Aviation:Airports Obstruction Identification Surfaces Tools Expected Schema

- **Input Schema**

The expected **Input Runway Features** are runway centerlines from the Esri Airports Data model. Input features from the AIS Charting data model or other sources may be used if meeting the requirements listed below. The following table lists acceptable **input feature classes** and the expected populated attribution to be used by the tool:

Data Model	Geometry Type	Feature Class	Attributes Used
Esri Airports	Polyline	Airfield\RunwayCenterline	RWYDESG
AIS	Polyline	ADHPSurfaceLine	SUBTYPE_CODE, DESIGNATOR_TXT

- Input Runway Features should be Z-enabled polyline features with defined horizontal and vertical coordinate systems.
- Input polyline Z values should be populated in the units of its vertical coordinate system.
- The runway designator field (RWYDESG | RUNWAYDESIGNATORIDENTIFIER | DESIGNATOR_TXT) should be populated in this format: 09/27, to ensure compatibility with Aviation Analysis tools.
- **Other polyline** input may be used. It does not need to be in an Esri Airports or AIS data model geodatabase but it should contain a populated 'RWYDESG' field, per information above.

Some of the OIS tools have an **Airport Elevation** parameter and an **Airport Control Point Feature** parameter. These are listed as 'optional' but one or the other should be used to supply an airport field elevation. Airport Control Point Feature class sources are the following:

Data Model	Geometry Type	Feature Class	Attributes Used
Esri Airports	Point	Geodetic\AirportControlPoint	POINTTYPE = AIRPORT_ELEVATION

- If the **Airport Elevation** parameter is used, the input value should be given in the units of the vertical coordinate system of the Target OIS Features.

- If using the **FAA 18B** tool, the **Airport Control Point Feature** should be used, since its geometry is used in constructing the output features.

The source of the **Airport Control Point Feature** can be the AirportControlPoint feature class from the Esri Airports data model.

- The POINTTYPE | POSITIONROLECODE value must be 'AIRPORT_ELEVATION'.
- The airport elevation is read from the geometry Z value of the feature, which should be populated in the vertical coordinate system units of its feature class. It is not read from an attribute.

The OIS tools that have an **Airport Control Point Feature** parameter also support surface creation based on **Displaced Thresholds**. For any DISPLACED_THRESHOLD feature found in the Airport Control Point Feature, OIS surfaces will be constructed based on its XYZ geometry instead of its corresponding endpoint on the input runway feature. Airport Elevation and Displaced Threshold features can be used at the same time, if either or both types are found in the input Airport Control Point Feature.

Data Model	Geometry Type	Feature Class	Attributes Used
Esri Airports	Point	Geodetic\AirportControlPoint	POINTTYPE = DISPLACED_THESHOLD RUNWAYENDD

  - The POINTTYPE | POSITIONROLECODE value must be 'DISPLACED_THRESHOLD'.
  - Displaced Threshold points must be located along the bearing of their runway centerlines and have their Runway End Designator field(s) populated.

- **Output Schema**

The following table lists the target schema to be appended by the OIS tool. The target OIS features may be polygon or multipatch from either the Esri Airports or AIS data model, or similar and have defined horizontal and vertical coordinate systems. Choose multipatch if Airport Analysis tools will later be used on the output.

Data Model	Geometry Type	Feature Class	Attributes Populated
Esri Airports	Multipatch	Airspace\ObstructionIdSurface_MP	DESCRIP, NAME, OISSURTY, RWYDESG, SLOPE, RUNWAYENDD, IDARPT*
Esri Airports	Polygon	Airspace\ObstructionIdSurface	DESCRIP, NAME, OISSURTY, RWYDESG, SLOPE, RUNWAYENDD, IDARPT*

*Only populated for FAR 77, FAA 13, ICAO Annex 14, ICAO Annex 4 Surfaces, Light Signal Clearance Surface, and PAPI Obstacle Clearance Surface tools to distinguish the Approach/Take Off climb surfaces.