This document describes the CAD feature types that should be collected; the names of those feature types, and the type of geometry that should be collected to represent the features. It also describes the target locations in the GIS database where the features will reside after being converted to GIS features.
INTRODUCTION

This CAD manual is intended to provide a standard for CAD derived feature data that has been compiled from field surveys and photogrammetric compilation. The USFS GIS/Photogrammetry staffs of the Southwestern Region have been providing Large Scale Topographic data for hundreds of projects throughout the region. This manual provides a standard for the depiction of Forest Service features and topography within a CAD environment that correlates with National USFS GIS Standards. Part of the will be to develop a geodatabase design that supports engineering data derived from large scale mapping projects. The Large Scale GDB will provide a comprehensive inventory of “as is” feature data, surface data, and orthophotography of the assets for Region 3.

This document provides an overview of the typical feature types and topography associated within the Southwestern Region of the USFS. The USFS Rocky Mountain Region Center for Design and Interpretation (CDI) [http://www.fs.fed.us/r2/cdi/index.shtml](http://www.fs.fed.us/r2/cdi/index.shtml) provided the initial template for feature and topographic symbolization within a CAD environment. A review of past engineering mapping projects for the Southwestern Region identified additional feature types that were not accounted for the CAD manual of CDI. The Southwestern Region photogrammetry staff contracted with ESRI in expanding the CAD feature types while taking into consideration the methodology of collecting point, line, and polygon feature data. Traditional CAD vector that is converted into a GIS environment introduces editing of those feature types to be accurately depicted in a GIS environment. The topologies of those feature types are taken into consideration, so in a translation from CAD to GIS or vice versa, the feature types have their associate topology and require no further manipulation.
**BARRIER**

**CAD Collection**
Description: linear obstacle that is not a wall or fence, such as a concrete barrier to exclude cars.
Line type: continuous
Line weight: 25
Color: 4
Layer: BARRIER
Feature geometry: line
Elevation: Yes
Comments: Collect BARRIER as a continuous line.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
Target Feature Domain: Barrier
BOUNDARY

**CAD Collection**
Description: Polygon(s) outlining project area(s) and/or project mapping scale(s). The mapping limits and/or aerial photography photo coverage and stereo neat model coverage.
Line type: continuous
Line weight: 25
Color: 4
Layer: BARRIER
Feature geometry: polygon
Elevation: yes
Comments: Collect BOUNDARY as a polygon.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb and CAD_Survey_Footprints.gdb
Target Feature Dataset: CAD_Activities
Target Feature Class: CAD_ProjectArea
Target Feature Domain: BOUNDARY
BLDG

CAD Collection
Description: the roof-line footprint of a building
Line type: continuous
Line weight: 25
Color: 41
Layer: BLDG
Elevation: Yes
Feature geometry: polygon
Comments: Collect BLDG only as polygon representing the roof-line footprint.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_pl
CONTROL

CAD Collection
Description: point location collected via survey or GPS to photogrammetrically control imagery
Line type: continuous
Line weight: 25
Color: 42
Layer: CONTROL
Elevation: Yes
Feature geometry: point
Comments: Collect CONTROL as a single point. All other feature types and annotation are unnecessary.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Geodetic
Target Feature Class: CAD_Control_pt
DECK

CAD Collection
Description: linear outline of the edges of a deck that do not abut a building
Line type: continuous
Line weight: 25
Color: 2
Layer: DECK
Elevation: Yes
Feature geometry: line
Comments: Collect DECK as a single continuous line.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
FENCE

**CAD Collection**
Description: existing fence line
Line type: standard CAD collection line type is “fence line”
Line weight: 25
Color: 22
Layer: FENCE
Elevation: yes
Feature Geometry: line
Comments: FENCE should be collected as “fence line”. Collection as a continuous line is preferable for GIS purposes.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_Ln
CONT-I

CAD Collection
Description: index contour line
Line type: standard CAD collection type is “dashed.
Line weight: 25
Color: 252
Layer: CONT-I
Elevation: Yes
Feature geometry: line
Comments: CONT-I should be generated as “dashed”. Generation as continuous line is preferable for GIS purposes. Index contour shall be labeled with elevation value.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Topography
Target Feature Class: CAD_elevation_contour_ln
CONT-IO

CAD Collection
Description: index contour line obscured by overhanging trees, rocks, or buildings
Line type: standard CAD generated type is "dashed"
Line weight: 25
Color: 252
Elevation: Yes
Feature geometry: line
Comments: CONT-IO should be generated as dashed lines. Generation as continuous line is preferable for GIS purposes. Obscured Index contour shall be labeled with elevation value.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Topography
Target Feature Class: CAD_elevation_contour_Ln
CONT-NO

CAD Collection
Description: intermediate contour line obscured by overhanging trees, rocks, or buildings
Line type: standard CAD generation type is "dashed.
Line weight: 25
Color: 251
Layer: CONT-NO
Elevation: Yes
Feature geometry: line
Comments: CONT-NO should be generated as “dashed” lines. Generation as continuous line is preferable for GIS purposes.

GIS Geodatabase
Target CAD GDB:  CAD_Survey_GDB.gdb
Target Feature Dataset:  CAD_Topography
Target Feature Class:  CAD_elevation_contour_ln
CONT-N

**CAD Collection**
Description: intermediate contour line
Line type: standard CAD generated type is “dashed.”
Line weight: 25
Color: 251
Layer: CONT-N
Elevation: Yes
Feature geometry: line
Comments: CONT-N should be generated as “dashed” lines. Generation as continuous line is preferable for GIS purposes.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Topography
Target Feature Class: CAD_elevation_contour_ln
**MISC_FEATURE**

Miscellaneous features can be collected as points, lines, or polygons, depending on the feature. All features that are important but cannot be represented by any other known feature type can be placed into the MISC_FEATURE feature type.

**CAD Collection (Point)**

Description: any point feature that cannot be classified as any other existing feature type

Line type: continuous
Line weight: 25
Color: 2
Layer: MISC_FEATURE_PT
Elevation: Yes
Feature geometry: point
Comments: MISC_FEATURE as a point is only to be collected when the point is of interest, but cannot be conclusively placed into any other point feature class. Collect as a single point, with no other geometry.

**GIS Geodatabase**

Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Miscellaneous
Target Feature Class: CAD_Miscellaneous_pt
MISC_FEATURE (continued)

CAD Collection (Line)
Description: any linear feature that cannot be classified as any other existing feature type
Line type: continuous
Line weight: 25
Color: 2
Layer: MISC_FEATURE_LN
Elevation: Yes
Feature geometry: line
Comments: MISC_FEATURE as a line is only to be collected when the line is of interest, but cannot be conclusively placed into any other line feature class. Collect miscellaneous features that can be represented by lines as MISC_FEATURE continuous lines.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Miscellaneous
Target Feature Class: CAD_Miscellaneous_Ln
MISC_FEATURE (continued)

CAD Collection (Polygon)

Description: any area feature that cannot be classified as any other existing feature type
Line type: continuous
Line weight: 25
Color: 2
Layer: MISC_FEATURE_PL
Elevation: Yes
Feature geometry: polygon
Comments: MISC_FEATURE as a polygon is only to be collected when the polygon is of interest, but cannot be conclusively placed into any other polygon feature class. Collect miscellaneous features that can be represented as polygons as MISC_FEATURE polygons.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Miscellaneous
Target Feature Class: CAD_Miscellaneous_pl
OBSCURED

CAD Collection
Description: the extent of any feature that obscures ground-level features, such as contours
Line type: continuous
Line weight: 25
Color: 3
Feature geometry: line
Elevation: yes
Comments: OBSCURED features are collected where contours or other ground-level features are obscured by an overhanging feature, such as vegetation. It is recommended that OBSCURED features be collected as continuous lines.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Geodetic
Target Feature Class: CAD_Obscured_In
PAVED_DRIVE_ASPHALT

**CAD Collection**
Description: the edges of asphalt-paved driveways or parking areas
Line type: standard CAD collection type is “dashed2”
Line weight: 25
Color: 23
Feature geometry: line
Elevation: yes
Comments: Collect PAVED_DRIVE_ASPHALT as “dashed2”. Collection as continuous line is preferable for GIS purposes.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
PAVED_DRIVE_CONCRETE

CAD Collection
Description: the edges of concrete-paved driveways or parking areas
Line type: standard CAD collection type is “dashed2”
Line weight: 25
Color: 23
Feature geometry: line
Elevation: yes
Comments: Collect PAVED_DRIVE_CONCRETE as “dashed2”. Collection as continuous line is preferable for GIS purposes.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
PAVED_ROAD ASPHALT

CAD Collection
Description: the edges of roads that are paved with asphalt.
Line type: continuous
Line weight: 25
Color: 62
Feature geometry: line
Elevation: yes
Comments: PAVED_ROAD ASPHALT should be collected as continuous lines representing both edges of the road.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Transportation
Target Feature Class: CAD_Road_In
PAVED_ROAD_CONCRETE

CAD Collection
Description: the edges of roads that are paved with concrete.
Line type: continuous
Line weight: 25
Color: 62
Feature geometry: line
Elevation: yes
Comments: PAVED_ROAD_CONCRETE should be collected as continuous lines representing both edges of the road.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Transportation
Target Feature Class: CAD_Road_In
PAVED_SHOULDER

CAD Collection
Description: the edges of paved shoulders of roads
Line type: continuous
Line weight: 25
Color: 62
Feature geometry: line
Elevation: yes
Comments: PAVED_SHOULDER should be collected as continuous lines representing both outer edges of the shoulder.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
UTIL-ELEC-SYM

CAD Collection
Description: the base of a power utility pole, such as a telephone pole
Line type: continuous
Line weight: 25
Color: 22
Feature geometry: point
Elevation: yes
Comments: Collect POWER_UTILITY as a single point.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_pt
RECREATION

CAD Collection
Description: any feature that is used for recreation, such as playing fields, tent pads, fire rings, etc.
Line type: continuous
Line weight: 2
Color: 22
Feature geometry: line
Elevation: yes
Comments: RECREATION features should be collected as continuous lines.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: recommend either CAD_Miscellaneous or CAD_Constructed_Features
Target Feature Class: recommend creating a CAD_Recreation feature class
SIDEWALK

**CAD Collection**
Description: the edges of paved walkways
Line type: continuous
Line weight: 25
Color: 62
Feature geometry: line
Elevation: yes
Comments: SIDEWALK should be collected as continuous lines.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
SIGN

CAD Collection
Description: the base of a sign post or pole
Line type: continuous
Line weight: 25
Color: 11
Feature geometry: point
Elevation: yes
Comments: SIGN should be collected as a single point at the base of the sign.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_pt
SPOT_ELEVATION

CAD Collection
Description: the point on the ground where an elevation reading was taken
Line type: continuous
Line weight: 25
Color: white
Feature geometry: point
Elevation: yes
Comments: SPOT_ELEVATION should be collected as a single point.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Landform
Target Feature Class: CAD_spot_elevation_pt
TRAIL

**CAD Collection**
Description: linear path of any surface for travel by foot, horse, bicycle, or OHV
Line type: standard CAD collection type is “long dashed”.
Line weight: 25
Color: 193
Feature geometry: line
Elevation: yes
Comments: TRAIL should be collected as"long dashed". Collection as continuous line is preferable for GIS purposes.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Transportation
Target Feature Class: CAD_Trail_In
GRAVEL_DRIVE

CAD Collection
Description: the edges of unpaved gravel driveways or parking areas
Line type: standard CAD collection type is “hidden2”.
Line weight: 25
Color: 12
Feature geometry: line
Elevation: yes
Comments: GRAVEL_DRIVE should be collected as “hidden2”. Collection as continuous line is preferable for GIS purposes.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
**GRAVEL_ROAD**

**CAD Collection**
Description: the edges of roads that is composed of gravel
Line type: standard CAD collection type is “hidden2”.
Line weight: 25
Color: 12
Feature geometry: line
Elevation: yes
Comments: GRAVEL_ROAD should be collected as “hidden2” lines representing the both edges of the road. If the features will be used for GIS purposes, the preferred collection line type is continuous.

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**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Transportation
Target Feature Class: CAD_Road_In
UTIL-WATER

CAD Collection
Description: linear trace of a water utility line
Line type: Solid Line w/ W
Line weight: 25
Color: 150
Layer: UTIL-WATER
Elevation: Yes
Feature geometry: line
Comments: Collect UTIL-WATER as a single continuous line.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
**UTIL-WATER –HYD**

**CAD Collection**
Description: fire hydrant  
Line type: continuous  
Line weight: 25  
Color: 154  
Layer: UTIL-WATER-HYD  
Elevation: Yes  
Feature geometry: point  
Comments: Collect UTIL-WATER-HYD as a point.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb  
Target Feature Dataset: CAD_Constructed_Features  
Target Feature Class: CAD_Constructed_Feature_pt
UTIL-WATER-SYM

CAD Collection
Description: water valves/meters
Line type: continuous
Line weight: 25
Color: 153
Layer: UTIL-WATER-SYM
Elevation: Yes
Feature geometry: point
Comments: Collect UTIL-WATER-SYM as a point.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_pt
**UTIL-ELEC-UE**

**CAD Collection**
Description: linear trace of an underground electrical line
Line type: Solid Line w/ UE
Line weight: 25
Color: 235
Layer: UTIL-ELEC-UE
Elevation: Yes
Feature geometry: line
Comments: Collect UTIL-ELEC-UE as a single continuous line.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
**UTIL-ELEC-OE**

**CAD Collection**
Description: linear trace of an overhead electrical line
Line type: Solid Line w/ OE
Line weight: 25
Color: 235
Layer: UTIL-ELEC-OE
Elevation: Yes
Feature geometry: line
Comments: Collect UTIL-ELEC-OE as a single continuous line.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
**UTIL-ELEC-SYM**

**CAD Collection**
Description: electric pedestals/power poles  
Line type: continuous  
Line weight: 25  
Color: 22  
Layer: UTIL-ELEC-SYM  
Elevation: Yes  
Feature geometry: point  
Comments: Collect UTIL-ELEC-SYM as a point. Depending on collection scale and type of pedestal/power pole, points may be collected as a single point representing the center of the tower/pole, or as separate points depicting each corner of the base of a tower.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb  
Target Feature Dataset: CAD_Constructed_Features  
Target Feature Class: CAD_Constructed_Feature_pt
**UTIL-GAS**

**CAD Collection**
Description: linear trace of a gas line  
Line type: Dashed w/ G  
Line weight: 25  
Color: 193  
Layer: UTIL-GAS  
Elevation: Yes  
Feature geometry: line  
Comments: Collect UTIL-GAS as a single continuous line.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb  
Target Feature Dataset: CAD_Constructed_Features  
Target Feature Class: CAD_Constructed_Feature_In
UTIL-SEWER

CAD Collection
Description: linear trace of a sewer line
Line type: Center w/ S
Line weight: 25
Color: 171
Layer: UTIL-SEWER
Elevation: Yes
Feature geometry: line
Comments: Collect UTIL-SEWER as a single continuous line.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_Ln
**UTIL-TELE**

**CAD Collection**
- Description: linear trace of a telecommunication line
- Line type: Dashed w/ T
- Line weight: 25
- Color: 175
- Layer: UTIL-TELE
- Elevation: Yes
- Feature geometry: line
- Comments: Collect UTIL-TELE as a single continuous line.

**GIS Geodatabase**
- Target CAD GDB: CAD_Survey_GDB.gdb
- Target Feature Dataset: CAD_Constructed_Features
- Target Feature Class: CAD_Constructed_Feature_In
VEGETATION

Vegetation features can be collected as points or lines, depending on the feature. Any vegetation feature should be collected as VEGETATION feature type.

CAD Collection (Line)
Description: the extent of a vegetation area
Line type: continuous
Line weight: 25
Color: 85
Feature geometry: line
Elevation: yes
Comments: VEGETATION as lines should be collected as lines for large areas of vegetation such as trees or shrubs. No line stylization should be used; the edges should be smooth. Collection of vegetation as smooth-edged continuous lines eliminates the need to collect PATTERN_CLASS features.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Vegetation
Target Feature Class: CAD_Vegetation_Ln
VEGETATION (continued)

**CAD Collection (Point)**
Description: a single tree or shrub, or small group of trees or shrubs
Line type: continuous
Line weight: 25
Color: 85
Feature geometry: point
Elevation: yes
Comments: VEGETATION as a point should be collected as points for single trees or shrubs, or small
groups of trees or shrubs.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Vegetation
Target Feature Class: CAD_Vegetation_pt
**WALL**

**CAD Collection**
Description: freestanding constructed barrier used for containment or delineation
Line type: continuous
Line weight: 25
Color: 4
Feature geometry: line
Elevation: yes
Comments: Collect WALL as a continuous line.

**GIS Geodatabase**
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Constructed_Features
Target Feature Class: CAD_Constructed_Feature_In
WATER

Water features can be collected as points, lines, or polygons, depending on the feature and collection scale. All water features should be placed into the WATER feature type.

CAD Collection (Polygon)
Description: the extent of a polygonal water body, such as a lake or pond
Line type: standard CAD collection type is "divide", but for GIS purposes would be better collected as "continuous".
Line weight: 25
Color: 151
Feature geometry: polygon
Elevation: yes
Comments: WATER features should be collected as polygons for any water feature that is distinguishable as two-dimensional at the collection scale.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Water
Target Feature Class: CAD_Water_pl
WATER (continued)

CAD Collection (Line)
Description: linear water body, such as a river or stream, collected as the center line for narrow water bodies, or as edges for wide water bodies
Line type: standard CAD collection type is "divide", but for GIS purposes would be better collected as "continuous".
Color: 151
Feature geometry: line
Elevation: yes
Comments: WATER features should be collected as continuous lines (if they will be used for GIS purposes) for any water feature that is distinguishable as linear at the collection scale.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Water
Target Feature Class: CAD_Water_In
WATER (continued)

CAD Collection (Point)
Description: a single-point water body, such as a spring
Line type: standard CAD collection type is “divide”, but for GIS purposes would be better collected as “continuous”.
Line weight: 25
Color: 151
Feature geometry: point
Elevation: yes
Comments: WATER features should be collected as points for any water feature that is distinguishable as zero-dimensional at the collection scale.

GIS Geodatabase
Target CAD GDB: CAD_Survey_GDB.gdb
Target Feature Dataset: CAD_Water
Target Feature Class: CAD_Water_pt
### Appendix A: Tabular Description of CAD Collection Features

<table>
<thead>
<tr>
<th>Layer Name</th>
<th>Description</th>
<th>Color</th>
<th>Feature Geometry</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARRIER</td>
<td>linear obstacle that is not a wall or fence, such as a concrete barrier to exclude cars</td>
<td>4</td>
<td>line</td>
</tr>
<tr>
<td>BOUNDARY</td>
<td>The CAD survey area</td>
<td>7</td>
<td>polygon</td>
</tr>
<tr>
<td>BLDG</td>
<td>the ground-level footprint of a building</td>
<td>41</td>
<td>polygon</td>
</tr>
<tr>
<td>CONTROL</td>
<td>point location collected via survey or GPS to photogrammetrically control imagery</td>
<td>42</td>
<td>point</td>
</tr>
<tr>
<td>DECK</td>
<td>linear outline of the edges of a deck that do not abut a building</td>
<td>2</td>
<td>line</td>
</tr>
<tr>
<td>FENCE</td>
<td>existing fence line</td>
<td>22</td>
<td>line</td>
</tr>
<tr>
<td>CONT-I</td>
<td>index contour line</td>
<td>252</td>
<td>line</td>
</tr>
<tr>
<td>CONT-IO</td>
<td>index contour line obscured by overhanging trees, rocks, or buildings</td>
<td>252</td>
<td>line</td>
</tr>
<tr>
<td>CONT-N</td>
<td>intermediate contour line</td>
<td>251</td>
<td>line</td>
</tr>
<tr>
<td>CONT-NO</td>
<td>intermediate contour line obscured by overhanging trees, rocks, or buildings</td>
<td>251</td>
<td>line</td>
</tr>
<tr>
<td>MISC_FEATURE (as point)</td>
<td>any point feature that cannot be classified as any other existing feature type</td>
<td>2</td>
<td>point</td>
</tr>
<tr>
<td>MISC_FEATURE (as line)</td>
<td>any linear feature that cannot be classified as any other existing feature type</td>
<td>2</td>
<td>line</td>
</tr>
<tr>
<td>MISC_FEATURE (as polygon)</td>
<td>any area feature that cannot be classified as any other existing feature type</td>
<td>2</td>
<td>polygon</td>
</tr>
<tr>
<td>OBSCURED</td>
<td>the extent of any feature that obscures ground-level features, such as contours</td>
<td>3</td>
<td>line</td>
</tr>
<tr>
<td>PAVED_DRIVE_ASPHALT</td>
<td>the edges of asphalt-paved driveways or parking areas</td>
<td>23</td>
<td>line</td>
</tr>
<tr>
<td>PAVED_DRIVE_CONCRETE</td>
<td>The edges of concrete-paved driveways or parking areas</td>
<td>23</td>
<td>line</td>
</tr>
<tr>
<td>Feature Code</td>
<td>Description</td>
<td>Number</td>
<td>Type</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>PAVED_ROAD_ASPHALT</td>
<td>the edges of roads that are paved with asphalt</td>
<td>62</td>
<td>line</td>
</tr>
<tr>
<td>PAVED_ROAD_CONCRETE</td>
<td>The edges of roads that are paved with concrete</td>
<td>62</td>
<td>line</td>
</tr>
<tr>
<td>PAVED_SHOULDER</td>
<td>the edges of paved shoulders of roads</td>
<td>62</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-ELEC-SYM</td>
<td>the base of a power utility pole, such as a telephone pole</td>
<td>22</td>
<td>point</td>
</tr>
<tr>
<td>RECREATION</td>
<td>Any feature that is used for recreation, such as playing fields, tent pads, fire rings, etc.</td>
<td>22</td>
<td>line</td>
</tr>
<tr>
<td>SIDEWALK</td>
<td>the edges of paved walkways</td>
<td>62</td>
<td>line</td>
</tr>
<tr>
<td>SIGN</td>
<td>the base of a sign post or pole</td>
<td>11</td>
<td>point</td>
</tr>
<tr>
<td>SPOT_ELEVATION</td>
<td>the point on the ground where an elevation reading was taken</td>
<td>white</td>
<td>point</td>
</tr>
<tr>
<td>TRAIL</td>
<td>linear path of any surface for travel by foot, horse, bicycle, or OHV</td>
<td>193</td>
<td>line</td>
</tr>
<tr>
<td>GRAVEL_DRIVE</td>
<td>the edges of unpaved driveways or parking areas</td>
<td>12</td>
<td>line</td>
</tr>
<tr>
<td>GRAVEL ROAD</td>
<td>the edges of roads that are not paved</td>
<td>12</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-WATER</td>
<td>Linear trace of a water utility line</td>
<td>150</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-WATER-HYD</td>
<td>Water/fire hydrant</td>
<td>154</td>
<td>point</td>
</tr>
<tr>
<td>UTIL-WATER-SYM</td>
<td>Water valve/meter</td>
<td>153</td>
<td>point</td>
</tr>
<tr>
<td>UTIL-ELEC-UE</td>
<td>Linear trace of underground electrical line</td>
<td>235</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-ELEC-OE</td>
<td>Linear trace of overhead electrical line</td>
<td>235</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-ELEC-SYM</td>
<td>Electric pedestal/tower/power pole</td>
<td>22</td>
<td>point</td>
</tr>
<tr>
<td>UTIL-GAS</td>
<td>Linear trace of gas line</td>
<td>193</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-SEWER</td>
<td>Linear trace of sewer line</td>
<td>171</td>
<td>line</td>
</tr>
<tr>
<td>UTIL-TELE</td>
<td>Linear trace of telecommunication line</td>
<td>175</td>
<td>line</td>
</tr>
<tr>
<td>VEGETATION (as line)</td>
<td>the extent of a vegetation area</td>
<td>85</td>
<td>line</td>
</tr>
<tr>
<td>VEGETATION (as point)</td>
<td>a single tree or shrub, or small group of trees or shrubs</td>
<td>85</td>
<td>point</td>
</tr>
<tr>
<td>WALL</td>
<td>freestanding constructed barrier used for containment or delineation</td>
<td>4</td>
<td>line</td>
</tr>
<tr>
<td>WATER_PL</td>
<td>the extent of a polygon water body, such as a lake or pond</td>
<td>151</td>
<td>polygon</td>
</tr>
<tr>
<td>WATER_PNT</td>
<td>a single-point water body, such as a spring</td>
<td>151</td>
<td>point</td>
</tr>
<tr>
<td>WATER_LN</td>
<td>linear water body, such as a river or stream, collected as the center line for narrow water bodies, or as edges for wide water bodies</td>
<td>151</td>
<td>line</td>
</tr>
</tbody>
</table>
Manual Revision History