

# Planimetric Base Layer Mapping Features, Quality Control & Attribution



Office of the Chief Technology Officer



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**PLANIMETRIC BASE LAYER MAPPING ON OPEN DATA DC**

For  
District of Columbia Government

**1. PHOTOGRAMMETRIC MAPPING OF BASE PLANIMETRIC LAYERS**

A base set of layers are updated in this effort, including the type of capture, as part of the planimetric data:

1. Air Fields
2. Building
3. Bridge and Tunnel
4. Geodetic Control
5. Grate
6. Curb and Guardrail
7. Hydrography Lines
8. Obscured Area
9. Railroad
10. Recreation Area
11. Street Centerline
12. Road
13. Sidewalk including Stairs and Crosswalks
14. Swimming Pool
15. Water

**2. QUALITY ASSURANCE AND QUALITY CONTROL**

Generally, the project consisted of various types of processes grouped into visual checks, automated procedures, edge-matching routines, specialized checks, and field verification. These processes check the data’s spatial and attribute accuracy, usability, data documentation adherence, and specialized characteristics. The following table cross-references the types of checks with the data characteristic:

<b>QA/QC Process/Measure</b>	<b>Visual</b>	<b>Edge-match</b>	<b>Automated</b>	<b>Specialized</b>	<b>Data Load</b>	<b>Edit Check</b>	<b>Field Check</b>
Spatial Accuracy							X
Usability	X	X	X	X			X
Attribute Accuracy	X	X	X	X			X
Specification Adherence			X				
Specialized	X			X			
GeoDB Load					X		
Edits Performed						X	

### 3. DATA DICTIONARY

**NOTE:**

For CAPTUREACTION, if a feature is new it was coded as ‘Add’, if the feature changed shape due to renovations it was coded as ‘Update’, and if it no longer exists it was coded as ‘Delete’, but the feature was not deleted. All existing features at the beginning of the project were populated with ‘Existing;’ if a feature was not modified or deleted it was kept as the ‘Existing’ value.

#### AIRPLY

Type: Polygon

Description: Represents airway infrastructure footprints.

#### **Geometry Capture Rules**

*Taxiway, Apron:* Delineate footprint of the following features. A taxiway connects aircraft to other areas and facilities of an airport. The apron is an area of an airport where aircraft are parked, unloaded or loaded, refueled, or boarded

*Airport/Heliport Perimeter:* Delineate the full perimeter of the airport or heliport.

*Helipad:* Delineate clearly marked hard surface landing area or platform for helicopters

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	AIR_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
SHAPE_LENGTH	Double		System	Feature perimeter
SHAPE_AREA	Double		System	Feature area

FEATURECODE: AIR\_CODE domain  
1210 TAXIWAY, APRON

1220 AIRPORT, HELIPORT PERIMETER  
 1230 HELIPAD

CAPTUREACTION: CAPTUREACTION\_CODE domain

A Add  
 D Delete  
 E Existing  
 U Update

## BARRIERLN

### Feature Class Attributes

The following schema will be used to capture features:

*Barrier:* Capture jersey barriers and walls along roads and bridges as linear features. This includes impact attenuators. Where road edges and barriers share the same delineation, the geometry will be coincident.

*Guardrail:* Capture guardrails along roads and bridges as linear features. This includes impact attenuators. Where road edges and guardrails share the same delineation, the geometry will be coincident.

*Hidden Barrier:* Capture hidden jersey barriers and walls along roads and bridges as linear features. Hidden barriers are features that run under other features such as bridges, overpasses, or tunnels and are not fully visible in an aerial photograph. The location can be interpreted based on the information visible on either side of the visible feature. Where road edges and barriers share the same delineation, the geometry will be coincident.

*Hidden Guardrail:* Capture hidden guardrails and walls along roads and bridges as linear features. Hidden guardrails are features that run under other features such as bridges, overpasses, or tunnels and are not fully visible in an aerial photograph. The location can be interpreted based on the information visible on either side of the visible feature. Where road edges and guardrails share the same delineation, the geometry will be coincident.

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	BARRIER_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured

CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
SHAPE_LENGTH	Double		System	Feature perimeter
SHAPE_AREA	Double		System	Feature area

FEATURECODE: BARRIER\_CODE domain  
 5000 BARRIER  
 5010 GUARDRAIL  
 5020 HIDDEN BARRIER  
 5030 HIDDEN GUARDRAIL

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

## BLDGPLY

Type: Polygon

Description: Represents building roof print

### Geometry Capture Rules

Building structures include parking garages, ruins, monuments, and buildings under construction along with residential, commercial, industrial, apartment, townhouses, duplex etc... Buildings equal to or larger than 9.29 sq m (100 sq feet) will be captured. Firewalls or roof breaks will be digitized to show individual adjacent structures within them, when it can be determined that it is a separate unit, for apartments, townhouses, and duplexes. If there is any uncertainty about individual units, no firewall or roof break will be shown. All buildings must be compiled as complete polygons and squared accordingly. No other feature can make a side for a building. Legacy data in areas without change will not be updated.

For CAPTUREACTION, if a building is new it will be coded as ‘Add’, if the feature changes shape due to renovations it will be coded as ‘Update’, and if it no longer exists it will be coded as ‘Delete’, but the feature will not be deleted. All existing features at the beginning of the project will be populated with ‘Existing’; if a feature is not modified or deleted it will keep the ‘Existing’ value.

*Building:* Delineate around roof line showing the building "footprint." Roof breaks and rooflines, such as between individual residences in row houses or separate spaces in office structures, will be captured to partition building footprints. This includes capturing all sheds, garages, or other non-addressable buildings over 100 square feet throughout the City. Atriums, courtyards, and other “holes” in buildings created as part of demarcating the building outline will

not be part of the building capture. This includes construction trailers greater than 100 square feet.

As a guide, use the ownerply lot lines to assist in delineating roof breaks for those buildings where visual identification is difficult. This layer should be relied on heavily outside the downtown areas to capture roofbreaks. Within the downtown area, ownerply will serve as a guide for areas where roofbreak delineation is not clear. Aerial photography will be used as the primary source.

*Memorials:* Delineate around roof line showing the building "footprint." A list of memorials will be provided for capture and coding. DC GIS will provide a list of memorials to use as the source.

*Bleachers:* Delineate around the base of connected sets of bleachers.

*Parking Garage:* Capture this multi-story structure for parking as a parking garage. Delineate the perimeter of the parking garage including ramps. Parking garages sharing a common boundary with linear features must have the common segment captured once. A parking garage will only be attributes as such if there is rooftop parking. Not all rooftop parking is a parking garage, however. There are structures that only have rooftop parking but serve as a business. Those should be captured as buildings.

*Fountains:* Delineate around the base of fountain structures.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	BUILDING_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
SHAPE_LENGTH	Double		System	Feature perimeter
SHAPE_AREA	Double		System	Feature area

FEATURECODE: BUILDING\_CODE domain

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2000 BUILDING  
2010 MEMORIAL  
2020 BLEACHER  
2030 PARKING GARAGE

2040 FOUNTAIN

CAPTUREACTION: CAPTUREACTION\_CODE domain

A Add  
D Delete  
E Existing  
U Update

## BRGTUNPLY

Type: Polygon

Description: Represents a bridge or tunnel footprint

### Geometry Capture Rules

*Bridges:* All bridges will be digitized as polygons. Bridges carry roads or railroads over water. Delineate outside edge of all bridges. Also indicate bridge deck location or clear span where deck is not visible. This includes all overpasses (bridges that carry traffic over roads or railroads) and underpasses. Delineate outside edge of all overpasses. Bridges will overlap road polygons. Pedestrian bridges will not be captured.

*Tunnel Entrance:* Entire tunnels will not be captured, but all entrances to a tunnel shall be captured as polygons illustrating the width of the tunnel. Plot a polygon around the tunnel opening and any abutments or walls which identify the tunnel entrance.

*Hidden Bridge:* Hidden bridges are features that run under other features such as other bridges, overpasses, or tunnels and are not fully visible in an aerial photograph. The location can be interpreted based on the information visible on either side of the bridge. Legacy data in areas without change will not be updated.

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	BRIDGETUNNEL_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
BRIDGE-ID	String(50)		DC	Bridge ID that links to DDOT

			OCTO	bridge database
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
SHAPE_LENGTH	Double		System	Feature perimeter
SHAPE_AREA	Double		System	Feature area

FEATURECODE: BRIDGETUNNEL\_CODE domain  
 1500 BRIDGE  
 1501 HIDDEN BRIDGE  
 1520 TUNNEL

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

## CURBLN

Type: line

Description: Represents location of curbs and guardrails

*Curb:* The edge of roads, alleys, ramps or parking lots, other than those for which polygons can be formed. Curbs are rims, usually made of concrete, along a roadway, forming an edge for a sidewalk. Curbs do not occur where the sidewalk meets the road, such as at wheelchair or access ramps, and driveways.

*Hidden Curb:* Hidden curbs are depicted where curbs cross beneath underpasses or through tunnels. The location of these features are inferred

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	CURB_CODE	DC	Feature code



DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type

FEATURECODE: CURB\_CODE domain  
 1040 CURB  
 1041 HIDDEN CURB

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

## GEOCONTROLPT

Type: Point

Description: Represents location of control points

### Geometry Capture Rules

Points captured by the land surveyors to create control for the orthophotography. These points are captured with survey-grade equipment ensuring the highest accuracy in their location.

*Horizontal Control Point:* Surveyed horizontal geodetic control points that are used in the development of an analytical aerotriangulation solution.

*Vertical Control Point:* Surveyed vertical geodetic control points that are used in the development of an analytical aerotriangulation solution.

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	CONTROLPT_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature

			code	
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
X	Double		DC	X coordinate
Y	Double		DC	Y coordinate
Z	Double		DC	Z Value
Z_Foot	Double		DC	Z Value in feet

FEATURECODE: CONTROLPT\_CODE domain  
 6000 HORIZONTAL CONTROL POINT  
 6010 VERTICAL CONTROL POINT  
 6020 HORIZONTAL & VERTICAL CONTROL POINT

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

X: In meters, Format is X.XXX  
 Y: In meters, Format is X.XXX  
 Z: Elevation in meters, Format is X.XXX  
 Z\_Foot: Elevation in feet, Format is X.XXX

## GRATEPT

Type: Point

Description: Represents centroid of above curb grates

### Geometry Capture Rules

Centroids over any above curb grate including grates for the DC Metro ventilation, air ventilation for underground building sections, etc. Stormwater inlets are not included in the GratePt. Legacy data in areas without change will not be updated.

*Grate:* Use a single point capture for the feature at the visual center point. Grates are structures of parallel or crossed bars, used to cover steam vents or other ventilation features for buildings. They typically occur on sidewalks.

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	GRATE_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type

FEATURECODE: GRATE\_CODE domain  
7637 GRATE INLET

CAPTUREACTION: CAPTUREACTION\_CODE domain  
A Add  
D Delete  
E Existing  
U Update

## HYDROLN

This layer will contain hydrography such as streams, rivers, and other linear hydrography features. Hidden hydrography, inferred drainage connectors, or culverts will connect visible hydrography to form a continuous network. These connectors or hidden features will maintain a predictable direction connecting the 2 points that conceal or infer the feature.

*Streams:* Capture as single line if less than two meters wide. Plot both water edges if wider than two meters.

*Docks and Piers:* Delineate the visible outline.

*Jetty:* Delineate the visible outline.

*Seawall:* Plot a single line at the face of the seawall.

*Hidden Hydrography:* Hidden hydrography is not obvious, even to someone standing under a bridge for example; it cannot be seen photogrammetrically and can be captured only from other sources. Segments of rivers, streams, and canals that flow under features such as bridges and roads are captured as continuous portions of the river, stream, or canal.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	HYDRO_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type

FEATURECODE: HYDRO\_CODE domain  
 4100 STREAM  
 4110 DOCK or PIER  
 4120 JETTY  
 4130 SEAWALL  
 4140 HIDDEN HYDROGRAPHY

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

**OBSAREAPLY**

Type: Polygon

Description: Represents obscured areas that are not clear on the orthophotograph.

**Geometry Capture Rules**

Obscured Areas are areas in the compilation imagery that due to shadows, dense vegetation, heavy tree cover, building lean etc... that completely block out all image detail and nothing can

be seen or interpolated to meet accuracy or project scope. This feature class is completely new based on the 2017 stereo imagery and will not be updating the 2010 data since the source information is different. These areas will be void of any data. No other features can make a side for these.

*Obscured Area:* This is an area obscured by shadows where the level of confidence in the placement of the bounding lines has a reduced level of confidence.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	OBSCURED_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
SHAPE_LENGTH	Double		System	Feature perimeter
SHAPE_AREA	Double		System	Feature area

FEATURECODE:    OBSCURED\_CODE domain  
                   10000            OBSCURED AREAS

**RAILRDLN**

Type: Polyline

Description: Represents railroad centerline.

**Geometry Capture Rules**

Centerlines of railroads or metro rails will be captured. The line will be at the midpoint between each rail line. Hidden features due to tunnels, overpasses, or bridges will be interpolated for connectivity. These areas will be attributed as hidden railroad features.

*Railroad Centerline:* Delineate centerline between all dual-rails, including marshaling yards. Delineate centerline between all dual-rails, including marshaling yards.

*Metro Railroad Centerline:* Delineate centerline between all Metrorail dual-rails, including marshaling yards.

*Street Car Railroad Centerline:* Delineate centerline between all Street car dual-rails, including marshaling yards.

*Hidden Railroad:* Capture the centerline of railroads that are obscured by overpasses or tunnels. The location of these features is inferred. Existing hidden rail will be evaluated for accuracy and completeness and amended accordingly.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
OBJECTID	Object ID		System	Object identifier
SHAPE	Geometry		System	Feature geometry
GIS_ID	Long Integer		DC	Feature identifier
FEATURECODE	Short Integer	RAIL_CODE	DC	Feature code
DESCRIPTION	String(50)		DC	Description of feature code
CAPTUREYEAR	Date		DC	Date captured
CAPTUREACTION	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
SHAPE_LENGTH	Double		System	Feature perimeter

FEATURECODE: RAIL\_CODE domain  
 1300 RAILROAD CENTERLINE  
 1301 METRO RAIL CENTERLINE  
 1302 STREET CAR RAIL CENTERLINE  
 1303 HIDDEN RAILROAD

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

**RECREAPLY**

Type: Polygon

Description: Represents recreational court footprints

**Geometry Capture Rules**

The perimeter of all public and private sport/recreation courts, including clay, grass, dirt and paved surfaces will be captured. Each court will be delineated separately even if adjacent. Pavement around the recreation court should be captured as sidewalk, not recreation court. Courts will be defined as:

*Basketball Court:* Capture full outline of the court.

*Tennis Court:* Capture full outline of the court.

*Recreation Court:* Other impervious surface courts. Includes asphalt, concrete, rubber surface and wood chip playgrounds plus other obvious recreation surfaces (skate parks, etc). Capture full outline of the court.

*Baseball Field:* Capture infield and outfield of a baseball area as one polygon if easily defined in aerial photo. Otherwise capture infield as the baseball field.

*Football Field:* Capture full outline of the field as best defined in aerial photo

*Soccer Field:* Capture full outline of the field as best defined in aerial photo

*Track:* Capture outline of track. Any recreation fields within tracks will be captured and coded separately.

*Other Recreation Area:* For areas that cannot be easily defined by function, capture as other recreation area. Capture full outline of the field as best defined in aerial photo.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>GIS_ID</b>	Long Integer		DC	Feature identifier
<b>FEATURECODE</b>	Short Integer	RECCOURT_CODE	DC	Feature code
<b>DESCRIPTION</b>	String(50)		DC	Description of feature code
<b>CAPTUREYEAR</b>	Date		DC	Date captured
<b>CAPTUREACTION</b>	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter
<b>SHAPE_AREA</b>	Double		System	Feature area

FEATURECODE: RECCOURTPLY\_CODE domain  
3110 BASKETBALL COURT  
3120 TENNIS COURT  
3130 BASEBALL FIELD  
3140 FOOTBALL FIELD  
3150 SOCCER FIELD  
3160 TRACK  
3170 OTHER RECREATIONAL AREA  
3180 OTHER RECREATION COURT

CAPTUREACTION: CAPTUREACTION\_CODE domain  
A Add  
D Delete  
E Existing  
U Update

## ROADPLY

Type: Polygon

Description: Represents road footprints

### Geometry Capture Rules

Road edges are defined as the edge of the improved surface including the improved shoulder but do not include the unimproved shoulder only the travel part of the road. The road network will be compiled to have all open intersections. Features will not overlap sidewalks, but have the sidewalk area cut out of the road polygons. Overlapping features are acceptable if one of the features is hidden. Legacy data in areas without change will not be updated.

Road: A generally named thoroughfare, that is usually paved and can be public or private. Unimproved thoroughfares are excluded. Capture the perimeter of roads and ramps, exclusive of median strips and traffic islands. Road polygons are formed by a combination of road edge, curb, sidewalk, street intersection closure line and map sheet edge.

Paved Median Island: Perimeter of non-traffic paved areas that separate traffic lanes in opposing directions.

Unpaved Median Island: Perimeter of non-traffic grassy, unpaved areas that separate traffic lanes in opposing directions.

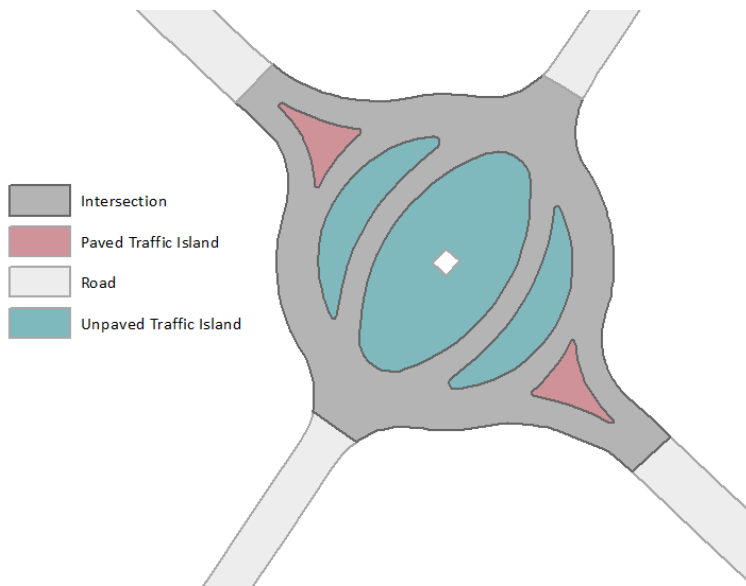
Paved Traffic Island: Perimeter of non-traffic concrete areas in the middle of streets designed to segregate traffic flow. This does not include linear barriers, e.g., Jersey barriers, walls or guardrails, or point barriers, such as impact attenuators. Features will not overlap sidewalks. Major traffic circles will not be coded as traffic circles. DC GIS will provide a list. See Figure 1.

Unpaved Traffic Island: Perimeter of non-traffic unpaved, grassy areas in the middle of streets designed to segregate traffic flow. This does not include linear barriers, e.g., Jersey barriers,



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walls or guardrails, or point barriers, such as impact attenuators. Features will not overlap sidewalks. Major traffic circles will not be coded as traffic circles. DC GIS will provide a list. See Figure 1.



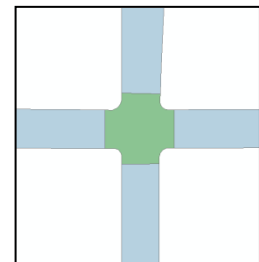
**Figure 1**

Alley: Perimeter of alleys first plotted photogrammetrically from other indicators such as building footprints, fence lines, curb lines, walls, paved or unpaved drives, and map sheet edge. Alley polygons are closed along the lines where they intersect with road polygons.

Paved Drive: A paved driveway for a building or entranceway for a parking lot. Delineate the perimeter of all driveways greater than 200 feet throughout the City and smaller driveways within the Monumental Core only. Driveways are neither streets nor alleys, but provide access to public facilities, such as a drive to a monument, museum, hotel, large estate, sports field or golf course, grounds of the U.S. Capital, etc. Do not capture private driveways that are less than 200 feet in length. If the driveway is less than 200 feet and leads to a parking lot, the entire paved area will be captured as Parking Lot. Driveways will be photogrammetrically compiled as polygons and not compiled from individual vectors on different levels.

Parking Lot: Generally paved surfaces used for cars to park on. Paved drives usually form entrances to these features, if the drive is more than 200 feet. If the driveway is less than 200 feet leading into the parking lot, the entire paved area will be captured as Parking Lot. Delineate the outline of the parking lot. The curb need not be distinguished. Parking lots sharing a common boundary with linear features must have the common segment captured once, but coded as both polygon and line. Distinguish paved from unpaved. Small parking areas, where individuals park their cars in the middle of a block off a public alley, will not be captured as parking lots. These are either public space (e.g., alleys) or private space where owners permit parking to occur.

Intersection: A location where more than one road comes together. Intersections will be captured in an opened fashion, as illustrated in Figure 2 if the intersection is in a traffic circle. For standard cross streets, intersection polygons are bounded by curbs and four closure lines at street



intersection crosswalks (outer line) or placed arbitrarily where crosswalks could logically be placed. For "T" intersections, the polygons are bounded by curbs and three such closure lines. Complex intersections could have more closure lines. Entire traffic circles will be coded as intersections.

***Hidden Road:*** A section of a road that passes underneath a bridge or overpass and is not visible in an aerial photograph, but the location can be interpreted based on the road on either side of the bridge. Capture the perimeter of roads that are obscured by overpasses or tunnels.

***Hidden Median:*** A road median that exists underneath a bridge or overpass and is not fully visible in an aerial photograph, but the location can be interpreted based on the information visible on either side of the bridge. Capture the perimeter of medians that are obscured by overpasses or tunnels.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>GIS_ID</b>	Long Integer		DC	Feature identifier
<b>FEATURECODE</b>	Short Integer	ROAD_CODE	DC	Feature code
<b>DESCRIPTION</b>	String(50)		DC	Description of feature code
<b>CAPTUREYEAR</b>	Date		DC	Date captured
<b>CAPTUREACTION</b>	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter
<b>SHAPE_AREA</b>	Double		System	Feature area

FEATURECODE: ROAD\_CODE domain

1050	ROAD
1055	PAVED MEDIAN ISLAND
1056	PAVED TRAFFIC ISLAND
1057	UNPAVED TRAFFIC ISLAND
1058	UNPAVED MEDIAN ISLAND
1060	ALLEY
1065	PAVED DRIVE
1070	PARKING LOT
1090	INTERSECTION

1091 HIDDEN ROAD  
 1092 HIDDEN MEDIAN

CAPTUREACTION: CAPTUREACTION\_CODE domain

A Add  
 D Delete  
 E Existing  
 U Update

## SIDEWALKPLY

Type: Polygon

Description: Represents sidewalk footprints

### Geometry Capture Rules

All public walkways will be captured. Sidewalks will not overlap other feature classes unless they are hidden under a bridge or overpass. Cement pads around public swimming pools will be captured. Walkways in common areas of apartments, college campuses, and business parks will be captured as sidewalks. Individual resident sidewalks will not be captured.

*Sidewalk:* Sidewalks either compiled photogrammetrically as polygons or derived from a combination of vectors including: curbs, buildings, walls, driveways, or other features. Any stair feature that is less than 5 stairs will be coded as sidewalk to maintain continuity.

*Hidden Sidewalk:* Capture sidewalks that are obscured by overpasses or tunnels. They are not fully visible in an aerial photograph, but the location can be interpreted based on the information visible on either side of the bridge.

*Stairs:* Groups of 5 or more stairs outside of major buildings or monuments, as well as part of sidewalks, shall be captured, Individual stairs will not be captured; capture all stairs for in one polygon. Do not capture stairs for minor buildings, including individual homes. Fire cases will not be included. If landings exist within the stairs, it will be captured as sidewalk, not stairs.

*Crosswalk:* Capture marked crosswalks that are fully visible in an aerial photograph.

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>GIS_ID</b>	Long Integer		DC	Feature identifier

<b>FEATURECODE</b>	Short Integer	<b>SIDEWALK_CODE</b>	DC	Feature code
<b>DESCRIPTION</b>	String(50)		DC	Description of feature code
<b>CAPTUREYEAR</b>	Date		DC	Date captured
<b>CAPTUREACTION</b>	String(1)	<b>CAPTUREACTION_CODE</b>	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter
<b>SHAPE_AREA</b>	Double		System	Feature area

FEATURECODE: SIDEWALK\_CODE domain  
 1480 SIDEWALK  
 1481 HIDDEN SIDEWALK  
 1482 STAIRS  
 1483 CROSSWALK

CAPTUREACTION: CAPTUREACTION\_CODE domain  
 A Add  
 D Delete  
 E Existing  
 U Update

## STREETCENTERLINELN

Type: Polyline

Description: Represents street centerline.

### Geometry Capture Rules

Road and bridge centerlines need to be compiled. Roads divided by medians will have a centerline compiled for each side of the median. Centerlines that travel under bridges or into tunnels will be digitized to continue through these features by making a best guess or connecting the entering and existing points or by using existing maps if available. Centerlines at road intersections will be depicted as a “Y” and will also be digitized at right angles and not with arcs or curves. Legacy data in areas without change will not be updated.

The Contractor is only responsible for the Geometry and the attributes ROADWAYSEGID and CAPTUREACTION. If a new road is added it will get the next consecutive ROADWAYSEGID. FOR CAPTURE ACTION, if a street centerline is new it will be coded as ‘Add’, if the feature changes shape due to renovations it will be coded as ‘Update’, and if it no longer exists it will be coded as ‘Delete’, but the feature will not be deleted. All existing features at the beginning of the project will be populated with ‘Existing’; if a feature is not modified or deleted it will keep the ‘Existing’ value.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>ROADWAYSEGID</b>	Long Integer		DDOT	Feature identifier
<b>UPDATETIMESTAMP</b>	Date		DDOT	Last Edit date and time
<b>CAPTUREACTION</b>	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter

CAPTUREACTION: CAPTUREACTION\_CODE domain

- A Add
- D Delete
- E Existing
- U Update

**SWMPOOLPLY**

Type: Polygon

Description: Represents swimming pool footprints

**Geometry Capture Rules**

The perimeter of public and private swimming pools will be captured, for both above ground and in ground pools. No other features can make a side for this feature. Pools will not overlap any other feature class. Pool decks and pavement around pools will not be captured as a pool. Pavement around pools is captured as sidewalk. Roof top pools will not be captured. Legacy data in areas without change will not be updated.

**Feature Class Attributes**

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>GIS_ID</b>	Long Integer		DC	Feature identifier
<b>FEATURECODE</b>	Short Integer	POOL_CODE	DC	Feature code
<b>DESCRIPTION</b>	String(50)		DC	Description of feature

			code	
<b>CAPTUREYEAR</b>	Date		DC	Date captured
<b>CAPTUREACTION</b>	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter
<b>SHAPE_AREA</b>	Double		System	Feature area

FEATURECODE: POOL\_CODE domain  
4090 SWIMMING POOL

CAPTUREACTION: CAPTUREACTION\_CODE domain  
A Add  
D Delete  
E Existing  
U Update

## WATERPLY

Water is a polygon feature class consisting of the following features and capture rules:

*Lakes, Reservoirs:* Delineate the shoreline of all standing bodies of water designated as a lake or reservoir. Close polygon at neat-line when crossing tiles.

*Ponds:* Delineate the outline of all standing bodies of water designated as ponds. Includes man-made ponds over 100 square feet.

*Rivers:* Capture the banks of all flowing bodies of water two meters wide or wider, i.e., rivers.

*Pools:* Capture the outline of the water portion of fountains and code as pools. This includes US Capitol and Reflecting Pool.

### Feature Class Attributes

The following schema will be used to capture features:

Field Name	Data Type	Domain	Source	Description
<b>OBJECTID</b>	Object ID		System	Object identifier
<b>SHAPE</b>	Geometry		System	Feature geometry
<b>GIS_ID</b>	Long Integer		DC	Feature identifier
<b>FEATURECODE</b>	Short Integer	WATER_CODE	DC	Feature code

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<b>DESCRIPTION</b>	String(50)		DC	Description of feature code
<b>CAPTUREYEAR</b>	Date		DC	Date captured
<b>CAPTUREACTION</b>	String(1)	CAPTUREACTION_CODE	DC	Flag for change type
<b>SHAPE_LENGTH</b>	Double		System	Feature perimeter
<b>SHAPE_AREA</b>	Double		System	Feature area

FEATURECODE: WATER\_CODE domain

4000	RESERVOIR
4010	POND
4020	RIVER
4030	POOL
4040	WASTEWATER HOLDING PONDS

CAPTUREACTION: CAPTUREACTION\_CODE domain

A	Add
D	Delete
E	Existing
U	Update