



# Dewberry<sup>®</sup>

## **LiDARgrammetry Data Dictionary & Stereo Compilation Rules**

for

**Mercer County, NJ (Task Order G09PD00704)**

**Salem County, NJ (non-CAFRA) (Task Order G09PD00703)**

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## Horizontal and Vertical Datum

Horizontal datum shall be referenced to the appropriate UTM Coordinate System. The horizontal datum shall be UTM 18 in meters. The vertical datum shall be referenced to the North American Vertical Datum of 1988 (NAVD 88). Geoid03 shall be used to convert ellipsoidal heights to orthometric heights.

## Coordinate System and Projection

All data shall be projected to the appropriate UTM Coordinate System Zone, Units in meters.

## Breakline Topology Rules

The following breakline topology rules have been incorporated into each geodatabase shell. The topology must be validated prior to submittal to USGS.

| Name: BREAKLINES_Topology |   | Cluster Tolerance: 0.003<br>Maximum Generated Error Count: Undefined<br>State: Analyzed without errors |   |  |  |
|---------------------------|---|--|---|--|--|
| Feature Class             | Weight                                    | XY Rank  | Z Rank                                  | Event Notification                           |  |
| SINGLE_LINE_STREAM        | 5   | 1  | 1                                       | No   |  |
| Topology Rules            |   |  |   |  |  |
| Name                      | Rule Type                                 | Trigger Event  | Origin ( <i>FeatureClass::Subtype</i> ) | Destination ( <i>FeatureClass::Subtype</i> ) |  |
| Must not intersect        | The rule is a line-no intersection rule   | No   | SINGLE_LINE_STREAM::All                 | SINGLE_LINE_STREAM::All                      |  |
| Must not self-intersect   | The rule is a line-no self intersect rule | No   | SINGLE_LINE_STREAM::All                 | SINGLE_LINE_STREAM::All                      |  |

## Double\_Line\_Stream

**Feature Dataset:** BREAKLINES

**Contains M Values:** No

None

**XY Resolution:** Accept Default Setting

**XY Tolerance:** 0.003

**Feature Class:** DOUBLE\_LINE\_STREAM

**Contains Z Values:** Yes

**Z Resolution:** Accept Default Setting

**Z Tolerance:** 0.001

**Feature Type:** Polygon

**Annotation Subclass:**

### Description

This polygon feature class will outline the land / water interface at the time of LiDAR acquisition.

### Table Definition

| Field Name | Data Type | Allow Null Values | Default Value | Domain | Precision | Scale | Length | Responsibility       |
|------------|-----------|-------------------|---------------|--------|-----------|-------|--------|----------------------|
| OBJECTID   | Object ID |                   |               |        |           |       |        | Assigned by Software |
| SHAPE      | Geometry  |                   |               |        |           |       |        | Assigned by Software |

### Feature Definition

| Code | Description        | Definition   | Capture Rules   |
|------|--------------------|--|---|
|      | Double_Line_Stream | Linear hydrographic features such as streams, shorelines, canals, swales, etc. with an average width greater than 15 meters. | <p>Capture features showing dual line (one on each side of the feature). Average width shall be greater than 15 meters to show as a double line. Each vertex placed should maintain vertical integrity and data is required to show "closed polygon". Monotonicity must be maintained throughout entirety of feature. Opposite sides of banks should be of equal value. Line intersections must be at nodes.</p> <p>Double Line hydrographic features should be carried through all bridges and culverts.</p> |

### Single\_Line\_Stream

**Feature Dataset:** BREAKLINES

**Contains M Values:** No

None

**XY Resolution:** Accept Default Setting

**XY Tolerance:** 0.003

**Feature Class:** SINGLE\_LINE\_STREAM

**Contains Z Values:** Yes

**Z Resolution:** Accept Default Setting

**Z Tolerance:** 0.001

**Feature Type:** Polyline

**Annotation Subclass:**

### Description

This polyline feature class will depict linear hydrographic features.

### Table Definition

| Field Name | Data Type | Allow Null Values | Default Value | Domain | Precision | Scale | Length | Responsibility       |
|------------|-----------|-------------------|---------------|--------|-----------|-------|--------|----------------------|
| OBJECTID   | Object ID |                   |               |        |           |       |        | Assigned by Software |
| SHAPE      | Geometry  |                   |               |        |           |       |        | Assigned by Software |

### Feature Definition

| Code | Description         | Definition  | Capture Rules   |
|------|---------------------|---|---|
|      | Single Line Feature | Linear hydrographic features such as streams, shorelines, canals, swales, embankments, etc. with an <b>average width greater than 3 meters and less than 15 meters.</b> | <p>Capture linear hydro features as single breaklines. Average width shall be less than 15 meters. Each vertex placed should maintain vertical integrity. Monotonicity must be maintained throughout feature. Features must be digitized from uphill to downhill. Dangles may only exist at upstream end of feature and must intersect other features at a node. Single Line Hydrographic features should be carried through all bridges and culverts.</p> <p>NOTE: Every feature captured must feed to a common outfall.</p> |

## Closed Water Body Features

**Feature Dataset:** BREAKLINES

**Contains M Values:** No

None

**XY Resolution:** Accept Default Setting

**XY Tolerance:** 0.003

**Feature Class:** WATERBODY

**Contains Z Values:** Yes

**Z Resolution:** Accept Default Setting

**Z Tolerance:** 0.001

**Feature Type:** Polygon

**Annotation Subclass:**

### Description

This polygon feature class will depict closed water body features.

### Table Definition

| Field Name | Data Type | Allow Null Values | Default Value | Domain | Precision | Scale | Length | Responsibility       |
|------------|-----------|-------------------|---------------|--------|-----------|-------|--------|----------------------|
| OBJECTID   | Object ID |                   |               |        |           |       |        | Assigned by Software |
| SHAPE      | Geometry  |                   |               |        |           |       |        | Assigned by Software |

### Feature Definition

| Code | Description | Definition   | Capture Rules   |
|------|-------------|--|---|
|      | Water Body  | Land/Water boundaries of constant elevation such as lakes, reservoirs, ponds, etc. Features shall be defined as closed polygons and contain an elevation value that reflects the best estimate of the water elevation at the time of data capture. Water body features will be captured for features 50 meters or greater in diameter. | Water bodies shall be captured as closed polygons with the water feature to the right. <u>The compiler shall take care to ensure that the z-value remains constant for all vertices placed on the water body.</u> |