GATE is captured,
 Then also capture JUNCTION.

Graphic

Revision - General

Revision - Standard

Revision - Limited

Revise only if Gate Type = Road, with Access Restrictions = Toll. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: GATE_P001
 Dimension: 0

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Lock	<u>Line</u> Color: Black Lineweight: 0.007" Length: 0.04" <u>Symbol Orientation</u> Orientation: perpendicular to associated feature Origin: center of symbol	N/A

NOTE: This symbol applies only to the theme Hydrography.

		Symbol#: GATE_P002 Dimension: 0	
			
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Floodgate or Tidegate	<u>Line</u> Color: Black Lineweight: 0.007" Length: 0.04" <u>Symbol Orientation</u> Orientation: perpendicular to associated feature Origin: center of symbol	Gate Type: Color: Black Style: UL C/lc Size: 7 Spacing: 0

NOTE: This symbol applies only to the theme Hydrography

		Symbol#: GATE_P003 Dimension: 0	
			
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll	<u>Line</u> Color: Black Lineweight: 0.007" Length: 0.04" <u>Symbol Orientation</u> Orientation: perpendicular to ROAD Origin: center of symbol	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Gate Type	Road		

NOTE: This symbol applies only to the theme Transportation.

			Symbol#: GATE_P004 Dimension: 0
Gate			
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Restricted	<u>Line</u> Color: Black Lineweight: 0.007" Length: 0.04"	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Gate Type	Road	<u>Symbol Orientation</u> Orientation: perpendicular to ROAD Origin: center of symbol	

NOTE: This symbol applies only to the theme Transportation.

			Symbol#: GATE_P005 Dimension: 0
Gate			
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Unspecified	<u>Line</u> Color: Black Lineweight: 0.007" Length: 0.04"	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
		<u>Symbol Orientation</u> Orientation: perpendicular to associated feature Origin: center of symbol	

NOTE: This symbol applies only to the theme Hydrography.



Symbol#: GATE_L001
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Floodgate or Tidegate	<u>Line</u> Color: Black Lineweight: 0.007"	Gate Type: Color: Black Style: UL C/lc Size: 7 Spacing: 0

NOTE: This symbol applies only to the theme Hydrography.



Symbol#: GATE_L002
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll	<u>Line</u> Color: Black Lineweight: 0.007"	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Gate Type	Road		

NOTE: This symbol applies only to the theme Transportation.



Symbol#: GATE_L003
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Restricted	<u>Line</u> Color: Black Lineweight: 0.007"	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Gate Type	Road		

NOTE: This symbol applies only to the theme Transportation.

	Symbol#: GATE_L004 Dimension: 1
---	------------------------------------

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Unspecified	<u>Line</u> Color: Black Lineweight: 0.007"	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0

NOTE: This symbol applies only to the theme Hydrography.

	Symbol#: GATE_L005 Dimension: 1
---	------------------------------------

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Gate Type	Lock or Drydock	<u>Line</u> Color: Black Lineweight: 0.007"	N/A

NOTE: This symbol applies only to the theme Hydrography

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If GATE, with Gate Type = Tidegate coincides ROAD,
 Then suppress_symbol.

If GATE, with Gate Type = Tidegate coincides ROAD and ROAD coincides EMBANKMENT,
 Then suppress_symbol and show label only.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Boston South, MA (Tollgate)
Creole, LA (Floodgate)
Eldorado, MS (Floodgate)
Jacks Gap, GA (Road restriction)
Jersey City, NJ-NY
Laurel, FL
North Bend, OR (Tidegate)
Philedelphia, PA-NJ (2-D tollgate)
San Luis Dam, CA

HELIPAD - A structure used for the landing and take-off of helicopters.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of HELIPAD is the extent of the structure.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			< 0.04"
1-dimensional			
2-dimensional			≥ 0.04"

Special Conditions:

DATA EXTRACTION

Capture Conditions

If HELIPAD is not on BUILDING and is not part of RUNWAY/APRON/TAXIWAY,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

Helispots, which are unimproved clearings or marked clearings on the ground, are not captured.

Graphic

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: HELIPAD_P001
 Dimension: 0

◦ NAM
 Helipad

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Circle</u> Color: Black Lineweight: 0.003" Diameter: 0.04" <u>Dot</u> Color: Black Diameter: 0.006" Positioning: centered in circle <u>Symbol Orientation</u> Origin: center of symbol	Label and Name: Color: Black Style: UL C/lc Size: 7 Spacing: 0

Symbol#: HELIPAD_A001
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Area Perimeter</u> Color: Black Lineweight: 0.003"	Label and Name: Color: Black Style: UI C/lc Size: 7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Anchorage A-8, AK
 Bellport, NY
 Fort Barrancas, FL
 Toro Peak, CA

INTERCHANGE - An area designated to provide traffic access between roadways of differing levels.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Interchange Designator	Specific alphanumeric identifier
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of INTERCHANGE is the extent of the area encompassing all ramps.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If INTERCHANGE is part of an Interstate, U.S. numbered, or State Highway System, and has been identified with a Name or Alphanumeric Identifier by the responsible authority,
 Then capture.

Attribute Information

If Interchange Designator = (Alphanumeric),
 Then Interchange Designator includes the word "INTERCHANGE".

If Interchange Designator = (Alphanumeric),
 Then Name = Unspecified,
 Else Name = (Alphanumeric).

Collection of Interchange Designator is preferred over collection of Name.

Source Interpretation Guidelines

All

Graphic

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: INTERCHANGE_A001
 Dimension: 2

NAM

IND

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Interchange Designator	(Alphanumeric) or Unspecified	N/A	Interchange Designator and Name: Color: Black Style: UL CAPS Size: 6 Spacing: 0
Name	(Alphanumeric) or Unspecified		

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

Show Interchange Designator or Name on INTERCHANGE closest to quadrangle edge and on every other INTERCHANGE within the domain.

Placement

TBD

EXAMPLES

Concord, NH
Glendale, OH
Hopkinton, NH
Lakewood, OH
Southwest Atlanta, GA
Vail, AZ

JUNCTION - An intersection or confluence of two or more adjacent network segments, or a terminus of a single network segment. Network segments are those links in a roadway network or drainage network that have direction of flow or carry traffic.

ATTRIBUTE/ATTRIBUTE VALUE LIST

N/A

DELINEATION

The limit of JUNCTION is the imaginary point or line at the terminal end of a network segment,
 Or
 The imaginary point or line that separates two adjacent network segments,
 Or
 The imaginary point or spoke-shaped set of lines that separate three or more network segments at an intersection, confluence, merge point, or decision point.

In general, the limit of JUNCTION delineated with lines is the shortest straight line or shortest set of spoke-shaped lines that separates the adjacent network segments.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Connects To		ROAD
Flows To		ROAD

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If all of the network feature objects that Flow To or Connect To JUNCTION are represented as 1-dimensional basic feature objects, or are represented as 2-dimensional basic feature objects that taper down to a point,
 Then JUNCTION is represented as a 0-dimensional basic feature object.

If at least two of the network feature objects that Flow To or Connect To JUNCTION are represented as 2-dimensional basic feature objects (and they do not taper down to a point),
 Then JUNCTION is represented as a 1-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

If JUNCTION occurs where ROAD joins or intersects ROAD,
Or
If JUNCTION occurs at the isolated beginning or ending (terminus) of ROAD,
Then capture.

Attribute Information

N/A

Source Interpretation Guidelines

All

The limit of JUNCTION must match the limits of adjacent network segments. For example, the location of JUNCTION must match the limits as described in other templates:

- (1) "The limit of STREAM/RIVER where it enters or leaves LAKE/POND is determined by the conformation of the land."
- (2) "The limit of STREAM/RIVER where it enters SEA/OCEAN is where the conformation of the land and water make the division obvious, or, if the land and water do not suggest an obvious limit, the limit is where the stream reaches a width of 1 nautical mile with no further constrictions."
- (3) "The limit of STREAM/RIVER where it enters ESTUARY is where ESTUARY ends."

Do not capture JUNCTION where two network segments cross at different grades (that is, are vertically separated).

Graphic

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: JUNCTION_P001
 Dimension: 0

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Symbol#: JUNCTION_L001
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

N/A

Placement

N/A

EXAMPLES

LANE - A prescribed course for ships, boats, or seaplanes.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Lane Type	Function or purpose
Airboat Trail	Area where the vegetation has been compressed by airboats traveling through swamps and marsh lands
Ferry Crossing	Route used to transport traffic between two points separated by water
Seaplane Landing/Take-Off	Water area used for seaplane landing and takeoff
Shipping	Designated course for ships to follow when traversing one or more waterbodies
Shipping Lane Type	Function or purpose
Dredged	Lane has been dug out to provide an adequate depth of water for navigation
Turning	Area designated as a place for ships to turn
Undredged	Lane has not been dug out
Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of LANE is the extent of the water which has been dredged or designated for a particular purpose.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If Lane Type = Ferry Crossing, Airboat Trail, or Shipping with Shipping Lane Type = Undredged,
 Then LANE is represented as a 1-dimensional basic feature object.

If Lane Type = Seaplane Landing/Take-Off or Shipping with Shipping Lane Type = Dredged or Turning,
 Then LANE is represented as a 2-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

- If LANE is used as a ferry crossing or seaplane landing/take-off,
- Or
- If LANE is used as an airboat trail, and is $\geq 0.02''$ along the shortest axis and is $\geq 1.0''$ along the longest axis, and connects other trails or goes to another collected feature,
- Or
- If LANE is a dredged shipping lane or a turning basin and is shown on a NOS chart and is $\geq 0.02''$ along the shortest axis,
- Or
- If LANE is an undredged shipping lane and is shown on a NOS chart,
- Then capture.

Attribute Information

Source Interpretation Guidelines

All

Graphic

Capture all.

If a shipping lane is shown with a dashed blue line or lines,
Then capture as Shipping Land Type = Dredged.

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

		Symbol#: LANE_L001 Dimension: 1
<div style="display: inline-block; border: 1px solid black; padding: 2px;">NAM</div> <div style="display: inline-block; border: 1px solid black; padding: 2px; margin-left: 10px;">LAT</div>		

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Lane Type	Airboat Trail	Dashed Line	Lane Type and Name:
Name	(Alphanumeric) or Unspecified	Color: Blue Lineweight: 0.008" Dash Length: 0.05" Dash Spacing: 0.02"	Color: Blue Style: UI CAPS Size: 7 Spacing: 0

		Symbol#: LANE_L002 Dimension: 1
<div style="display: inline-block; border: 1px solid black; padding: 2px;">NAM</div> Ferry		

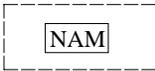
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Lane Type	Ferry Crossing	Dashed Line	Label and Name:
Name	(Alphanumeric) or Unspecified	Color: Black Lineweight: 0.003" Dash Length: 0.05" Dash Spacing: 0.02"	Color: Black Style: UI C/lc Size: 7 Spacing: 0

Symbol#: LANE_L003
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Lane Type	Shipping	N/A	Name: Color: Blue
Name	(Alphanumeric) or Unspecified		Style: UI CAPS Size: 7 Spacing: 0
Shipping Lane Type	Undredged		

Symbol#: LANE_A001
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Lane Type	Shipping	<u>Dashed Area Perimeter</u> Color: Blue	Name: Color: Blue
Name	(Alphanumeric) or Unspecified	Lineweight: 0.004" Dash Length: 0.07" Dash Spacing: 0.02"	Style: UI CAPS Size: 5-7 Spacing: 0
Shipping Lane Type	Dredged or Turning		

Symbol#: LANE_A002
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Lane Type	Seaplane Landing/Take-Off	N/A	Label and Name: Color: Blue
Name	(Alphanumeric) or Unspecified		Style: UI CAPS Size: 7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If name or label cannot be positioned parallel to symbol,
Then change to:

Style: UL C/lc

Size: 7

Spacing: 0

Placement

TBD

EXAMPLES

Corpus Christie, TX (Dredged channel, shipping)
Gibsonton, FL (Dredged channel)
Honolulu, HI (Seaplane landing/take-off)
Jersey City, NJ-NY (Ferry crossing)
Liberty Island, CA
Norfolk North, VA
Pearl Harbor, HI (Seaplane landing/take-off)
Perido Bay, FL-AL
Seattle South, WA (Ferry crossing)
West of Pennsuco, FL (Airboat trail)

MONORAIL - A single rail on which a vehicle or train of cars travels.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of MONORAIL is the extent of the rail.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		> 0	
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

Capture all.

Attribute Information

Source Interpretation Guidelines

All

Graphic

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

<u>MONORAIL</u>	Symbol#: MONORAIL_L001 Dimension: 1
-----------------	--

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	Dashed Line Color: Black Lineweight: 0.005" Dash Length: 0.1" Dash Spacing: 0.02"	Label: Color: Black Style: UI CAPS Size: 7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Anaheim, CA
Seattle South, WA
Windmere, FL

RAILWAY - A set of parallel rails on which a train or trolley runs.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Number of Tracks

(Integer Value)

Minimum Value: 1
 Maximum Value: 9
 Precision: 0
 Length: 1
 Increment: 1
 Units:

Unspecified

The value is not known and is not required

Photorevision Category

Whether or not a feature was added or modified as part of a photorevision assignment

Not Photorevised

Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required

Photorevised

Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

Railway Category

Form or nature

General Case

Common use

Railway Gauge

Distance between the rails of a track

Narrow

Less than 4 ft 8.5 inches

Standard

4 ft 8.5 inches

Railway Type

Function or purpose

Primary

Tracks providing a direct route through an area

Siding

Track connected with primary track and used for passing, temporary storage, or loading and unloading of railway cars

Incline Railway

Railway used to traverse steep slopes

Miniature

Small scale railway, generally used for amusement

Transit

Suburban and urban railway (including light rail such as trolleys, cable cars and carlines) used only for transporting people



Unspecified

The value is not known and is not required

DELINEATION

The limit of RAILWAY is the extent of the rails.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Above		UNDERPASS

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		> 0	
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If RAILWAY provides a direct route through an area, and is not a transit, incline, or miniature/amusement park railway,
Or
If RAILWAY is a miniature/amusement park or an inclined railway, and is ≥ 2.64 " in length,
Or
If RAILWAY is a transit railway and is aboveground,
Or
If RAILWAY is a siding, and is outside of RAILWAY YARD, and is in an urban area, and is ≥ 0.25 " in length,
Or
If RAILWAY is a siding, and is outside of RAILWAY YARD, and is not in an urban area,
Then capture.

Attribute Information

If Railway Category = Incline Railway or Miniature,
Then Number of Tracks = Unspecified

Source Interpretation Guidelines

All

If RAILWAY meets capture conditions, and coincides with a structure, and that structure meets definition and capture conditions for another feature (BRIDGE, TUNNEL, BUILDING),
Then capture RAILWAY, UNDERPASS, and the other feature.

If RAILWAY meets capture conditions, and coincides with a structure, and that structure does not meet the definition and capture conditions for another feature (BRIDGE, TUNNEL, BUILDING),
Then capture RAILWAY, and if required, capture UNDERPASS to allow definition of the relationship between RAILWAY and the feature over or under which it passes.

If there are 2 or more primary tracks on the same roadbed for < 2.64 ",
Then capture each as a separate instance of RAILWAY, with Number of Tracks = 1.

If there are n (2 or more) primary tracks on the same roadbed for ≥ 2.64 ",
Then capture only one instance of RAILWAY, down the centerline for all the tracks, with Number of Tracks = n.

Do not capture monorails as RAILWAY. See MONORAIL.

Do not capture aerial tramways as RAILWAY. See CABLEWAY (Built-Up theme).

Capture cog railways as RAILWAY, with Railway Category = Incline Railway.

Graphic

Capture 'Old Railroad Grade' as TRAIL.

A single track symbol denotes 1 track.

A multiple track symbol (unlabeled) denotes 2 tracks.

A multiple track symbol labeled with "n tracks" denotes n tracks.

A change in the number of multiple tracks may be marked by double cross ties.

Revision - General

Revision - Standard

Do not capture old railroad grades as RAILWAY. Capture old railroad grades based on their current characteristics. See features such as TRAIL, FENCE LINE, or TREES.

Revision - Limited

Railway Category = Unspecified for newly collected RAILWAYS. Retain Railway Category on existing RAILWAYS.

Number of Tracks = Unspecified for newly collected RAILWAYS. Retain Number of Tracks on existing RAILWAYS.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

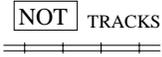
Symbolization



Symbol#: RAILWAY_L001
 Dimension: 1

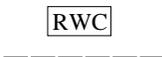
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.005"	N/A
Railway Category	General Case		
Railway Gauge	Standard	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.04" Positioning: centered on line at 90° to the line	
Railway Type	Primary	Spacing: 0.2"	

Symbol#: RAILWAY_L002
Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	between 2 and 9 inclusive	<u>Double Ticks</u> Color: Black Lineweight: 0.003" Length: 0.052" Positioning: placed at the points of change in the number of multiple tracks. Ticks are placed on railway line at 90° to the line. Spacing: 0.017"	Label and Number of Tracks: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Railway Category	General Case		
Railway Gauge	Standard		
Railway Type	Primary	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.052" Positioning: centered on double line at 90° to the line Spacing: 0.2"	
		<u>Double Line</u> Color: Black Lineweight: 0.003" Overall Width: 0.017"	

Symbol#: RAILWAY_L003
Dimension: 1



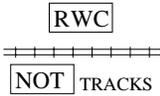
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Railway Category	Incline Railway	<u>Dashed Line</u> Color: Black Lineweight: 0.005" Dash Length: 0.1" Dash Spacing: 0.02"	Railway Category: Color: Black Style: UI CAPS Size: 6 Spacing: 0

Symbol#: RAILWAY_L004
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.005"	Railway Category: Color: Black Style: UI CAPS Size: 6 Spacing: 0
Railway Category	Transit	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.04" Positioning: centered on line at 90 degrees to the line Spacing: 0.2"	

Symbol#: RAILWAY_L005
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	between 2 and 9 inclusive	<u>Double Ticks</u> Color: Black Lineweight: 0.003" Length: 0.052" Positioning: placed at the points of change in the number of multiple tracks. Ticks are placed on railway line at 90° to the line Spacing: 0.017"	Label and Number of Tracks: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Railway Category	Transit	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.052" Positioning: centered on double line at 90° to the line Spacing: 0.2"	Railway Category: Color: Black Style: UI CAPS Size: 6 Spacing: 0
		<u>Double Line</u> Color: Black Lineweight: 0.003" Overall Width: 0.017"	

Symbol#: RAILWAY_L006
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.005"	N/A
Railway Category	General Case		
Railway Gauge	Narrow	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.02" Positioning: placed on alternate sides of the line at 90° to the line, one end of tick attached to the line Spacing: 0.2"	
Railway Type	Primary		

Symbol#: RAILWAY_L007
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	between 2 and 9 inclusive	<u>Double Ticks</u> Color: Black Lineweight: 0.003" Length: 0.02" Positioning: ticks within set are placed 0.017" apart, on alternate sides of the line at 90° to the line. One end of each tick is attached to the line Spacing: 0.2"	N/A
Railway Category	General Case		
Railway Gauge	Narrow		
Railway Type	Primary		
		<u>Line</u> Color: Black Lineweight: 0.005"	

Symbol#: RAILWAY_L008
 Dimension: 1



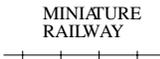
<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.003"	N/A
Railway Category	General Case		
Railway Gauge	Standard	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.04" Positioning: centered on line at 90° to the line. Do not align siding ticks with primary ticks. Show minimum of one tick per siding. If there are n sidings on the same side of the primary track and 1 < n < 6 then extend 1 tick across all of the sidings. Tick length will equal the distance between outer sidings + 0.04". Tick is centered on siding. Ticks do not cross a space ≥ 0.11" Spacing: 0.2"	
Railway Type	Siding/Spur		

Symbol#: RAILWAY_L009
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.003"	N/A
Railway Category	General Case		
Railway Gauge	Narrow	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.02" Positioning: placed on alternate sides of line at 90 to the line, one end of tick attached to the line. Do not align siding ticks with primary ticks. Show minimum of one tick per siding. Spacing: 0.2"	
Railway Type	Siding/Spur		

Symbol#: RAILWAY_L010
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Railway Category	Miniature	<u>Line</u> Color: Black Lineweight: 0.005" <u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.04" Positioning: centered on line at 90° to the line Spacing: 0.2"	Label: Color: Black Style: UI CAPS Size: 6 Spacing: 0

Symbol#: RAILWAY_L101
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Number of Tracks	1	<u>Line</u> Color: Black Lineweight: 0.003"	N/A
Railway Category	General Case		
Railway Gauge	Standard	<u>Ticks</u> Color: Black Lineweight: 0.003" Length: 0.04" Positioning: centered on line at 90° to the line Spacing: 0.2"	

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If RAILWAY, with Railway Category = General Case, Railway Gauge = Standard, and Number of Tracks = 1, coincides ROAD,
 Then resymbolize using L101.

If RAILWAY, with Railway Type = Siding/Spur is < 0.01" from another RAILWAY,
 Then symbol_displace to clear by 0.011"; if there is no room to displace then suppress_section.

If RAILWAY coincides perimeter of RAILWAY YARD,
 Then do not symbol_displace.

If RAILWAY coincides BUILDING (e.g, snowshed), DRAWSPAN, TUNNEL, or TURNTABLE,
 Then suppress_section.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If Number of Tracks = 2,
 Then delete label and Number of Tracks.

Placement

If Number of Tracks > 2,
 Then whenever Number of Tracks changes, Number of Tracks and labels are placed on either side of double tick symbol.

EXAMPLES

Ashland, VA (Amusement park RAILWAY)
Beverly Hills, CA 1966 (Abandoned)
Borrego Mountain SE, CA (Mining RAILWAY)
Brooklyn, NY (Transit)
Cascade, CO (Dismantled)
Cass, WV
Cedar Lake, ME (Narrow gauge)
Cleveland South, OH (Transit)
Coos Bay, OR (RAILWAY coincident with street)
Durango East, CO (Narrow gauge)
Hermosa, CA (Narrow gauge)
Johnstown, PA (Inclined, narrow gauge)
Little Switzerland, NC
Manitou Springs, CO (Labeled cog - inclined)
Mio, MI (Dismantled)
Mt. Washington, NH (Labeled cog - inclined)
Newark, CA (Transit)
Royal Gorge, CO (Miniature)
San Francisco North, CA (Transit)
San Francisco South, CA (Under construction)
Shelton Valley, WA 1981
Shenandoah, PA (Inclined)
Sprague River East, OR P-Map 1988
Windmere, FL (Amusement park RAILWAY)

RAILWAY YARD - An area provided with a system of tracks and associated structures, where railway trains are assembled, and railway cars are switched, stored or serviced.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of RAILWAY YARD is the point at which multiple sidings diverge from the primary line at one end of RAILWAY YARD, to the point at which multiple sidings converge on a primary line, or terminate, at the other end of RAILWAY YARD, and the outermost tracks.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If RAILWAY YARD contains 6 or more adjacent tracks, including sidings and primary tracks,
 Then capture.

Attribute Information

Source Interpretation Guidelines

All

Do not capture sidings or spurs within RAILWAY YARD.

Do not delineate islands within RAILWAY YARD. Capture islands as RAILWAY YARD.

Graphic

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Area Fill</u> Color: Black Screen: 30% biangle Pattern: USGS 7	Name: Color: Black Style: UL CAPS or C/lc Size: 7-10 Spacing: 0-2

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

East Cleveland, OH
Granite City, IL-MO
Jersey City, NJ-NY

REST SITE - A roadside area usually having facilities for people and/or vehicles.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of REST AREA is the extent of the roadside area that contains parking and open areas, including any associated buildings and structures.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional	< 0.01 square inch		
1-dimensional			
2-dimensional	≥ 0.01 square inch		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If REST SITE is on a controlled access ROAD and the location and operation are controlled by the responsible highway authority,

Or

If REST SITE is not on a controlled access ROAD and the location and operation are controlled by the responsible highway authority and there are parking areas and other facilities such as picnic tables, fireplaces and/or shelters,

Then capture.

Attribute Information

Source Interpretation Guidelines

All

Capture 'Wayside Parks' in Wisconsin as REST SITE.

Graphic

If a table symbol is shown and labeled "Roadside Park",
Then capture REST SITE.

If a table symbol is shown and labeled "Picnic Area" and it is along side a ROAD and not in PARK,
Then capture REST SITE.

Revision - General

Revision - Standard

Revision - Limited

Revise REST AREAS only on controlled access highways. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: REST_SITE_P001
 Dimension: 0

⌘ Rest Area

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	<u>Top</u> Color: Black Lineweight: 0.003" Length: 0.05" <u>Legs</u> Color: Black Lineweight: 0.003" Length: 0.025" Positioning: ends of each leg are joined to form a 60° angle and apex is placed at center of top, forming 60° angles between each leg and table <u>Symbol Orientation</u> Orientation: top parallel to the south projection line and legs positioned to the south Origin: apex of legs	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0

Symbol#: REST_SITE_A001
 Dimension: 2

Rest Area

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

- Caratunk, ME
- Clam Lake, WI
- Cumberland Center, ME
- Dameriscotta, ME
- Dundee, WI
- Grand View Peak, ID
- Hope Valley, RI
- Molunkas, ME
- Mount Pokono, PA
- York Harbor, ME

ROAD - An open way for the passage of vehicles.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Access Restrictions	Constraints on use
Private	Private with restricted public use
Restricted	Public with restricted public use
Toll	Travel fee is collected at entry or exit
Unspecified	The value is not known and is not required
Operational Status	State or condition
Operational	Usable and intended for use
Under Construction	Construction has begun but is not completed
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks
Road Class	The category of roads based on design, weatherability, their governmental designation, and the Department of Transportation functional classification system
Class 1	Hard-surface highways including Interstate and U.S. numbered highways (including alternates), primary State routes, and all controlled access highways
Median Category	Inclusion of a median within single instance of road
Median Included	Median is included within the instance of road
Median Not Included	Median is not included because there is no median or median is wide enough to cause separate instances of road

Class 2	Hard-surface highways including secondary State routes, primary county routes, and other highways that connect principal cities and towns, and link these places with the primary highway system
Median Category	Inclusion of a median within single instance of road
Median Included	Median is included within the instance of road
Median Not Included	Median is not included because there is no median or median is wide enough to cause separate instances of road
Class 3	Hard-surface roads not included in a higher class and improved, loose-surface roads passable in all kinds of weather. These roads are adjuncts to the primary and secondary highway systems. Also included are important private roads such as main logging or industrial roads which serve as connecting links to the regular road network
Class 4	Unimproved roads which are generally passable only in fair weather and used mostly for local traffic. Also included are driveways, regardless of construction
Class 5	Unimproved roads passable only with 4-wheel-drive vehicles
Road Type	Function or purpose
General Case	Common use
Overlook Access	A road that provides access to a pull-off area, having definite entrance and exit points
Ramp	An inclined roadway connecting roads of differing levels
Rest Area Access	Roads that provide access to service facilities such as service stations, weigh stations, comfort stations, and restaurants that are designed to serve users of highways
Runaway Truck Ramp	A short inclined roadway constructed of sand or other unconsolidated material that exits gradually from and generally runs adjacent to the right lane of a descending highway, expressly for the purpose of stopping runaway trucks.
Traffic Circle	A junction of roads that form a circle around which traffic normally moves in one direction

Turning Roadway	A connecting roadway between two intersection legs that are at the same grade
Width (Integer Value)	Measurement of the shorter of two linear axes Minimum Value: 45 Maximum Value: 120 Precision: 0 Length: 3 Increment: 5 Units: feet
Not Applicable	The attribute does not apply and therefore cannot be valued
Unspecified	The value is not known and is not required

DELINEATION

The limit of ROAD is the extent of the passage surface, excluding shoulders and curbs.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Connects To		CONNECTOR JUNCTION
Flows To		JUNCTION
Is Above		UNDERPASS

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		< 0.0625"	
2-dimensional		≥ 0.0625"	

Special Conditions:

If outside limits of ROAD are not parallel,
 Then ROAD is represented as a 2-dimensional basic feature object, regardless of width.

DATA EXTRACTION

Capture Conditions

If ROAD is Class 1,
Or
If ROAD is Class 2 or 3, and is operational,
Or
If ROAD is Class 4 or Class 5, and is operational, and is ≥ 0.25 " along the longest axis,
Or
If ROAD is Class 4 or Class 5, and is operational, and is the only connection between two ROADS, or between a ROAD and a TRAIL,
Then capture.

Attribute Information

If the overall width of ROAD is ≥ 0.05 " and there is a median that is ≥ 0.01 ",
Then ROAD is collected as two instances of ROAD and,
If Road Class = Class 1 or Class 2,
Then Median Category = Median Not Included for each instance.

If the overall width of ROAD is ≥ 0.05 ", and there is a median that is < 0.01 ",
Then ROAD is collected as one instance of ROAD and,
If Road Class = Class 1 or Class 2,
Then Median Category = Median Included.

If overall width of ROAD is < 0.05 ", and there is a median,
Then ROAD is represented as one instance of ROAD and,
If Road Class = Class 1 or Class 2,
Then Median Category = Median Included, regardless of the width of the median.

If the width of ROAD is < 0.02 ",
Then Width = Unspecified.

If the width of ROAD is ≥ 0.0625 ",
Then Width = Not Applicable.

If Road Class = Class 3 and Road Type = Rest Area Access or Overlook Access,
Then Width = Unspecified.

If Operational Status = Under Construction,
Then Access Restrictions = Unspecified.

If ROAD is on BRIDGE which is a toll bridge, or if ROAD is in TUNNEL which is a toll tunnel,
Then for portion of ROAD on BRIDGE or in TUNNEL Access Restrictions = Toll.

If Road Class = Class 1,
Then Access Restrictions = Toll or Unspecified, and Road Type = General Case, Ramp, Traffic Circle, or Turning Roadway.



If Road Class = Class 2,
Then Access Restrictions = Toll or Unspecified, Operational Status = Operational, and Road Type = General Case, Traffic Circle, or Turning Roadway.



If Road Class = Class 3,
Then Access Restrictions = Private, Restricted, or Unspecified, Operational Status = Operational, and Road Type = General Case, Overlook Access, Rest Area Access, Traffic Circle, or Turning Roadway.



If Road Class = Class 4,
Then Access Restrictions = Restricted or Unspecified, Operational Status = Operational, Road Type = General Case, Overlook Access, Rest Area Access, or Runaway Truck Ramp, and Width = Unspecified.



If Road Class = Class 5,
Then Access Restrictions = Restricted or Unspecified, Operational Status = Operational, Road Type = General Case, and Width = Unspecified.

If Road Type = Overlook Access,
Then Access Restrictions = Unspecified, Operational Status = Operational, Road Class = Class 3 or Class 4, and Width = Unspecified.

If Road Type = Ramp,
Then Access Restrictions = Unspecified, and Road Class = Class 1.

If Road Type = Rest Area Access,
Then Access Restrictions = Unspecified, Operational Status = Operational, Road Class = Class 3 or Class 4, and Width = Unspecified.



If Road Type = Runaway Truck Ramp,
Then Access Restrictions = Unspecified, Operational Status = Operational, Road Class = Class 4, and Width = Unspecified.



If Road Type = Traffic Circle,
Then Access Restrictions = Unspecified, and Road Class = Class 1, Class 2, or Class 3.



If Road Type = Turning Road,
Then Access Restrictions = Unspecified, Median Category = Not Included, Operational Status = Operational, Road Class = Class 1, Class 2, or Class 3, and Width = Unspecified.



Source Interpretation Guidelines

All

Hard-surface construction is generally concrete, asphaltic concrete, or bituminous macadam. Surfaces are waterproof. Minimum maintenance is required.

Improved, loose-surface construction is on light foundation and is usually gravel or stone surface, or some stable material, such as selected sand-clay, treated oil gravel, or light tar-bound macadam. The roads are generally drained and graded, but the surface is not waterproof. Periodic maintenance is required.

Unimproved-surface construction is usually stabilized soil, sand-clay, or disintegrated rock with poor or no foundation. The road is sometimes drained or graded. If the roads are maintained at all, continual maintenance is required.

Roads under construction are captured as such if the road is advanced enough in construction that the position and configuration is established and can be determined by signature (scar) on source photography, and confirmed by State Highway Department detailed plans and profiles. When completed, the road must meet the criteria for a class 1 road.

If there is substantial evidence that paving is well underway for a road under construction, it may be collected as a completed road. This applies to all road classes.

If ROAD meets capture conditions, and coincides with a structure and that structure meets definition and capture conditions for another feature (BUILDING, BRIDGE, TUNNEL, FORD, GATE), Then capture both ROAD and the other feature.

If ROAD meets capture conditions, and coincides with a structure, but that structure does not meet the definition and capture conditions for another feature (BRIDGE, TUNNEL), Then capture ROAD and, if required, capture UNDERPASS to allow definition of the relationship between ROAD and the feature over or under which it passes.

Flow direction is modeled for ROAD with the Flows To and Connects To relationships. See JUNCTION.

Flow direction is modeled only for one way roads that are on class 1 and class 2 numbered routes and for any class of road where no alternate route exists.

Public roads that are closed seasonally because of snow are not collected as restricted.

Minor variations in width are not collected for stretches of road that are less than a half-mile in length.

→ The Road Class of all Traffic Circles and Turning Roadways is consistent with the highest class of highway entering the Traffic Circle or attached to the Turning Roadway. ←

Graphic

If ROAD is symbolized with the minimum size symbol,
Then Width = Unspecified.

Revision - General

Revision - Standard

Revision - Limited

Access Restriction = Unspecified for newly collected ROADS. Retain Access Restriction on existing ROADS.

Use ancillary source to determine Road Class.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: ROAD_L001_01
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.02"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Not Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	Unspecified		

Symbol#: ROAD_L001_02
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.02"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 40 and 45 inclusive	Screen: 100%	

Symbol#: ROAD_L001_03
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.025"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 46 and 55 inclusive	Screen: 100%	

Symbol#: ROAD_L001_04
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.03"	Style: UI CAPS Size: 5 Spacing: 0
Operational Status	Operational	<u>Fill</u>	
Road Class	Class 1	Color: Red Screen: 100%	
Width	between 56 and 65 inclusive		

Symbol#: ROAD_L001_05
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.035"	Style: UI CAPS Size: 5 Spacing: 0
Operational Status	Operational	<u>Fill</u>	
Road Class	Class 1	Color: Red Screen: 100%	
Width	between 66 and 75 inclusive		

Symbol#: ROAD_L001_06
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.04"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 76 and 85 inclusive	Screen: 100%	

Symbol#: ROAD_L001_07
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.045"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 86 and 95 inclusive	Screen: 100%	

Symbol#: ROAD_L001_08
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.05"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 96 and 105 inclusive	Screen: 100%	

Symbol#: ROAD_L001_09
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.055"	Size: 5
Road Class	Class 1	<u>Fill</u> Color: Red	Spacing: 0
Width	between 106 and 115 inclusive	Screen: 100%	

Symbol#: ROAD_L001_10
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.06"	Style: UI CAPS Size: 5
Operational Status	Operational		Spacing: 0
Road Class	Class 1	<u>Fill</u> Color: Red	
Width	between 116 and 125 inclusive	Screen: 100%	

Symbol#: ROAD_L002_01
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Included	Lineweight: 0.003" Line Spacing: 0.037"	Style: UI CAPS Size: 5
Operational Status	Operational		Spacing: 0
Road Class	Class 1	<u>Fill</u> Color: Red	
Width	Unspecified	Screen: 100%	
		<u>Centerline</u> Color: Black	
		Lineweight: 0.003"	

Symbol#: ROAD_L002_02
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.037"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 40 and 75 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L002_03
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.04"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 76 and 85 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L002_04
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.045"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 86 and 95 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L002_05
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.05"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 96 and 105 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L002_06
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.055"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 106 and 115 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L002_07
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.06"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 1	<u>Fill</u> Color: Red Screen: 100%	
Width	between 116 and 125 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L003_01
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003" Dash Length: 0.01"	Style: UI CAPS Size: 5
Width	Unspecified	Dash Spacing: 0.02" Line Spacing: 0.02"	Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_02
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003" Dash Length: 0.01"	Style: UI CAPS Size: 5
Width	between 40 and 45 inclusive	Dash Spacing: 0.02" Line Spacing: 0.02"	Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_03
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 46 and 55 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.025"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_04
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 56 and 65 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.03"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_05
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003" Dash Length: 0.01"	Style: UI CAPS Size: 5
Width	between 66 and 75 inclusive	Dash Spacing: 0.02" Line Spacing: 0.035"	Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_06
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003" Dash Length: 0.01"	Style: UI CAPS Size: 5
Width	between 76 and 85 inclusive	Dash Spacing: 0.02" Line Spacing: 0.04"	Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_07
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 86 and 95 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.045"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_08
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 96 and 105 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.05"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_09
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 106 and 115 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.055"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L003_10
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 1	Lineweight: 0.003"	Style: UI CAPS
Width	between 116 and 125 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.06"	Size: 5 Spacing: 0
		<u>Fill</u> Color: Red Screen: 100%	

Symbol#: ROAD_L004_01
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.02"	
Operational Status	Operational	<u>Dashed Fill</u>	
Road Class	Class 2	Color: Red Dash Length: 0.12"	
Width	Unspecified	Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_02
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.02"	
Operational Status	Operational	<u>Dashed Fill</u>	
Road Class	Class 2	Color: Red Dash Length: 0.12"	
Width	between 40 and 45 inclusive	Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_03
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.025"	Style: UI CAPS Size: 5 Spacing: 0
Operational Status	Operational	<u>Dashed Fill</u> Color: Red	
Road Class	Class 2	Dash Length: 0.12" Dash Spacing: 0.12"	
Width	between 46 and 55 inclusive	Screen: 100%	

Symbol#: ROAD_L004_04
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003" Line Spacing: 0.03"	Style: UI CAPS Size: 5 Spacing: 0
Operational Status	Operational	<u>Dashed Fill</u> Color: Red	
Road Class	Class 2	Dash Length: 0.12" Dash Spacing: 0.12"	
Width	between 56 and 65 inclusive	Screen: 100%	

Symbol#: ROAD_L004_05
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.035"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 66 and 75 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_06
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.04"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 76 and 85 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_07
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.045"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 86 and 95 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_08
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.05"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 96 and 105 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_09
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.055"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 106 and 115 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L004_10
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS
Operational Status	Operational	Line Spacing: 0.06"	Size: 5
Road Class	Class 2	<u>Dashed Fill</u> Color: Red	Spacing: 0
Width	between 116 and 125 inclusive	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L005_01
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.037"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	Unspecified	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_02
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.037"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 40 and 75 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_03
 Dimension: 1

ACR



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.04"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 76 and 85 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_04
 Dimension: 1

ACR



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.045"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 86 and 95 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_05
 Dimension: 1

ACR



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.05"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 96 and 105 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_06
 Dimension: 1

ACR



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.055"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 106 and 115 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L005_07
 Dimension: 1

ACR



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.06"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational		
Road Class	Class 2	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
Width	between 116 and 125 inclusive	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_L006_01
 Dimension: 1

OPS



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black Lineweight: 0.003" Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.02"	Operational Status: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 2		
Width	Unspecified	<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_02
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 40 and 45 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.02"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_03
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 46 and 55 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.025"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_04
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 56 and 65 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.03"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_05
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 66 and 75 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.035"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_06
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 76 and 85 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.04"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red	
		Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_07
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 86 and 95 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.045"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red	
		Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_08
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 96 and 105 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.05"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_09
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 106 and 115 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.055"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L006_10
 Dimension: 1

OPS

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Dashed Casing</u> Color: Black	Operational Status: Color: Black
Road Class	Class 2	Lineweight: 0.003"	Style: UI CAPS
Width	between 116 and 125 inclusive	Dash Length: 0.01" Dash Spacing: 0.02" Line Spacing: 0.06"	Size: 5 Spacing: 0
		<u>Dashed Fill</u> Color: Red Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	

Symbol#: ROAD_L007_01
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black	Access Restrictions: Color: Black
Road Class	Class 3	Lineweight: 0.015" Screen: 50%, 150-line biangle	Style: UI CAPS Size: 5 Spacing: 0
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	Unspecified		

Symbol#: ROAD_L007_02
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.02" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 40 and 45 inclusive		

Symbol#: ROAD_L007_03
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.025" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 46 and 55 inclusive		

Symbol#: ROAD_L007_04
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.03" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 56 and 65 inclusive		

Symbol#: ROAD_L007_05
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.035" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 66 and 75 inclusive		

Symbol#: ROAD_L007_06
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.04" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 76 and 85 inclusive		

Symbol#: ROAD_L007_07
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.045" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 86 and 95 inclusive		

Symbol#: ROAD_L007_08
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.05" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 96 and 105 inclusive		

Symbol#: ROAD_L007_09
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.055" Screen: 50%, 150-line biangle	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 106 and 115 inclusive		

Symbol#: ROAD_L007_10
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Line</u> Color: Black Lineweight: 0.06" Screen: 50%, 150-line biangle	Access restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 3		
Road Type	General Case, Traffic Circle, or Turning Roadway		
Width	between 116 and 125 inclusive		

Symbol#: ROAD_L008
 Dimension: 1

OVERLOOK

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 3	<u>Line</u> Color: Black Lineweight: 0.015" Screen: 50%, 150-line biangle	Label: Color: Black Style: UL CAPS Size: 5 Spacing: 0
Road Type	Overlook Access		

Symbol#: ROAD_L009
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 3	<u>Line</u> Color: Black Lineweight: 0.015" Screen: 50%, 150-line biangle	N/A
Road Type	Rest Area Access		

ROT

Symbol#: ROAD_L010
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 4	<u>Line</u> Color: Black	Road Type: Color: Black
Road Type	Runaway Truck Ramp	Lineweight: 0.007" Screen: 50%, 150-line biangle	Style: UL CAPS Size: 5 Spacing: 0

OVERLOOK

Symbol#: ROAD_L011
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 4	<u>Line</u> Color: Black	Label: Color: Black
Road Type	Overlook Access	Lineweight: 0.007" Screen: 50%, 150-line biangle	Style: UL CAPS Size: 5 Spacing: 0

Symbol#: ROAD_L012
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 4	<u>Line</u> Color: Black	N/A
Road Type	Rest Area Access	Lineweight: 0.007" Screen: 50%, 150-line biangle	

Symbol#: ROAD_L013
 Dimension: 1

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Restricted or Unspecified	<u>Line</u> Color: Black Lineweight: 0.007"	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 4	Screen: 50%, 150-line biangle	
Road Type	General Case		

Symbol#: ROAD_L014
 Dimension: 1

(4WD)

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Road Class	Class 5	<u>Line</u> Color: Black Lineweight: 0.007" Screen: 50%, 150-line biangle	Label: Color: Black Style: UI CAPS Size: 5 Spacing: 0

Symbol#: ROAD_A001
 Dimension: 2

ACR

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Area Fill</u> Color: Red Screen: 100%	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Not Included		
Operational Status	Operational	<u>Area Perimeter</u> Color: Black Lineweight: 0.003"	
Road Class	Class 1		

Symbol#: ROAD_A002
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Area Fill</u> Color: Red Screen: 100%	Access Restrictions: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Median Category	Median Included		
Operational Status	Operational	<u>Area Perimeter</u> Color: Black Lineweight: 0.003"	
Road Class	Class 1	<u>Centerline</u> Color: Black Lineweight: 0.003"	

Symbol#: ROAD_A003
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Area Fill</u> Color: Red Screen: 100%	Operational Status: Color: Black Style: UI CAPS Size: 5 Spacing: 0
Road Class	Class 1	<u>Dashed Area Perimeter</u> Color: Black Lineweight: 0.003" Dash Length: 0.01" Dash Spacing: 0.02"	



Symbol#: ROAD_A004
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Area Perimeter</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Not Included	Lineweight: 0.003"	Style: UI CAPS Size: 5
Operational Status	Operational	<u>Dashed Fill</u> Color: Red	Spacing: 0
Road Class	Class 2	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	



Symbol#: ROAD_A005
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Toll or Unspecified	<u>Area Perimeter</u> Color: Black	Access Restrictions: Color: Black
Median Category	Median Included	Lineweight: 0.003"	Style: UI CAPS Size: 5
Operational Status	Operational	<u>Dashed Fill</u> Color: Red	Spacing: 0
Road Class	Class 2	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	
		<u>Centerline</u> Color: Black Lineweight: 0.003"	



Symbol#: ROAD_A006
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Operational Status	Under Construction	<u>Area Fill</u> Color: Red	Operational Status: Color: Black
Road Class	Class 2	Dash Length: 0.12" Dash Spacing: 0.12" Screen: 100%	Style: UI CAPS Size: 5 Spacing: 0
		<u>Dashed Area Perimeter</u> Color: Black Lineweight: 0.003" Dash Length: 0.01" Dash Spacing: 0.02"	



Symbol#: ROAD_A007
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Access Restrictions	Private, Restricted, or Unspecified	<u>Area Fill</u> Color: Black	Access Restrictions: Color: Black
Road Class	Class 3	Screen: 50%, 150-line biangle	Style: UI CAPS Size: 5 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If ROAD coincides BUILDING (e.g. snowshed), CUL-DE-SAC, DRAWSPAN, FORD, or TUNNEL,
 Then suppress_section.

If ROAD coincides DAM/WEIR and Road Class = Class 3, Class 4, or Class 5,
 Then create a casing, lineweight = 0.005".

If ROAD coincides DAM/WEIR and Road Class = Class 1 or Class 2,
 Then change casing lineweight to 0.008".

If ROAD, with Road Class = Class 1 or Class 2, coincides GATE, with Gate Type = Tidegate,
 Then change casing lineweight to 0.008".

If ROAD, with Road Class = Class 3, Class 4, or Class 5, coincides GATE, with Gate Type = Tidegate,
Then create a casing, lineweight = 0.008".

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

UL 5 C/lc is used for labeling Road Type in congested areas.

Placement

TBD

EXAMPLES

Brooklyn, NY
New Orleans West, LA
San Fransisco North, CA
Shaker Heights, OH
Waynesboro East, VA

ROUTE - A designated path through a road network.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Not Applicable	The attribute does not apply and therefore cannot be valued
Route Designator	Official alphanumeric identifier
Compound Designator	Route designator is built from multiple components
Route Number	The official identifier
(Alphanumeric)	Length Value: 99
Route Sign	The manner in which the route is signed
County Route	
Interstate	Officially designated as part of the Interstate System
State Route	
U.S. Numbered	
Route Type	Function or purpose
Alternate	
Business	
Bypass	
Connector	
Loop	
Spur	
Truck	
Unspecified	The value is not known and is not required

Not Applicable

The attribute does not apply and therefore cannot be valued

DELINEATION

The limit of ROUTE is the set of one or more, usually continuous, components of the named or designated path. The route designator (including route type) or the name applies to the entire set, and not to any individual piece of the set. (In fact, an individual piece, such as the Cape May-Lewes Ferry LANE for US 9, may have its own name, different from the name or designator of the compound feature.)

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Composed Of		LANE ROAD

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

ROUTE is represented as a compound feature object.

DATA EXTRACTION

Capture Conditions

If ROUTE is composed of ROAD, or of LANE with Lane Type = Ferry Crossing, and ROUTE is an Interstate, U.S. Numbered, State, or County Route in Wisconsin or Missouri,

Or

If ROUTE is composed of ROAD with Road Class = Class 1 and ROUTE is a major road in an urban area and is named,

Or

If ROUTE is composed of ROAD that is a well-known or posted road in a rural area,
Then capture.

Attribute Information

If Name = (Alphanumeric) (and therefore compounding is based on Name),
Then Route Designator = Not Applicable.

If Route Designator = Compound Designator (and therefore compounding is based on Route Number, Route Sign, and Route Type),
Then Name = Not Applicable.

Source Interpretation Guidelines

All

Some information is included here that belongs in the global rules for Compound Features.

Compound features are more than just a convenient way to group things. Compound features are used to describe a higher level concept. A ROUTE is compounded from one or more appropriate ROAD (or occasionally LANE) basic feature objects. The set of appropriate ROAD feature objects is the grouping that identifies a named or numbered path within the network of road segments. Creating a ROUTE involves uniting and separating individual roads to create a unique occurrence. Therefore, US 29 is a different ROUTE from 16th Street, even though they are composed of some (or all) of the same instances of ROAD.

ROUTE represents named or designated expressways, turnpikes, streets in urban areas, and well-known or posted roads in rural areas. ROUTE is also used if a historical name is required to preserve continuity of a feature.

ROUTE does not include access roads, ramps, turning roadways, and other associated structures, unless they provide the only through route continuity.

LANE is included as a possible component of ROUTE because some ferry crossings have been identified with a route designator indicating that they are part of the designated ROUTE.

ROUTE (as with other compound feature objects) does not need to be contiguous. There can be gaps as when a named street is interrupted by a large building, or when US 89 is interrupted by Yellowstone Park. There can also be separated parallel components, such as for a divided Interstate highway.

On some occasions, ROUTE will be compounded from just one ROAD. This will occur when there are no road intersections or road attribute changes along the ROUTE within the domain. This allows the attributes Name and Route Designator to be consistently carried just on the feature ROUTE, not on the feature ROAD.

Graphic

Revision - General

Revision - Standard

Revision - Limited

Use ancillary source to obtain Name or Compound Designator.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

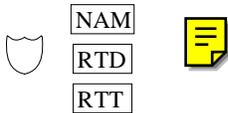
All required

Generalization

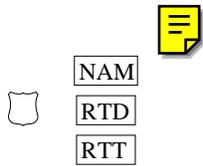
PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: ROUTE_C001
 Dimension: N/A

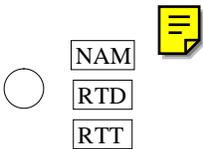


<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Route Sign	Interstate	<u>Road Shield</u> Color: Red	Route Designator and Route Type: Color: Red Style: UL CAPS Size: 5-6 Spacing: 0
Route Designator	Compound Designator	Lineweight: 0.005" Positioning: TBD	
Route Number	(Alphanumeric)	Symbol Number: standard USGS	
Route Type	Alternate, Business, Bypass, Connector, Loop, Spur, Truck, or Unspecified	interstate road shield, stock symbol #115 and #115A	



Symbol#: ROUTE_C002
 Dimension: N/A

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Route Sign	State Route	<u>Road Shield</u> Color: Red	Route Type and Route Number: Color: Red
Route Designator	Compound Designator	Lineweight: 0.005"	Style: UL CAPS
Route Number	(Alphanumeric)	Positioning: TBD	Size: 5-6
Route Type	Alternate, Business, Bypass, Connector, Loop, Spur, Truck, or Unspecified	Symbol Number: standard USGS state route shield, stock symbol #115 and #115a	Spacing: 0



Symbol#: ROUTE_C003
 Dimension: N/A

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Route Sign	U.S. Numbered	<u>Road Shield</u> Color: Red	Route Number and Route Type: Color: Red
Route Designator	Compound Designator	Lineweight: 0.005"	Style: UL CAPS
Route Number	(Alphanumeric)	Positioning: TBD	Size: 5-6
Route Type	Alternate, Business, Bypass, Connector, Loop, Spur, Truck, or Unspecified	Symbol Number: Standard USGS U.S. Numbered road shield, stock symbol#115 and #115A	Spacing: 0

			Symbol#: ROUTE_C004 Dimension: N/A
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">NAM</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RTD</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RTT</div>		

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Route Sign	County Route	<u>Road Shield</u> Color: Red	Route Number and Route Type: Color: Red
Route Designator	Compound Designator	Lineweight: 0.005"	Style: UL CAPS
Route Number	(Alphanumeric)	Positioning: TBD	Size: 5-6
Route Type	Alternate, Business, Bypass, Connector, Loop, Spur, Truck, or Unspecified	Symbol Number: standard USGS county route shield, stock symbol #115 and #115A	Spacing: 0

Postscript image not in the database.		Symbol#: ROUTE_C005 Dimension: N/A
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<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric)	N/A	Name: Color: Black Style: UI CAPS Size: 6-7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 3: Transportation

ROUTE

Placement

TBD

EXAMPLES

Boston, MA-RI-CT
Buffalo, NY-ONT
Newark, NJ-NY

RUNWAY/APRON/TAXIWAY - An area on land used by aircraft for takeoff, landing, parking or access to runways.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Operational Status	State or condition
Abandoned	Intact but not maintained or intended for use
Operational	Usable and intended for use
Under Construction	Construction has begun but is not completed
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks
Surface Status	State or condition
Not Paved	All surfaces other than asphalt or concrete
Paved	Surface of asphalt or concrete
Unspecified	The value is not known and is not required

DELINEATION

The limit of RUNWAY/APRON/TAXIWAY is the extent of the area used for landing, takeoff, parking, or runway access.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Above		UNDERPASS

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If RUNWAY/APRON/TAXIWAY is an isolated runway, and is $< 0.02''$ along the shortest axis,
 Then RUNWAY/APRON/TAXIWAY is represented as a 1-dimensional basic feature object.

If RUNWAY/APRON/TAXIWAY is an isolated runway, and is $\geq 0.02''$ along the shortest axis,
 Then RUNWAY/APRON/TAXIWAY is represented as a 2-dimensional basic feature object.

If RUNWAY/APRON/TAXIWAY consists of more than an isolated runway,
 Then RUNWAY/APRON/TAXIWAY is represented as a 2-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

If RUNWAY/APRON/TAXIWAY surface is paved,
Or
If RUNWAY/APRON/TAXIWAY is a runway, and the surface is not paved, and is permanent,
Then capture.

Attribute Information

If Operational Status = Under Construction,
Then Surface Status = Unspecified,
Else Surface Status = Paved or Not Paved.

Source Interpretation Guidelines

All

Do not capture Seaplane Runways as RUNWAY/APRON/TAXIWAY. See LANE.

Do not capture Seaplane Ramps as RUNWAY/APRON/TAXIWAY. See LAUNCHING RAMP
(Built-Up theme).

Graphic

Capture all.

An elevation on RUNWAY/APRON/TAXIWAY is captured as SPOT ELEVATION.

On 1:24,000-scale maps made before the middle of the 1980's, and starting again in 1994,
RUNWAY/APRON/TAXIWAYS are generally outlined with a black line. The black line is solid if
the RUNWAY/APRON/TAXIWAY is paved and the black line is dashed if the
RUNWAY/APRON/TAXIWAY is unpaved.

On 1:24,000-scale maps made from the middle of the 1980's to 1994, the areas covering runways and
paved landing strips are symbolized with a screened black line, while the outline of aprons and
taxiways are shown with a solid black line. Unpaved landing strips are shown with a dashed black
line.

Revision - General

Revision - Standard

Revision - Limited

Use ancillary source for the collection of Operational Status.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: RUNWAY_APRON_TAXIWAY_L001
 Dimension: 1

NAM LANDING STRIP

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.02"	Label and Name: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Operational		
Surface Status	Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_L002
 Dimension: 1

NAM LANDING STRIP (OPS)

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Casing</u> Color: Black Lineweight: 0.003" Line Spacing: 0.02"	Label, Name, and Operational Status: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Abandoned		
Surface Status	Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_L003
 Dimension: 1

NAM LANDING STRIP
 =====

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black	Label and Name: Color: Black
Operational Status	Operational	Lineweight: 0.003" Dash Length: 0.04"	Style: UI CAPS Size: 5-7
Surface Status	Not Paved	Dash Spacing: 0.02" Line Spacing: 0.02"	Spacing: 0

Symbol#: RUNWAY_APRON_TAXIWAY_L004
 Dimension: 1

NAM LANDING STRIP (OPS)
 =====

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black	Label, Name, and Operational Status: Color: Black
Operational Status	Abandoned	Lineweight: 0.003" Dash Length: 0.04"	Style: UI CAPS Size: 5-7
Surface Status	Not Paved	Dash Spacing: 0.02" Line Spacing: 0.02"	Spacing: 0

Symbol#: RUNWAY_APRON_TAXIWAY_L005
 Dimension: 1

NAM LANDING STRIP (OPS)
 =====

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black	Label, Name, and Operational Status: Color: Black
Operational Status	Under Construction	Lineweight: 0.003" Dash Length: 0.1" Dash Spacing: 0.02"	Style: UI CAPS Size: 5-7
		Line Spacing: 0.02"	Spacing: 0

Symbol#: RUNWAY_APRON_TAXIWAY_A001
Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Area Perimeter</u> Color: Black Lineweight: 0.003"	Label and Name: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Operational		
Surface Status	Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_A002
Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Area Perimeter</u> Color: Black Lineweight: 0.003"	Label, Name, and Operational Status: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Abandoned		
Surface Status	Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_A003
Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Area Perimeter</u> Color: Black Lineweight: 0.003" Dash Length: 0.04" Dash Spacing: 0.02"	Label and Name: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Operational		
Surface Status	Not Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_A004
Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Area Perimeter</u> Color: Black Lineweight: 0.003"	Label, Name, and Operational Status: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Abandoned	Dash Length: 0.04" Dash Spacing: 0.02"	
Surface Status	Not Paved		

Symbol#: RUNWAY_APRON_TAXIWAY_A005
Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Area Perimeter</u> Color: Black Lineweight: 0.003"	Label, Name, and Operational Status: Color: Black Style: UI CAPS Size: 5-7 Spacing: 0
Operational Status	Under Construction	Dash Length: 0.1" Dash Spacing: 0.02"	

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If RUNWAY/APRON/TAXIWAY symbol_coalesces RUNWAY/APRON/TAXIWAY,
Then suppress_section.

If RUNWAY/APRON/TAXIWAY touches or overlaps RUNWAY/APRON/TAXIWAY,
Then break dashed area perimeter.

Do not show a space at any angle point or intersection of dashed area perimeter lines.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If RUNWAY/APRON/TAXIWAY is within AIRCRAFT FACILITY,
Then delete Name, Label, and parentheses. Do not delete Operational Status.

If Name = (Alphanumeric),
Then delete label. Do not delete OPS.

If name or label cannot be positioned parallel to symbol,
Then change to:

Style: UL C/lc
Size: 7
Spacing: 0

Placement

TBD

EXAMPLES

Acree, GA (Paved RUNWAY/APRON/TAXIWAY, AIRCRAFT FACILITY)
Apra Harbor, GU (Paved and abandoned RUNWAY/APRON/TAXIWAY)
Arcadia, FL (Under construction RUNWAY/APRON/TAXIWAYS)
Archer, FL (Unpaved RUNWAY/APRON/TAXIWAY)
Auburndale, FL (Paved RUNWAY/APRON/TAXIWAY)
Cashes Valley, GA (Paved 1-D RUNWAY/APRON/TAXIWAY)
Coolidge, GA (Paved RUNWAY/APRON/TAXIWAYS)
Halifax, PA (Unpaved 2-D RUNWAY/APRON/TAXIWAY)
Haileah, FL (Paved RUNWAY/APRON/TAXIWAY)
Honesdale FL (Paved 1-D RUNWAY/APRON/TAXIWAY)
Leadville South, Co (Paved RUNWAY/APRON/TAXIWAY)
Mulky Gap, GA (Paved RUNWAY/APRON/TAXIWAY)
Park Place, TX (Paved RUNWAY/APRON/TAXIWAY)
Pearl Harbor, HI (AIRCRAFT FACILITY, capture seaplane runway as LANE)
Pineboro, GA (Paved RUNWAY/APRON/TAXIWAYS)
Rhodesdale, MD (Unpaved RUNWAY/APRON/TAXIWAY)
Tallahassee, FL (Paved RUNWAY/APRON/TAXIWAY, AIRCRAFT FACILITY)
Ypsilanti West, MI (Paved and unpaved RUNWAY/APRON/TAXIWAYS)

TRAFFIC INSPECTION FACILITY - An area having facilities to examine pedestrian and vehicular traffic and/or cargo.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks
Traffic Inspection Facility Type	Function or purpose
Agricultural Inspection	For the inspection of agricultural products by State or Federal officials
Customs	For the enforcement of customs laws by United States Customs Service
Customs Type	Function or purpose
Customs Station	For the carrying out of customs duties as defined by Code of Federal Regulations No. 19
Port of Entry	For the carrying out of Customs duties and other jurisdictional responsibilities as defined by Code of Federal Regulations No. 19
Weigh	For weighing of trucks by State highway authority

DELINEATION

The limit of **TRAFFIC INSPECTION FACILITY** is the extent of the area used for inspection, including any structures and parking areas.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

Capture all.

Attribute Information

Source Interpretation Guidelines

All

The identification of a customs facility as a customs station or port of entry is designated by law in the Code of Federal Regulations No. 19.

Graphic

Revision - General

Revision - Standard

Revision - Limited

Revise only custom stations and ports of entry. Delete all features that are not customs stations of

ports of entry.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

	Symbol#: TRAFFIC_INSPECTION_FACILITY_A001 Dimension: 2
TIF Station	

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Traffic Inspection Facility Type	Agricultural Inspection or Weigh	N/A	Traffic Inspection Facility Type and Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0

	Symbol#: TRAFFIC_INSPECTION_FACILITY_A002 Dimension: 2
U.S. Customs	

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Customs Type	Customs Station	N/A	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Traffic Inspection Facility Type	Customs		

Symbol#: TRAFFIC_INSPECTION_FACILITY_A003
 Dimension: 2

Port of Entry

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Customs Type	Port of Entry	N/A	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0
Traffic Inspection Facility Type	Customs		

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

If a customs facility is both a port of entry and a customs house,
 Then apply both labels and stack labels, so that "Port of Entry" is labeled first.

EXAMPLES

- Alexandria Bay, NY (Custom house)
- Blythe, CA (Checking station - agricultural)
- Detroit, MI (US customs and Canadian customs)
- Houlton, ME (Customs)
- Imperial Beach, CA (Port of Entry)
- Manassas, VA (Weighing station)
- Parker, AZ-CA (Inspection station - agricultural)
- Pike Lake, MT (Port of Entry)
- Presido, TX (Port of Entry)

TRAIL - A cleared path, beaten track, or improved surface, as through woods or wilderness, not usually trafficked by vehicles because of width, seasonal conditions, or access restrictions.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of TRAIL is the extent of the traveled path.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Above		UNDERPASS

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		> 0	
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If TRAIL is maintained for public use and is ≥ 1.0 " along the longest axis,
Or
If TRAIL is used for portage and is ≥ 0.25 " along the longest axis,
Or
If TRAIL is the only connection between two TRAILS, two ROADS, or a ROAD and a TRAIL,
Or
If TRAIL is named,
Or
If TRAIL is the only access to a collected FEATURE and is ≥ 0.25 " along the longest axis,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

Do not capture 4-wheel-drive roads as TRAIL. See ROAD.

Do not collect old railroad grades in BUILT-UP AREA.

Graphic

If a trail symbol is labeled "Old Railroad Grade,"
Then capture TRAIL.

Do not capture trails labeled "Approximate."

Do not capture as TRAIL those historical trails that do not meet the definition and capture conditions of TRAIL. If a trail is the Emigrant Trail, Sante Fe Trail, or Overland Trail, and follows a road, see ROUTE.

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features. Do not replace a deleted railroad with TRAIL.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">NAM</div> -----	Symbol#: TRAIL_L001 Dimension: 1
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<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	Dashed Line Color: Black Lineweight: 0.005" Dash Length: 0.05" Dash Spacing: 0.02"	Name: Color: Black Style: UI CAPS Size: 5 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If TRAIL coincides BRIDGE,
 Then suppress_section.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 3: Transportation

TRAIL

Placement

TBD

EXAMPLES

Conners Island, MN
Reno Pass, AZ

TUNNEL - An underground or underwater passage.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of TUNNEL is the walls of and openings to the passage.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		> 0	
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If TUNNEL provides passage for a transportation feature and does not provide passage for a railway transit system,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

Do not capture structures that provide only a separation of grade between any combination of RAILWAYS, ROADS, RUNWAY/APRON/TAXIWAYS, or TRAILS as TUNNEL. See UNDERPASS.

If a tunnel does not meet capture conditions and carries another feature,
Then capture that feature, and if required, capture UNDERPASS to allow definition of the relationship between that feature and any other feature over or under which it passes.

If a tunnel provides passage for RAILWAY with Railway Category = Transit,
Then do not capture. See TUNNEL ENTRANCE.

If TUNNEL provides passage for CANAL/DITCH or water PIPELINE,
Then collect in the theme Hydrography.

If there are two TUNNEL passages and the overall width is < 100 ft,

Or

If there are two TUNNEL passages and the separation between the passages is < 20 ft,
Then capture one instance of TUNNEL.

If TUNNEL meets capture conditions and provides passage for another feature (RAILWAY, ROAD),
Then capture both TUNNEL and the other feature.

Graphic

If TUNNEL is symbolized by a three line symbol,
Then capture as one instance of TUNNEL.

Water tunnels in Hawaii that are shown with the adit symbol are not captured as TUNNEL. See WELL.

Revision - General

Revision - Standard

If the alignment of TUNNEL is unknown,
Then it will be necessary to seek other sources to complete the alignment of TUNNEL and the feature
it contains.

Revision - Limited

If the alignment of TUNNEL is unknown,
Then align TUNNEL in a straight line between openings.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: TUNNEL_L001
 Dimension: 1

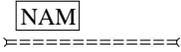
NAM

»=====«

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black Lineweight: 0.005" Dash Length: 0.05" Dash Spacing: 0.02" Line Spacing: 0.02" <u>Headline</u> Color: Black Lineweight: 0.003" Length: 0.02" Positioning: placed at each end of dashed casing, perpendicular to dashed casing <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of dashed casing, at 135 degrees from headline (inside angle between wing tick and headline)	Name: Color: Black Style: UI CAPS Size: 6-7 Spacing: 0

NOTE: This symbol applies only to the theme Transportation.

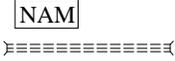
Symbol#: TUNNEL_L101
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Blue Lineweight: 0.004" Dash Length: 0.05" Dash Spacing: 0.02" Line Spacing: 0.02" <u>Headline</u> Color: Blue Lineweight: 0.003" Length: 0.02" Positioning: placed at each end of dashed casing, perpendicular to dashed casing <u>Wing Ticks</u> Color: Blue Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of dashed casing, at 135 degrees from headline (inside angle between wing tick and headline)	Name: Color: Blue Style: UI CAPS Size: 6-7 Spacing: 0

NOTE: This symbol applies only to the theme Hydrography.

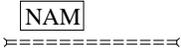
Symbol#: TUNNEL_L102
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black Lineweight: 0.003" Dash Length: 0.05" Dash Spacing: 0.02" Line Spacing: 0.04" <u>Headline</u> Color: Black Lineweight: 0.003" Positioning: placed at each end of dashed casing, perpendicular to dashed casing Minimum Length: 0.037" <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of dashed casing, at 135 degrees from headline (inside angle between wing tick and headline) <u>Dashed Centerline</u> Color: Black Lineweight: 0.003" Dash Length: 0.05" Dash Spacing: 0.02"	Name: Color: Black Style: UI CAPS Size: 6-7 Spacing: 0

NOTE: This symbol applies only to the theme Transportation.

Symbol#: TUNNEL_L103
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Casing</u> Color: Black Lineweight: 0.003" Dash Length: 0.05" Dash Spacing: 0.02" Line Spacing: 0.02" <u>Headline</u> Color: Black Lineweight: 0.003" Length: 0.02" Positioning: placed at each end of dashed casing, perpendicular to casing <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: placed at each end of headline, pointing in opposite direction of dashed casing, at 135 degrees from headline (inside angle between wing tick and headline)	Name: Color: Black Style: UI CAPS Size: 6-7 Spacing: 0

NOTE: This symbol applies only to the theme Transportation.

Symbol#: TUNNEL_L104
 Dimension: 1



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	<u>Dashed Line</u> Color: Black Lineweight: 0.015" Dash Length: 0.04" Dash Spacing: 0.02" Screen: 50%, 150-line biangle <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: pair of ticks meet at each end of dashed line, apex pointing toward dashed line, at 45 degrees (inside angle between ticks)	Name: Color: Black Style: UI CAPS Size: 6-7 Spacing: 0

NOTE: This symbol applies only to the theme Transportation.

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If TUNNEL is in a congested area and would obscure surface features if shown,
 Then suppress_section.

If TUNNEL coalesces RAILWAY or ROAD with width ≥ 0.02 ",
 Then scale TUNNEL such that length of headline and overall width of the casings = the width of the other feature.

If TUNNEL is < 0.12 " along the longest axis,
 Then suppress_section (Dashed Casing).

If TUNNEL coincides a Hydrographic feature,
 Then resymbolize using L101.

If TUNNEL coincides ROAD, with Road Class = Class 1 or Class 2, and with Median Category = Median Included,
 Then resymbolize using L102 and width = ROAD Width.

If TUNNEL coincides ROAD, with Road Class = Class 1 or Class 2, and with Median Category = Median Not Included,

Then resymbolize using L103 and width = ROAD Width.

If TUNNEL coincides ROAD with Road Class = Class 3,
Then resymbolize using L104.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

If Name or Label cannot be positioned parallel to the symbol,
Then change to:

Style: UL C/lc

Size: 7

Spacing: 0

Placement

TBD

EXAMPLES

Boston, MA
Carpenteria, CA
Cascadel Point, CA
Commerce City, CO
Honolulu, HI
Jersey City, NJ
Kaneohe, HI
Koko Head, HI
Little Switzerland, NC
Otay Mesa, CA
Pulga, CA
San Fransisco North, CA
Springdale East, UT
Storre, CA
Waipahu, HI
Washington West, DC-MD
Weehawken, NJ
Wheeling, WV
Wilson Peak, UT

TUNNEL ENTRANCE - Opening that affords entry to an underground or underwater passage.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Entrance Type	Function or purpose
Air Ventilation	To admit fresh air
General Case	Common use
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of TUNNEL ENTRANCE is the extent of the opening.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional		> 0	
1-dimensional			
2-dimensional			

Special Conditions:

DATA EXTRACTION

Capture Conditions

If TUNNEL ENTRANCE is associated with a tunnel that provides passage for a railway transit system,
Or
If TUNNEL ENTRANCE is associated with an air ventilation shaft,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

Graphic

Revision - General

Revision - Standard

Revision - Limited

Revise only general case TUNNEL ENTRANCES. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: TUNNEL_ENTRANCE_P001
 Dimension: 0

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Entrance Type	General Case	<u>Headline</u> Color: Black Lineweight: 0.003" Headline Length: 0.02" unless width of symbol entering TUNNEL ENTRANCE is > 0.02", then the length = width of symbol entering TUNNEL ENTRANCE. <u>Wing Ticks</u> Color: Black Lineweight: 0.003" Length: 0.023" Positioning: Placed at each end of headline pointing towards incoming or outgoing symbol at 135 degrees from headline (inside angle between wing tick and headline) <u>Symbol Orientation</u> Orientation: headline perpendicular to feature entering tunnel Origin: center of headline	N/A

Symbol#: TUNNEL_ENTRANCE_P002
 Dimension: 0

◦ Air Shaft

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Entrance Type	Air Ventilation	<u>Circle</u> Color: Black Lineweight: 0.003" Diameter: 0.04" <u>Dot</u> Color: Black Diameter: 0.006" Positioning: centered in circle <u>Symbol Orientation</u> Origin: center of circle	Label: Color: Black Style: UL C/lc Size: 7 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Brooklyn, NY

TURNTABLE - A rotating platform with railway tracks used for turning locomotives or cars.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of TURNTABLE is the extent of the rotating platform.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
---------------	----------------------------	-------------

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If TURNTABLE is < 0.06" in diameter,
 Then TURNTABLE is represented as a 0-Dimensional Basic Feature Object.

If TURNTABLE is ≥ 0.06" in diameter,
 Then TURNTABLE is represented as a 2-Dimensional Basic Feature Object.

DATA EXTRACTION

Capture Conditions

Capture all.

Attribute Information

N/A

Source Interpretation Guidelines

All

Graphic

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: TURNTABLE_P001
 Dimension: 0

∅

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	<p><u>Circle</u> Color: Black Lineweight: 0.003" Diameter: 0.06"</p> <p><u>Line</u> Color: Black Lineweight: 0.003" Length: 0.06" Positioning: line placed within circle at 45 degrees to south projection line, running from NE to SW</p> <p><u>Symbol Orientation</u> Origin: center of circle</p>	N/A

Symbol#: TURNTABLE_A001
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	<u>Area Perimeter</u> Color: Black Lineweight: 0.003" <u>Line</u> Color: Black Lineweight: 0.003" Positioning: line placed within area perimeter line at 45 degrees to south projection line, running from NE to SW Line Length: diameter of circle (area perimeter line)	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If the line within the TURNTABLE symbol is continuous with any of the tracks of connecting RAILWAY, Then rotate symbol so that line is not continuous with any tracks.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

- Baltimore East, MD
- Cumberland, MD-PA-WV
- Granite City, IL-MO
- San Fransisco South, CA

UNDERPASS - The grade separation where part or all of one feature instance is directly above part or all of another feature instance.

ATTRIBUTE/ATTRIBUTE VALUE LIST

N/A

DELINEATION

The limit of UNDERPASS is the extent of the horizontal area where the two separated feature instances overlap.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
Is Above		BRIDGE RAILWAY ROAD RUNWAY/APRON/TAXIWAY TRAIL

Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional			

Special Conditions:

If the feature object above UNDERPASS is 0-dimensional, and the feature object below UNDERPASS is 1-dimensional, or vice-versa,
 Then UNDERPASS is represented as a 0-dimensional basic feature object.

If the feature object above and the feature object below UNDERPASS are both 1-dimensional, and they are not collinear in the planar graph,
 Then UNDERPASS is represented as a 0-dimensional basic feature object.

If the feature object above and the feature object below UNDERPASS are both 1-dimensional, and they are at least partially collinear in the planar graph (they share at least one chain if in the same surface, or some linear portion of their chains match if in different surfaces),
 Then UNDERPASS is represented as a 1-dimensional basic feature object.

If the feature object above UNDERPASS is 1-dimensional and the feature object below UNDERPASS is

2-dimensional, or vice-versa,
Then UNDERPASS is represented as a 1-dimensional basic feature object.

If the feature object above and the feature object below UNDERPASS are both 2-dimensional,
Then UNDERPASS is represented as a 2-dimensional basic feature object.

DATA EXTRACTION

Capture Conditions

If UNDERPASS occurs where AREA OF COMPLEX CHANNELS, BUILDING, CANAL/DITCH, RAILWAY, ROAD, RUNWAY/APRON/TAXIWAY, or STREAM/RIVER cross over each other at different levels, and if there is no captured structure indicating vertical relationship and the vertical relationship is not otherwise inferable,

Or

If UNDERPASS occurs at BRIDGE,
Then capture.

Attribute Information

N/A

Source Interpretation Guidelines

All

UNDERPASS typically occurs where two roads cross without intersecting, but may also occur in other situations, such as when a building is above and straddling a road.

Do not capture UNDERPASS, even if there is no captured separating structure, between ROAD, RAILWAY, or TRAIL, and a waterbody. Without a structure, ROAD, RAILWAY, or TRAIL is always assumed to be above the waterbody, never below.

Only two feature objects may be involved in instances of the Is Above relationship with an UNDERPASS feature object. In a case of three or more feature objects overpassing each other at the same place, only vertically adjacent feature objects are involved in Is Above relationship instances with any one UNDERPASS feature object. Thus, a triple level stacking of feature objects requires two UNDERPASS feature objects; one UNDERPASS between the top and middle feature objects, and the other UNDERPASS between the middle and bottom feature objects.

If the features that cross at UNDERPASS are in two different themes,
Then capture UNDERPASS in both themes.

Graphic

Revision - General

Revise if features participating in relationship are revised.

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: UNDERPASS_P001
 Dimension: 0

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Symbol#: UNDERPASS_L001
 Dimension: 1

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Symbol#: UNDERPASS_A001
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

N/A

Placement

N/A

EXAMPLES