CHAPTER 5. AIRPORT DATA FEATURES

The following paragraphs list the airport feature descriptions defining the specifications for each feature group and class. Utilize the specifications defined to ensure the data delivered is accurate and meets standards. Each feature is described by geometry type, feature group, information assurance level, requirements, positional accuracy, data capture rule, and the attributes required to provide the data to the FAA.

5.1. FEATURE DOCUMENTATION MINIMUMS

In addition to the general feature documentation outlined in paragraphs 1.5.2 and 1.5.3, certain features require additional or expanded documentation. Where required for a feature, the additional requirements are identified in the Documentation and Submission section of the feature description.

5.2. MULTIPLE INSTANCES OF FEATURES

5.3. FEATURE CLASS DESCRIPTION LEGEND

The following table identifies how each feature description is setup and provides information on what is contained within the section.

Definition: Definition of featur	e.				
Feature Group	The Feature Group of the element.				
Feature Class Name	The proper name	of the Feature Cla	ass.		
Feature Type	The compliant ge	cometry of element	•		
CADD Standard Requiremen	its				
Layer/Level		Descr	ription		
Compliant layer name.		Compliant layer d	escription. [Siting]	1	
	Color	Line type	Line Weight	Symbol	
AutoDesk Standards	Color code AutoCAD	Line type	Line weight AutoCAD	Symbol type is	
MicroStation Standards	Color code MicroStation	required	Line weight MicroStation	user defined	
Information Assurance Level	Security level credential				
	AIXM AIXM equivalent of feature.				
Equivalent Standards	FGDC	FGDC equivalen	t of feature.		
	SDSFIE <i>SDSFIE equivalent of feature.</i>				
Documentation and Submission Requirements	The required documentation for feature class elements. Minimum requirements are defined in paragraphs <u>1.5.2</u> and <u>1.5.3</u> . Additional or expanded documentation requirements are located here.				
Related Features					
Data Capture Rules: Descrip	tion of proper colle	ection limits and re	equirements for fea	ture class	
element.					
Monumentation	Monumentation	requirements.			
	Horiz	zontal	Ver	tical	
Survey Point Location	Description of specific HSP location.		Description of specific VSP location.		

5.3.1. Paragraph Number and FeatureClassName

	Horizontal	Ver	tical		
Accuracy Requirements (in	Horizontai	Orthometric	Ellipsoidal		
feet)	Accuracy requirement	Accuracy requirement	Accuracy requirement		
	Geographic Coordinates Distances and Elevations				
Resolution	Coordinate resolution Coordinate resolut		e resolution		
	requirement	requirement			
Feature Attributes					
Attribute (Datatype)	Description				
Name of attribute field	Description of attribute specificati	ons			

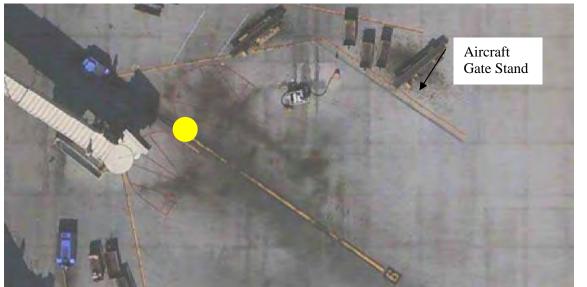
5.4. Group: AIRFIELD

5.4.1. Aircraft Gate Stand

Definition: Geographic position				usually marked	
by a yellow crossbar according to aircraft type (e.g., for B-747, A-340).					
Feature Group	Airfield				
Feature Class Name	AircraftGateStar	nd			
Feature Type	Point				
CADD Standard Requiremen	ts				
Layer/Level	Description				
C-APRN-ACPK	Aircraft gate/stand parking area				
	Color Linetype Line Weight Symbol				
AutoDesk Standards	6 Continuous 1 MM		1 MM	User Defined	
MicroStation Standards	5 Continuous Oser Dermed				
Information Assurance Level	Restricted				
	AIXM ApronElement Core				
Equivalent Standards	FGDC <i>AircraftGateStand</i>				
	SDSFIE airfield_surface_site				
Documentation and Submission Requirements	No documentation is required for this feature.				

Related Features

Data Capture Rules: Collect the aircraft gate stand as individual points with a separate feature for each defined location. If a generic location is defined, ensure the length and wingspan attributes cover all the appropriate aircraft expected to use the location.



	and the strength of the streng	And a second second				
Monumentation	No monumentation required.					
Survey Point Logetian	Horizontal	Vertical				
Survey Point Location	N/A	N/A	A			
	Harizantal	Verti	cal			
Accuracy Requirements (in	Horizontal	Orthometric	Ellipsoidal			
feet)	± 3 ft	± 5 ft	N/A			
Resolution	Geographic Coordinates	Distances and	Elevations			
Resolution	Hundredth of arc second	Nearest	t foot			
Feature Attributes						
Attribute (Datatype)	Desc	ription				
name (VARCHAR2(50))	The name of the feature.					
description (String 255)	Description of the feature.	Description of the feature.				
gateStandType	The type of aircraft gate/stand	The type of aircraft gate/stand.				
(Enumeration: codeGateStandTy	pe)					
Status (Enumeration: codeStatus)	A temporal description of the	A temporal description of the operational status of the feature.				
	This attribute is used to describ	This attribute is used to describe real-time status.				
wingspan (Number)	The quantity representing the	naximum wingspa	n which can			
	be accommodated at the aircra	be accommodated at the aircraft gate stand.				
length (Number)	The overall length of the aircra	The overall length of the aircraft gate stand.				
width (Number)	The overall width of the aircra	The overall width of the aircraft gate stand.				
userFlag (String 254)	An operator-defined work area	a. This attribute car	n be used by			
	the operator for user-defined s	ystem processes. I	t does not			
	affect the subject item's data in	ntegrity and should	not be used to			
	store the subject item's data.					
pavementClassificationNumber	A number which expresses the					
		ndard single wheel	l load.			
	[Source: AC 150/5335-5]					
pavementClassificationNumber	of a pavement in terms of a sta					

jetwayAvailability (boolean)	Indicates if a jetway or passenger loading bridge is available for use at the designated location.
towingAvailability (boolean)	Indicates if towing is available at the designated location.
dockingAvailability (boolean)	Indicates if docking light system is available at the designated
	location.
groundPowerAvailability (boolean)	Indicates the availability of ground power at the designated
	location.
surfaceType (Enumeration:	A classification of airfield pavement surfaces for Airport
codeSurfaceType)	Obstruction Charts [Source: NGS]
surfaceCondition (Enumeration:	A description of the serviceability of the pavement [Source:
codeSurfaceCondition)	NFDC]
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.2. Aircraft Non Movement Area

Definition: Taxiways and apron	(ramp) areas no	t under the control	of air traffic.			
Feature Group	Airfield					
Feature Class Name	AircraftNonM	lovementArea				
Feature Type	Line					
CADD Standard Requirements	5					
Layer/Level		Des	cription			
C-APRN-ANOM-	Aircraft non-n	Aircraft non-movement area				
C-AIRF-DSRF-NMOV	Aircraft non-n	novement area				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	7	Continuous	1 MM	Llaar Dafinad		
MicroStation Standards	0	Continuous		User Defined		
Information Assurance Level	Restricted					
	AIXM	NonMovementA	rea	Core		
Equivalent Standards	FGDC	FGDC AircraftNonMovementArea				
	SDSFIE None					
Documentation and Submission Requirements	None					

Related Features						
control of Air Traffic Control a objects. Two parallel yellow lin other is solid. The dashed side Compile this line as a single lin	-movement area is an area where ai nd are responsible for their own sep nes located side by side delineate the is the movement area and the solid s ne drawn mid-way between the solid of line in data capture to ensure solid	aration from aircra area. One line is do ide is the non-mover and dashed lines. If	ft, vehicles and ashed and the ment area. Yusing			
Ai Monumentation	rcraft non-movement area bounda No monumentation required.	ry line.				
	Horizontal	Vertical				
Survey Point Location	N/A	N/A				
A D t 4 (t	Horizontal	Vertical				
Accuracy Requirements (in feet)	Horizoittai	Orthometric	Ellipsoidal			
leet)	± 3 ft	± 5 ft	N/A			
Resolution	Geographic Coordinates	Distances and Elevations				
Resolution	Hundredth of arc second	Neares	st foot			
Feature Attributes						
Attribute (Datatype)	De	escription				
name (VARCHAR2(50))	The name of the feature.					
description (String 255)	Description of the feature.					
status (Enumeration: codeStatu		A temporal description of the operational status of the feature.				
		This attribute is used to describe real-time status.				
userFlag (String 254)	A	An operator-defined work area. This attribute can be used by				
		the operator for user-defined system processes. It does not				
		affect the subject item's data integrity and should not be used to				
	store the subject item's data.					
Alternative (Number(2))	Discriminator used to tie fea into a version.	Discriminator used to tie features of a plan or proposal together				

5.4.3. Air Operations Area

Definition: Air Operations Area is where security measures are enforced as specified in the airport security program. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas and any adjacent areas (such as general aviation areas) not separated by adequate security systems, measures, or procedures. [Source: 49 CFR Part 1542, Airport Security]

Feature Group	Airfield
Feature Class Name	AirOperationsArea
Feature Type	Polygon
CADD Standard Requiremen	its
Layer/Level	Description
C-AIRF-AHOA-	Air Operations Area

		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		2	Continuous	1 MM	- User Defined	
MicroStation Standards		4 Continuous		7	User Defined	
Information Assurance Level	Uncl	lassified				
	AIXMAirOperationsAreaExtended					
Equivalent Standards	FGD	C	AirOperationsAr	·ea		
	SDS	FIE	None			
Documentation and Submission Requirements	None	2				
Related Features						
Data Capture Rules: Collect	a close	d polygon t	o the greatest horiz	contal extents as de	fined by the	
airport security plan.	•					
Monumentation	No n		on required.			
Survey Point Location		Horizontal		Vertical		
Survey I onit Elocation		N	/A	N/A		
Accuracy Requirements (in		Horizontal		Vertical		
feet)				Orthometric	Ellipsoidal	
		± 3 ft		± 5 ft	N/A	
Resolution			Coordinates	Distances and Elevations		
		Hundredth o	of arc second	Nearest foot		
Feature Attributes						
Attribute (Datatype)				scription		
name (VARCHAR2(50))			of the feature.			
description (String 255)			n of the feature			
status (Enumeration: codeStatu	s)			e operational status		
		This attribute is used to describe real-time status.				
userFlag (String 254)		An operator-defined work area. This attribute can be used by				
		the operator for user-defined system processes. It does not				
		affect the subject item's data integrity and should not be used to				
			ubject item's data.			
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together				
		into a vers	10 n .			

5.4.4. Airfield Light

Definition: Any lighting located within or near an airport boundary that provides guidance for airborne					
and ground maneuvering of aircraft [Source: AIM, AC 150/5345 Series of ACs]					
Feature Group		Airfield			
Feature Class Name		AirfieldLight			
Feature Type		Point			
CADD Standard Requi	remen	ts			
Layer/Level		Description Layer/Level Description			
E-LITE-APPR-	Approach lights V-LITE-RUNW- Runway lights		Runway lights		
E-LITE-DIST-	Distance and arresting gear markers and lights V-LITE-TAXI- Taxiway lights				
E-LITE-LANE- And helipad lights V-LITE-THRS- Threshold lights			Threshold lights		
E-LITE-OBST-	And henpad lightsV BITE THRSTimeshold lightsV-LITE-RUNW- Obstruction lightsV-LITE-RUNW- TDZNRunway Touchdown Zone lights				

description (String 255) status (Enumeration: cod lightingType (Enumeration: codeLightingConfigurat color (Enumeration: codeColo luminescence (Integer)	ionTyp	s) A temp This at A desc classiff e) Obstru The co	poral de ttribute cription ications iction olor of t	f the feature escription of the is used to descri of the lighting s are Approach; he airfield light.	ibe real-ti system. L Airport; l	<u>me statu</u> ighting s Runway;	s. system Taxiway; and	
description (String 255) status (Enumeration: cool lightingType (Enumeration: codeLightingConfigurat		bescri s) A temp This at A desc classifi e) Obstru	poral de ttribute cription ications action	escription of the is used to descri of the lighting s are Approach;	ibe real-ti system. L Airport; l	me statu .ighting s	s. system	
description (String 255) status (Enumeration: cool lightingType (Enumeration:		s) A temp This at A desc classif	poral de ttribute cription	escription of the is used to descri of the lighting s	ibe real-ti system. L	me statu .ighting s	s. system	
description (String 255) status (Enumeration: coo lightingType	deStatu	s) A temp This at A desc	poral de ttribute cription	escription of the is used to descri of the lighting s	ibe real-ti system. L	me statu .ighting s	s. system	
description (String 255) status (Enumeration: co	deStatu	s) A temp This at	poral de ttribute	escription of the is used to descri	ibe real-ti	me statu	s.	
description (String 255)	leStatu	Descri s) A temp	poral de	escription of the				
description (String 255)		Descri	.					
				Description of the feature				
		-	-			-	-	
hanne () i neerin nez(00)	-		Edge Light, Taxiway Edge Light, Taxiway Centerline Light,					
			is attrib		-	the light	such as Runway	
Attribute (Data	type)			Des	scription			
Feature Attributes		Tunuro	uni or u	20 becond		1 (Cure		
Resolution				rc second	2150		st foot	
		Geogram		ordinates			d Elevations	
feet)			± 3 ft	+	± 5		N/A	
Accuracy Requiremen	ts (in	H	Iorizon	tal	Ortho		Ellipsoidal	
-			N/A				/A tical	
Survey Point Location			Horizon	tal	Vertical N/A			
Monumentation		No monumer				T 7	49 1	
captured using the featu	re type				attribute	codeUti	lityType.	
the airfield such as ap								
Data Capture Rules:								
Related Features	- 10							
Submission Requireme	ents	None						
Documentation and				airjieia_light_p				
Equivalent Standards		SDSFIE		AirfielaLight airfield_light_p	aint		Extension	
Faujvalant Standards		AIXM FGDC		LightElementEx AirfieldLight	xtension		Extension	
Level				LightFlom on + F	rtancian		Extension	
Information Assurance	<u>e</u>	Restricted						
MicroStation Standard		2		- 01110	7	1		
AutoDesk Standards	_	3		Point	1 N	1M	User Defined	
		Color		Linetype	Line V		Symbol	
V-LITE-OBST-		ruction lights						
V-LITE-LANE-		nelipad lights	-	GARD	-	Runwa	y guard lights	
V-LITE-ALLK-	11	erlane, taxilane		E-LITE-RNWY		1 471 10	ty edge lights	
E-LITE-THRS- V-LITE-APPR-		shold lights oach lights		DTGS1 E-LITE-TAXI-	EDGE	lights	y edge lights	
	T 1	-h - 1 - 1 - 1 - 1 - 4 -		E-LITE-RUNW	/-		y Distance to go	
E-LITE-TAXI-CNTL	light	S		CNTR		lights	lights	
		way centerline	;	E-LITE-RUNW	/-		y Centerline	
E-LITE-SIGN-	Taxi	way guidance		TDZN		Zone lights		
	Runy	Runway edge lights		CNTL E-LITE-RUNW-		lights	Runway Touchdown	
E-LITE-RUNW-EDGE	D			V-LITE-RUNW-		Runway Centerline		

pilotControlFrequency (Real)	The radio frequency used by pilots to control various airport
	lighting systems
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.5. ArrestingGear

Definition: Location of the arre	esting g	ear cable a	cross the runway [Source: RTCA DC)- 272]	
Feature Group	Airfie	Airfield				
Feature Class Name	Arrest	ingGear				
Feature Type	Line					
CADD Standard Requiremen	ts					
Layer/Level			Descr	ription		
C-RUNW-ARST-	Runw	ay Arresti	ng Gear Location	-		
	(Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		3	- Continuous	1 MM	User Defined	
MicroStation Standards		2	Continuous	7	User Defined	
Information Assurance Level	Restri	cted				
	AIXN	1	ArrestingGear		Core	
Equivalent Standards	FGD	С	ArrestingGear		ł	
-	SDSF	ΊE	airfield_linear_s	afety_feature_line		
Documentation and Submission Requirements	None					
Related Features						
Data Capture Rules: Collect two fixed points of the arresting					s, connecting the	
Monumentation	No monumentation required.					
Survey Daint Leastion	Horizontal Vertical					
Survey Point Location		Ν	V/A	N	/A	
A	Horizontal		zontol	Vertical		
Accuracy Requirements (in feet)		non	zontai	Orthometric	Ellipsoidal	
leet)		±	3 ft	± 5 ft	N/A	
Resolution	G	eographic	coordinates	Distances an	d Elevations	
Resolution	Hundredth of arc second Nearest foot			est foot		
Feature Attributes						
Attribute (Datatype)			De	escription		
name (VARCHAR2(50))	The name of the feature.					
description (String 255)			on of the feature			
status (Enumeration: codeStatus	A temporal description of the operational status of the feature This attribute is used to describe real-time status.					
airportFacilityType (Enumeration: codeOperations]	Evne)	Type of a	airfield.			

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to
	store the subject item's data.
owner (Enumeration: codeOwner)	Owner of the facility.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.6. Frequency Area

Definition: Area specifying the designated part of the surface movement area where a specific frequency is required by ATC or ground control. If there is only one frequency area for the airport, the polygon must cover the total air operations area. [Source: RTCA DO-272]

polygon must cover the total an	- -		boulee. It fer be	, 2,2]			
Feature Group	Airfi	Airfield					
Feature Class Name	FrequencyArea						
Feature Type		Polygon					
CADD Standard Requiremen	ts						
Layer/Level			Descr	iption			
C-AIRF-FREQ-	Freq	Frequency Area					
		Color	Linetype	Line Weight	Symbol		
AutoDesk Standards		3	Continuous	1 MM	User Defined		
MicroStation Standards		2	Continuous	7	User Defined		
Information Assurance	Uncl	assified					
Level			-		9		
	AIX		Frequency		Core		
Equivalent Standards	FGE		FrequencyArea				
	SDS	FIE	communications_	_groundwave_poly	gon_area		
Documentation and	No d	locumentatio	on is required for th	nis feature.			
Submission Requirements			1				
Related Features							
Data Capture Rules: Collect				ts.			
Monumentation	No monumentation required.						
Survey Point Location			zontal	Vertical			
		N	/A	N/A Vertical			
Accuracy Requirements (in		Horiz	zontal				
feet)				Orthometric	Ellipsoidal		
			3 ft	± 5 ft	N/A		
Resolution	-		Coordinates		d Elevations		
		Hundredth o	of arc second	Neare	st foot		
Feature Attributes		I					
Attribute (Datatype)				scription			
name (VARCHAR2(50))			of the feature.				
description (String 255)		Description of the feature					
status (Enumeration: codeStatu	s)						
		This attribute is used to describe real-time status.					
station (String 30)	Service or Station assigned to primary frequency (e.g., A						
				Tower, Ground Control) [Source: RTCA DO-272]			
frequency (Real)	Primary frequency used on frequency area (in MHZ). [Sou			/IHZ). [Source:			
		RTCA DO	D-272]				

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.7. Passenger Loading Bridge

Definition: A bridge for loading/unloading access to airplanes for passengers and crew.					
Feature Group	Airfield	Airfield			
Feature Class Name	PassengerLoadin	ıgBridge			
Feature Type	Polygon				
CADD Standard Requiremen	its				
Layer/Level		Descr	iption		
C-AIRF-JETB-	Airport Jetbridge				
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	3	Continuous	1 MM	User Defined	
MicroStation Standards	2	Continuous	7		
Information Assurance Level	ation Assurance Restricted				
	AIXM PassengerLoadingBridge Core				
Equivalent Standards	FGDC	PassengerLoadin	ngBridge		
	SDSFIE None				
Documentation and	No documentation is required for this feature.				
Submission Requirements	The documentation is required for this readire.				
Related Features					
Data Contura Dulage Outling	of the handling De	i de e contale de e consti		1	

Data Capture Rules: *Outline of the boarding Bridge with the vertical on the top of the bridge.*



Monumentation	No monumentation required.	
Survey Doint Location	Horizontal	Vertical
Survey Point Location	N/A	N/A

A		Horizontal	Ver	tical	
Accuracy Requirements (in		Horizontai	Orthometric	Ellipsoidal	
feet)		± 3 ft	$\pm 5 \text{ ft}$	N/A	
Resolution	G	eographic Coordinates	Distances an	d Elevations	
Kesolution	ŀ	Hundredth of arc second	Neare	st foot	
Feature Attributes					
Attribute (Datatype)		De	escription		
name (VARCHAR2(50))		Name, code or identifier use	d to identify the loading bridge.		
description (String 255)	Description of the feature				
status (Enumeration: codeStatus)		A temporal description of th	e operational statu	s of the feature.	
	This attribute is used to describe real-time status.			us.	
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not			
			affect the subject item's data integrity and should not be used to		
	store the subject item's data.				
loadingBridgeType (Enumeration:		Code indicating the type of loading bridge.			
CodeLoadingBridgeType)					
Alternative (Number(2))	Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together		
		into a version.			

5.4.8. Runway Centerline

Definition . Continuous line alo	Definition: Continuous line along the painted centerline of a runway connecting the middle-points of				
the two outermost thresholds. Centerline is composed of many centerline points (see					
RunwayControlPoint). It is used to calculate grade and line-of-sight criteria. [Source: AC 150/5300-					
•	to calculate grad	ie and nne-or-sign	citteria. [Source.	AC 130/3300-	
13]	A 1C 1.1				
Feature Group	Airfield				
Feature Class Name	RunwayCenterlin	ne			
Feature Type	Line				
CADD Standard Requiremen	ts				
Layer/Level		Descr	iption		
C-RUNW-CNTR-	Runway Centerli	ne			
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	7	Continuous	1 MM	User Defined	
MicroStation Standards	2	Continuous	7	User Denned	
Information Assurance	Destricted				
Level	Restricted				
	AIXM	RunwayMarking		Core	
Equivalent Standards	FGDC	RunwayCenterlin	1e		
	SDSFIE	airfield_surface_	centerline		
Documentation and					
Submission Requirements	No documentation is required for this feature.				
Related Features					
Data Capture Rules: Determ	Data Capture Rules: Determine the runway centerline as a continuous line along the centerline of				
the runway connecting the two	<u>runway end</u> points				
Monumentation	No monumentati				
Survey Daint Leastian	Horiz	zontal	Vertical		
Survey Point Location	N	/A	N/A		

A P (Horizontal	Ver	Vertical		
Accuracy Requirements (in	Horizontai	Orthometric	Ellipsoidal		
feet)	± 1 ft	± 0.25 ft	N/A		
Desclution	Geographic Coordinates	Distances an	d Elevations		
Resolution	Thousandth of arc second	Nearest ter	nth of a foot		
Feature Attributes					
Attribute (Datatype)	De	scription			
name (VARCHAR2(50))	The name of the feature.				
runwayDesignator (String 7)	Designator of the runway bas	Designator of the runway based on the magnetic bearing and			
	position in relation to paralle	position in relation to parallel runways (e.g. 33R/15L) [Source:			
	AC 150/5340-1]				
description (String 255)	Description of the feature				
status (Enumeration: codeStatus	A temporal description of the operational status of the feature.				
	This attribute is used to describe real-time status.				
isDerived (Boolean)	Indicates whether the centerly	Indicates whether the centerline is derived or photo determined.			
userFlag (String 254)	An operator-defined work area. This attribute can be used by				
	the operator for user-defined system processes. It does not				
	affect the subject item's data integrity and should not be used to				
	store the subject item's data.	store the subject item's data.			
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal togethe				
	into a version.		-		

5.4.9. Runway Helipad Design Surface

Definition: A three-dimensional surface used in runway or heliport/helipad design [Source: AC 150/5300-13]

150/5300-13]				
Feature Group	Airfield			
Feature Class Name	RunwayHelipadDesignSurface			
Feature Type	Polygon			
CADD Standard Requirement	s			
Layer/Level		Descr	ription	
C-AIRF-DSRF-BLDR-	Building Restric	ction Line		
C-AIRF-DSRF-RSA-	Runway Safety	Area		
C-AIRF-DSRF-RPZ-	Runway Protect	tion Zone		
C-AIRF-DSRF-OFA-	Object Free Are	a		
C-AIRF-DSRF-OFZ-	Object Free Zor	ne		
C-AIRF-DSRF-POFA-	Precision Object Free Area			
C-AIRF-DSRF-KEYH-	Key holes			
C-RUNW-CLRW-	Runway clearway			
C-HELI-DSRF-	Helipad design surface			
	Color Linetype Line Weight Symbol			Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance Level	Restricted			
	AIXM RunwayFATODesignSurface Extension			Extension
Equivalent Standards	FGDC <i>RunwayHelipadDesignSurface</i> Extension			
	SDSFIE airfield_imaginary_surface_area			
Documentation and	No documentation is required for this feature.			
Submission Requirements	No documentation is required for this feature.			
Related Features				

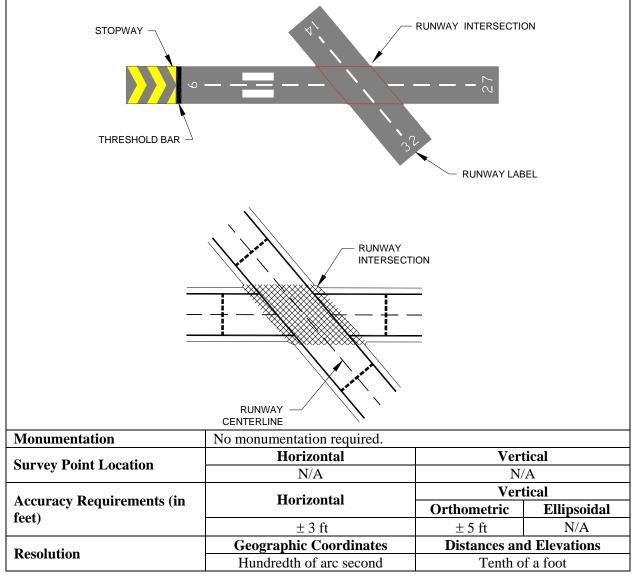
Data Capture Rules: <i>N/A</i>					
Monumentation	No monumentation required.				
Survey Deint Leastion	Horizontal	Ver	tical		
Survey Point Location	N/A	N/A			
A commo ou De continem ente (in	Horizontal	Vertical			
Accuracy Requirements (in feet)	Horizontai	Orthometric	Ellipsoidal		
leet)	N/A	N/A	N/A		
Resolution	Geographic Coordinates	Distances an	d Elevations		
Resolution	Hundredth of arc second	Tenth of	of a foot		
Feature Attributes					
Attribute (Datatype)	Des	scription			
name (VARCHAR2(50))	The name of the feature. [So	ource: SDSFIE Fea	ature Table]		
description (String 255)	Description of the feature				
status (Enumeration: codeStatus)) A temporal description of the	e operational statu	s of the feature.		
	This attribute is used to descr	ribe real-time statu	18.		
designSurfaceType	A description of the design s	urface			
(Enumeration:					
codeDesignSurfaceType)					
zoneUse (String 50)	A description of the use of the zone.				
determination (String 255)		A formal declaration of the runway/helipad/heliport safety			
	area condition with respect to standards and any requirement				
		improvements [Source: FAA Order 5200.8 and AC 150/5390-			
	2]				
determinationDate (Date)	The date the safety area deter		roved [Source:		
	FAA Order 5200.8 and AC 1				
zoneInnerWidth (Real)	The width of the narrow end				
		DesignSurface feature. This is normally the end that is closest			
	to the landing surface [Source	ce: AC 150/5300-1	13 and		
	150/5390-2B]				
zoneOuterWidth (Real)		The width of the wide end of a trapezoidal shaped DesignSurface feature. This is normally the end that is furthest			
		is normally the en	id that is furthest		
	from the landing surface.				
zoneLength (Real)	The length of a trapezoidal shaped DesignSurface feature.				
slope (Real)	The low to high gradient with	A	oon ho wood he		
userFlag (String 254)	An operator-defined work are		•		
	the operator for user-defined	• •			
	affect the subject item's data store the subject item's data.	integrity and shou	nu not de used to		
Alternative (Number (2))	Discriminator used to tie feat	tures of a plan or r	roposal together		
Alternative (Number(2))		lutes of a plan of p	noposal together		
	into a version.				

5.4.10. Runway Intersection

Definition: The area of intersection between two or more runways [Source: RTCA DO-272]				
Feature Group	Airfield			
Feature Class Name	RunwayIntersection			
Feature Type	Polygon			
CADD Standard Requirements				
Layer/Level	Description			
C-RUNW-INTS	Runway intersection			

	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance Level	Restricted			
	AIXM	RunwayElement		Core
Equivalent Standards	FGDC	RunwayElement		
	SDSFIE	None		
Documentation and	No dogumentati	on is required for t	his facture	
Submission Requirements	No documentati	on is required for t	ins reature.	
Related Features				

Data Capture Rules: When two or more runways intersect, collect the area of overlap as an individual runway intersection polygon attached to the corresponding runway polygon(s) by way of shared lines. Define the polygon by the outer edge of the white runway edge marking or surface edge if no marking is present.



Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2(50))	The name of the feature.
description (String 255)	Description of the feature
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
runwayDesignator1 (String 7)	Designator of the 1st intersecting runway based on the magnetic bearing and position in relation to parallel runways (e.g. 33R/15L).
runwayDesignator2 (String 7)	Designator of the 2nd intersecting runway based on the magnetic bearing and position in relation to parallel runways (e.g. 33R/15L).
runwayDesignator3 (String 7)	Designator of the 3rd intersecting runway based on the magnetic bearing and position in relation to parallel runways (e.g. 33R/15L).
pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load. [Source: AC 150/5335-5]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.4.11. Runway LAHSO

Definition: Markings installed on a runway where an aircraft is to stop when the runway is normally used as a taxiway or used for Land and Hold Short Operations (LAHSO) as identified in a letter of agreement with the Air Traffic Control Tower (ATCT). A runway should be considered as normally used for taxiing if there is no parallel taxiway and no ATCT. Otherwise, seek input from ATCT. [Source: Order 7110.118]

Feature Group	Airfield				
Feature Class Name	RunwayLAHSO				
Feature Type	Line				
CADD Standard Requirements					
Layer/Level	Description				
C-RUNW-LAHS-	Runway land ar	nd hold short area			
	Color Linetype Line Weight Symbol				
AutoDesk Standards	3	Continuous	1 MM	User Defined	
MicroStation Standards	2	Continuous	7	User Defined	
Information Assurance Level	Restricted				
	AIXM RunwayMarking Core				
Equivalent Standards	FGDC RunwayLAHSO				
	SDSFIE None				
Documentation and Submission Requirements	No documentation is required for this feature.				
Related Features					

Data Capture Rules: Collect of the second painted line farthe	est fro	m the intersecting runway.	bjects delineated b	ny the outer edge		
Monumentation	No n	nonumentation required.	[
Survey Point Location		Horizontal	Ver			
		N/A	N/			
Accuracy Requirements (in		Horizontal	Vertical			
feet)			Orthometric	Ellipsoidal		
		$\pm 3 \text{ ft}$	$\pm 5 \text{ ft}$	N/A		
Resolution		Geographic Coordinates	Distances an			
Easture Attributes		Hundredth of arc second	Tenth o	1 a 100t		
Feature Attributes		Do	conintion			
Attribute (Datatype) name (VARCHAR2(50))		Description The name of the feature.				
description (String 255)		Description of the feature				
status (Enumeration: codeStatus	c)	A temporal description of the	operational status	of the feature		
status (Enumeration: codestatu	5)	This attribute is used to describe real-time status.				
protected Bunyyoy Designator (S	tring	Unique runway identifier for				
protectedRunwayDesignator (S 7)	umg	being protected by the LAHSO (when the LAHSO precedes a				
()		runway intersection). Example 17L/35R.				
markingFeatureType		The type of the marking				
(Enumeration:						
codeMarkingFeatureType)						
color		The color of the marking				
(Enumeration: codeColor)						
userFlag (String 254)		An operator-defined work are		•		
		the operator for user-defined				
		affect the subject item's data integrity and should not be used to				
		store the subject item's data.				
Alternative (Number(2))		Discriminator used to tie feat	tures of a plan or p	roposal together		
		into a version.				

5.4.12. Runway Element

Definition: A section of the runway surface. The runway surface can be defined by a set of non-
overlapping RunwaySegment polygons for pavement management purposes. RunwayElements may
overlap Runway and RunwayIntersection features. Use RunwayElement to model the physical
runway pavement in terms of surface, material, strength and condition in greater detail than just as a
single piece of pavement. [Source: AC 150/5335-5, AC 150/5320-12, AC 150/5320-17, AC 150/5320-
6]Feature GroupAirfield

Feature Class Name	Runw	ayElement					
Feature Type	1	Polygon					
CADD Standard Requirement		011					
Layer/Level			Descr	intion			
C-RUNW-SEGM-	Runw	ay Element					
		Color	Linetype	Line Weight	Symbol		
AutoDesk Standards		3	Linetype	1 MM	· · · · ·		
MicroStation Standards	2 Continuous		7	User Defined			
Information Assurance							
Level	None						
	AIXM	ſ	RunwayElementH	Extension	Extension		
Equivalent Standards	FGDO		RunwayElement	2AICHSION	Extension		
	SDSF		None		Lixtension		
Documentation and							
Submission Requirements	No do	cumentatic	on is required for th	is feature.			
Related Features							
Data Capture Rules: Collec	t runwa	v elements	as individual pol	lygon objects Wh	ere two or more		
runways intersect, identify, clas		-	-				
Monumentation	1		on required.		a only oncer		
		Horiz		Ver	tical		
Survey Point Location		N			/A		
					tical		
Accuracy Requirements (in		Horizontal		Orthometric	Ellipsoidal		
feet)		± 3 ft		$\pm 5 \text{ ft}$	N/A		
	G		Coordinates	Distances and Elevations			
Resolution			of arc second	Tenth of a foot			
Feature Attributes							
Attribute (Datatype)	Description						
Attribute (Datatype) name (VARCHAR2(50))		The name		escription			
name (VARCHAR2(50))			of the feature.	escription			
name (VARCHAR2(50)) description (String 255)	s)	Description	of the feature.	*	us of the feature.		
name (VARCHAR2(50))	s)	Description A tempor	of the feature. on of the feature al description of th	e operational statu			
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu	s)	Description A tempor This attrib	of the feature. on of the feature al description of the pute is used to desc	e operational statu cribe real-time stat	tus		
name (VARCHAR2(50)) description (String 255)	s)	Description A tempor This attribution An operat	of the feature. on of the feature al description of th pute is used to desc or-defined work an	e operational statu cribe real-time stat rea. This attribute	can be used by		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu	s)	Description A tempor This attribution An operate the operate	of the feature. on of the feature al description of the pute is used to desc or-defined work and or for user-defined	e operational statu cribe real-time stat rea. This attribute l system processes	can be used by can to used by . It does not		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu	s)	Description A temport This attril An operate the operate affect the	of the feature. on of the feature al description of th pute is used to desc or-defined work an	e operational statu cribe real-time stature rea. This attribute l system processes integrity and shou	can be used by can to used by . It does not		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu	s)	Description A tempor This attril An operat the operat affect the store the s	of the feature. on of the feature al description of the oute is used to desc or-defined work and or for user-defined subject item's data	e operational statu cribe real-time stature rea. This attribute l system processes integrity and shou	can be used by can to used by . It does not		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType		Description A temport This attril An operate the operate affect the store the second second second Specify references	of the feature. on of the feature al description of the pute is used to desc or-defined work and or for user-defined subject item's data.	e operational statu cribe real-time stat rea. This attribute system processes integrity and show	can be used by can be used by the local destruction and not be used to		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp		Description A temport This attril An operat affect the store the s Specify re A classifit Obstruction	of the feature. on of the feature al description of the oute is used to desc or-defined work and or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS]	can be used by can be used by for Airport		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial	e)	Description A tempor This attril An operat affect the store the s Specify ru A classifi Obstruction A code in	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the compo	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS]	can be used by can be used by for Airport		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa	e) terial)	Description A tempor This attril An operat affect the store the s Specify ru A classifi Obstruction A code im [Source: 1]	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the compo NFDC]	e operational statu cribe real-time stat rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relat	can be used by can be used by the does not uld not be used to for Airport ed surface		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial	e) terial)	Description A temport This attril An operat affect the store the s Specify re A classifi Obstruction A code in [Source: 1] A number	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load ca	can be used by can be used by the local design of the local design of the local for Airport ed surface arrying capacity		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa	e) terial)	Description A tempor This attril An operat affect the store the s Specify r A classifi Obstruction A code im [Source: 1] A number of a paver	of the feature. on of the feature al description of the pute is used to desc or-defined work and or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load ca	can be used by can be used by the local design of the local design of the local for Airport ed surface arrying capacity		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa pavementClassificationNumber	e) terial)	Description A tempor This attril An operat affect the store the s Specify ru A classifi Obstruction A code im [Source: 1] A number of a paver [Source: 2]	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a AC 150/5335-5]	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load cat standard single with	can be used by can be used by s. It does not uld not be used to for Airport ed surface arrying capacity heel load.		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa pavementClassificationNumber surfaceCondition	e) terial)	Description A tempor This attril An operat affect the store the s Specify ru A classifi Obstruction A code im [Source: 1] A number of a paver [Source: 2] A descrip	of the feature. on of the feature al description of the pute is used to desc or-defined work and or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load cat standard single with	can be used by can be used by s. It does not uld not be used to for Airport ed surface arrying capacity heel load.		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa pavementClassificationNumber surfaceCondition (Enumeration:	e) terial)	Description A tempor This attril An operat affect the store the s Specify ru A classifi Obstruction A code im [Source: 1] A number of a paver [Source: 2]	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a AC 150/5335-5]	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load cat standard single with	can be used by can be used by s. It does not uld not be used to for Airport ed surface arrying capacity heel load.		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa pavementClassificationNumber surfaceCondition (Enumeration: codeSurfaceCondition)	e) terial)	Description A tempor This attril An operat affect the store the s Specify rr A classifi Obstruction A code im [Source: 1] A number of a paver [Source: 2] A descrip NFDC]	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a AC 150/5335-5] tion of the services	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load cat standard single where	can be used by can be used by s. It does not uld not be used to for Airport ed surface arrying capacity heel load. ment [Source:		
name (VARCHAR2(50)) description (String 255) status (Enumeration: codeStatu userFlag (String 254) runwayDesignator (String 7) surfaceType (Enumeration: codeSurfaceTyp surfaceMaterial (Enumeration: CodeSurfaceMa pavementClassificationNumber surfaceCondition (Enumeration:	e) terial)	Description A tempor This attril An operat affect the store the s Specify rr A classifi Obstruction A code im [Source: 1] A number of a paver [Source: 2] A descrip NFDC]	of the feature. on of the feature al description of the pute is used to desc or-defined work an or for user-defined subject item's data. unway designator. cation of airfield p on Charts [Source dicating the component NFDC] r which expresses to ment in terms of a AC 150/5335-5]	e operational statu cribe real-time stature rea. This attribute l system processes integrity and show avement surfaces : NGS] osition of the relature the relative load cat standard single where	can be used by can be used by s. It does not uld not be used to for Airport ed surface arrying capacity heel load. ment [Source:		

extended centerline of the runw causing structural damage to th			•	tered upon the
			port authorities for	use in
decelerating the airplane during		tt.		
Feature Group	Airfield			
Feature Class Name	Stopway			
Feature Type	Polygon			
CADD Standard Requiremen	its	~ ~ ~	• .•	
Layer/Level	D		iption	
C-RUNW-STWY-	Runway stopwa	<u> </u>		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2		7	
Information Assurance Level	Restricted			
	AIXM	Stopway		Extension
Equivalent Standards	FGDC	Stopway		Extension
	SDSFIE	None		
Documentation and Submission Requirements	No documentati	on is required for th	nis feature.	
Related Features				
and connect it to associated run can be wider than the associated	•••	-	•	
Stopway end, and Displaced Th STOPWAY - RUNWAY	INTERSECTION		0	•
STOPWAY RUNWAY	INTERSECTION	tion for proper loc	ation of the Stopwo	ay.
STOPWAY RUNWAY	INTERSECTION RUNWA	tion for proper loc	ation of the Stopwo	ay.
STOPWAY RUNWAY	INTERSECTION RUNWA	tion for proper loc	ation of the Stopwo 81 1 1 1 1 36 Ver	ay.

5.4.13. Stopway

	Harizontal	Ver	tical		
Accuracy Requirements (in feet)	Horizontal	Orthometric	Ellipsoidal		
leet)	± 3 ft	± 5 ft	N/A		
Resolution	Geographic Coordinates	Distances and Elevations			
Resolution	Hundredth of arc second	Tenth of	of a foot		
Feature Attributes					
Attribute (Datatype)	De	scription			
name (VARCHAR2(50))	The name of the feature.				
description (String 255)	Description of the feature				
status (Enumeration: codeStatus	s) A temporal description of the	operational status	of the feature.		
	This attribute is used to descr	ribe real-time statu	s.		
length (Real)	The length of the designated	stopway from the	end of the		
	runway				
width (Real)	The overall width of the feature	ıre			
userFlag (String 254)	An operator-defined work are	An operator-defined work area. This attribute can be used by			
	the operator for user-defined	the operator for user-defined system processes. It does not			
	affect the subject item's data	integrity and shoul	d not be used to		
	store the subject item's data.				
runwayEndDesignator (String 3	S) Specify runwayEnd designate	Specify runwayEnd designator to identify which runway end the			
	Stopway is on.				
surfaceType	A classification of airfield pa	vement surfaces for	or Airport		
(Enumeration: codeSurfaceType	e) Obstruction Charts [Source:	NGS]			
surfaceMaterial	A code indicating the composition	sition of the related	d surface		
(Enumeration:	[Source: NFDC]				
codeSurfaceMaterial)					
surfaceCondition	A description of the serviceal	bility of the pavem	ent [Source:		
(Enumeration:	NFDC]				
codeSurfaceCondition)					
Alternative (Number(2))	Discriminator used to tie feat	ures of a plan or p	roposal together		
	into a version.				

5.4.14. Taxiway Holding Position

Definition: A designated posit		0		nd hold position,			
unless otherwise authorized by the airport control tower [Source: RTCA DO-272]							
Feature Group	Airfield	Airfield					
Feature Class Name	TaxiwayHolding	Position					
Feature Type	line						
CADD Standard Requiremen	its						
Layer/Level		Descri	iption				
C-TAXI-HOLD	Holding Lines						
	Color	Linetype	Line Weight	Symbol			
AutoDesk Standards	3 1 MM						
	2 Continuous 7 User Defined						
MicroStation Standards	2	Continuous	7	User Defined			
MicroStation Standards Information Assurance Level	2 Restricted	Continuous	7	User Defined			
Information Assurance	_	TaxiHoldingPosi	7 tion	Core			
Information Assurance	Restricted						

3.6

Documentation and Submission Requirements	None
Related Features	

Data Capture Rules: *The painted markings extend across the taxiway and may consist of one of the following:*

- *Runway holding position markings are a set of four yellow lines and three spaces.*
- The side with the two solid lines is the holding side.

ILS/MLS holding positions are marked using a set of two parallel yellow lines spaced four feet apart, in between these two lines and perpendicular to them there are sets of two parallel yellow lines. Collect taxiway holding position line as a line at the outer edge of the painted marking (stop bar) farthest away from the corresponding runway.

Monumentation	No monumentation required.	monumentation required.				
Survey Point Location	Horizontal	Vertie	cal			
Survey I onit Location	N/A	N/A				
A course y Dequinements (in	Horizontal	Vertie	cal			
Accuracy Requirements (in	Horizoiltai	Orthometric	Ellipsoidal			
feet)	± 3 ft	± 5 ft	N/A			
Resolution	Geographic Coordinates	Distances and	Elevations			
Resolution	Hundredth of arc second	Tenth of	foot			
Feature Attributes						
Attribute (Datatype)	Desc	ription				
name (VARCHAR2(50))	The name of the feature.					
description (VARCHAR2(255)	A description of the feature.					
status (Enumeration: codeStatu	s) A temporal description of the o	A temporal description of the operational status of the feature.				
	This attribute is used to describ	This attribute is used to describe real-time status.				
runwayDesignator (String 7)	The designator for the approach	ing runway.				
taxiwayDesignator (String 4)	The designator for the taxiway.					
lowVisibilityCategroy	Code describing the Low visibi	lity operation categ	ory of the			
(Enumeration:	TaxiwayHoldingPosition.					
codeLowVisibilityCategory)						
userFlag (String 254)	An operator-defined work area.	An operator-defined work area. This attribute can be used by				
	the operator for user-defined sy	the operator for user-defined system processes. It does not				
	affect the subject item's data int	affect the subject item's data integrity and should not be use				
	store the subject item's data.					
Alternative (Number(2))	Discriminator used to tie feature	es of a plan or prop	osal together			
	into a version.					

5.4.15. Airport Sign

Definition: Signs at an airport other than surface painted signs. [Source: AC 150/5340-18]						
Feature Group	Airfield	Airfield				
Feature Class Name	AirportSign					
Feature Type	Point					
CADD Standard Requireme	ents					
Layer/ Level		Descrip	otion			
A-ELEV-SIGN-	Signage	Signage				
A-FLOR-SIGN-	Signage					
C-PVMT-SIGN- Other signs						
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	1	Continuous		User Defined		

MicroStation Standards	3					
Layer/ Level		Descri	ntion			
C-NGAS-SIGN-	Surface markers/signs					
V-LITE-DIST-		esting gear markers				
V-STRM-SIGN-	Surface markers	00				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	3					
MicroStation Standards	2	- Continuous		User Defined		
Layer/ Level	Description					
C-SSWR-SIGN-	Surface markers/signs					
C-APRN-SIGN-	Airfield signs on the apron					
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	7	Linctype		ľ ľ		
MicroStation Standards	0	Continuous		User Defined		
Layer/ Level	0	Descri	ntion			
C-STRM-SIGN-	Surface markers		ption			
C-511(M-5101)-	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	4	Епістуре		Symbol		
MicroStation Standards	7	 Continuous 		User Defined		
Layer/ Level	/	Descri	ntion			
V-LITE-SIGN-	Torinor anidor		ption			
v-LITE-SIGN-	Taxiway guidan		aa tarirrar daaiar	noton hold show		
C-TAXI-SIGN-	and directional s	on the taxiway such	as taxiway design	ator, noid snor		
		<u> </u>	Line Weight	Growhal		
AutoDool: Stondouda	Color 5	Linetype	Line Weight	Symbol		
AutoDesk Standards	-	Continuous		User Defined		
MicroStation Standards	1	Deser				
Layer/ Level E-SPCL-TRAF-	Traffic airral ar	Descri	ption			
V-NGAS-SIGN-	Traffic signal sy					
	Surface markers					
V-SPCL-TRAF-	Traffic signal sy					
V-SSWR-SIGN-	Surface markers	<u> </u>	T • XX 7 • 1 4			
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	2	Continuous	1	User Defined		
MicroStation Standards	4		3			
Layer/ Level	A: C: 11 :	Descri	•	•		
C-RUNW-SIGN-		n the runway such as				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	8	- Continuous		User Defined		
MicroStation Standards	9			_		
Information Assurance Level	Restricted					
	AIXM	AirportSign		Extension		
Equivalent Standards	FGDC	AirportSign		Extension		
	SDSFIE	general_improve	ment_feature_poin	t		
Documentation and Submission Requirements	No documentati	on is required for thi				
Related Features						
Data Capture Rules: Coll	ect noint at the his	ohest point on the c	enter of the sion s	tructure. When		
completing the feature attribute	-					

information also, provide as a		ite feature.				
Monumentation	No m	No monumentation required.				
Survey Point Location		Horizontal	Vertical			
Survey Fount Location		Center of sign structure	Top of sign stru	icture at center		
Accuracy Requirements (in		Horizontal	Vert	ical		
feet)		Horizontai	Orthometric	Ellipsoidal		
leet)		± 3 ft	± 5 ft	N/A		
Resolution		Geographic Coordinates	Distances and	d Elevations		
Resolution		Hundredth of arc second	Tenth of	of foot		
Feature Attributes						
Attribute (Datatype)		Des	scription			
name (VARCHAR2(50))		The name of the feature.				
description (VARCHAR2(255	())	A description of the improvement feature.				
status (Enumeration: codeStatu	us)	A temporal description of the operational status of the feature.				
		This attribute is used to describe real-time status.				
signType (Enumeration: codeSignTypeCode)		The type of sign.				
height (Real)		The overall height of the feature.				
message (String 254)		The text message that appears on the sign.				
userFlag (String 254)		An operator-defined work area. This attribute can be used by				
		the operator for user-defined system processes. It does not				
		affect the subject item's data integrity and should not be used to				
		store the subject item's data.				
Alternative (Number(2))		Discriminator used to tie feat into a version.	ures of a plan or pro	oposal together		

the data for the sign with the location information. If necessary or desired to provide the directional information also, provide as a separate feature.

5.4.16. Apron

Definition: A defined area	on an airport or hel	liport, paved or	unpaved, intende	d to accommodate			
aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.							
Feature Group	Airfield						
Feature Class Name	Apron						
Feature Type	Polygon						
CADD Standard Requirem	ents						
Layer/Level		Desci	ription				
C-APRN-OTLN	Apron outline						
	Color	Linetype	Line Weight	Symbol			
AutoDesk Standards	4	Continuous	1	User Defined			
MicroStation Standards	7	Continuous	3	User Dermeu			
Information Assurance	Restricted						
Level	Resulted	-		_			
	AIXM	ApronElementl	Extension	Extension			
Equivalent Standards	FGDC	Apron		Extension			
	SDSFIE airfield_surface_type						
Documentation and							
Submission Requirements	No documentation is required for this feature.						
Related Features							

Data Capture Rules: Collect areas.	t a close	ed polygon to its greatest hor	rizontal extents, en	compassing apron
APRON TAXIVAY GUIDAN	ENT	VERTICAL PO		
Π	lustrate	s the collection of the airpo	<u>APRON</u>	
Monumentation	1	onumentation required.		
		Horizontal	Vei	rtical
Survey Point Location	N/A			I/A
	[rtical
Accuracy Requirements		Horizontal	Orthometric	Ellipsoidal
(in feet)		± 3 ft	± 5 ft	N/A
	Ge	eographic Coordinates	Distances a	nd Elevations
Resolution		undredth of arc second		of foot
Feature Attributes	<u> </u>		•	
Attribute (Datatype)		I	Description	
name (VARCHAR2(50))		The name of the feature.		
description (String 255)		Description of the feature		
apronType		A classification of the typic	cal use for the apro	n
(Enumeration: CodeApronTy	pe)			
numberOfTiedowns (Integer)		The approximate number of		
status (Enumeration: codeStat	us)	A temporal description of		
		This attribute is used to describe real-time status.		
userFlag (String 254)An operator-defined work area. This attribute can be used the operator for user-defined system processes. It does affect the subject item's data integrity and should not be used store the subject item's data.				sses. It does not build not be used to
surfaceType A classification of airfield pavement surfaces for Air				
(Enumeration: codeSurfaceType) Obstruction Charts [Source:				
surfaceMaterial		A code indicating the c	composition of th	ne related surface
(Enumeration:		[Source: NFDC]		

codeSurfaceMaterial)	
pavementClassificationNumber	A number that expresses the relative load-carrying capacity of a pavement in terms of a standard single wheel load [Source: AC 150/5335-5]
surfaceCondition (Enumeration: codeSurfaceCondition)	A description of the serviceability of the pavement [Source: NFDC]
fuel (Enumeration: codeFuel)	Code indicating the types of fuel available at the apron or delverable to the apron.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.4.17. Deicing Area

J.4.17. Deteling Area					
Definition: An aircraft deicing	facility	is a facilit	ty where: (1) frost	, ice, or snow is re	emoved (deicing)
from the aircraft in order to pro					
protection (anti-icing) against t				umulation of snow	v or slush for a
limited period of time [Source:	AC 150	/5300-13			
Feature Group	Airfield	1			
Feature Class Name	Deicing	gArea			
Feature Type	Polygo	n			
CADD Standard Requiremen	nts				
Layer/Level			Desc	ription	
C-APRN-DEIC	Aircraf	t Deicing	Area		
	Co	lor	Line type	Line Weight	Symbol
AutoDesk Standards	,	7	Continuous	1	User Defined
MicroStation Standards	U	0	Continuous	1	User Defined
Information Assurance	Unclass	ified			
Level	Unclass	silleu			
	AIXM		DeicingArea		Core
Equivalent Standards	FGDC		DeicingArea		
	SDSFI	E	None		
Documentation and	No doc	umentatio	on is required for t	his feature	
Submission Requirements		uniontatio	li is required for t	ins reature.	
Related Features					
Data Capture Rules: Deicing		•			-
edges of area(s). Deicing areas				nal buildings or in	the terminal area.
Monumentation	No mor		on required.	1	
Survey Point Location			zontal		ertical
		N	/A		N/A
Accuracy Requirements (in		Horiz	zontal		ertical
feet)				Orthometric	Ellipsoidal
		± 3		± 5 ft	N/A
Resolution			Coordinates		and Elevations
	Hu	ndredth c	of arc second	Tent	h of foot
Feature Attributes					
Attribute (Datatype)				Description	
name (VARCHAR2 (50))		The nar	ne of the feature.		
description (VARCHAR2(255)					
userFlag (String 254)		An oper	ator-defined work	area. This attrib	ute can be used by
			-		

	the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal
	together into a version.

5.4.18. Touch Down Lift Off

Definition: A load-bearing, generally paved area, normally centered in the Final Approach and Takeoff Area (FATO), on which a helicopter lands or takes off. The Touchdown and Lift-off Area (TLOF) is frequently called a helipad or helideck.

(TLOT) is inequently cance a in									
Feature Group	Airfield	Airfield							
Feature Class Name	TouchDownLiftO	ff							
Feature Type	Polygon								
CADD Standard Requiremen	its								
Layer/Level			Descri	ption					
C-HELI-TLOF	Helipad take off a	nd lan	ding area						
	Color Line type Line Weight Symbol								
AutoDesk Standards	6	Co	ntinuous	1 MM	User Defined				
MicroStation Standards	5		nunuous	7	User Dermeu				
Information Assurance Level	Unclassified								
	AIXM TouchDownLiftOff Core								
Equivalent Standards	FGDC TouchDownLiftOff								
	SDSFIE None								
Documentation and Submission Requirements	No documentation	No documentation is required for this feature.							

Related Features		
Data Capture Rules: Collect a	closed polygon in the center of the w	hite paint stripes along the outer
	e and labeled "HELIPAD." Collect th	
	er paint stripes. Collect all TLOFs loc	
areas at compiler's discretion.		U U
	TLOF	
Monumentation	No monumentation required.	
	Horizontal	Vertical
Survey Point Location	N/A	N/A
		Vertical
Accuracy Requirements (in	Horizontal	Orthometric Ellipsoidal
feet)	± 1 ft	$\pm 0.25 \text{ ft}$ $\pm 0.20 \text{ ft}$
	Geographic Coordinates	Distances and Elevations
Resolution	Hundredth of arc second	Nearest tenth of foot
Feature Attributes	Tundredth of are second	Realest tenth of foot
Attribute (Datatype)	Doco	ription
	Dest	
name (VARCHAR2(50)) description (VARCHAR2(255))	The name of the feature.	•
description (VARCHAR2(255))	The name of the feature.A brief description of the area	and any special characteristics.
description (VARCHAR2(255)) length (Real)	The name of the feature.A brief description of the areaThe overall length of the TLOI	and any special characteristics.
description (VARCHAR2(255)) length (Real) width (Real)	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOF	and any special characteristics.
description (VARCHAR2(255)) length (Real)	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work area	and any special characteristics.
description (VARCHAR2(255)) length (Real) width (Real)	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy	and any special characteristics. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7
description (VARCHAR2(255)) length (Real) width (Real)	The name of the feature.A brief description of the areaThe overall length of the TLOFThe overall width of the TLOFAn operator-defined work areathe operator for user-defined syaffect the subject item's data in	and any special characteristics.
description (VARCHAR2(255)) length (Real) width (Real) userFlag	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work areathe operator for user-defined syaffect the subject item's data instore the subject item's data.	and any special characteristics.
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType	The name of the feature.A brief description of the areaThe overall length of the TLOFThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield pave	and any special characteristics. T. This attribute can be used by ystem processes. It does not tegrity and should not be used to ement surfaces for Airport
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType (Enumeration: codeSurfaceType	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield paveObstruction Charts [Source: N	and any special characteristics. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType (Enumeration: codeSurfaceType surfaceMaterial	The name of the feature.A brief description of the areaThe overall length of the TLOFThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield paveObstruction Charts [Source: N A code indicating the composite	and any special characteristics. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType (Enumeration: codeSurfaceType surfaceMaterial (Enumeration:	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield paveObstruction Charts [Source: N	and any special characteristics. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType (Enumeration: codeSurfaceType surfaceMaterial (Enumeration: CodeSurfaceMaterial)	The name of the feature.A brief description of the areaThe overall length of the TLOIThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield paveObstruction Charts [Source: N FDC]	and any special characteristics. This attribute can be used by ystem processes. It does not tegrity and should not be used to ement surfaces for Airport GS] tion of the related surface
description (VARCHAR2(255)) length (Real) width (Real) userFlag surfaceType (Enumeration: codeSurfaceType surfaceMaterial (Enumeration:	The name of the feature.A brief description of the areaThe overall length of the TLOFThe overall width of the TLOFAn operator-defined work areathe operator for user-defined sy affect the subject item's data in store the subject item's data.A classification of airfield paveObstruction Charts [Source: N A code indicating the composite	and any special characteristics. This attribute can be used by ystem processes. It does not tegrity and should not be used to ement surfaces for Airport GS] tion of the related surface

designHelicopter (String20)	A generic helicopter that reflects the maximum weight,
	maximum contact load/minimum contact area, overall length,
	rotor diameter, etc. of all helicopters expected to operate at the
	heliport. [Source: AC 150/5390-2]
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
gradient (real)	The gradient of the TLOF surface designed to provide positive
	drainage.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.19. Marking Area

Definition: Markings used on r	unway and taxiwa	y surfaces to ident	ify a specific runw	ay, a runway
threshold, a centerline, a hold li	•	•	• •	
AC 150/5340-1 and RTCA DO		C		
Feature Group	Airfield			
Feature Class Name	MarkingArea			
Feature Type	Polygon			
CADD Standard Requiremen	ts			
Layer/Level		Desci	ription	
C-HELI-IDEN-	Heliport number	s and letters		
C-RUNW-DIST-	Fixed distance n	narkings		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	5	Continuous	1	User Defined
MicroStation Standards	1	Continuous	7	User Dernied
Layer/Level		Desci	ription	
C-HELI-TDZM-	Touchdown zone	e markers		
C-RUNW-NUMB-	Runway number	s and letters		
C-RUNW-TDZM-	Touchdown zone	e markers		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	6	Continuous	1	User Defined
MicroStation Standards	5	Continuous	7	User Defined
Information Assurance Level	Unclassified			
	AIXM			
Equivalent Standards	FGDC			
	SDSFIE	airfield_surface_	marking_area	
Documentation and Submission Requirements	No documentation	on is required for t	his feature.	

Related Features							
Data Capture Rules: Collect	the run	way markings as closed polyg	ons to encompass a	and delineate the			
individual markings.							
	_						
		/					
		-					
		\leq					
		<					
		<					
Monumentation	No m	onumentation required.					
		Horizontal	Vert	ical			
Survey Point Location		NA	NA	A			
-		NA	NA	A			
	Vartical					Harizantal	
A source on Descriptions and a (in		Hamizontal	Vert	ical			
Accuracy Requirements (in feet)		Horizontal	Vert Orthometric	ical Ellipsoidal			
Accuracy Requirements (in feet)		Horizontal ± 2 ft					
feet)	G		Orthometric	Ellipsoidal N/A			
	-	± 2 ft	Orthometric ± 3 ft	Ellipsoidal N/A d Elevations			
feet)	-	± 2 ft Geographic Coordinates	Orthometric ± 3 ft Distances and	Ellipsoidal N/A d Elevations			
feet) Resolution	-	± 2 ft Geographic Coordinates Hundredth of arc second	Orthometric ± 3 ft Distances and	Ellipsoidal N/A d Elevations			
feet) Resolution Feature Attributes	-	± 2 ft Geographic Coordinates Hundredth of arc second	Orthometric \pm 3 ftDistances and Nearest ter	Ellipsoidal N/A d Elevations			
feet) Resolution Feature Attributes Attribute (Datatype)	H	± 2 ft Geographic Coordinates Hundredth of arc second	Orthometric \pm 3 ftDistances and Nearest ter	Ellipsoidal N/A d Elevations			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)))	± 2 ft Eeographic Coordinates Hundredth of arc second De Name of the feature.	Orthometric ± 3 ft Distances and Nearest ter	Ellipsoidal N/A d Elevations nth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255))	± 2 ft Geographic Coordinates Hundredth of arc second De Name of the feature. A description of the feature.	Orthometric ± 3 ft Distances and Nearest ter escription e operational status	Ellipsoidal N/A d Elevations oth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255))	± 2 ft Eeographic Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th	Orthometric ± 3 ft Distances and Nearest ter escription e operational status	Ellipsoidal N/A d Elevations oth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255) status (Enumeration: codeStatu)	± 2 ft Example Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desc	Orthometric ± 3 ft Distances and Nearest ter escription e operational status	Ellipsoidal N/A d Elevations oth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType)	± 2 ft Example Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desc	Orthometric ± 3 ft Distances and Nearest ter escription e operational status	Ellipsoidal N/A d Elevations oth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration:) s)	± 2 ft Example Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desc	Orthometric ± 3 ft Distances and Nearest ter escription e operational status	Ellipsoidal N/A d Elevations oth of foot			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration: codeMarkingFeatureType)) s)	± 2 ft Example Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desc The type of the marking The color of the marking An operator-defined work ar	Orthometric ± 3 ft Distances and Nearest ter escription e operational status ribe real-time statu	Ellipsoidal N/A d Elevations nth of foot s of the feature. is.			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration: codeMarkingFeatureType) color (Enumeration: codeColor) s)	± 2 ft Eeographic Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desce The type of the marking The color of the marking An operator-defined work ar the operator for user-defined	Orthometric ± 3 ft Distances and Nearest ter escription e operational status ribe real-time statu rea. This attribute of system processes.	Ellipsoidal N/A d Elevations oth of foot s of the feature. as.			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration: codeMarkingFeatureType) color (Enumeration: codeColor) s)	± 2 ft Every applic Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desce The type of the marking The color of the marking An operator-defined work ar the operator for user-defined affect the subject item's data	Orthometric ± 3 ft Distances and Nearest ter scription e operational status ribe real-time statu rea. This attribute of system processes. integrity and should	Ellipsoidal N/A d Elevations oth of foot s of the feature. as.			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration: codeMarkingFeatureType) color (Enumeration: codeColor userflag (String 254)) s)	± 2 ft Every applic Coordinates Hundredth of arc second Dee Name of the feature. A description of the feature. A temporal description of th This attribute is used to desc The type of the marking The color of the marking An operator-defined work ar the operator for user-defined affect the subject item's data store the subject item's data.	Orthometric \pm 3 ft Distances and Nearest ter scription e operational status ribe real-time statu rea. This attribute of system processes. integrity and should	Ellipsoidal N/A d Elevations nth of foot s of the feature. is.			
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2(50)) description (VARCHAR2(255)) status (Enumeration: codeStatu markingFeatureType (Enumeration: codeMarkingFeatureType) color (Enumeration: codeColor) s)	± 2 ft Every applic Coordinates Hundredth of arc second De Name of the feature. A description of the feature. A temporal description of th This attribute is used to desce The type of the marking The color of the marking An operator-defined work ar the operator for user-defined affect the subject item's data	Orthometric \pm 3 ft Distances and Nearest ter scription e operational status ribe real-time statu rea. This attribute of system processes. integrity and should	Ellipsoidal N/A d Elevations nth of foot s of the feature. is.			

5.4.20. Marking Line

Definition: Markings used on runway and taxiway surfaces to identify a specific runway, a runway
threshold, a centerline, a hold line, etc. An element of marking whose geometry is a line. [Source: AC
150/5340-1 and RTCA DO-272]Feature GroupAirfieldFeature Class NameMarkingLineFeature Type3D Line

Layer/Level Description Layer/Level Description C-APRN-CNTR- Centerlines C-PADS-OTLN- Pad - outlines C-APRN-KNTR- Centerline markings MARK Centerline markings C-APRN-HOLD- Holding position C-RUNW-SHLD- Shoulder markings C-APRN-SECU- Security zone C-RUNW-SHLD- Shoulder markings C-APRN-SECU- Security zone C-RUNW-SHLD- Shoulder markings C-APRN-SECU- Security zone C-RUNW-SHLD- Side stripes C-HELI-BLST- Helipad blast pad and stopway markings C-TAXI-CNTR-MARK Centerline markings C-HELI-SIDF Fixed distance markings C-TAXI-SHLD- Shoulder transverse stripes C-UVRT-CNTR- Centerlines V-PVMT-MRKG- Pavement markings C-OVRN-CNTR- Centerlines V-PVMT-MRKG- Roadway markings C-OVRN-CNTR- Centerlines V-PVMT-MRKG- Roadway markings C-OVRN-SHLD- Shoulder markings C-PVMT-MRKG- Roadway markings C-PADS-CNTR- Centerline I User Defined	CADD Standard Requ	lirement	5						
C-APRN-HOLD- markings Holding position markings C-RUNW-CNTR- MARK Centerline markings C-APRN-MRKG- APRN-SECU- markings Apron markings C-RUNW-SHLD- Shoulder markings Shoulder markings C-APRN-SECU- markings Security zone markings C-RUNW-SHLD- C-RUNW-SHLD- Shoulder stripes Shoulder markings C-APRN-SHLD- Shoulder stripes C-RUNW-SIDE- Side stripes Side stripes C-HELI-BLST- MARK Helipad blast pad and stopway markings C-TAXI-CNTR-MARK Centerline markings Edge markings C-HELI-INTS- markings Fixed distance markings C-TAXI-SHLD- Shoulder transverse stripes Shoulder transverse stripes C-OVRN-CNTR- C-OVRN-CNTR- Centerlines V-PVMT-MRKG- WHIT Roadway markings (yellow) C-PADS-CNTR- Centerlines C-PVMT-MRKG- YELO Roadway markings (yellow) C-PADS-CNTR- Centerlines 1 User Defined MicroStation Standards 6 Continuous 1 User Defined AutoDesk Standards 6 Continuous 1 User Defined Documentation and Submission Requirements (in fed) No documentation required. N/A Accuracy Requirements (in fet) Horizontal Vertical N/A	4			ription	Layer/Le	vel	I	Description	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	C-APRN-CNTR-	Center	line	3	C-PADS-OTLN	[-	Pad - o	outlines	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	C-APRN-HOLD-	Holdiı	ng po	osition	C-RUNW-CNTR-		Centerline markings		
C-APRN-SECU- markings Security zone markings C-RUNW-SHLD- C-RUNW-SIDE Runway Shoulder C-APRN-SHLD- Shoulder stripes C-RUNW-SIDE Side stripes C-HELI-BLST- Helipad blast pad and stopway markings C-TAXI-CNTR-MARK Centerline markings C-HELI-NTR- Centerline markings C-TAXI-EDGE- Edge markings MARK Fixed distance C-TAXI-SHLD- Shoulder transverse stripes C-HELI-DIST- Fixed distance C-TAXI-SHLD- Shoulder transverse stripes C-HELI-SIDE- Side stripes V-PVMT-MRKG- Pavement markings C-OVRN-CNTR- Centerlines C-PVMT-MRKG- Roadway markings (yellow) C-OVRN-SHLD- Shoulder markings C-PVMT-MRKG- Roadway markings (yellow) C-PADS-CNTR- Centerlines Intertype Line Weight Symbol AutoDesk Standards 6 Continuous 7 User Defined Information Assurance Level Restricted Core FGDC Marking Submission Requirements SDSFIE airfield_surface_marking_line Core Documentation and Submission Requirements No documentation required. N/A					MARK				
C-APRN-SECU- markings Security zone markings C-RUNW-SHLD- C-RUNW-SIDE Runway Shoulder C-APRN-SHLD- Shoulder stripes C-RUNW-SIDE Side stripes C-HELI-BLST- Helipad blast pad and stopway markings C-TAXI-CNTR-MARK Centerline markings C-HELI-NTR- Centerline markings C-TAXI-EDGE- Edge markings MARK Fixed distance C-TAXI-SHLD- Shoulder transverse stripes C-HELI-DIST- Fixed distance C-TAXI-SHLD- Shoulder transverse stripes C-HELI-SIDE- Side stripes V-PVMT-MRKG- Pavement markings C-OVRN-CNTR- Centerlines C-PVMT-MRKG- Roadway markings (yellow) C-OVRN-SHLD- Shoulder markings C-PVMT-MRKG- Roadway markings (yellow) C-PADS-CNTR- Centerlines Intertype Line Weight Symbol AutoDesk Standards 6 Continuous 7 User Defined Information Assurance Level Restricted Core FGDC Marking Submission Requirements SDSFIE airfield_surface_marking_line Core Documentation and Submission Requirements No documentation required. N/A	C-APRN-MRKG-	Apron	mar	kings	C-RUNW-SHLD-		Shoulder markings		
C-APRN-SHLD- Shoulder stripes C-RUNW-SIDE- Side stripes C-HELI-BLST- Helipad blast pad and stopway markings C-TAXI-CNTR-MARK Centerline markings C-HELI-CNTR- Centerline markings C-TAXI-EDGE- Edge markings MARK	C-APRN-SECU-				C-RUNW-SHL	D-	Runwa	y Shoulder	
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(Enumeration:	markingFeatureType			The type of	f the marking				
codeMarkingFeatureType)					C				
	codeMarkingFeatureTy	pe)							

color (Enumeration: codeColor)	The color of the marking
(Enumeration: codeColor)	
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.21. Movement Area

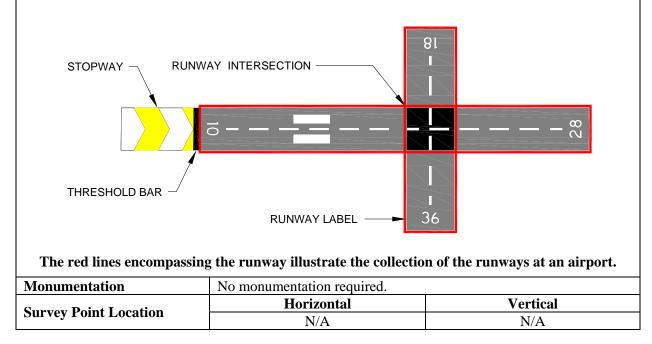
Definition: Runways, taxiways, and other areas of an airport used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and aircraft parking areas [Source: 14 CFR Part 139] Feature Group Airfield Feature Group Airfield Feature Group Airfield security area CADD Standard Requirements Layer/Level Description Color Line Weight Symbol AutoDesk Standards 6 1 User Defined MicroStation Standards 5 Continuous 1 User Defined AIXM Fequivalent Standards 5 Continuous 7 User Defined MicroStation Standards 5 Continuous 7 User Defined Support Unclassified AIXM Features SDSFIE airfield_surface_marking_area No documentation is required for this feature. Support SDSFIE airfield_surface_marking_area No documentation required. Horizontal					
14 CFR Part 139] Airfield Feature Group Airfield Feature Class Name MovementArea Feature Type Polygon CADD Standard Requirements Description CADD Standard Requirements Airfield security area CADD Standards 6 Intertype Line Weight Symbol AutoDesk Standards 6 Continuous 7 User Defined MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified Equivalent Standards 5 Continuous 7 User Defined Documentation and Submission Requirements No documentation is required for this feature. Related Features Dota Capture Rules: Collect each portion of the movement area as a closed polygon to its greates. Monumentation No monumentation required. Survey Point Location Horizontal Vertical Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest enth of foot Feature Attr	Definition: Runways, taxiways,	and other areas o	f an airport used fo	or taxiing or hover	taxiing, air
Feature Group Airfield Feature Class Name MovementArea Feature Type Polygon CADD Standard Requirements Description CADD Standard Requirements Description C.AFLD-SECR-SECA Airfield security area AutoDesk Standards 6 Continuous 1 User Defined MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified AIXM Equivalent Standards 5 Continuous 7 User Defined Documentation and Submission Requirements SDSFIE airfield_surface_marking_area No No Data Capture Rules: Collect each portion of the movement area as a closed polygon to its greates. No Monumentation required. Monumentation No monumentation required. Vertical NA NA Survey Point Location NA NA NA NA NA Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Na escingtion Mame of the feature Description Name of the feature Status (Enumeration: codeStatus)	taxiing, takeoff, and landing of a	ircraft, exclusive	of loading ramps a	and aircraft parking	g areas [Source:
Feature Class Name MovementArea Feature Type Polygon CADD Standard Requirements Description Layer/Level Description C-AFLD-SECR-SECA Airfield security area Catter Color Line Weight Symbol AutoDesk Standards 6 Continuous 1 User Defined MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified 7 User Defined Equivalent Standards 5 Continuous 7 User Defined Biggin and Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified 7 User Defined Equivalent Standards 5 Surfield_surface_marking_area 0 Documentation and Submission Requirements No documentation is required for this feature. Is greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation required. Survey Point Location NA NA Resolution Regoraphic Coordinates Distances and Elevations	14 CFR Part 139]				
Feature Type Polygon CADD Standard Requirements Layer/Level Description C-AFLD-SECR-SECA Airfield security area Color Line Weight Symbol AutoDesk Standards 6 Continuous 1 User Defined MicroStation Standards 5 Continuous 7 User Defined Equivalent Standards 5 Continuous 7 User Defined Equivalent Standards 5 Continuous 7 User Defined Bott FGDC AIXM FGDC Standards Standard	Feature Group	Airfield			
CADD Standard Requirements Layer/Level Description C-AFLD-SECR-SECA Airfield security area AutoDesk Standards 6 Ine Weight Symbol MicroStation Standards 5 Continuous 1 User Defined MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified 7 User Defined Equivalent Standards 5 Continuous 7 User Defined Documentation and Submission Requirements AIXM Related Features Dot documentation is required for this feature. No documentation is required for this feature. No documentation required. Monumentation No monumentation required. No monumentation required. No Survey Point Location NA NA NA Accuracy Requirements (in feet) ± 3 ft ± 5 ft N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Description Na N/A Mam	Feature Class Name	MovementArea			
Layer/LevelCescrytionC-AFLD-SECR-SECAAirfield security =reaC-AFLD-SECR-SECAAirfield security =reaAutoDesk Standards61MicroStation Standards61Barner Standards60MicroStation Standards57Barner Standards1User DefinedMicroStation Standards57Barner StandardsFGDC					
Layer/LevelCescrytionC-AFLD-SECR-SECAAirfield security =reaC-AFLD-SECR-SECAAirfield security =reaAutoDesk Standards61MicroStation Standards61Barner Standards60MicroStation Standards57Barner Standards1User DefinedMicroStation Standards57Barner StandardsFGDC	CADD Standard Requirement	S			
ColorLinetypeLine WeightSymbolAutoDesk Standards6Continuous1User DefinedMicroStation Standards5Continuous7User DefinedInformation Assurance LevelUnclassified7User DefinedEquivalent StandardsFGDCSDSFIEairfield_surface_marking_areaDocumentation and Submission RequirementsNo documentation is required for this feature.No documentation is required for this feature.Data Capture Rules:Collect each portion of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. No monumentation required.NoSurvey Point LocationNANAAccuracy Requirements (in feet)HorizontalVerticalResolutionGeographic Coordinates Hundredth of arc secondDistances and Elevations NAResolutionHundredth of arc secondNearest tenth of footFeature AttributesName of the featureDescriptionAttribute (Datatype) name (VARCHAR2(25))Description of the featureLine Weith of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature			Descr	ription	
AutoDesk Standards 6 Continuous 1 User Defined MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified 7 User Defined Equivalent Standards FGDC 5 5 SDSFIE airfield_surface_marking_area Documentation and Submission Requirements No documentation is required for this feature. No documentation is required for this feature. Related Features No documentation required. No documentation required. Monumentation No monumentation required. Vertical Survey Point Location NA NA NA NA NA Accuracy Requirements (in feet) ± 3 ft ± 5 ft N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Hundredth of arc second Nearest tenth of foot Elipsoidal Mame (VARCHAR2(50)) Name of the feature description (VARCHAR2(255)) Description of the operational status of the feature	C-AFLD-SECR-SECA	Airfield security	/ area		
MicroStation Standards 5 Continuous 7 User Defined Information Assurance Level Unclassified 7 User Defined Equivalent Standards AIXM FGDC 5 5 SDSFIE airfield_surface_marking_area Documentation and Submission Requirements No documentation is required for this feature. No documentation is required for this feature. Related Features Data Capture Rules: Collect each portion of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Survey Point Location NA NA Accuracy Requirements (in feet) Horizontal Vertical Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Reaset tenth of foot Feature Attribute (Datatype) Description Nearest tenth of foot feature Attribute (Datatype) Description Secription name (VARCHAR2(250)) Name of the feature Secription o		Color	Linetype	Line Weight	Symbol
MicroStation Standards57Information Assurance LevelUnclassifiedAIXMEquivalent StandardsFGDCSDSFIEairfield_surface_marking_areaDocumentation and Submission RequirementsNo documentation is required for this feature.Related FeaturesNo documentation of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas.MonumentationNo monumentation required.MonumentationNo monumentation required.Survey Point LocationHorizontalAccuracy Requirements (in feet)HorizontalGeographic CoordinatesDistances and ElevationsHundredth of arc secondNAResolutionInduredth of arc secondResolutionName of the featureAttribute (Datatype)Description of the featureand (VARCHAR2(50))Name of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	AutoDesk Standards	6	Continuous	1	User Defined
AIXM Equivalent Standards AIXM FGDC SDSFIE airfield_surface_marking_area Documentation and Submission Requirements No documentation is required for this feature. Related Features Image: Standards Data Capture Rules: Collect each portion of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Monumentation No monumentation required. Morecord Requirements (in feet) Horizontal Resolution Horizontal Resolution Geographic Coordinates Hundredth of arc second Nearest enth of foot Feature Attributes Hundredth of arc second Attribute (Datatype) Description name (VARCHAR2(50)) Name of the feature description (VARCHAR2(255)) Description of the operational status of the feature	MicroStation Standards	5	Continuous	7	User Dernied
Equivalent Standards FGDC SDSFIE airfield_surface_marking_area Documentation and Submission Requirements No documentation is required for this feature. Related Features No documentation of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Monumentation No monumentation required. Survey Point Location NA NA NA Accuracy Requirements (in feet) ±3 ft ±3 ft ±5 ft Kesolution Geographic Coordinates Hundredth of arc second Nearest tenth of foot Feature Attributes Index second Attribute (Datatype) Description name (VARCHAR2(50)) Name of the feature description (VARCHAR2(255)) Description of the operational status of the feature	Information Assurance Level	Unclassified			·
SDSFIEairfield_surface_marking_areaDocumentation and Submission RequirementsNo documentation is required for this feature.Related FeaturesNo documentation is required for this feature.Data Capture Rules:Collect each portion of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas.MonumentationNo monumentation required.MonumentationNo monumentation required.MonumentationNo monumentation required.MonumentationNo monumentation required.MonumentationNo monumentation required.Motorery Point LocationNANANAAccuracy Requirements (in feet)HorizontalGeographic CoordinatesDistances and ElevationsResolutionGeographic CoordinatesResolutionDescriptionName of the featureDescriptionAttribute (Datatype)Description of the featurename (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature		AIXM			
Documentation and Submission Requirements No documentation is required for this feature. Related Features Image: Collect each portion of the movement area as a closed polygon to its greates. horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Survey Point Location Image: No monumentation required. Survey Point Location NA Accuracy Requirements (in feet) Horizontal ± 3 ft ± 5 ft Kesolution Geographic Coordinates Hundredth of arc second Nearest tenth of foot Feature Attributes Image: Name of the feature Attribute (Datatype) Description name (VARCHAR2(50)) Name of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature	Equivalent Standards	FGDC			
Submission RequirementsNo documentation is required for this feature.Related Features $\end{submatrix}$ Data Capture Rules: Collect each portion of the movement area as a closed polygon to its greates: horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas.MonumentationNo monumentation required.MonumentationNo monumentation required.Survey Point LocationHorizontalVerticalSurvey Requirements (in feet)HorizontalVerticalResolutionGeographic Coordinates Hundredth of arc secondDistances and ElevationsAttribute (Datatype)DescriptionName of the featureand (VARCHAR2(50))Name of the featureSecond is featureStatus (Enumeration: codeStatus)A temporal description of the operational status of the feature		SDSFIE	airfield_surface_	marking_area	
Submission Requirements Image: Submission Requirements Related Features Image: Submission Requirements Participation of the movement area as a closed polygon to its greates: Anorizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Monumentation No monumentation required. Monumentation No monumentation required. Monumentation No monumentation required. More relation NA NA Accuracy Requirements (in feet) Horizontal Vertical Mathematication Status (Enumeration) Status (Enumeration: codeStatus) Status (Enumeration: codeStatus)	Documentation and	No do oumontot	on is required for t	this facture	
Data Capture Rules: Collect each portion of the movement area as a closed polygon to its greatest horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Monumentation No monumentation required. Monumentation No monumentation required. Monumentation No monumentation required. More Point Location NA NA Accuracy Requirements (in feet) Horizontal Vertical Metricontal Status (Enumeration) Magnetic Coordinates Distances and Elevations Resolution Hundredth of arc second Nearest tenth of foot Feature Attribute (Datatype) name (VARCHAR2(50)) Name of the feature Escription status (Enumeration: codeStatus) A temporal description of the operational status of the feature	Submission Requirements	No documentati	on is required for t	inis reature.	
horizontal extents. Multiple non-overlapping polygons may be used to adequately model the areas. Monumentation No monumentation required. Moreal Horizontal Vertical Survey Point Location NA NA Accuracy Requirements (in feet) Horizontal Vertical Momumentation Horizontal Vertical Resolution Horizontal Vertical Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Name of the feature Description name (VARCHAR2(50)) Name of the feature A temporal description of the operational status of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature	Related Features				
Monumentation No monumentation required. Monumentation Horizontal Vertical Survey Point Location NA NA NA NA NA Accuracy Requirements (in feet) Horizontal Orthometric Ellipsoidal feet) ± 3 ft ± 5 ft N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Hundredth of the feature to the feature Attribute (Datatype) Name of the feature Levations name (VARCHAR2(50)) Name of the feature Image: A temporal description of the operational status of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature	Data Capture Rules: Collect e	each portion of th	ne movement area	as a closed polyg	on to its greatest
Survey Point Location Horizontal Vertical NA NA NA Accuracy Requirements (in feet) Horizontal Vertical Main Horizontal Vertical Main NA NA Accuracy Requirements (in feet) ±3 ft ±5 ft Kesolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Hundredth of arc second Nearest tenth of foot Attribute (Datatype) Name of the feature Image: Status (Enumeration: codeStatus) status (Enumeration: codeStatus) A temporal description of the operational status of the feature	horizontal extents. Multiple non	-overlapping poly	gons may be used	to adequately mod	lel the areas.
Survey Point LocationNANANANANANAAccuracy Requirements (in feet)HorizontalOrthometricEllipsoidal± 3 ft± 5 ftN/AResolutionGeographic CoordinatesDistances and ElevationsHundredth of arc secondNearest tenth of footFeature AttributesHundredth of arc secondNearest tenth of footname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(55))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	Monumentation	No monumentat	tion required.		
NANAAccuracy Requirements (in feet)HorizontalVerticalfeet)± 3 ft± 5 ftN/AResolutionGeographic CoordinatesDistances and ElevationsHundredth of arc secondNearest tenth of footFeature AttributesHundredth of arc secondNearest tenth of footAttribute (Datatype)Descriptionname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(55))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature		Hori	zontal	Ver	tical
Accuracy Requirements (in feet)VerticalAccuracy Requirements (in feet)HorizontalVerticalfeet) $\pm 3 \text{ ft}$ $\pm 5 \text{ ft}$ N/AResolutionGeographic CoordinatesDistances and ElevationsHundredth of arc secondNearest tenh of footFeature AttributesDescriptionAttribute (Datatype)Descriptionname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(55))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	Survey Point Location	Ν	JA	N	A
Accuracy Requirements (in feet) Horizontal Orthometric Ellipsoidal feet) ±3 ft ±5 ft N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Image: Second feature Second feature name (VARCHAR2(50)) Name of the feature Secription of the feature description (VARCHAR2(255)) Description of the feature Secription of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature		N	JA	N	A
feet) $\pm 3 \text{ ft}$ $\pm 5 \text{ ft}$ N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Description Attribute (Datatype) Description name (VARCHAR2(50)) Name of the feature description (VARCHAR2(255)) Description of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature	A course a Dequinements (in	Hori	zontol	Ver	tical
± 3 ft ± 5 ft N/A Resolution Geographic Coordinates Distances and Elevations Hundredth of arc second Nearest tenth of foot Feature Attributes Description Attribute (Datatype) Description name (VARCHAR2(50)) Name of the feature description (VARCHAR2(255)) Description of the feature status (Enumeration: codeStatus) A temporal description of the operational status of the feature		11011	zuiitai	Orthometric	Ellipsoidal
KesolutionHundredth of arc secondNearest tenth of footFeature AttributesDescriptionAttribute (Datatype)Descriptionname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	leet)	±	3 ft	± 5 ft	N/A
KesolutionHundredth of arc secondNearest tenth of footFeature AttributesDescriptionAttribute (Datatype)Descriptionname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	Desclution	Geographic	Coordinates	Distances an	d Elevations
Attribute (Datatype)Descriptionname (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	RESOLUTION				
name (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	Feature Attributes				
name (VARCHAR2(50))Name of the featuredescription (VARCHAR2(255))Description of the featurestatus (Enumeration: codeStatus)A temporal description of the operational status of the feature	Attribute (Datatype)	Description			
status (Enumeration: codeStatus) A temporal description of the operational status of the feature	name (VARCHAR2(50))				
	description (VARCHAR2(255))	Description	n of the feature		
This attribute is used to describe real-time status.	status (Enumeration: codeStatus)				
		This attribut	ute is used to descr	ibe real-time statu	s

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.22. Runway

Definition: A defined rectangul	ar area on an airj	port prepared for t	the landing and tak	ceoff of aircraft.		
[AC 150/5300-13]						
Feature Group	Airfield					
Feature Class Name	Runway					
Feature Type	Polygon					
CADD Standard Requirement	S					
Layer/Level		Descr	ription			
C-RUNW-EDGE-	Airfield runway	edges				
	Color Line type Line Weight Symbol					
AutoDesk Standards	6	Continuous	1	User Defined		
MicroStation Standards	5	Continuous	3	User Dermed		
Information Assurance Level	Resticted					
	AIXM	Runway		Core		
Equivalent Standards	FGDCRunway					
	SDSFIE airfield_surface_site					
Documentation and	No documentation is required for this feature					
	No documentation is required for this feature.					
Submission Requirements		1				

Data Capture Rules: In addition to the requirements for runway end collection, capture the runway as a closed polygon limited by the outer edge of the runway edge paint (shoulder side), excluding runway shoulders or stopways. If there are no painted runway edge markings, capture and report the runway as a polygon at its narrowest dimension based on the existing pavement.



	Harizontal	Vertical		
Accuracy Requirements (in feet)	Horizontal	Orthometric	Ellipsoidal	
	± 3 ft	± 5 ft	N/A	
Resolution	Geographic Coordinates			
	Hundredth of arc second	Hundredth of arc second Nearest tenth of foot		
Feature Attributes				
Attribute (Datatype)		scription		
name (VARCHAR2(50))	Name of the feature.			
description (String 255)	Description of the feature			
status (Enumeration: codeStatus	 A temporal description of the This attribute is used to description 			
runwayDesignator (String 7)	Designator of the runway bas position in relation to parallel AC 150/5340-1]		•	
width (Real)	edge of the runway pavement through a runway end-point. 100 feet, the width is rounded runway width is more than 10 nearest 10 feet. If the rounded	A perpendicular line to the surface centerline, extending to edge of the runway pavement on both sides of the runway through a runway end-point. If the runway width is less th 100 feet, the width is rounded up to the nearest 5 feet. If th runway width is more than 100 feet, the width is rounded nearest 10 feet. If the rounded width is different from the published width, NGS should be contacted for further adv		
length (Real)	The straight line distance bet does not account for surface Official runway lengths are n end coordinates and elevation	undulations betwee ormally computed	en points.	
userFlag (String 254)	An operator-defined work are the operator for user-defined	An operator-defined work area. This attribute can be to the operator for user-defined system processes. It does affect the subject item's data integrity and should not be		
surfaceType (Enumeration: codeSurfaceType	A classification of airfield paObstruction Charts [Source:		or Airport	
surfaceMaterial (Enumeration: CodeSurfaceMaterial)		A code indicating the composition of the related surface [Source: NFDC]		
pavementClassificationNumber	pavement in terms of a standa 150/5335-5]	A number that expresses the relative load carrying capac pavement in terms of a standard single wheel load [Sour 150/5335-5]		
surfaceCondition (Enumeration: codeSurfaceCondition)	NFDC]	A description of the serviceability of the pavement [Source: NFDC]		
Alternative (Number(2))	Discriminator used to tie feat into a version.	ures of a plan or p	roposal together	

 5.4.23. Restricted Access Boundary
 Definition: A restricted area boundary identifies areas strictly reserved for use by authorized personnel only.

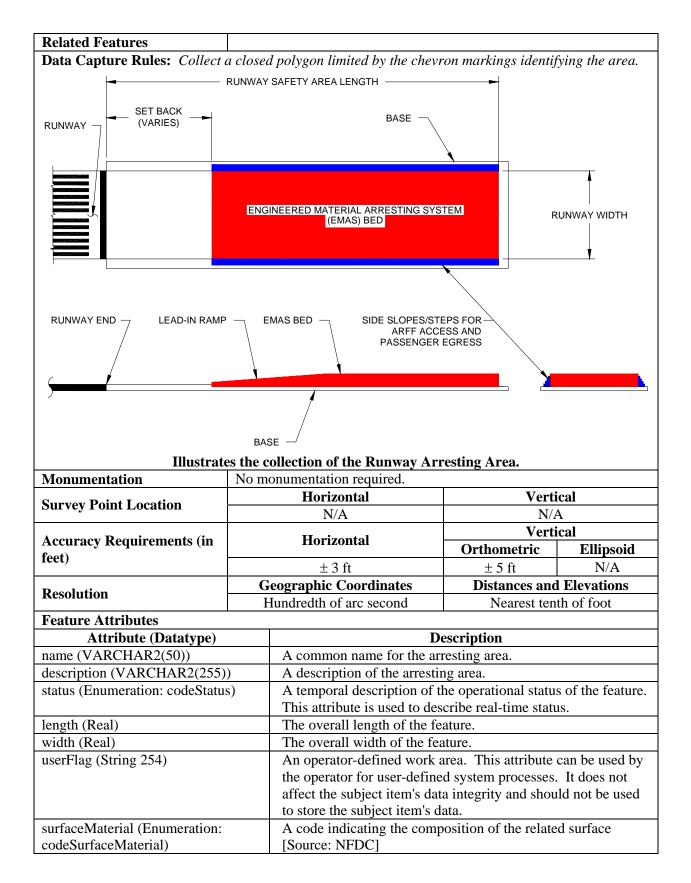
Feature Group	Airfield
Feature Class Name	RestrictedAccessBoundary
Feature Type	Line

CADD Standard Requireme Layer/Level	Description					
C-AIRF-SECR-RSTR	Restricted acce	Restricted access boundary				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	5		1			
MicroStation Standards	1	- Continuous	7	- User Defined		
Information Assurance	1	l	ı ,	1		
Level	Confidential					
	AIXM	SecurityElement		Extension		
Equivalent Standards	FGDC	RestrictedAccess		Extension		
Equivaient Standar as	SDSFIE	Military_restrict	ý l	Littension		
Documentation and		tion is required for the				
Submission Requirements		_				
Related Features Data Capture Rules: Collect			1			
ARE			< *			
		n of a restricted are				
SEGMENT	No monumenta	REST AR n of a restricted are ation required	RICTED RESTRICTED BOUNDARY	-		
SEGMENT Illustra Monumentation	No monumenta	REST AR n of a restricted are ation required rizontal	RICTED RESTRICTED BOUNDARY	- - rtical		
SEGMENT Illustra Monumentation	No monumenta	REST AR n of a restricted are ation required	RICTED RESTRICTED BOUNDARY RICTED RA Pa boundary.	rtical		
SEGMENT Illustra Monumentation Survey Point Location	No monumenta Ho	REST AR n of a restricted are ation required rizontal	RICTED RESTRICTED BOUNDARY RICTED REA ea boundary.	rtical NA rtical		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in	No monumenta Ho Ho	REST AR n of a restricted are ation required rizontal NA rizontal	RICTED RESTRICTED BOUNDARY RICTED RICTED RA Sa boundary.	rtical NA rtical Ellipsoidal		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in	No monumenta Ho Ho	REST AR n of a restricted are ation required rizontal NA rizontal ± 3 ft	RICTED RESTRICTED BOUNDARY RICTED RA Pa boundary. Ver N Ver Orthometric ± 5 ft	rtical NA rtical Ellipsoidal N/A		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in feet)	No monumenta Ho Ho	REST AR n of a restricted are ation required rizontal NA rizontal	RESTRICTED BOUNDARY BOUNDARY RICTED REA ea boundary. Ver N Ver Orthometric ± 5 ft Distances an	rtical NA rtical Ellipsoidal N/A nd Elevations		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in feet)	No monumenta Ho Ho Geograph	REST AR n of a restricted are ation required rizontal NA rizontal ± 3 ft	RESTRICTED BOUNDARY BOUNDARY RICTED REA ea boundary. Ver N Ver Orthometric ± 5 ft Distances an	rtical NA rtical Ellipsoidal N/A		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution	No monumenta Ho Ho Geograph	REST AR n of a restricted are ation required rizontal NA rizontal ± 3 ft ic Coordinates	RESTRICTED BOUNDARY BOUNDARY RICTED REA ea boundary. Ver N Ver Orthometric ± 5 ft Distances an	rtical NA rtical Ellipsoidal N/A nd Elevations		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution	No monumenta Ho Ho Geograph	REST AR n of a restricted are ation required rizontal NA rizontal ± 3 ft ic Coordinates h of arc second	RESTRICTED BOUNDARY BOUNDARY RICTED REA ea boundary. Ver N Ver Orthometric ± 5 ft Distances an	rtical NA rtical Ellipsoidal N/A nd Elevations		
SEGMENT Illustra Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes	No monumenta Ho Ho Geograph Hundredt	REST AR n of a restricted are ation required rizontal NA rizontal ± 3 ft ic Coordinates h of arc second	RICTED BOUNDARY BOUNDARY RICTED EA ea boundary. Ver N Ver Orthometric ± 5 ft Distances an Nearest te	rtical NA rtical Ellipsoidal N/A nd Elevations		

status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.4.24. Runway Arresting Area

Definition: Any FAA-approved		orbing material of a	specific strength	that will reliably
and predictably bring an aircraf				
limits, cause major structural da	amage, or impose	excessive force on	its occupants. [So	urce: AC
150/5220-22].			-	
Feature Group	Airfield			
Feature Class Name	RunwayArrestir	ngArea		
Feature Type	Polygon			
CADD Standard Requiremen	its			
Layer/Level		Descr	iption	
C-RUNW-ARSTC-RUNW-				
ARST-AIDS-CRIT				
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance	Confidential			
Level	Connucilitai	-		-
	AIXM	ArrestingGear		Core
Equivalent Standards	FGDCRunwayArrestingArea			
	SDSFIE <i>airfield_linear_safety_feature_line</i>			
Documentation and	No documentation is required for this feature.			
Submission Requirements		*		



surfaceCondition (Enumeration: codeSurfaceCondition)	A description of the serviceability of the pavement [Source: NFDC]
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.
setback	The distance the EMAS begins beyond the end of the runway.

5.4.25. Runway Blast Pad

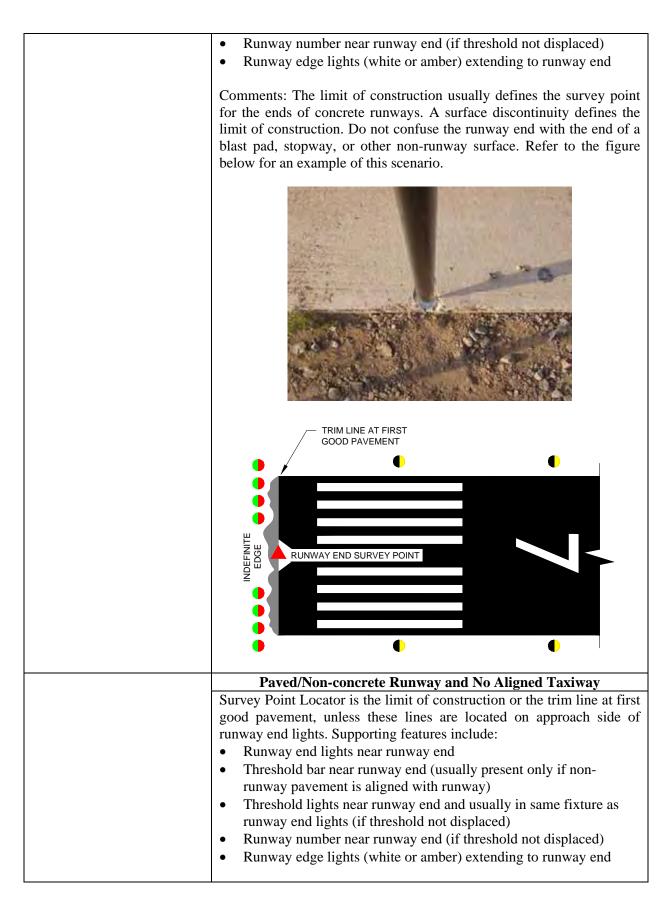
Definitions A gradially propaga	d aumfa an mla and a	discout to the and	of a munuary to alig	ningto the anosisto
Definition: A specially prepare effect of the high wind forces p	•	6	•	
Feature Group	Airfield	les at the beginning	g of their takeoff it	5115.
Feature Class Name	RunwayBlastPad			
Feature Type	Polygon			
CADD Standard Requiremen				
Layer/Level	15	Descr	intion	
C-RUNW-BLST	Runway blast pa			
C-ROIW-BLST	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	4		1	ľ ľ
MicroStation Standards	7	Continuous	3	User Defined
Information Assurance	1		5	
Level	Restricted	-		
	AIXM	RunwayBlastPad	l	Core
Equivalent Standards	FGDC	RunwayBlastPad	l	
	SDSFIE	airfield_linear_s	afety_feature_line	
Documentation and	No additional do	cumentation is req	uired	
Submission Requirements		cumentation is req	uneu.	
Related Features				
Data Capture Rules: Collect	a closed polygon to	o the extents of the	chevrons marking	the area.
		lection of a blast	pad.	
Monumentation	No monumentati	^		
Survey Point Location	Horizontal Vertical			
	N	/A		/A
Accuracy Requirements (in	Horiz	zontal		tical
and (m			Orthometric	
· ·				Ellipsoidal
feet)		2 ft	± 3 ft	N/A
· · ·	Geographic	2 ft Coordinates of arc second	± 3 ft	N/A nd Elevations

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2(50))	Name of the feature.
description (VARCHAR2(255))	Description of the feature
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
length (Integer)	The length of clearway as measured. Compare the measure value to the value reported in the government flight information publications.
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
pavementClassificationNumber	A number that expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [Source: AC 150/5335-5]
runwayEndDesignator (String 3)	Specify runwayEnd designator to identify which runway end the Blast Pad is on.
surfaceCondition (Enumeration: codeSurfaceCondition)	A description of the serviceability of the pavement [Source: NFDC]
surfaceMaterial (Enumeration: codeSurfaceMaterial)	A code indicating the composition of the related surface [Source: NFDC]
surfaceType (Enumeration: codeSurfaceType)	A classification of airfield pavement surfaces for Airport Obstruction Charts [Source: NGS]
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

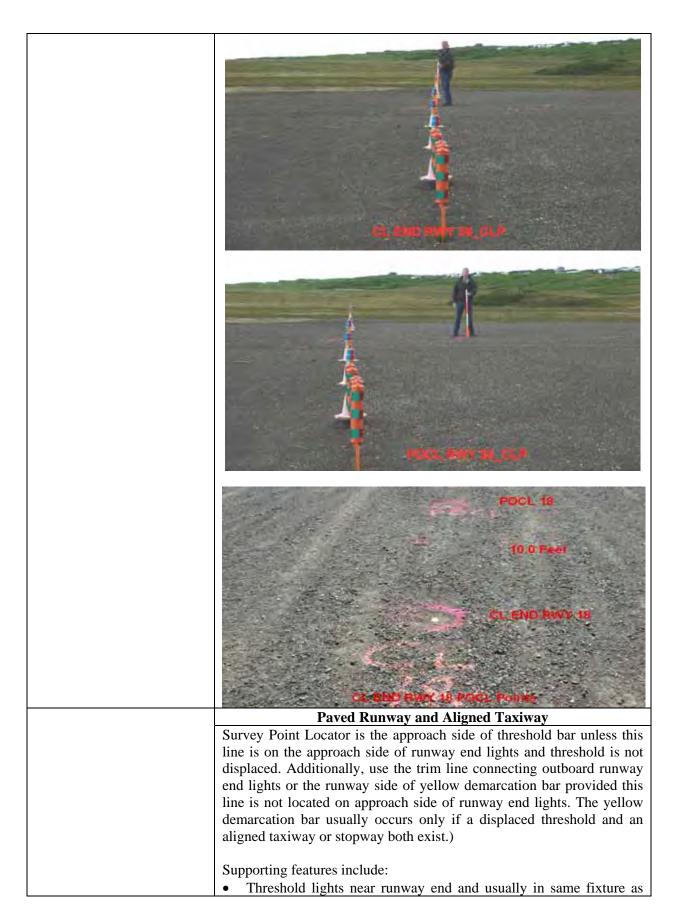
5.4.26. Runway End

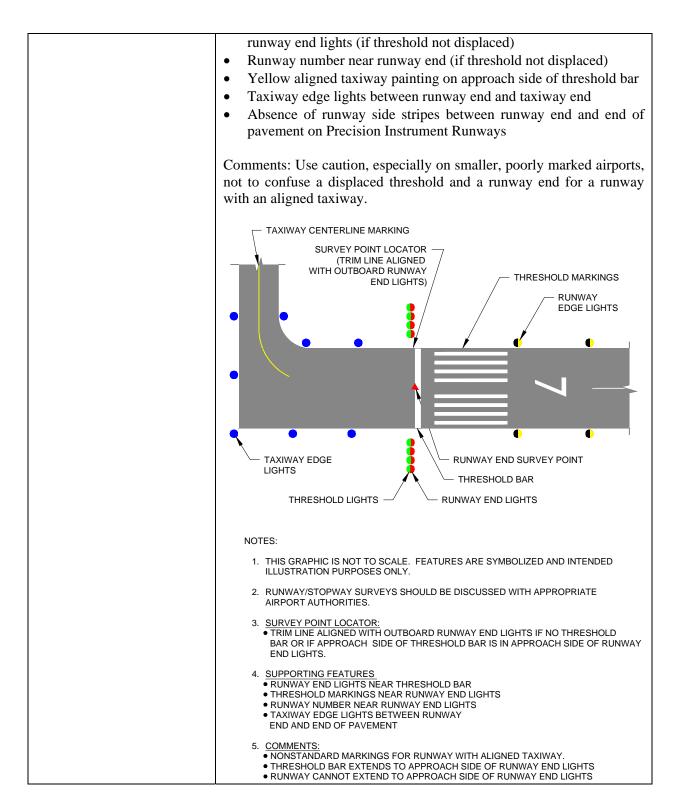
Definition: The end of the run	nway surface suitab	le for landing or ta	keoff runs of aircr	aft. Runway		
Ends describe the approach an	d departure procedu	re characteristics of	of a runway thresh	old. The		
Runway End is the same as the	e runway threshold	when the threshold	l is not displaced.			
Feature Group	Airfield					
Feature Class Name	RunwayEnd					
Feature Type	Point					
CADD Standard Requireme	nts					
Layer/Level	Description					
C-RUNW-ENDP-	Runway endpoint					
	Color Linetype Line Weight Symbol					
AutoDesk Standards	5	Continuous	1	User Defined		
MicroStation Standards	1	Continuous	7	User Dernied		
Information Assurance	Restricted					
Level	Restricted					
	AIXM	RunwayDirection	ıExtension	Extension		
Equivalent Standards	FGDC	RunwayEnd				
	SDSFIE	Airfield_surface_	site			
Documentation and	In addition to t	the requirements	of paragraphs	<u>1.5.2</u> and <u>1.5.3</u> ,		
Submission Requirements	document the sele	cted location using	g four digital photo	ographs:		

	Photograph Type #1 (Eye Level).Photo taken from above the mark, showing an area around the mark about 1 meter in diameter.	Photograph Type #2 (Approach). Photo showing tripod over the mark in foreground and approach in the background.
	Photograph Type #3 (Across Runway). Photo taken from the side of the runway looking across the end of the runway, with a tripod or arrow indicating the end point; include any features used to identify the runway end.	Photograph Type #4 (Close-in). Close-up photo depicting nail, washer and markings.
Related Features		1
-	h the runway end on the runway cente	1 1
1 0	her supporting features. The area bet	ween the runway end and the
displaced threshold should be		as have been determined and d
Monumentation	positions using a nail and washer w year inscribed, chisel square, or p inscription to ensure future identific	
Survey Point Location	 Concrete Runway and No Aligned Taxiway Survey Point Locator is the limit of construction or the trim line at the first good pavement, unless these lines are located on the approach side of runway end lights. Supporting features include: Runway end lights near runway end Threshold bar near runway end (usually present only if non-runway pavement is aligned with runway) Threshold lights near runway end and usually in same fixture as runway end lights (if threshold not displaced) 	



Comments: While the limit of construction is the first choice, a trim line at first good pavement is usually required to define the ends of paved, non-concrete runways since the ends of these surfaces are almost always crumbling and/or not orthogonal to the runway centerline to some degree. Refer to the figures above and below as examples. TRIM LINE AT FIRST GOOD PAVEMENT NDEFINITE EDGE RUNWAY END SURVEY POINT ● ● **Unpaved Runway and No Aligned Taxiway** Survey Point Locator is the trim line 10 feet on touchdown side of inboard runway end lights, a trim line connecting outboard runway end lights, a trim line 10 feet on touchdown side of inboard runway end day markers, or a trim line connecting outboard runway end day markers. Supporting features are threshold lights near threshold (if runway lighted and threshold not displaced) Comments: If no lights or markers exist, the existence of a runway is in question since by FAA definition, a runway is a defined area. Not all areas used for takeoff/landings are runways.





		Unpaved Runway an	nd Aligned Taxiw	ay
	Survey Point Locator is the trim line connecting outboard runway end lights or the trim line connecting outboard runway end day markers Supporting features include threshold lights near threshold (if threshold not displaced) or runway/taxiway edge lights (if runway is lighted).			end day markers. hold (if threshold
	this si aligne	nents: Unpaved runways with ituation is suspected, verify any ed with, the runway is used ed appropriately for this purpos	y area immediately for taxi onto the se.	adjacent to, and runway and is
Accuracy Requirements (in		Horizontal		tical
feet)		Horizontai	Orthometric	Ellipsoidal
		± 1.00 ft	± 0.25 ft	± 0.20 ft
Resolution		Geographic Coordinates		d Elevations
Kesonution]	Hundredth of arc second	Nearest ten	th of a foot
Feature Attributes				
Attribute (Datatype)		Des	scription	
name (VARCHAR2(50))		Name of the feature.		
description (VARCHAR2(255))	Description of the feature		
ellipsoidHeight (Real)		The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height. [Source: NGS]		
status (Enumeration: codeStatu	18)	A temporal description of th This attribute is used to descr	e operational statu	
approachCategory (Enumeration codeApproachCategory)	on:	A grouping of aircraft based on 1.3 times their stall speed in t landing configuration at the certificated maximum flap settin and maximum landing weight at standard atmospheric conditions [Source: AC 150/5300-13]		um flap setting
approachGuidance (Enumerati codeApproachGuidance)	on:	The type of approach guidance		nway end.
accelerateStopDistanceAvail (Integer)		The runway plus stopway len for the acceleration and decel takeoff [Source: AC 150/530	eration of an airpla	
magneticBearing (Real)		Magnetic runway bearing cor valid at the day of data generation		
trueBearing (Real)		True bearing corresponding to ICAO Annex 14]		
designGroup (Enumeration: codeDesignGroup)		A grouping of airplanes based whichever is greatest. [Source	01	0
displacedDistance (Integer)		The distance from the runway end to the landing threshold. When the thresholdType is normal, displacedDist = 0 .		•
landingDistanceAvailable (International Content of Cont	eger)			
runwayEndDesignator		The designator for the runway	y end (i.e. 32L)	
runwaySlope (Real)		Runway slope corresponding RTCA DO-272]		on [Source:
takeOffDistanceAvailable		The takeoff run available plus runway clearway beyond the available. [Source: AC 150/5	far end of the take	

takeOffRunwayAvailable	The runway length declared available and suitable for the ground run of an airplane taking off [Source: AC 150/5300-13]
touchdownZoneSlope	The longitudinal slope of the first 3000 feet of the runway
	beginning at the threshold.
touchdownZoneElevation	The highest elevation in the Touchdown Zone. The Touchdown
	Zone is the first 3,000 feet of the runway beginning at the
	threshold. [Source: FAA Order 8260.3]
thresholdType (enumeration:	A description of the landing threshold: either normal or
codeThresholdType)	displaced.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.27. Runway Label

Definition: The bottom center	position of the run	way designation m	arking		
Feature Group	Airfield	Airfield			
Feature Class Name	RunwayLabel	RunwayLabel			
Feature Type	Point				
CADD Standard Requirement	nts				
Layer/Level		Description			
C-RUNW-IDEN-MARK	Runway numbers	Runway numbers and letters			
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	6	Continuous	1 MM	User Defined	
MicroStation Standards	5	Continuous	7	User Dernied	
Information Assurance	Restricted	Postriotod			
Level	Restricted	Restricted			
	AIXM	RunwayMarking		Core	
Equivalent Standards	FGDC	GDC RunwayLabel			
	SDSFIE	SDSFIE airfield_buffer_zone_area			
Documentation and	No documentatio	n is required for thi	a faatura		
Submission Requirements	No documentatio	n is required for thi	s leature.		
Related Features					
Data Capture Rules: Collect	the runway label a	s an individual poir	nt object.		
Monumentation	No monumentation	on required.			

	Horizontal an	d Vertical	
Survey Point Location	Capture the point located at the base of on the runway centerline. If a runway runway, identify and collect a point ap threshold as the runway label position THRESHOLD BAR	number is not paint proximately 100 fe	ted on the et from the
	Illustrates the collection	of the runway lab	el.
A course of Decrete on the (in	Horizontal	Vertie	cal
Accuracy Requirements (in feet)	IIIIIzontai	Orthometric	Ellipsoidal
	± 3 ft	± 5 ft	N/A
Resolution	Geographic Coordinates	Distances and Elevations	
	Hundredth of arc second	Nearest tenth of foot	
Feature Attributes			
Attribute (Datatype)		cription	
name (VARCHAR2 (50))	Name of the feature.		
description (VARCHAR2 255			
status (Enumeration: codeStatu			the feature.
minuter dDesign stor (String	This attribute is used to describ		
runwayEndDesignator (String		or of the associated runway lefined work area. This attribute can be used by	
userFlag (String 254)	An operator-defined work area the operator for user-defined sy affect the subject item's data in store the subject item's data.	ystem processes. It	does not
Alternative (Number(2))	Discriminator used to tie featurinto a version.	res of a plan or prop	oosal together

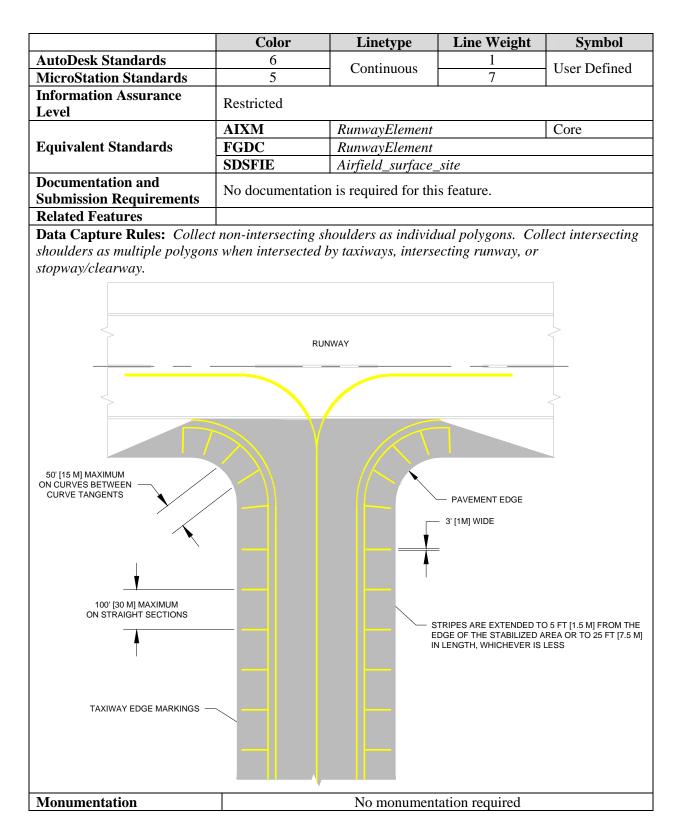
5.4.28. Runway Safety Area Boundary

Definition: The boundary of	f the Runway Safety Area (RSA).		
Feature Group	Airfield		
Feature Class Name	RunwaySafetyAreaBoundary		
Feature Type	Polygon		
CADD Standard Requirem	ents		
Layer/Level	Description		
C-RUNW-SAFT-	Runway Safety Area		

		Color	Line type	Line Weight	Symbol
AutoDesk Standards		5	Continuous	1	User Defined
MicroStation Standards		1	Continuous	7	User Defined
Information Assurance Level	Uncla	ssified			
	AIXN	1	RunwaySafetyAre	eaBoundary	Extension
Equivalent Standards		-	RunwaySafetyAre	eaBoundary	Extension
	SDSF	ΊE	None		
Documentation and	No de	cumentation	is required for thi	s feature	
Submission Requirements	110 40	cumentation	i is required for thi	s leature.	
Related Features					
				rizontal extents.	
Monumentation	No m		A		
Survey Point Location		Horiz			tical
		N	A		A
Accuracy Requirements (in		Horizontal		Vertical	
feet)	SDSFIE tation and on Requirements No documen reatures No monumen ture Rules: Collect as a closed point tation No monumen n H Requirements (in n H Requirements (in n Geograf Requirements (in n H Mame n (VARCHAR2(50)) Name n (VARCHAR2 (255)) Descr This a dDesignator (String 3) Special Special Special Special Special			Orthometric	Ellipsoidal
		± 3		± 5 ft	N/A
Resolution			Coordinates	Distances and Elevations	
]	Hundredth of	f arc second	Nearest te	nth of foot
Feature Attributes				• •	
				scription	
name (VARCHAR2(50))		Name of th			
description (VARCHAR2 (25			n of the feature		
status (Enumeration: codeStati	us)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.			
	2)				S.
	3)		wayEnd designate		
	255))		he date the RSA determination was approved formal declaration of the RSA condition with respect to		
determination (VARCHAR2 (255))				with respect to
userFlag (String 254)	standards and any requirement improvements				an he used by
		An operator-defined work area. This attribute can be use the operator for user-defined system processes. It does			
usering (String 254)		·			•
useri nag (Sunng 234)		the operate	or for user-define	d system process	es. It does not
useri lag (Sullig 254)		the operate affect the s	or for user-define subject item's data	d system process	es. It does not
		the operate affect the s store the su	or for user-define subject item's data abject item's data.	d system process integrity and shou	es. It does not ild not be used to
Alternative (Number(2))		the operate affect the s store the su	or for user-define subject item's data <u>abject item's data.</u> tor used to tie feat	d system process integrity and shou	es. It does not ild not be used to

5.4.29. Shoulder

Definition: An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition		
between the pavement and the adjacent surface; support for aircraft running off the pavement, enhance		
drainage, and blast protection.	[Source: AC 150/5300-13]	
Feature Group	Airfield	
Feature Class Name	Shoulder	
Feature Type	Polygon	
CADD Standard Requirement	nts	
Layer/Level	Description	
C-HELI-SHLD-	Shoulder	
C-PADS-SHLD-	Shoulders with annotation	



	Horizontal	and Vertical	
Survey Point Location	TAXIWAY INFIELD PO Non-paved area. rolled millings	LYGON SHOULDER EDO OF PAVEMENT TAXIWAY SHOULDER	LINE
Accuracy Requirements (in	Horizontal	Ver Orthometric	tical
feet)	± 3 ft	$\pm 5 \text{ ft}$	Ellipsoidal N/A
	Geographic Coordinates		d Elevations
Resolution	Hundredth of arc second		
Feature Attributes		÷	
Attribute (Datatype)	D	escription	
name (VARCHAR2(50))	Name of the feature.		
description (VARCHAR2 (255)			
shoulderType (Enumeration: codeShoulderType)	Code for whether this is a ru	nway shoulder or ta	axiway shoulder.
status (Enumeration: codeStatus	A temporal description of th This attribute is used to desc		
length (Real)	The overall length of the air	field surface.	
width (Real)	The overall width of the airf	ield surface.	
restricted (Boolean)	An indicator as to whether a	ccess to the feature	is restricted
userFlag (String 254)	An operator-defined work an		•
	the operator for user-defined affect the subject item's data store the subject item's data.	integrity and shoul	d not be used to
surfaceMaterial (Enumeration: CodeSurfaceMaterial)	A code indicating the compo [Source: NFDC]	osition of the related	1 surface
sequence (String 5)	Sequential number of the ele	ement.	
surfaceCondition (Enumeration codeSurfaceCondition)	A description of the servicea NFDC]		ent [Source:
surfaceType (Enumeration: codeSurfaceType)	A classification of airfield pa Obstruction Charts [Source:		or Airport
Alternative (Number(2))	Discriminator used to tie fea into a version.	tures of a plan or p	roposal together

5.4.30. Taxiway Intersection

Definition: The junction of t	wo or more taxiw	ways (Source: ICAO	Annex 14, Volume	e 1, Aerodromes,
Chapter 1, page 5).	A . C. 11			
Feature Group	Airfield			
Feature Class Name	TaxiwayIntersection			
Feature Type	Polygon			
CADD Standard Requirem	ents		• •	
Layer/Level			ription	
C-TAXI-INTS	Taxiway inter			
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	5	Continuous	1 MM	User Defined
MicroStation Standards	0	Continuous	7	eser Dermed
Information Assurance Level	Restricted			
	AIXM	TaxiwayElement	t	Core
Equivalent Standards	FGDC	TaxiwayIntersec		
-	SDSFIE	·		
Documentation and Submission Requirements	No documentation is required for this feature.			
Related Features				
	re a polygon establishing the intersection of two or more taxiways.			
		Inter section		
Monumentation	No monumentati			
Survey Point Location		Horizontal a		
.		N/2	1	
Accuracy Requirements	Hor	rizontal		tical
(in feet)			Orthometric	Ellipsoidal
		: 3 ft	± 5 ft	N/A
Resolution	Geographi	c Coordinates		d Elevations
Resolution	Hundredth	of arc second	Nearest te	
Feature Attributes				nth of foot
				nth of foot
Attribute (Datatype)		D	escription	nth of foot
Attribute (Datatype) name (VARCHAR2 (50))			escription	nth of foot
Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 25	Name o	Definition of the feature	escription	nth of foot

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.4.31. Taxiway Element

Definition: Defined paths on	an airport establ	lished for the tax	iing of aircraft ((excluding apron
taxilanes) and intended to provide a link between one part of the airport and another.				
Feature Group	Airfield			
Feature Class Name	TaxiwayElement			
Feature Type	Polygon			
CADD Standard Requiremen	ts			
Layer/Level		Descr	iption	
C-TAXI-OTLN	Taxiway - outline	es		
	Color Linetype Line Weight Symbol			
AutoDesk Standards	4	4 Continuous 1 MM		User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance Level	Restricted			
	AIXM	TaxiwayElement		Core
Equivalent Standards	FGDC TaxiwayElement			
	SDSFIE <i>airfield_surface_site</i>			
Documentation and Submission Requirements	No documentation is required for this feature.			
Related Features				
			waan ahiaata Call	

Data Capture Rules: Collect all taxiway elements as individual polygon objects. Collect taxiway at the outer edge of pavement or defined paint line (excluding shoulder). Each taxiway will typically be comprised of more than one element. When multiple elements make up a taxiway, identify the taxiway elements as beginning, intersection and end in the name attribute. Be sure to comply with the no overlappping polygon rule.

Image: state	ELE ′ GL	LINE			
Monumentation		s the collection of a taxiway e nonumentation required.	lement.		
	INO I	Horizontal	Ver	ical	
Survey Point Location		N/A	Vertical N/A		
			Vertical		
Accuracy Requirements (in		Horizontal	Orthometric	Ellipsoidal	
feet)		± 3 ft	± 5 ft	N/A	
Resolution	Geographic Coordinates		Distances and Elevations		
	Hundredth of arc second		Nearest ter	nth of foot	
Feature Attributes					
Attribute (Datatype)			scription		
name (VARCHAR2 (50))		Name of the feature.			
description (VARCHAR2 255) taxiwayId (VarChar2(50))		Description of the feature	· · · · · · · · · · · · · · · · · · ·		
	TarChar2(50))Taxiway element name. The name corresponding taxiway name. Multi have the same name. If two or mor taxiway element intersection will b predominant taxiway. If two taxiw intersect, the element can be name taxiways.		Multiple taxiway r more taxiways in will be named afte axiways on the sam	elements can tersect the r the ne level	
taxiwayType		The type of taxiway			
	Enumeration: CodeTaxiwayType)				
status (Enumeration: codeStatus	(Enumeration: codeStatus) A temporal description of the operational status of the featu This attribute is used to describe real-time status.				
userFlag (String 254)	An operator-defined work the operator for user-defin affect the subject item's d store the subject item's da		a. This attribute c system processes.	an be used by It does not	
surfaceMaterial (Enumeration: CodeSurfaceMaterial)	A code indicating the composition of the related surface [Source: NFDC]			surface	

pavementClassificationNumber	A number that expresses the relative load-carrying capacity of a pavement in terms of a standard single wheel load [Source: AC 150/5335-5]
surfaceCondition (Enumeration codeSurfaceCondition)	A description of the serviceability of the pavement [Source: NFDC]
directionality (Enumeration: CodeDirectionality)	Code used to define the directionality of traffic on the element.
sequence	Sequential number of the taxiway element.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.
surfaceType (Enumeration: codeSurfaceType)	Type of different materials used to construct the surface.
designGroup (Enumeration: codeDesignGroup)	Identifies the design group used in the design of the taxiway
length (Real)	Provides the length of the taxiwayElement polygon as measured along the centerline
width (Real)	Width of the taxiway
maximumSpeed (Real)	Identifies the maximum speed for the taxiwayElement
wingspan (Real)	Identifies the maximum aircraft wingspan which can traverse the taxiwayElement

5.5. Group: AIRSPACE

5.5.1. Landmark Segment

Definition: Features providing geographic orientation near the airport vicinity. The features may or may not have obstruction value. Collect geographic features of landmark value aiding in geographic orientation as individual polyline objects. These features include, but are not limited to, the following:

- (1). A selection of roads (i.e. major highways, primary roads, etc.) and railroads, especially in the airport vicinity, to assist the user in geographic orientation.
- (2). Shoreline (i.e. coastlines, lakes, rivers, etc.) of landmark value that aid in geographic orientation.
- (3). Utility lines (i.e. transmission lines), levees, fence lines, or other linear features having obstruction or landmark value.
- (4). Buildings or other features of landmark value that aid in geographic orientation.
- (5). Runways with specially prepared hard surfaces that are not located on the airport being surveyed, but fall within the survey limits.
- (6). Closed runways if they are sufficiently prominent to be of value to a pilot in airport identification.

Feature Group	Airspace			
Feature Class Name	LandmarkSegment			
Feature Type	Line	·		
CADD Standard Requirem				
Layer/Level		Descri	otion	
C-AIRS-LNDM	Landmark segment			
	Color	Line type	Line Weight	Symbol
AutoDesk Standards	3	••	1 MM	· · · ·
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance				
Level				
	AIXM	LandmarkSegme	nt	Extension
Equivalent Standards	FGDC	LandmarkSegme	nt	Extension
	SDSFIE None			
Documentation and Submission Requirements	No documentation is required for this feature.			
Related Features				
Data Capture Rules: Be sur	Data Capture Rules: Be sure that the attribute field for "CodeLandmarkType" correctly identifies the			
linear object being drawn. Each landmark type feature has its own data capture rule, collect each				
feature as defined in individu			ient, UtilityLine, S	horeline, etc.).
Monumentation	No monumentation			
Survey Point Location	Horizontal		Vertical	
Survey I onit Elocation	N/A		N/A	
Accuracy Requirements	Horizontal			tical
(in feet)		mui	Orthometric	Ellipsoidal
	± 5		$\pm 5 \text{ ft}$	N/A
Resolution	Geographic (Distances an	d Elevations
KUSUIUUUII	Five hundredth of arc second		Neare	st foot

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2 (50))	Name of the feature.
description (VARCHAR2 255)	Description of the feature
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
landmarkType (Enumeration: CodeLandmarkType)	Type of landmark feature
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.5.2. Obstacle

Definition: All fixed (whether temporary or permanent) and mobile objects, or parts thereof, located on an area intended for the surface movement of aircraft, penetrating an Obstruction Identification Surface (OIS), or selected as a representative object. Use this feature for modeling linear objects as obstacles.

0000000000					
Feature Group	Airspace				
Feature Class Name	Obstacle				
Feature Type	Point				
CADD Standard Requirements	•				
Layer/Level		Des	cription		
C-AIRS-OBST-LINE	Airspace obs	struction - Line			
C-AIRS-OBST-PPNT	Airfield obst	ruction			
	Color	Line type	Line Weight	Symbol	
AutoDesk Standards	2	Continuous	1	User Defined	
MicroStation Standards	4	Continuous	7	User Denneu	
Information Assurance Level	Confidential				
	AIXM	Obstacle		Extension	
Equivalent Standards	FGDC	<i>Obstacle</i> Extension		Extension	
	SDSFIE	None			
Documentation and Submission	No documentation is required for this feature.				
Requirements	No documen	tation is required i	or uns reature.		
Related Features					
Data Capture Rules: Use the Obs	tacle feature t	ype for point or lin	e features penetra	ting an	
<i>Obstruction Identification Surface (OIS) or selected as a representative object. Model line features as</i>			line features as		
points representing the vertices of t	ces of the line.				
Monumentation	No monumer	ntation required.			
Survey Point Location	Horizontal		Ver	Vertical	
	Center	of the object	Highes	st point	

Accuracy Requirements (in feet relative to the nearest PACS, SACS, HRP or TSM)						
		ng Vertically Guid				
	o depporten			Vertical		
		Horizontal	Orthometric		AGL	
Vertically Guided Runway Prima (VGRPS)	ry Surface	± 20	± 3	± 3	± 10	
Vertically Guided Primary Conne Surface (VGPCS)	ction	± 20	± 3	± 3	± 10	
Vertically Guided Protection Surf (VGPS)	ace	± 20	± 3	± 3	± 10	
Vertically Guided Approach Tran Surface (VGATS)	sition	± 20	± 3	± 3	± 10	
Vertically Guided Approach Surfa (VGAS)	ace	± 20	± 3	± 3	± 10	
Vertically Guided Horizontal Surf (VGHS)	face	± 20	± 10	± 10	± 10	
Vertically Guided Conical Surface	e (VGCS)	± 20	± 10	± 10	± 10	
Runways Supporting Non-Verti	cally Guid	ed Operations				
		Horizontal		Vertical		
		Horizontai	Orthometric	Ellipsoid	AGL	
Non-vertically guided primary sur	face	± 20	± 3	± 3	± 3	
Non-vertically guided approach su	urface	± 20	± 10	± 10	± 10	
Non-vertically guided transitional	surface	± 20	± 10	± 10	± 10	
Non-vertically guided horizontal	surface	± 50	± 20	± 20	± 10	
Resolution	Geogra	phic Coordinates	s Dista	nces and Eleva	tions	
	Hundre	edth of arc second		Tenth of a foot		
Feature Attributes						
Attribute (Datatype)			Description			
name (VARCHAR2 (50))		of the feature.				
description (VARCHAR2 (255))		iption of the featur		1	. ,	
status (Enumeration: codeStatus)		A temporal description of the operational status of the feature. This attribute is used to describe real-time status.				
obstacleType		pe of object.	describe real-th	ne status.		
(Enumeration: CodeObstacleType	-	pe of object.				
obstacleSource (Enumeration:						
CodeObstacleSource)						
boveGroundLevel (Real) The vertical dis object.		ertical distance fro	om the ground to	the highest poi	nt of the	
5		Distance measured along runway centerline or centerline				
			•••			
			extended from a Displaced Threshold to point abeam the object. A negative distance indicates that the object is on the			
		touchdown side of the runway approach end. This data is not				
		led for objects pen				
runway transitional surfaces.						

distanceFromRunwayCenterline	Shortest distance from the runway centerline or centerline
(Real)	extended to the object. "L" (LEFT) or "R" (RIGHT) is relative
	to an observer facing forward in a landing aircraft. This data is
	not provided for objects penetrating the horizontal, conical and
	runway transitional surfaces.
distanceFromRunwayEnd (Real)	Distance measured along runway centerline or centerline
distancer formkunwayEnd (Kear)	extended from the physical end to point abeam the object. A
	negative distance indicates that the object is on the touchdown
	side of the runway approach end. This data is not provided for
	objects penetrating the horizontal, conical and transitional
	(HCT) surfaces.
groupCode (String 75)	A text code indicating that the object consists of a group of
	objects of the same type. For example, a group of trees, a group
	of buildings, a group of antennas, etc [Source: AIXM]
heightAboveAirport (Integer)	Height above airport the official airport elevation point
	[Source: NGS]
heightAboveRunway (Real)	Height above runway physical end for objects located
noight too vortait way (itear)	underneath the approach surface.
haight A hove Touchdown Zone	Height above touchdown zone elevation for objects located
heightAboveTouchdownZone	•
(Real)	underneath the approach surface.
lightCode (Boolean)	A code indicating that the obstacle is lighted [Source: AIXM]
markingFeatureType (Enumeration:	The type of the marking
codeMarkingFeatureType)	
penValSpecified (Integer)	The elevation difference between the height of the object and
	the specified surface. Used to identify the amount of
	penetration of the main OIS.
penValSupplemental (Integer)	The elevation difference between the height of the object and
	the supplemental surface. Used to identify the amount of
	penetration to a secondary OIS.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
usering (string 25 t)	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data integrity and should not be used to
ellipsoidHeight (Real)	The height above the reference ellipsoid, measured along the
	ellipsoidal outer normal through the point in question.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.
obstructionNumber	Provide the Aeronautical Study Number assigned by the FAA in
(VARCHAR2(30))	the appropriate format (if known). The appropriate format is
	YYYY-XXX-NNNNN-TTT, EXAMPLE: 2008- ASW-1234-
	OE where YYYY is the year, XXX is the FAA responsible
	region (ASW, AAL, AGL, AEA, etc.) or WTE for Wind
	Turbine cases in the eastern U.S. or WTW for wind turbine
	cases in the western U.S., NNNNN is the sequential number
	assigned to the case for the year, and TTT is either OE, NR or
	NRA as appropriate. The dashes in the format are important
	and if the information is not known leave this blank.
disposition (String 16)	
disposition (String 16)	The disposition of the airspace obstruction.
disposition (String 16) oisSurfaceCondition (Enumeration: is CodeOisSurfaceCondition)	

frangible (Boolean)	A Boolean indicating whether the object is frangible.
faaCoordinationCode (Boolean)	A Boolean indicating whether the obstruction has received FAA
	coordination or review.

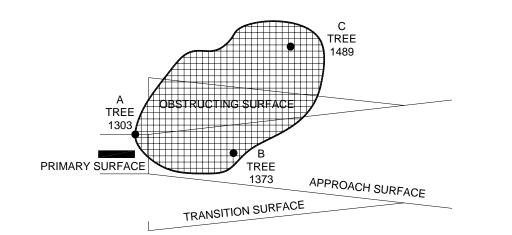
5.5.3. Obstruction Area

Definition: Polygon features penetrating the plane of the obstruction identification surface (OIS) or selected as representative objects. Determine the type of obstructing area by the predominant feature within the grouped area. Penetrating groups of trees, ground, buildings, urban areas, mobile cranes, and agricultural area are the most common types of obstruction areas found within the surfaces of an				
Airport Airspace Analysis surve				
Feature Group	Airspace			
Feature Class Name	ObstructionAre	a		
Feature Type	Polygon			
CADD Standard Requirement	CADD Standard Requirements			
Layer/Level	Description			
C-AIRS-OBST-POLY	Airspace obstruction			
	Color Linetype Line Weight Symbol			Symbol
AutoDesk Standards	2	Continuous	1 MM	User Defined
MicroStation Standards	0	Continuous	7	User Denneu
Information Assurance Level	Restricted			
	AIXM ObstructionArea Core			
Equivalent Standards	FGDC ObstructionArea			
	SDSFIE <i>airspace_obstruction_navaid_point</i>			t
Documentation and Submission RequirementsNo documentation is required for this feature.				

Related Features	

Data Capture Rules: Use the ObstructionArea feature type to model features penetrating an OIS or is selected as a representative object using a bounding polygon encompassing the greatest extents of the area and the height of the highest point within the feature.

<u>Area Limit Object Requirements</u> – When a large area of objects such as buildings, terrain or vegetation penetrate a surface, identify the limits of the area using a bounding polygon within the lateral limits of the surface. Overlay the area lateral limits with a grid established parallel and perpendicular to the extended runway centerline of the surface (see figure below). Establish the grid beginning at the runway end using the appropriate spacing until reaching the obstructing area. Within 10,200 feet of the runway threshold, use 200-foot grid spacing; outside 10,200 feet from the threshold, use a grid spacing of 500 feet. Analyze, identify and report the highest manmade or natural object penetrating the surface within each grid sector. Additionally, report the highest manmade or natural object within the area limits (see Figure 2-18). If two objects with the exact same MSL elevation are within a grid sector, choose the sector object by first selecting the object closer to the centerline, then if required, by the object closer to the runway.



NOTES:

- 1. THIS GRAPHIC EXPLAINS OR CLARIFIES CERTAIN DATA REQUIREMENTS.
- 2. SEE TEXT WHEN OBJECT CONGESTION OCCURS.
- 3. DIMENSIONS ARE IN FEET. DO NOT SCALE THIS DRAWING.

Reporting highest object(s) within ObstructionArea limits.

Monumentation	No monumentation required.						
Survey Point Location	Horizontal	Horizontal Vertical					
Survey Follit Location	N/A		N/A				
Accuracy Requirement	Accuracy Requirements (in feet relative to the nearest PACS, SACS, HRP or TSM)						
Runways Supporting Vertically Guided Operations							
	Horizontal	Vertical					
	Horizontai	Orthometric	Ellipsoid	AGL			
Vertically Guided Runway Primary Surface (VGRPS)	± 20	± 3	± 3	± 10			
Vertically Guided Primary Connection Surface (VGPCS)	± 20	± 3	± 3	± 10			

				1	1	
Vertically Guided Protection Surface (VGPS)	± 2	0	± 3	± 3	± 10	
Vertically Guided Approach Transition Surface (VGATS)	± 2	0	± 3	± 3	± 10	
Vertically Guided Approach	± 2	0	±3	± 3	± 10	
Surface (VGAS)						
Vertically Guided Horizontal Surface (VGHS)	± 2	0	± 10	± 10	± 10	
Vertically Guided Conical Surface (VGCS)	± 2	0	± 10	± 10	± 10	
	upporting Non-	Vertically Gui	ded Operations			
· · ·				ertical		
		Horizontal	Orthometric	Ellipsoid	AGL	
Non-vertically guided primary su	rface	± 20	± 3	± 3	± 3	
Non-vertically guided approach s	urface	± 20	± 10	±10	± 10	
Non-vertically guided transitiona	l surface	± 20	± 10	±10	± 10	
Non-vertically guided horizontal		± 50	± 20	± 20	± 10	
Resolution		Geographic	Coordinates Distances and Elevations			
		Hundredths of arc second Tenth of a foot				
Feature Attributes						
Attribute (Datatype)			Description			
name (VARCHAR2(50))	Name of th	ne feature.				
description (String 255)	Description	n of the feature				
status (Enumeration: codeStatus)			f the operational status of the feature. escribe real-time status.			
obstacleType	The type of	f object.				
(Enumeration: CodeObstacleTyp						
obstacleSource	Identify ho	w or where the	object was identi	fied.		
(Enumeration:						
CodeObstacleSource)		1.11.				
aboveGroundLevel (Real)	The vertica object.	al distance from	the ground to the	e highest poi	nt of the	
distanceFromDisplacedThreshold			unway centerline			
(Real)	extended from a Displaced Threshold to poi				e object.	
	A negative distance indicates that the object is on the					
	touchdown side of the runway approach end. This data is not					
	provided for objects penetrating the horizontal, conical and runway transitional surfaces.				and	
distanceFromRunwayCenterline			runway centerlin	e or centerli	ne	
(Real)			" (LEFT) or "R"			
(item)						
	to an observer facing forward in a landing not provided for objects penetrating the h					
		nsitional surface		,		
Turway transitional surfaces.						

distanceFromRunwayEnd (Real)	Distance measured along runway centerline or centerline
	extended from the physical end to point abeam the object. A
	negative distance indicates that the object is on the touchdown
	side of the runway approach end. This data is not provided for
	objects penetrating the horizontal, conical and transitional
$\sum_{i=1}^{n} C_{i} d_{i} \left(C_{i} d_{i} - 75 \right)$	(HCT) surfaces.
groupCode (String 75)	A text code indicating that the object consists of a group of
	objects of the same type. For example, a group of trees, a group
haight A have A impart (Integan)	of buildings, a group of antennas, etc [Source: AIXM] Height above airport the official airport elevation point
heightAboveAirport (Integer)	[Source: NGS]
heightAboveRunway (Real)	Height above runway physical end for objects located
neightAboveRullway (Real)	underneath the approach surface.
heightAboveTouchdownZone	Height above touchdown zone elevation for objects located
(Real)	underneath the approach surface [Source: NGS]
lightCode (Boolean)	A code indicating that the obstacle is lighted [Source: AIXM]
markingFeatureType (Enumeration:	The type of the marking
codeMarkingFeatureType)	The type of the marking
penValSpecified (Integer)	The elevation difference between the height of the object and
pen vaispeenieu (integer)	the specified surface. Used to identify the amount of
	penetration of the main OIS.
penValSupplemental (Integer)	The elevation difference between the height of the object and
pen vaisupplementai (meger)	the supplemental surface. Used when to identify the amount of
	penetration to a secondary OIS.
obstructionNumber	Provide the Aeronautical Study Number assigned by the FAA in
(VARCHAR2(30))	the appropriate format (if known). The appropriate format is
(())	YYYY-XXX-NNNNN-TTT, EXAMPLE: 2008- ASW-1234-
	OE where YYYY is the year, XXX is the FAA responsible
	region (ASW, AAL, AGL, AEA, etc.) or WTE for Wind
	Turbine cases in the eastern U.S. or WTW for wind turbine
	cases in the western U.S., NNNNN is the sequential number
	assigned to the case for the year, and TTT is either OE, NR or
	NRA as appropriate. The dashes in the format are important and
	if the information is not known leave this blank.
obstructionAreaType	Type of obstructing area.
(Enumeration:	
CodeObstructionAreaType)	
disposition (VARCHAR2(255))	The disposition of the airspace obstruction.
oisSurfaceCondition	The Obstruction Identification Surface that Obstructing Area
(Enumeration:	represents
CodeOisSurfaceCondition)	
length (Real)	The overall length of the obstruction.
width (Real)	The overall width of the obstruction.
frangible (Boolean)	A Boolean indicating whether the object is frangible.
faaCoordinationCode (Boolean)	A Boolean indicating whether the obstruction has received FAA
	coordination or review.
ellipsoidHeight (Real)	The height above the reference ellipsoid, measured along the

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.5.4. Obstruction Identification Surface

Definition: A derived imaginar	w surface defined	by FAA				
Feature Group	Airspace					
Feature Class Name	ObstructionIdSurface					
Feature Type	Polygon					
CADD Standard Requiremen		D '				
Layer/Level	0.1	Descrij	ption			
C-AIRS-OTHR	Other airspace s					
C-AIRS-PART-PRIM		- Primary Surface				
C-AIRS-PART-HORZ		- Horizontal Surface	;			
C-AIRS-PART-CONL		- Conical Surface				
C-AIRS-PART-TRNS		- Transitional Surfac				
C-AIRS-PART-APRC		 Approach Surfaces 				
C-AIRS-AAAS-PRIM		e Analysis Survey - l				
C-AIRS-AAAS-HORZ		e Analysis Survey - I		e		
C-AIRS-AAAS-CONL		e Analysis Survey - O				
C-AIRS-AAAS-TRNS		e Analysis Survey - 7				
C-AIRS-AAAS-APRC		e Analysis Survey - A				
C-AIRS-AAAS-VERT	Airport Airspac	ce Analysis Survey	- Vertical Guid	lance Protection		
C-AIRS-AAAS-VERT	Surface					
C-AIRS-TERP	TERPS Surface	S				
C-AIRS-TERP-DEPT	Departure Analysis					
	Departare rinar.	1313				
C-AIRS-OEIA		perative Analysis				
			Line Weight	Symbol		
	One Engine Ino	perative Analysis Linetype	Line Weight 1 MM (all)	-		
C-AIRS-OEIA	One Engine Ino Color	perative Analysis		Symbol User Defined		
C-AIRS-OEIA AutoDesk Standards	One Engine Ino Color 1 (all) 0 (all)	perative Analysis Linetype	1 MM (all)	-		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards	One Engine Ino Color 1 (all)	perative Analysis Linetype	1 MM (all)	-		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance	One Engine Ino Color 1 (all) 0 (all)	perative Analysis Linetype	1 MM (all) 7 (all)	-		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance	One Engine Ino Color 1 (all) 0 (all) Restricted	perative Analysis Linetype Continuous (all)	1 MM (all) 7 (all) nentArea	User Defined		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM	perative Analysis Linetype Continuous (all) ObstructionAssessi	1 MM (all) 7 (all) mentArea cationSurface	User Defined		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE	perative Analysis Linetype Continuous (all) ObstructionAssess ObstructionIdentifi airfield_imaginary	1 MM (all) 7 (all) nentArea cationSurface _surface_area	User Defined		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE	perative Analysis Linetype Continuous (all) ObstructionAssessi ObstructionIdentifi	1 MM (all) 7 (all) nentArea cationSurface _surface_area	User Defined		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati	perative Analysis Linetype Continuous (all) ObstructionAssessi ObstructionIdentifi airfield_imaginary on is required for thi	1 MM (all) 7 (all) mentArea cationSurface _surface_area s feature.	User Defined Core		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentation the obstruction in	perative Analysis Linetype Continuous (all) ObstructionAssess ObstructionIdentifi airfield_imaginary on is required for thi	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by	User Defined Core the utilization		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify type for the runway. Depict the	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati the obstruction ia horizontal limits	perative Analysis Linetype Continuous (all) ObstructionAssess ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of of the appropriate of	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by	User Defined Core the utilization		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati the obstruction ia horizontal limits No monumentati	perative Analysis Linetype Continuous (all) ObstructionAssessi ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of of the appropriate of ion required.	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by pstruction imagina	User Defined Core the utilization ary surface.		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify type for the runway. Depict the Monumentation	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati the obstruction ia horizontal limits No monumentati	perative Analysis Linetype Continuous (all) ObstructionAssesse ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of of the appropriate of ion required. izontal	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by bstruction imagina	User Defined Core the utilization ary surface.		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify type for the runway. Depict the	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati the obstruction ia horizontal limits No monumentati	perative Analysis Linetype Continuous (all) ObstructionAssessi ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of of the appropriate of ion required.	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by pstruction imagina Ver N	User Defined Core the utilization ary surface. tical /A		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify type for the runway. Depict the Monumentation Survey Point Location	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati horizontal limits No monumentat Hor I	perative Analysis Linetype Continuous (all) ObstructionAssessi ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of the appropriate of ion required. izontal N/A	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by pstruction imagina Ver N Ver	User Defined Core the utilization ary surface. tical /A tical		
C-AIRS-OEIA AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards Documentation and Submission Requirements Related Features Data Capture Rules: Identify type for the runway. Depict the Monumentation	One Engine Ino Color 1 (all) 0 (all) Restricted AIXM FGDC SDSFIE No documentati the obstruction ia horizontal limits No monumentat Hor I Hor	perative Analysis Linetype Continuous (all) ObstructionAssesse ObstructionIdentifi airfield_imaginary on is required for thi lentification surface of of the appropriate of ion required. izontal	1 MM (all) 7 (all) nentArea cationSurface _surface_area s feature. (OIS) required by pstruction imagina Ver N	User Defined Core the utilization ary surface. tical /A		

Resolution		Geographic Coordinates	Distances and Elevations			
Resolution		N/A	N/A			
Feature Attributes						
Attribute (Datatype)		Description				
name (VARCHAR2 (50))		A commonly used name for th	e zone.			
description (VARCHAR2 255)		Description of the feature				
status (Enumeration: codeStatus	5)	A temporal description of the of This attribute is used to describ	operational status of the feature. be real-time status.			
runwayDesignator (String 7)		Primary Surface (VGRPS), for	the Vertically Guided Runway r the Vertically Guided Primary , and for the Vertically Guided e (VGATS).			
runwayEndDesignator (String 3	5)	Specify runwayEnd designator for the Vertically Guided Approach Surface (VGAS) and for the Vertically Guided Protection Surface (VGPS).				
oisSurfaceType		Surface Type refers to the gene	eral type of surface used to			
(Enumeration:		analyze features. Surfaces of t	the same type usually are similar			
CodeOisSurfaceType)		in nature with respect to certai	n aspects of the surface definition			
		or may merely be representative of different programs within the airport charting community.				
oisZoneType		Specifies zones within Obstruct	ction Identification Surfaces (OIS)			
(Enumeration: CodeOisZoneTy	pe)					
oisSurfaceCondition		The Obstruction Identification Surface that Obstructing Area				
(Enumeration:		represents				
CodeOisSurfaceCondition)						
safetyRegulation (String 20)			ulations in effect within the zone.			
zoneUse (String 50)		A description of the use of the	zone.			
approachGuidance		Defines the type of approach g	guidances the OIS is meant to			
(Enumeration:		protect.				
CodeApproachGuidance)						
slope (Real)		The low to high gradient within the airspace expressed as a ratio x:1, where X is the slope value. For example 40:1 for departures.				
userFlag (String 254)		An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.				
Alternative (Number(2))		Discriminator used to tie featu into a version.	res of a plan or proposal together			

5.5.5. Runway Protect Area

Definition: An area beyond the takeoff runway under control of airport authorities within which terrain
or fixed obstacles may not extend above specified limits. These areas may be required for certain
turbine-powered operations, and the size and upward slope of the clearway will differ depending on
when the aircraft was certificated.Feature GroupAirspace

Feature Group	Airspace
Feature Class Name	RunwayProtectArea
Feature Type	Polygon

CADD Standard Requiremen	its				
Layer/Level	Description				
C-RUNW-CLRW	Runway Clearway				
	Color		Linetype	Line Weight	Symbol
AutoDesk Standards		4	Continuous	1	
MicroStation Standards		7	Continuous	3	-
Information Assurance Level	Rest	ricted			
	AIX	Μ	RunwayProtectA	reaExtension	Extension
Equivalent Standards	FGI	DC	RunwayProtectA	rea	Extension
-	SDS	FIE	None		
Documentation and Submission Requirements	No d	locumentatio	on is required for th	nis feature.	
Related Features					
Data Capture Rules: N/A					
Monumentation	No n	nonumentati	on required.		
Survey Point Location		Horiz	zontal	Ver	tical
Survey Fount Location	N/A		N/A		
A courses Dequirements (in	Horizontal		Vertical		
Accuracy Requirements (in feet)			Orthometric	Ellipsoidal	
leet)	N/A		N/A	N/A	
Resolution		Geographic	Coordinates	Distances and Elevation	
Kesolution		Hundredth of	of arc second	Tenth of foot	
Feature Attributes					
Attribute (Datatype)				escription	
name (VARCHAR2 (50))			of the feature.		
description (VARCHAR2(255)	-		n of the feature		
status (Enumeration: codeStatus	s)	A temporal description of the operational status of the feature.			
			te is used to describe real-time status.		
length (Integer)		The length of clearway as reported by the FAA Airport/Facility			
		Directory and the Aeronautical Information Publication (AIP)			
			tional airports		1 11
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to			
			e	integrity and should	in not be used to
tune (Enumeration)			bject item's data.	inuou protostion	raa haina
type (Enumeration:	ma)	classified.	ating the type of ru	inway protection a	area being
CodeRunwayProtectionAreaTy Alternative (Number(2))	pe)		tor used to the fast	uras of a plan or p	roposal together
Anemative (Number(2))		into a versi	tor used to tie feat	utes of a plan of p	roposar together
		into a vers	1011.		

5.6. Group: CADASTRAL

5.6.1. Airport Boundary

5.0.1. Airport Doundary									
Definition: A polygon, or a set				rty owned or contr	colled by the				
airport for aviation purposes. [.6A, Section 5]						
Feature Group		Cadastral							
Feature Class Name	AirportBoundary								
Feature Type	Polygon								
CADD Standard Requiremen	nts								
Layer/Level			Descri	ption					
C-PROP-PROP-	Airpor	t property							
	C	olor	Linetype	Line Weight	Symbol				
AutoDesk Standards		2	Continuous	1					
MicroStation Standards		4	Continuous	3					
Information Assurance Level	Restric	cted							
	AIXM	[AirportHeliport		Core				
Equivalent Standards	FGDC	1	AirportBoundary						
	SDSF	E	Airfield_area						
Documentation and Submission Requirements	None		· · · ·						
Related Features									
Data Capture Rules: <i>Airport government</i> .	t propert	ty informat	ion is usually obtai	nable from the co	unty or local				
Monumentation	No mo	numentatio	on required.						
	110 1110	Horiz	·	Ver	tical				
Survey Point Location		N/A		N/A					
			Vertical						
Accuracy Requirements (in		Horiz	contal	Orthometric	Ellipsoidal				
feet)		±3	3 ft	± 5 ft	N/A				
	Ge		Coordinates		d Elevations				
Resolution			f arc second		of foot				
Feature Attributes									
Attribute (Datatype)			De	escription					
name (VARCHAR2 (50))		The name	of the feature.	•					
description (VARCHAR2 (255	5))	Descriptio	on of the feature						
status (Enumeration: codeStatu		<u> </u>	al description of the	e operational statu	s of the feature.				
		This attrib	oute is used to desc	ribe real-time stat	18.				
faaSiteNumber (String 8)		This is a r	number that contair	ns a one-letter suff	ix. The number				
-		is assigne	d to the airport in a	scending order, de	epending on the				
		state and	the associated city.	If you do not kno	ow or have				
	access to the appropriate site number contact your airports								
					district/region airports office or state aviation authorities for				
	assistance. [Source: FAA AC 150/5200-35]								
	The location identifier assigned to the feature by FAA								
faaLocationId (String 4)		The locati	ion identifier assign	ned to the feature l					
iataCode (String 4)		The locati The locati	on identifier assign on identifier assign	ned to the feature l ned to the feature l					
		The locati The locati Air Trans	ion identifier assign	ned to the feature l ned to the feature l ATA)	by International				

airportFacilityType (Enumeration	The type of airfield
CodeAirportFacilityType)	
operationsType	The type of operations permitted on the airfield
(Enumeration: CodeOperationsType)	
owner	The type of owner of the airfield
(Enumeration: CodeOwner)	
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.6.2. Airport Parcel

Definition: A tract of land within the airport boundary acquired from surplus property, Federal funds, local funds, etc. Include easement interests in areas outside the fee property line as an airport parcel. [Source FAA Order 5190.6, Chapter 5] Cadastral **Feature Group** Feature Class Name AirportParcel **Feature Type** Polygon **CADD Standard Requirements** Layer/Level Description V-PROP-AIRF-LINE-Property lines (Existing recorded plats) V-PROP-QTRS-Ouarter lines V-PROP-SECT-Section lines V-PROP-SXTS-Sixteenth lines (40 lines) Color Linetype Line Weight **Symbol AutoDesk Standards** 4 1 Continuous User Defined **MicroStation Standards** 3 7 **Information Assurance** Restricted Level AirportParcel AIXM Extension AirportParcel **Equivalent Standards** FGDC Extension **SDSFIE** None **Documentation and** None **Submission Requirements Related Features Data Capture Rules:** Collect and reduce in accordance with state/local requirements. Monumentation No monumentation required. Horizontal Vertical **Survey Point Location** N/A N/A Vertical Horizontal Accuracy Requirements (in Orthometric Ellipsoidal feet) As required by state/local N/A N/A requirements. **Geographic Coordinates Distances and Elevations** Resolution Hundredth of arc second Nearest tenth of a foot

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2 (50))	Name of the feature.
description (String 255)	Description of the feature
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
authority (String 75)	The owner of the airport parcel
acquisitionType (Enumeration:	The type of acquisition used to acquire the parcel
codeAcquisitionType)	
costToAcquire (Real)	The amount paid to the owner in U.S. dollars for the parcel
dateAcquired (Date)	The date the parcel was acquired. Format for date is
	YYYYMMDD (i.e. September 15, 1994 = 19940915).
grantProjectNumber (String 30)	The grant number if Federal funds were used to acquire the
	parcel
howAcquired (Enumeration:	The manner in which the parcel was acquired
codeHowAcquired)	
marketValue (Real)	The assessed market value of the parcel in U.S. dollars when it
	was acquired
yearAssessed (Number 4)	The year in which the market value assessment was made
yearBuilt (Number 4)	The year in which the most recent structure(s) were built on the
	parcel
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
Alternative (Number(2))	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.
acquisitionPurpose (String 50)	Acquisition purpose
area (Real)	The size of the area, zone, or polygon in square units.
assessedValue (Real)	The most recent assessed value of the airport parcel.
deedReference (String 30)	Reference to where the deed to the airport parcel is recorded in
deedkelelence (String 50)	such information as Plat Book and Page.
legalDescription (String 240)	The complete legal description of the property as it appears in
ieguinesemption (buing 2+0)	the deed.
parcelNumber (String 12)	Any locally used number to identify the parcel.
passengerChargeNumber (String	Passenger Facility Charge Number
30)	
previousOwner (String 75)	Previous owner of the airport parcel
useOfParcel (String 16)	The current primary use of the airport parcel.
· · · · ·	

5.6.3. County

 Definition: Boundary line of the land and water under the right, power, or authority of the county government.

 Feature Group
 Cadastral

 Feature Class Name
 County

 Feature Type
 Polygon

 CADD Standard Requirements
 Description

 V-PROP-CNTY County Boundary

	(Color	Line type	Line Weight	Symbol	
AutoDesk Standards		2	DASHED_SPA	1 MM	User Defined	
MicroStation Standards		4	CED	7	User Defined	
Information Assurance Level	Restr	icted				
	AIX	Extension				
Equivalent Standards	FGD	С	GovernmentalUn	it	Extension	
	SDSI	FIE	political_jurisdic	tion_county_line		
Documentation and Submission Requirements	None	;				
Related Features						
Data Capture Rules: County	boundc	ıry informat	ion is usually obtain	nable from the co	unty engineer,	
surveyor or auditor's office.	r					
Monumentation	No m		on required.			
Survey Point Location	Horizontal			Vertical		
	N/A		N/A			
Accuracy Requirements (in	Horizontal		Vertical			
feet)				Orthometric	Ellipsoidal	
		As pro		N/A	N/A	
Resolution		Geographic Coordinates Distances and Elev				
	Fiv	ve hundredtl	n of arc second	Nearest foot		
Feature Attributes						
Attribute (Datatype)		Description				
name (VARCHAR2 (50))		Name of th				
description (VARCHAR2 (255			pription of the area.			
status (Enumeration: codeStatu	s)	A temporal description of the operational status of the feature.				
		This attribute is used to describe real-time status.				
politicalName (String 30)		The common name associated with the property area.				
userFlag (String 254)		An operator-defined work area. This attribute can be used by				
		the operator for user-defined system processes. It does not				
		affect the subject item's data integrity and should not be used to				
		store the subject item's data.				
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together				
		into a version.				

5.6.4. Easements And Rights of WaysDefinition: A parcel of land for which formal or informal deed easement rights exist [Source: SDSFIE (modified)]

(mounica)]				
Feature Group	Cadastral			
Feature Class Name	EasementsAndRightsofWay			
Feature Type	Polygon			
CADD Standard Requirements				
Layer/Level	Description			
C-PROP-ESMT-	Easements			
C-PROP-RWAY-	Right of ways			
V-PROP-ESMT-	Government easements/property lines			
V-PROP-RWAY-	Right of ways			

	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	3		1 MM	User Defined		
MicroStation Standards	2	Continuous	7	User Denned		
Layer/Level	Description					
V-PROP-RWAY-		Righ	t of ways			
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	6	Continuous	1 MM	User Defined		
MicroStation Standards	5	Continuous	7	User Defined		
Information Assurance Level	Confidential					
	AIXM	EasementsAnd	lRightsofWay	Extension		
Equivalent Standards	FGDC	EasementsAnd	lRightsofWay	Extension		
	SDSFIE	easement_right	ht_of_way_area			
Documentation and	None					
Submission Requirements	None					
Related Features						
Data Capture Rules: Easeme		way information is	usually obtainable fi	om county		
engineer, surveyor, audit or re						
Monumentation	No monumentation required.					
Survey Point Location	H	orizontal		Vertical		
		N/A		N/A		
Accuracy Requirements (in	н	orizontal		Vertical		
feet)			Orthometric N/A	Ellipsoidal		
, 		As provided.		N/A		
Resolution		hic Coordinates		nd Elevations		
	Five hundre	edths of arc second	Near	est foot		
Feature Attributes			Degenintien			
Attribute (Datatype)	Nom	e of the feature.	Description			
name (VARCHAR2 (50)) description (VARCHAR2 (25)		ef description of the	faatura			
status (Enumeration: codeStat			Active, inactive, terr			
purpose (String 30)			the easement was a			
userFlag (String 254)						
usering (sumg 234)	-	An operator-defined work area. This attribute can be used by the operator for user defined system processes. It does not				
		the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to				
		store the subject item's data.				
Δ lternative (Number(2)))100r	iminator used to tie	Discriminator used to tie features of a plan or proposal together into a version.			
Alternative (Number(2))			features of a plan or	proposal together		

5.6.5. FAA Region Area

Definition: This feature depicts the FAA regions.					
Feature Group	Cadastral				
Feature Class Name	FAARegionArea				
Feature Type	Polygon				
CADD Standard Requirements					
Layer/Level	Description				
C-AIRF-FAAR-	FAA Region				

	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	1	Continuous	1 MM	User Defined	
MicroStation Standards	3	- Continuous	7	User Defined	
Information Assurance Level	Unclassified				
	AIXM	FaaRegionArea		Extension	
Equivalent Standards	FGDC	FaaRegionArea		Extension	
	SDSFIE	faa_region_area			
Documentation and Submission Requirements	None				
Related Features					
Data Capture Rules: Collect	this information f	rom official FAA so	urces.		
Monumentation	No monumentati	on required.			
Survey Point Location	Horizontal		Vertical		
Survey I onit Elocation	N/A		N/A		
Accuracy Requirements (in	Horizontal		Vertical		
feet)			Orthometric	Ellipsoidal	
	As provided.		N/A	N/A	
Resolution		Coordinates	Distances and Elevations		
	Five hundred	of arc second Nearest foot		st foot	
Feature Attributes	r				
Attribute (Datatype)		Description			
name (VARCHAR2 (50))		he FAA region.			
description (VARCHAR2 (255		on of the FAA regio			
status (Enumeration: codeStatu	· •	A temporal description of the operational status of the feature.			
		bute is used to describe real-time status.			
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
	the operator for user-defined system processes. It does not				
		affect the subject item's data integrity and should not be used to			
		store the subject item's data.			
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
	into a ver	into a version.			

5.6.6. Land Use

Definition: A description of the	Definition: A description of the human use of land and water.					
Feature Group	Cadastral					
Feature Class Name	LandUse					
Feature Type	Polygon					
CADD Standard Requireme	ents					
Layer/Level		Descri	ption			
V-PROP-LUSE-	Land Use Area					
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	5		1 MM	User Defined		
MicroStation Standards	1	Continuous	7	User Dernied		
Information Assurance	Confidential					
Level	Confidential					
	AIXM	LandUse		Extension		
Equivalent Standards	FGDC LandUse Extension					
	SDSFIE land_use_area					

Documentation and Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	the land	l use information from state/c	ounty/local zoning	or other
appropriate office.				
Monumentation	No mo	numentation required.		
Survey Deint Leastion		Horizontal	Vert	tical
Survey Point Location		N/A	N/	'A
A course av Bequinements (in		Horizontal	Vert	tical
Accuracy Requirements (in feet)		Horizolital	Orthometric	Ellipsoidal
leet)		As provided.	N/A	N/A
Resolution	Geographic Coordinates		Distances and Elevations	
Resolution	Five hundredths of arc second		Nearest foot	
Feature Attributes				
Attribute (Datatype)		De	escription	
name (VARCHAR2 (50))		Name of the land use area.		
description (VARCHAR2 (255	5))	Description of the land use a	area.	
status (Enumeration: codeStatu	us)	A temporal description of th		
		This attribute is used to describe real-time status.		
useType (Enumeration:		The way in which the land is being used.		
CodeLandUseType)				
userFlag (String 254)		An operator-defined work area. This attribute can be used by		
		the operator for user-defined system processes. It does not		
		affect the subject item's data		ld not be used to
		store the subject item's data.		
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together		
		into a version.		

5.6.7. Lease Zone

Definition: A parcel of land le	eased by an individu	al, agency, or orga	nization for their	use.			
Feature Group	Cadastral						
Feature Class Name	LeaseZone						
Feature Type	Polygon						
CADD Standard Requireme	nts						
Layer/Level		Descri	ption				
V-PROP-LEAS-	Lease line (survey	ved)					
A-PROP-LEAS-	Lease line (interio	or)					
C-PROP-LEAS-	Lease line (exterior / ground lease)						
	Color	Color Linetype Line Weight Symbol					
AutoDesk Standards	1	Continuous	1 MM	User Defined			
MicroStation Standards	3	Continuous	7	User Defined			
Information Assurance Level	Unclassified						
	AIXM	LeaseZone		Extension			
Equivalent Standards	FGDC	LeaseZone		Extension			
	SDSFIE lease_zone_area						
Documentation and Submission Requirements	None						

Data Capture Rules: Leasing	g inforn	nation is usually obtainable fro	om the airport.		
Monumentation	No m	onumentation required.			
Survey Point Location		Horizontal	Vert	tical	
		N/A	N/	'A	
A a anna an Da aminamanta (in		Howingertal	Vert	tical	
Accuracy Requirements (in feet)		Horizontal	Orthometric	Ellipsoidal	
leet)		As provided.	N/A	N/A	
Resolution	(Geographic Coordinates	Distances an	d Elevations	
Resolution	Fiv	ve hundredths of arc second	Neares	st foot	
Feature Attributes					
Attribute (Datatype)		De	scription		
name (VARCHAR2 (50))		Name of the feature.			
description (VARCHAR2 (255))		A brief description of the feature.			
tenantName (String 75)		The current name of the tena	nt occupying the le	ased parcel.	
permitUse (String 20)		Permitted use of the leased p	arcel.		
leasedArea (Real)		Area accounted for in the lea	se for a parcel.		
actualArea (Real)		Actual measured area of the	leased parcel.		
expected Lease Expiration Date		The date the lease is expected	d to expire. Format	t for date is	
(Date)		YYYYMMDD (i.e. September 15, 1994 = 19940915).			
legalDescription (String 240)		The complete legal description of the property as it appears in			
		the deed.			
status (Enumeration: codeStatu	ıs)	The status of the parcel. (Active, inactive, terminated)			
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not			
		affect the subject item's data	integrity and shoul	d not be used to	
		store the subject item's data.			
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
		into a version.			

5.6.8. MunicipalityDefinition: Boundary line of the land and water under the right, power, or authority of the municipal government.

Sovermient.					
Feature Group	Cadastral				
Feature Class Name	Municipality				
Feature Type	Polygon				
CADD Standard Requireme	ents				
Layer/Level		Descri	ption		
V-PROP-MUNI-	Municipal Bound	ary			
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	1	Continuous	1 MM	User Defined	
MicroStation Standards	3	Continuous	7	User Defined	
Information Assurance Level	Restricted				
	AIXM	GovernmentalUn	nit	Extension	
Equivalent Standards	FGDC <i>GovernmentalUnit</i> Extension				
	SDSFIE <i>political_jurisdiction_municipal_line</i>				
Documentation and Submission Requirements	None				

Related Features					
Data Capture Rules: Municip	pality bo	undary limits are usually obt	ainable from count	ty or local	
government offices.					
Monumentation	No mo	numentation required.			
Survey Point Location		Horizontal	Ver	tical	
Survey I onit Location		N/A	N/	/A	
A courses Bequirements (in		Horizontal	Ver	tical	
Accuracy Requirements (in foot)		110112011121	Orthometric	Ellipsoidal	
feet)		As provided.	N/A	N/A	
Resolution	Geographic Coordinates		Distances and Elevations		
Resolution	Five hundredth of arc second		Nearest foot		
Feature Attributes					
Attribute (Datatype)		De	escription		
name (VARCHAR2 (50))		The common name associated with the property area.			
description (VARCHAR2 (255	5))	The description of the area.			
status (Enumeration: codeStatu	ıs)	A temporal description of the operational status of the feature.			
		This attribute is used to describe real-time status.			
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not			
		affect the subject item's data integrity and should not be used to			
		store the subject item's data.			
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
		into a version.			

5.6.9. Parcel

Definition: A single cadastral						
interests in real property and the	ne geographic fram	ework to support the	e description of th	ne spatial extent.		
Feature Group	Cadastral					
Feature Class Name	Parcel					
Feature Type	Polygon					
CADD Standard Requireme	nts					
Layer/Level		Descri	ption			
V-PROP-LINE-	Property lines (E	xisting recorded pla	uts)			
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	4	Continuous	1 MM	User Defined		
MicroStation Standards	7	- Continuous	7	User Denned		
Information Assurance Level	Restricted	•				
	AIXM	GeographicArea		Extension		
Equivalent Standards	FGDC	GeographicArea		Extension		
-	SDSFIE parcel_area					
Documentation and Submission Requirements	No documentation is required for this feature.					
Related Features						
Data Capture Rules: Parcel	boundary informat	tion is usually obtai	nable from the co	unty or local		
government.						
Monumentation	No monumentation	on required.				
Survey Doint Legation	Horiz	zontal	Ver	tical		
Survey Point Location	N/A 1			/A		

	II	Ver	tical			
Accuracy Requirements (in	Horizontal	Orthometric	Ellipsoidal			
feet)	As provided.	N/A	N/A			
Resolution	Geographic Coordinates	Distances an	d Elevations			
Resolution	Five hundredths of arc second	Neare	st foot			
Feature Attributes						
Attribute (Datatype)	De	scription				
area (Real)	The size of the area, zone, or	polygon in square	units.			
useOfParcel (String 16)	The current primary use of the					
name (VARCHAR2 (50))	The common name associate	d with the property	v area.			
description (VARCHAR2 (255	()) The description of the area.	· · ·				
status (Enumeration: codeStatu	A temporal description of the	e operational status	of the feature.			
	This attribute is used to descri					
parcelNumber (String 12)	Any locally used number to	dentify the parcel.				
legalDescription (String 240)	The complete legal description	on of the property a	as it appears in			
	the deed.					
dateAcquired (Date)	The date the parcel was acqu	ired by the current	owner. Format			
-	for date is YYYYMMDD (i.	e. September 15, 1	994 =			
	19940915).					
assessedValue (Real)	The most recent assessed val	The most recent assessed value of the parcel.				
deedReference (String 30)	Reference to where the deed	Reference to where the deed to the parcel is recorded in such				
	information as Plat Book and	information as Plat Book and Page.				
userFlag (String 254)	An operator-defined work ar	An operator-defined work area. This attribute can be used by				
	the operator for user-defined	the operator for user-defined system processes. It does not				
	affect the subject item's data	affect the subject item's data integrity and should not be used to				
	store the subject item's data.					
Alternative (Number(2))	Discriminator used to tie feat	tures of a plan or p	roposal together			
	into a version.					
authority (String 75)	The owner of the parcel					
previousOwner (String 75)	· · · · · · · · · · · · · · · · · · ·	Previous owner of the parcel				
acquisitionType (Enumeration:	The type of acquisition used	The type of acquisition used to acquire the parcel				
CodeAcquisitionType)						
acquisitionPurpose (String 50)	Acquisition purpose					
costToAcquire (Real)	The amount paid to the owned	er in U.S. dollars fo	or the parcel			
grantProjectNumber (String 30						
	parcel					
howAcquired (enumeration:	The manner in which the par	cel was acquired				
codeHowAcquired)		• • •				
marketValue (Real)	The assessed market value of	f the parcel in U.S	5. dollars when it			
	was acquired					
yearAssessed (Number 4)	The year in which the marke					
yearBuilt (Number 4)	The year in which the most	recent structure (s)	were built on the			
	parcel					

5.6.10. State

Definition: Boundary line of the land and water under the right, power, or authority of the state					
government.					
Feature Group	Cadastral				
Feature Class Name	State				

Feature Type	Polygon	1				
CADD Standard Requireme	nts					
Layer/Level			Descri	ption		
V-PROP-STAT-	State Bo	oundary				
	Co	olor	Linetype	Line Weight	Symbol	
AutoDesk Standards		6	Continuous	1 MM	User Defined	
MicroStation Standards		5	Continuous	7	User Defined	
Information Assurance Level	Restrict	ed				
	AIXM		GovernmentalUn	<i>it</i>	Extension	
Equivalent Standards	FGDC		GovernmentalUn	eit	Extension	
	SDSFI	E	political_jurisdic	tion_state_line		
Documentation and Submission Requirements	No docu	umentation	is required for thi	s feature.		
Related Features						
	The state boundary is usually obtainable from the state government.					
Monumentation	No monumentation required.					
Survey Point Location	Horizontal		Vertical			
		N/A		N/A		
Accuracy Requirements (in	Horizontal		Vertical			
feet)				Orthometric	Ellipsoidal	
		As pro		N/A	N/A	
Resolution		Geographic Coordinates		Distances and Elevations		
	Five l	hundredth	Iths of arc second Near		rest foot	
Feature Attributes						
Attribute (Datatype)				scription		
name (VARCHAR2 (50))			on name associated with the property area.			
description (VARCHAR2 (25			description of the area.			
status (Enumeration: codeStatu	· ·	1	l description of the	A		
			ite is used to descr			
userFlag (String 254)		An operator-defined work area. This attribute can be used by				
			r for user-defined			
		affect the subject item's data integrity and should not be used to				
		store the subject				
		tem's data.				
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together				
	i	nto a versi	on.			

5.6.11. Zoning

Definition: A parcel of land zoned specifically for real estate and land management purposes; more				
specifically for commercial, re	sidential, or industrial use.			
Feature Group	Cadastral			
Feature Class Name	Zoning			
Feature Type	Polygon			
CADD Standard Requirements				
Layer/Level	Description			
V-PROP-ZONG-	Zoning Areas			

		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		8 Continuous		1 MM	User Defined	
MicroStation Standards				7	User Defined	
Information Assurance Level	Restri	icted				
	AIXN	/[Zoning		Extension	
Equivalent Standards	FGD	С	Zoning		Extension	
	SDSF	ΊE	zoning_area			
Documentation and Submission Requirements	No do	ocumentation	n is required for thi	s feature.		
Related Features						
Data Capture Rules: Zoning	g limits d	and informat	tion is usually obta	inable from the lo	cal zoning office.	
Monumentation	No mo	numentation	required.			
Survey Point Location		Horizo	ontal	Ver	tical	
Survey I omt Location		N/2	A	N/A		
Accuracy Requirements		Horiz	ontol	Vertical		
(in feet)		Horizontal		Orthometric	Ellipsoidal	
(m leet)		As prov	vided.	N/A	N/A	
Resolution	Geographic C Five hundredth		ographic Coordinates		d Elevations	
Resolution			n of a second Nearest foot		st foot	
Feature Attributes						
Attribute (Datatype)			De	scription		
name (VARCHAR2 (50))			ame of the feature.			
description (VARCHAR2 (25	(5))		rief description of the feature.			
status (Enumeration: codeStat	,	The status	e status of the parcel. (Active, inactive, terminated)			
landOwnerRestriction (String	16)	Codes dete	es determining the land owner restriction for the parcel.			
e (ngClassification (Enumeration: The zo		The zoning classification of the parcel.			
CodeZoningClass)						
userFlag (String 254)	userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not				
			affect the subject item's data integrity and should not be used to			
		store the subject item's data.				
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together				
		into a versi	ion.			

5.7. Group: ENVIRONMENTAL

5.7.1. Environmental Contamination Area

5.7.1. Environmental Conta						
Definition: A facility or other					Protection	
Agency) that is regulated or m	onitore	d because	of environmental	concerns.		
Feature Group	Enviro	Environmental				
Feature Class Name	Enviro	onmentalC	ContaminationArea	ì		
Feature Type	Polyg	on				
CADD Standard Requireme						
Layer/Level	Descr	iption				
H-POLL-CONC-		ed area of	concern			
H-POLL-POTN-			mission, or release	e source		
		olor	Line type	Line Weight	Symbol	
AutoDesk Standards		2		1 MM		
MicroStation Standards		4	Continuous	7	User Defined	
Information Assurance				1		
Level	Restri					
	AIXM			ontaminationArea	Extension	
Equivalent Standards	FGDO			ontaminationArea	Extension	
	SDSF	IE	environmental_r	egulated_facility_sit	te	
Documentation and	None					
Submission Requirements	None					
Related Features						
Data Capture Rules: Collect a closed polygon to its greatest horizontal extents.						
Monumentation	No m	onumentat	ion required.			
	Horizontal Vertical					
Survey Point Location	N/A			N/A	A	
				Vertical		
Accuracy Requirements (in	Horizontal			Orthometric Ellipsoid		
feet)	± 5 ft		± 20 ft	N/A		
	Geographic Coordinates		Distances and Elevations			
Resolution			n of arc second	Neares		
Feature Attributes	1100	munureun	i of are second	iveares	11001	
Attribute (Datatype)				Description		
name (VARCHAR2 (50))		The name of a specific facility.				
	5))		A description of the source of the pollution.			
description (VARCHAR2 (253					t provalant or	
environmentalHazardCategory	, ,			ry or type of the mos	-	
(String 16)	16)			ard present at the site		
pollutantReleaseType (String)	10)	A descriptor for the type of pollutant release experienced.				
severity (String 16)	A descriptor for the severity of the pollution.					
remediationUrgency (String 16)		A code indicating the urgency for accomplishing a site				
		remediation project.				
toxicStatusOfPollutant (String 16)		A descriptor for the toxic status of the pollution.				
status (enumeration: codeStatu	ıs)	The code indicating whether the facility status is Active or Inactive.				
dateFound (Date)	dateFound (Date)		The date the pollution was discovered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915)			
cause (String 16)			ndicating the caus		/	
caulo (buing 10)			increasing the edus	e of the pollution.		

pollutantSource (String 16)	The actual or suspected source of the pollutant.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.2. Fauna Hazard Area

Definition: An area where there are hazards due to wildlife activities. This includes bird aircraft strike hazard (BASH) areas, and deer strike areas.

nuzura (Bribil) ureus, una acer						
Feature Group	Envir	Environmental				
Feature Class Name	FaunaHazardArea					
Feature Type	Polyg	gon				
CADD Standard Requirement	its					
Layer/Level			Descr	ription		
V-TOPO-SPEC-			Speci	es Site		
	(Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		2	Continuous	1 MM	User Defined	
MicroStation Standards		4	Continuous	7	User Defined	
Information Assurance Level	Restr	icted				
	AIX	M	AirspaceExtensio	on	Extension	
Equivalent Standards	FGD	С	FaunaHazardAr	ea	Extension	
	SDSI	FIE	fauna_hazard_a	rea	•	
Documentation and Submission Requirements	None	:				
Related Features						
Data Capture Rules: Collect	a closed	d polygon t	o its greatest horiz	ontal extents.		
Monumentation			on required.			
	Horizontal			Vertical		
Survey Point Location	N/A			N/A		
				Vertical		
Accuracy Requirements (in		Horiz	zontal	Orthometric	Ellipsoidal	
feet)	± 5 ft		± 20 ft	N/A		
B 1.4	G	eographic	Coordinates	Distances an	d Elevations	
Resolution			h of arc second		st foot	
Feature Attributes				1		
Attribute (Datatype)			De	escription		
name (VARCHAR2 (50))	Name of the feature.			_		
description (VARCHAR2 (255	5)) A description or other un			on or other unique information concerning the , limited to 240 characters.		
status (Enumeration: codeStatu	s)	A temporal description of the operational status of the feature.				
1 JT		This attribute is used to describe real-time status.				
hazardType	-)	A descriptor of the type of the hazard.				
(Enumeration: CodeHazardTyp	e)					

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.3. Flood Zone

Definition: Areas subject to 10	0-year, 500-yea	r and minimal floodir	ıg.		
Feature Group	· · ·	Environmental			
Feature Class Name	Floodzone				
Feature Type	Polygon				
CADD Standard Requiremen					
Layer/Level		Descr	iption		
C-TOPO-FLZN-	Flood Zone		•		
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	5		1 MM	User Defined	
MicroStation Standards	1		7	User Defined	
Information Assurance Level	Unclassified	·			
	AIXM	FloodZone		Extension	
Equivalent Standards	FGDC	FloodZone		Extension	
	SDSFIE	flood_zone_area			
Documentation and Submission Requirements	None				
Related Features					
Data Capture Rules: Collect	a closed polygo	n to its greatest horiz	ontal extents.		
Monumentation		tation required.			
Compare Daint Lagotian	Но	orizontal	Ver	tical	
Survey Point Location		N/A	N/A		
	Ша	Horizontal		tical	
Accuracy Requirements (in	HC HC	orizontai	Orthometric	Ellipsoidal	
feet)		± 5 ft	± 20 ft	N/A	
Davalation	Geographic Coordinates		Distances and Elevations		
Resolution	Five hundre	edth of arc second	Nearest foot		
Feature Attributes	•		•		
Attribute (Datatype)		De	scription		
name (VARCHAR2 (50))	Name o	f the feature.			
description (VARCHAR2 (255)) Descrip	tion of the feature.			
status (Enumeration: codeStatu		oral description of the	operational status	of the feature.	
	This attribute is used to describe real-time status.			s	
zoneType (Enumeration:	The zon	ing classification of t	he area		
CodeZoneType)					
userFlag (String 254)	An oper	An operator-defined work area. This attribute can be used by			
	the oper	the operator for user-defined system processes. It does not			
	affect th	affect the subject item's data integrity and should not be used to			
		store the subject item's data.			
Alternative (Number(2))		inator used to tie feat	ures of a plan or p	roposal together	
	into a ve	ersion.			

5.7.4. FIDI a Species Site						
Definition: The specific location	on whe	ere an indivi	dual flora species of	or an aggregate of	flora species has	
been identified		. 1				
Feature Group		ronmental				
Feature Class Name		FloraSpeciesSite				
Feature Type	Poin	t				
CADD Standard Requiremen	nts					
Layer/Level			Descri	ption		
L-PLNT-CTNR-		ainers or pla				
L-PLNT-PLTS-	Plan	T A	e.g., ornamental an			
		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		5	Continuous	1 MM	User Defined	
MicroStation Standards		1	Continuous	7	e ser Denneu	
CADD Standard Requiremen	nts					
Layer/Level			Descri			
L-PLNT-TREE-	Tree	s (e.g., everg	green, deciduous, et	tc.)		
		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		4	Continuous	1 MM	User Defined	
MicroStation Standards		7	Continuous	7	User Defined	
Information Assurance	Unal	assified				
Level	Unci	assineu				
	AIX	AIXM FloraSpeciesSite			Extension	
Equivalent Standards	FGDC <i>FloraSpeciesSite</i>			Extension		
	SDSFIE flora_species_site					
Documentation and	None	e				
Submission Requirements	1,011	-				
Related Features						
Data Capture Rules: Collect				tion or the center	of a group.	
Monumentation	No n		ion required.			
Survey Point Location		Ho	orizontal		ertical	
			N/A		N/A	
Accuracy Requirements (in		На	orizontal		ertical	
feet)		III	/12011tu1	Orthometri	ic Ellipsoidal	
			± 5 ft	± 20 ft	N/A	
Resolution		Geograph	nic Coordinates	Distances	and Elevations	
Resolution	Five hundredth of arc second Nearest foot				rest foot	
Feature Attributes						
Attribute (Datatype)			Des	scription		
name (VARCHAR2 (50))	Name of the feature.					
description (VARCHAR2 (255						
	\mathcal{D}	tus) A temporal description of the operational status of the feat				
status (Enumeration: codeStatu		A tempora				
		A tempora This attrib	ute is used to descr	ibe real-time status		
plantType (String 16)		A tempora This attrib A descript	ute is used to descr or of the type of flo	ibe real-time status ra.		
plantType (String 16) plantHeight (Real)	s)	A tempora This attrib A descript The averag	ute is used to descr or of the type of flo ge height of the flor	ibe real-time status ora. ra species.	5.	
plantType (String 16)	s)	A tempora This attrib A descript The averag Defines if	ute is used to descr or of the type of flo ge height of the flor the habitat has been	ibe real-time status ora. a species. n designated as a c	s. ritical habitat	
plantType (String 16) plantHeight (Real)	s)	A tempora This attrib A descript The averag Defines if	ute is used to descri- or of the type of flo- ge height of the flor the habitat has been the Endangered spe	ibe real-time status ora. a species. n designated as a c	s. ritical habitat	

5.7.4. Flora Species Site

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.5. Forest Stand Area

Definition: A forest flora comm	nunity with similar	characteristics.			
Feature Group	Environmental				
Feature Class Name	ForestStandArea				
Feature Type	Polygon				
CADD Standard Requiremen	its				
Layer/Level		Descr	iption		
L-DETL-GRAS-	Grass, sod				
L-PLNT-BEDS-	Planting beds				
L-PLNT-BUSH-	Bushes and shrul	os (e.g., evergreen,	deciduous)		
L-PLNT-BUSH-LINE	Bush and shrub l				
L-PLNT-GRND-	Groundcover and	l vines			
L-PLNT-MLCH-	Mulches - organi	c and inorganic			
L-PLNT-SPRG-	Sprigs				
L-PLNT-TREE-LINE	Tree line				
L-PLNT-TURF-	Lawn areas (turfi	ing limits)			
V-SITE-VEGE-	Existing treelines				
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	2	Continuous	1 MM	User Defined	
MicroStation Standards	4	Continuous	7	User Dernieu	
Information Assurance Level	Confidential				
	AIXM	AIXM ForestStandArea Extension			
Equivalent Standards	FGDC	ForestStandArea		Extension	
-	SDSFIE	flora_species_ma	anagement area	•	
Documentation and Submission Requirements	None		~~~~		
Related Features					
Data Capture Rules: In captu					
hand direction so patterning of	the element will fo	orm the scallops on	the correct side o	f the forest	
outline.	Γ				
Monumentation	No monumentati		1		
Survey Point Location	Horiz			tical	
	N	/A		/A	
Accuracy Requirements (in	Horiz	zontal		tical	
feet)		lontui	Orthometric	Ellipsoidal	
		5 ft	± 20 ft	N/A	
Resolution	Geographic Coordinates			d Elevations	
	Five hundredth	h of arc second	Neare	st foot	
Feature Attributes	1				
Attribute (Datatype)		De	scription		

Name of the feature.

name (VARCHAR2 (50))

description (VARCHAR2 (255))	A description of the flora species.
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
habitatCategory (String 16)	Discriminator - The designation or type of the special wildlife
	habitat.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.6. Hazardous Material St				
Definition: A defined or bound	led geographical a	rea designated and	used for the storag	ge of contained
hazardous materials.				
Feature Group	Environmental			
Feature Class Name	HazardousMate	rialStorageSite		
Feature Type	Point			
CADD Standard Requiremen	its			
Layer/Level		Descr	ription	
H-STOR-HAZM-	Hazardous mate	rials		
H-STOR-HAZW-	Hazardous wast	e		
	Color	Line type	Line Weight	Symbol
AutoDesk Standards	5	Continuous	1 MM	User Defined
MicroStation Standards	1	Continuous	7	User Denned
Information Assurance Level	Unclassified			
	AIXM	XM HazardousMaterialStorageSite Ex		Extension
Equivalent Standards	FGDC	HazardousMaterialStorageSite		Extension
-	SDSFIE Contained_hazwaste_storage_site			
Documentation and	Nama		0	
Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	closed polygon to	its greatest horizon	ital extents.	
Monumentation	No monumentat			
S	Hor	izontal	Ver	tical
Survey Point Location	N	J/A	N/A	
			Vertical	
Accuracy Requirements (in	Hor	izontal	Orthometric	Ellipsoidal
feet)	±	5 ft	± 20 ft	N/A
	Geographic	c Coordinates	Distances and Elevations	
Resolution		th of arc second	Nearest foot	
Feature Attributes				
Attribute (Datatype)		De	scription	
name (VARCHAR2 (50))	Name of t	he feature.	-	
description (VARCHAR2 (255)) A descrip	tion or other unique	information conc	erning the
• • • •	· · · ·	em, limited to 240 c		C
status (Enumeration: codeStatu	J /			of the feature
status (Enumeration, couestatu	s) [A tumpor	al description of the	operational status	of the reature.

storeHazardousMaterialCategory	The general type or category of contained hazardous material
(Enumeration:	stored.
CodeHazardCategory)	
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.7. Noise Contour

Definition: An area that desc Day/Night average sound level CFR 150]			.		.
Feature Group	Fnvi	ronmental			
Feature Class Name		eContour			
Feature Type	Poly				
CADD Standard Requiremen		5011			
Layer/Level			Descri	ption	
C-TOPO-AUZN-	Nois	e contour zo		F	
		Color	Line type	Line Weight	Symbol
AutoDesk Standards		3	Continuous	1	User Defined
MicroStation Standards		2	Continuous	7	User Defined
Information Assurance Level	Conf	idential			
	AIX	Μ	NoiseContour		Extension
Equivalent Standards	FGD	FGDC <i>NoiseContour</i> Exter			
	SDS	FIE	Noise_contour_li	ine	
Documentation and	Noia	a contour m	22		
Submission Requirements	INOIS	Noise contour map			
Related Features					
Data Capture Rules: Acquire				<i>M</i>).	
Monumentation	No n	nonumentati	1	1	
Survey Point Location		Horiz		Vert	
		N	/A	N/	
Accuracy Requirements (in		Horiz	vontal	Vert	
feet)		_		Orthometric	Ellipsoidal
		N		N/A	N/A
Resolution			Coordinates	Distances and	
		N	/A	N/	A
Feature Attributes					
Attribute (Datatype)				scription	
name (VARCHAR2 (50))		Name of th			
description (VARCHAR2 (255		1	on for the noise zo		
status (Enumeration: codeStatu	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.				
contourValue (Real)			l level of the conto		-

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.8. Noise Incident

Definition: A formal compla	int by an ind	lividua	al or group regardi	ng excessive nois	se resulting from	
airport operations.						
Feature Group	Environmer					
Feature Class Name	NoiseIncide	ent				
Feature Type	Point					
CADD Standard Requireme	nts					
Layer/Level			Descri			
C-TOPO-AUCO-			Noise Co	mplaint		
	Color		Linetype	Line Weight	Symbol	
AutoDesk Standards	5		Continuous	1 MM	User Defined	
MicroStation Standards	1		Continuous	7	User Denneu	
Information Assurance Level	Restricted					
	AIXM		NoiseIncident		Extension	
Equivalent Standards	FGDC		NoiseIncident		Extension	
	SDSFIE		noise_incident_p	oint		
Documentation and	Nana					
Submission Requirements	None					
Related Features						
Data Capture Rules: Place of	collection poin	nt at a	ddress of complain	<i>t</i> .		
Monumentation	No monume					
Summer Daint Leastian	Horizontal Vertical				tical	
Survey Point Location		N/A			N/A	
A		Howig	Vertical		tical	
Accuracy Requirements (in feet)		Horizontal		Orthometric	Ellipsoidal	
leet)		± 5	0 ft	N/A	N/A	
Develoption	Geogra	aphic	Coordinates	Distances an	d Elevations	
Resolution	Five hun	dredth	n of arc second	Nearest foot		
Feature Attributes	•					
Attribute (Datatype)			Des	scription		
name (VARCHAR2 (50))	Nam	e of th	ne feature.			
description (VARCHAR2 (25)	5)) A ge	eneral	description of the c	omplete incident,	including any	
			naterial.	-		
status (Enumeration: codeState	us) A ter	mpora	l description of the	operational status	of the feature.	
	This	attrib	ute is used to descri	ibe real-time statu	s.	
reporter (String 50)	The	name	of the individual or	organization repo	orting the	
	incid	lent.			-	
userFlag (String 254)	An operator-defined work area. This attribute can be used by			an be used by		
u_{5}	All 0	the operator for user-defined system processes. It does not				
useri ing (string 234)					It does not	
useri ing (sunng 23+)	the o	operato		system processes.		

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.9. Noise Monitoring Point

5.7.9. Noise Montoring Form	L				
Definition: The location of noi	se sensing	equipm	ent or where a nois	e sample is taken.	
Feature Group	Environ	<u> </u>		-	
Feature Class Name	NoiseMonitoringPoint				
Feature Type	Point				
CADD Standard Requiremen	its				
Layer/Level			Descr	iption	
C-TOPO-AUST-	Noise M	onitorin			
	Col	or	Linetype	Line Weight	Symbol
AutoDesk Standards	4		Point	1 MM	User Defined
MicroStation Standards	7		Folint	7	User Denned
Information Assurance Level	Restricte	ed			
	AIXM		NoiseMonitoring	Point	Extension
Equivalent Standards	FGDC		NoiseMonitoring		Extension
	SDSFIE	1	noise_monitoring	<u>g_point</u>	
Documentation and Submission Requirements	No docu	mentatio	on is required for th		
Related Features					
Data Capture Rules: Collect	point at the	e center	of monitoring stati	ion.	
Monumentation			on required.		
Summer Daint Lagetter	Horizontal Vertical				tical
Survey Point Location		N	/A	N/A	
A company De continent or to (to		Hori	zontal	Vertical	
Accuracy Requirements (in feet)		HOIL		Orthometric	Ellipsoidal
1001)		± :	5 ft	± 20 ft	N/A
Resolution	Geog	graphic	Coordinates	Distances an	d Elevations
	Five h	undredt	h of arc second	Neare	st foot
Feature Attributes					
Attribute (Datatype)			De	scription	
name (VARCHAR2 (50))	Na	ame of th	ne feature.		
description (VARCHAR2 (255			n of the feature.		
status (Enumeration: codeStatu			l description of the ute is used to descr		
userFlag (String 254)					
usering (sumg 23+)	An operator-defined work area. This attribute can be used the operator for user-defined system processes. It does no				
	affect the subject item's data integrity and should not be u store the subject item's data.				
Alternative (Number(2))			5	ures of a plan or p	roposal together
		Discriminator used to tie features of a plan or proposal together into a version.			

5.7.10. Sample Collection Point

Definition: The physical location at which one or more environmental hazards field samples are collected.		
Feature Group Environmental		
Feature Class Name		

Feature Type	Poin	t				
CADD Standard Requiremen	nts					
Layer/Level			Descr	iption		
H-SAMP-AIRS-	Air s	Air samples				
C-TOPO-BORE-		Boring locations				
H-SAMP-BIOL-		ogical sampl	es			
H-SAMP-GWTR-		ind water sai				
H-SAMP-SEDI-		ment sample				
H-SAMP-SOIL-		samples				
H-SAMP-SOLI-		l material sa	mples			
H-SAMP-SWTR-		ace water sai	•			
H-SAMP-WAST-		te samples	•			
V-TOPO-BORE-	Bori	ng locations				
		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		6	* *	1 MM		
MicroStation Standards	1	5	Continuous	7	User Defined	
Information Assurance Level	Conf	idential				
	AIX	Μ	SampleCollection	nPoint	Extension	
Equivalent Standards	FGD	C	SampleCollection		Extension	
	SDS			llection_location_	point	
Documentation and Submission Requirements	None					
Related Features						
Data Capture Rules: Collect	noint (it center of s	ample location			
Monumentation	-	v				
	No monumentation required. Horizontal Vertical					
Survey Point Location		N			/A	
				Vertical		
Accuracy Requirements (in		Horiz	ontal	Orthometric	Ellipsoidal	
feet)		+ 1	l ft	$\pm 1 \text{ ft}$	N/A	
	(Coordinates	Distances and Elevations		
Resolution			n of arc second	Nearest foot		
Feature Attributes		ve nunureuti		Tteure	511001	
Attribute (Datatype)			De	scription		
name (VARCHAR2 (50))		Name of th				
description (VARCHAR2 (255))			litional information	n to describe the	
	//			nat (e.g., monitori		
					•	
	10 feet northeast of building 624 within spill area). IRPIMS. [Source: SDSFIE Feature Table]					
status (Enumeration: codeStatu	s)	-		operational status	of the feature.	
-	This attribute is used to describe real-time status.					
collectionPointLocation			ibing the type of location which is undergoing			
(Enumeration:			e.g., bh= borehole,			
CodeSamplePointLocation)						
userFlag (String 254)		An operato	or-defined work are	ea. This attribute of	can be used by	
				system processes.		
	affect the subject item's data integrity and should not be use			ld not be used to		
1		store the si	bject item's data.			

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.11. Shoreline

5.7.11. Shoreline							
Definition: The boundary when	e land meets the e	dge of a large body	y of fresh or salt w	ater.			
Feature Group	Environmental						
Feature Class Name	Shoreline						
Feature Type	Polygon						
CADD Standard Requiremen	its						
Layer/Level		Descr	iption				
C-DRED-OHWM-	Ordinary high wa	ater marks					
C-TOPO-SHOR-	Shorelines, land	features, and refere	ences				
H-MNST-GWTR-	Ground water						
H-MNST-SWTR-	Surface water						
S-GRDL-WATR-	Water surface						
V-SITE-EWAT-	Water features						
V-SITE-WATR-	Water features						
V-TOPO-SHOR-	Shorelines, land	features, and refere	ences				
	Color	Linetype	Line Weight	Symbol			
AutoDesk Standards	1	Continuous	1 MM	User Defined			
MicroStation Standards	3	Continuous	7	User Denneu			
Information Assurance	Restricted						
Level							
	AIXM	GeoBorderExten	sion	Extension			
Equivalent Standards	FGDC			Extension			
	SDSFIE	shoreline					
Documentation and	None						
Submission Requirements	TIONE						
Related Features							
Data Capture Rules: Collect	1 .0	0					
land/water interface. Close the	polygon at arbitra	ry points ensuring	sufficient coverag	e of the water			
body.							
Monumentation	No monumentati						
Survey Point Location		zontal		tical			
	N/	/A		/A			
Accuracy Requirements (in	Horiz	zontal		tical			
feet)			Orthometric	Ellipsoidal			
		5 ft	$\pm 5 \text{ ft}$	N/A			
Resolution		Coordinates		d Elevations			
	Five hundredth	n of arc second	Nearest foot				

	Five nundredui of arc second	Nearest Tool
Feature Attributes		
Attribute (Datatype)	De	escription
name (VARCHAR2 (50))	A commonly used name for	the shoreline.
description (VARCHAR2 (255)) A local description for the sh	oreline.
status (Enumeration: codeStatus		e operational status of the feature.
	This attribute is used to descri	ribe real-time status.
shorelineType (Enumeration:	Discriminator - A value indic	cating the type or kind of shoreline.
CodeShorelineType)		

userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.7.12. Wetland

Definition: Transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. The soils are predominantly saturated with water and the plants and animals that live there are specialized for this ecosystem.

Feature Group	Environmental							
Feature Class Name	Wetland							
Feature Type	Polygon							
CADD Standard Requirements								
Layer/Level		Descr	iption					
V-TOPO-WETL	Wetland							
	Color	Color Linetype Line Weight Symbol						
AutoDesk Standards	2	Continuous	1 MM	User Defined				
MicroStation Standards	4	Continuous	7	User Defined				
Information Assurance Level	Restricted							
	AIXM	AirspaceExtensio	on	Extension				
Equivalent Standards	FGDC	Wetland		Extension				
	SDSFIE	Wetland_area						
Documentation and	None							
Submission Requirements	rtone							
Related FeaturesData Capture Rules: Collect								
uplands (or non-wetlands). The several states have their own w environmental agency for assis Monumentation	re are two delined etland delineation tance.	ation procedures de procedures. Conta	veloped at the fede	eral level and				
Monumentation			Ver	No monumentation required.				
Survey Point Location		Horizontal Vertical						
	N/A N/A							
	1	V/A		/A				
Accuracy Requirements (in		V/A izontal	Ver	/A tical				
Accuracy Requirements (in feet)	Hori	zontal	Ver Orthometric	/A tical Ellipsoidal				
feet)	Hori ±	zontal 5 ft	Ver Orthometric ± 10 ft	/A tical Ellipsoidal N/A				
	Hori ± Geographic	zontal	Ver Orthometric	/A tical Ellipsoidal N/A d Elevations				
feet)	Hori ± Geographic	zontal 5 ft c Coordinates	Ver Orthometric ± 10 ft Distances an	/A tical Ellipsoidal N/A d Elevations				
feet) Resolution	Hori ± Geographic Five hundred	zontal 5 ft c Coordinates th of arc second De	Ver Orthometric ± 10 ft Distances an Neare scription	/A tical Ellipsoidal N/A d Elevations				
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	Hori ± Geographic Five hundred Any comr	zontal 5 ft c Coordinates th of arc second De nonly used name for	Ver Orthometric ± 10 ft Distances an Neare scription	/A tical Ellipsoidal N/A d Elevations				
feet) Resolution Feature Attributes Attribute (Datatype)	Hori ± Geographic Five hundred Any comr)) A descript	zontal 5 ft c Coordinates th of arc second De nonly used name fo tion of the wetland.	Ver Orthometric \pm 10 ft Distances an Neare scription or the wetland.	A tical Ellipsoidal N/A d Elevations st foot				
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	Hori ± Geographic Five hundred Any comr)) A descript s) A tempora	zontal 5 ft c Coordinates th of arc second De nonly used name for	Ver Orthometric ± 10 ft Distances an Neare scription or the wetland.	A tical Ellipsoidal N/A d Elevations st foot of the feature.				

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.8. Group: GEOSPATIAL

5.8.1. Airport Control Point – Runway Intersection Point

5.8.1. Airport Control Point -					
Definition: Use this feature for					
such as the Primary and Second	lary Ai	irport Contro	ol Stations (PACS/S	SACS), Runway I	ntersections,
Airport Elevation, centerline pe	rpendi	icular points	for NAVAIDs, Sto	pway Ends, Profi	le Points, and
the Touchdown Zone Elevation	(TDZ	E).			
Feature Group		spatial			
Feature Class Name		ortControlP	oint		
Feature Type	Poin				
CADD Standard Requiremen		-			
Layer/Level			Descri	ption	
C-TOPO-RNYE-	Runy	wav centerli	ne elevation point	•	
		Color	Linetype	Line Weight	Symbol
AutoDesk Standards		6		1	
MicroStation Standards		5	Continuous	7	User Defined
Information Assurance				,	
Level	Rest	ricted			
	AIX	м	SurveyControlPo	intExtension	Extension
Equivalent Standards	FGD		AirportControlPo		Littension
Equivalent Standards	SDS		Control_point	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Documentation and	506		Control_point		
Submission Requirements	None	e			
Related Features					
	h a nai	at when a the	a antanlin og af tura		. interrect
Data Capture Rules: Collect the Monumentation				or more, runway	s intersect.
wonumentation	INO II		ion required.	X7	-4° 1
Survey Point Location			izontal	Vertical	
		N/A N/A			
Accuracy Requirements (in		Horizontal		Vertical	
feet)				Orthometric	Ellipsoidal
·			3 ft	± 0.25 ft	± 0.20 ft
Resolution			c Coordinates	-	nd Elevations
		Hundredth	of arc second	Nearest	one foot
Feature Attributes					
Attribute (Datatype)				cription	
permanentId (String 6)			t point identifier ass ource: NGS]	igned by NGS to	PACS and
pointType (Enumeration:		L.	he allowable values	of a point type us	sed by the
CodePointType)			int feature. The poin	· · ·	•
	provided as subtypes of ControlPoints for ease of use and clarification.				
name (VARCHAR2(50))			nonly used name for	r the control point	-
runwayDesignator (String 7)			able to this point ty		
runwayEndDesignator (String	3)		able to this point ty		
monumentType (Enumeration:					of Engineers
CodeMonumentType)	The type of monument as defined by the Corps of Engineers EM 110-1-1002.			or Engineers	
description (VARCHAR2 (255	5))		ment description.		
(100000000000000000000000000000000	11				

A temporal description of the operational status of the feature.
This attribute is used to describe real-time status.
The height above the reference ellipsoid, measured along the
ellipsoidal outer normal through the point in question. Also
called the geodetic height. [Source: NGS]
The year of the most recent runway end survey used to compute
the ARP
The date the monument was last field recovered. Format for
date is YYYYMMDD (i.e. September 15, 1994 = 19940915).
The condition and type of the marker (witness post) used to
identify the location of the monument.
The field book.
A Boolean indicating GPS suitability.
The State Plane Coordinate System Code for where the airport
is primarily located.
The designation stamped onto the monument.
Survey epoch used to establish the control point.
An operator-defined work area. This attribute can be used by
the operator for user-defined system processes. It does not
affect the subject item's data integrity and should not be used to
store the subject item's data.
Discriminator used to tie features of a plan or proposal together
into a version.

5.8.2. Airport Control Point – Airport Elevation

Definition: Use this feature for points on the airfield possessing significant geographic importance, such as the Primary and Secondary Airport Control Stations (PACS/SACS), Runway Intersections, Airport Elevation, centerline perpendicular points for NAVAIDs, Stopway Ends, Profile Points, and the Touchdown Zone Elevation (TDZE).

the Touchdown Zone Lievation							
Feature Group	Geospatial						
Feature Class Name	AirportControll	AirportControlPoint					
Feature Type	Point						
CADD Standard Requirement	nts						
Layer/Level	Layer/Level Description						
C-TOPO-RNYE-	Runway centerl	ine elevation point					
	Color	Color Linetype Line Weight Symbol					
AutoDesk Standards	6	Continuous	1	User Defined			
MicroStation Standards	5	Continuous	7	User Defined			
Information Assurance Level	Restricted						
	AIXM	AirportControlP	Point				
Equivalent Standards	FGDC SurveyControlPointExtension (Extension)						
-	SDSFIE						
Documentation and	None						
Submission Requirements	None						
Related Features							
Data Capture Rules: Calcula	Data Capture Rules: Calculate the Airport Elevation using the runway profile data. The Airport						
Elevation is the highest point along all usable runways.							

Monumentation	Fille	ed in by survey group only				
Survey Point Location	Horizontal			tical		
Survey I onte Elocation		N/A		/A		
Accuracy Requirements (in		Horizontal		tical		
feet)			Orthometric	Ellipsoidal		
		<u>± 1 ft</u>	± 0.25 ft	± 0.20 ft		
Resolution		Geographic Coordinates	Distances an			
F		Hundredth of arc second	Nearest	one foot		
Feature Attributes		Da	amintion			
Attribute (Datatype) permanentId (String 6)		Permanent point identifier as	scription	DACS and		
		SACS [Source: NGS]				
pointType (Enumeration:		Contains the allowable values				
CodePointType)		ControlPoint feature. The poi				
		provided as subtypes of Cont clarification.	rolPoints for ease	of use and		
name (VARCHAR2 (50))		Any commonly used name for	or the control point	•		
runwayDesignator (String 7)		Specify Runway Designator	1			
runwayEndDesignator (String	3)	Not applicable to this point ty	/pe			
monumentType (Enumeration	:		he type of monument as defined by the Corps of Engineers			
CodeMonumentType)		EM 110-1-1002.				
description (VARCHAR2 (25	5)) The monument description.					
status (Enumeration: codeStatus)		A temporal description of the This attribute is used to descri				
ellipsoidHeight (Real)		The height above the reference				
empsolutiongne (recui)		ellipsoidal outer normal through the point in question. Also				
		called the geodetic height. [Source: NGS]				
yearOfSurvey (Number 4)		The year of the most recent rule the ARP		used to compute		
dateRecovered (Date)		The date the monument was	ast field recovered	Format for		
untertees vereu (Dute)		date is YYYYMMDD (i.e. Se				
recoveredCondition		The condition and type of the				
(Enumeration:		identify the location of the m		,		
CodeRecoveredCondition)						
fieldBook (String 254)		The field book.				
globalPositionSystemSuitable (Boolean)		A Boolean indicating GPS su	itability.			
coordinateZone (Enumeration:		The State Plane Coordinate S	ystem Code for wl	here the airport		
CodeCoordinateZone)		is primarily located.	-	I.		
stampedDesignation (String 50))	The designation stamped onto	o the monument.			
epoch (String 10)		Survey epoch used to establish	sh the control point	t.		
userFlag (String 254)		An operator-defined work are				
		the operator for user-defined	• •			
		affect the subject item's data integrity and should not be used to				
		store the subject item's data.	C 1	1, 1		
Alternative (Number(2))				roposal together		
		into a version.				

5.8.5. Airport Control Point		•			
Definition: Use this feature f					
such as the Primary and Seco					
Airport Elevation, centerline p	erpenc	licular point	s for NAVAIDs, S	topway Ends, Pro	ofile Points, and
the Touchdown Zone Elevation	(TDZ	E).			
Feature Group	Geos	spatial			
Feature Class Name	Airp	ortControlPo	oint		
Feature Type	3D P	oint			
CADD Standard Requiremen	ts				
Layer/Level			Descri	otion	
C-TOPO-RNYE-	Runy	vav centerli	ne elevation point		
		Color	Linetype	Line Weight	Symbol
AutoDesk Standards		6		1	
MicroStation Standards		5	Continuous	7	User Defined
Information Assurance				,	
Level	Rest	ricted			
	AIX				
Equivalent Standards	FGD				
	SDS	FIE	Control_point		
Documentation and	None	e			
Submission Requirements	1.011	-			
Related Features					
Data Capture Rules: Colle					
required NAVAIDs. ILS, MLS,				ns require this me	easurement refer
to the appropriate feature class					
Monumentation	Fille		ey group only	1	
Survey Point Location	Horizontal Vertical				
Survey I onic Elocation		N	I/A		/A
Accuracy Requirements (in		Hori	zontal	Vertical	
feet)		11011	2011.01	Orthometric	Ellipsoidal
leet)		±	1 ft	± 0.25ft	± 0.25 ft
D		Geographic	Coordinates	Distances an	d Elevations
Resolution		Hundredth of	of arc second	Nearest ten	th of a foot
Feature Attributes				•	
Attribute (Datatype)			Des	cription	
permanentId (String 6)			point identifier assi	•	PACS and
nointTuno (Enumeration)		L	urce: NGS]	of a point torre	ad by the
pointType (Enumeration:			ne allowable values	· · ·	•
CodePointType)	ControlPoint feature. The point types may be supplementally				
	provided as subtypes of ControlPoints for ease of use and				
		-	• -	olPoints for ease of	of use and
		clarificatio	n.		
name (VARCHAR2 (50))		clarificatio Any comm	n. only used name for	the control point.	
runwayDesignator (String 7)	2)	clarificatio Any comm Not applica	n. only used name for able to this point typ	the control point.	
runwayDesignator (String 7) runwayEndDesignator (String	-	clarificatio Any comm Not applica Not applica	n. only used name for able to this point typ able to this point typ	the control point.	
runwayDesignator (String 7) runwayEndDesignator (String monumentType (Enumeration	-	clarificatio Any comm Not applica Not applica The type of	n. only used name for able to this point typ able to this point typ f monument as defin	the control point.	
runwayDesignator (String 7) runwayEndDesignator (String monumentType (Enumeration CodeMonumentType)		clarificatio Any comm Not applica Not applica The type o EM 110-1-	n. aonly used name for able to this point typ able to this point typ f monument as defin- 1002.	the control point.	
runwayDesignator (String 7) runwayEndDesignator (String monumentType (Enumeration CodeMonumentType) description (VARCHAR2 (255	5))	clarificatio Any comm Not applica Not applica The type of EM 110-1- The monur	n. only used name for able to this point typ able to this point typ f monument as defin- 1002. ment description.	the control point. be be ned by the Corps of	of Engineers
runwayDesignator (String 7) runwayEndDesignator (String monumentType (Enumeration CodeMonumentType)	5))	clarificatio Any comm Not applica Not applica The type of EM 110-1- The monur A temporal	n. aonly used name for able to this point typ able to this point typ f monument as defin- 1002.	the control point. be ned by the Corps of operational status	of Engineers of the feature.

5.8.3. Airport Control Point – Centerline Perpendicular Points

ellipsoidHeight (Real)	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height. [Source: NGS]
yearOfSurvey (Number 4)	The year of the most recent runway end survey used to compute the ARP
dateRecovered (Date)	The date the monument was last field recovered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).
recoveredCondition	The condition and type of the marker (witness post) used to
(Enumeration:	identify the location of the monument.
CodeRecoveredCondition)	
fieldBook (String 254)	The field book.
globalPositionSystemSuitable	A Boolean indicating GPS suitability.
(Boolean)	
coordinateZone (Enumeration:	The State Plane Coordinate System Code for where the airport
CodeCoordinateZone)	is primarily located.
stampedDesignation (String 50)	The designation stamped onto the monument.
epoch (String 10)	Survey epoch used to establish the control point.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.8.4. Airport Control Point – Displaced Threshold Point

Definition: Use this feature for points on the airfield possessing significant geographic importance, such as the Displaced Threshold, Primary and Secondary Airport Control Stations (PACS/SACS), Runway Intersections, Airport Elevation, centerline perpendicular points for NAVAIDs, Stopway Ends, Profile Points, and the Touchdown Zone Elevation (TDZE).

Linds, 1 torne 1 onits, and the 10	Ends, Frome Fonds, and the Touchdown Zone Elevation (TDZE).					
Feature Group	Geospatial					
Feature Class Name	AirportControlP	oint				
Feature Type	Point					
CADD Standard Requiremen	its					
Layer/Level		Descri	ption			
C-RUNW-DISP-	Runway centerline elevation point					
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	6	Continuous	1	User Defined		
MicroStation Standards	5	Continuous	7	User Defined		
Information Assurance Level	Restricted					
	AIXM					
Equivalent Standards	FGDC					
	SDSFIE Control_point					
Documentation and	nentation and In addition to the requirements of paragraphs <u>1.5.2</u> and <u>1.5.3</u> ,					
Submission Requirements	document the selected location using four digital photographs.					



Related Features	
-	olish the displaced threshold on the runway centerline a specified distance
	rea between the runway end and the displaced threshold should be marked
with white arrows.	
	<
	When the ends of the runway surface have been determined, mark the
Monumentation	positions using a nail and washer with the setting company's name
1. Tomunicination	and year inscribed, chisel square, or paint if possible with a distinctive
	inscription to ensure future identification.
	Paved Runway
	Survey Point Locator is the approach side of threshold bar or trim line
	connecting outboard threshold lights. Supporting features include:
	Threshold lights near threshold
	• Runway end lights sited at another location on approach side of
	threshold lights
Summer Daint Logotion	• White or amber runway edge lights, not blue taxiway lights,
Survey Point Location	between threshold and end of runway
	• Runway number near threshold
	• White displaced threshold markings on approach side of threshold
	bar
	Runway side stripe on Precision Instrument Runways
	Comments: Use caution , especially on smaller, poorly marked
	airports, not to confuse a displaced threshold with the end of a runway with an aligned torius
	with an aligned taxiway.

	TAXIWAY CENTERLINE MARKING						
	TAXIWAY EDGE LIGHTS	/ THRESHOLD B	AR				
	SURVEY POINT LOCATOR (APCH SIDE OF THLD BAR) RUNWAY END LIGHTS	DISPLACED THRESH	HOLD MARKINGS 				
	THRESHOLD LIGHTS —/						
	 THIS GRAPHIC IS NOT TO SCALE. FEATURES ARE SYMBOLIZED AND INTENDED ILLUSTRATION PURPOSES ONLY. 						
	2. RUNWAY/STOPWAY SURVEYS SHOULD BE DISCUSSED WITH APPROPRIATE AIRPORT AUTHORITIES.						
	 3. <u>SURVEY POINT LOCATOR:</u> APPROACH SIDE OF THRESHOLD BAR 4. <u>SUPPORTING FEATURES</u> RUNWAY END LIGHTS NEAR END OF PAVEMENT THRESHOLD LIGHTS NEAR THRESHOLD BAR RUNWAY NUMBER AND THRESHOLD MARKINGS NEAR THRESHOLD BAR RUNWAY UMBER AND THRESHOLD MARKINGS NEAR THRESHOLD BAR RUNWAY EDGE LIGHTS BETWEEN THRESHOLD AND END OF PAVEMENT 5. <u>COMMENTS:</u> NONSTANDARD MARKINGS FOR DISPLACED THRESHOLD THRESHOLD LIGHTS MAY NOT BE PRECISELY ALIGNED WITH APPROACH SIDE OF THRESHOLD BAR DO NOT CONFUSE THIS SITUTION WITH A RUNWAY END AND ALIGNED TAXIWAY 						
		Runway					
	Survey Point Locator is the trim lin						
	lights or the trim Line connecting of	utboard threshold	day markers.				
	Supporting features include	nother leasting an	annroach aide				
	• The runway end lights sited at a of threshold lights (if runway li		approach side				
	 The runway end day markers lo 	-	ocation on				
	approach side of threshold (if r						
	Comments: Displaced thresholds o						
	this situation is suspected, verify th						
	another location on the approach side of the threshold.						
		ts (in Horizonfal					
Accuracy Requirements (in	Horizontal	Vert Orthometric					
Accuracy Requirements (in feet)		Orthometric ± 0.25 ft	tical Ellipsoidal ± 0.20 ft				
	Horizontal	Orthometric	Ellipsoidal ± 0.20 ft				

Feature Attributes	
Attribute (Datatype)	Description
permanentId (String 6)	Permanent point identifier assigned by NGS to PACS and SACS [Source: NGS]
pointType (Enumeration: CodePointType)	Contains the allowable values of a point type used by the ControlPoint feature. The point types may be supplementally provided as subtypes of ControlPoints for ease of use and clarification.
runwayDesignator (String 7)	Not applicable to this point type
runwayEndDesignator (String 3)	Specify RunwayEnd Designator
name (VARCHAR2 (50))	Any commonly used name for the control point.
monumentType (Enumeration: CodeMonumentType)	The type of monument as defined by the Corps of Engineers EM 110-1-1002.
description (VARCHAR2 (255))	The monument description.
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
ellipsoidHeight (Real)	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height. [Source: NGS]
yearOfSurvey (Number 4)	The year of the most recent runway end survey used to compute the ARP
dateRecovered (Date)	The date the monument was last field recovered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).
recoveredCondition (Enumeration: CodeRecoveredCondition)	The condition and type of the marker (witness post) used to identify the location of the monument.
fieldBook (String 254)	The field book.
globalPositionSystemSuitable (Boolean)	A Boolean indicating GPS suitability.
coordinateZone (Enumeration: CodeCoordinateZone)	The State Plane Coordinate System Code for where the airport is primarily located.
stampedDesignation (String 50)	The designation stamped onto the monument.
epoch (String 10)	Survey epoch used to establish the control point.
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.8.5. Airport Control Point – Stopway Ends

Definition: Use this feature for points on the airfield possessing significant geographic importance,
such as the Primary and Secondary Airport Control Stations (PACS/SACS), Runway Intersections,
Airport Elevation, centerline perpendicular points for NAVAIDs, Stopway Ends, Profile Points, and
the Touchdown Zone Elevation (TDZE).Feature GroupGeospatialFeature Class NameAirportControlPointFeature TypePoint

CADD Standard Requirements					
Layer/Level	Description				
C-TOPO-RNYE-	Runway centerli	ne elevation point			
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	6	Continuous	1	User Defined	
MicroStation Standards	5	Continuous	7	User Denneu	
Information Assurance Level	Restricted				
	AIXM				
Equivalent Standards	FGDC				
-	SDSFIE	Control_point			
Documentation and Submission Requirements	None				
Related Features					
Data Capture Rules: Collec	t point at physical	end of stopway alor	ng extended center	line of runway.	

Monumentation	The selected survey point must be marked and documented for verification by NGS and inclusion in the Airports GIS database. When the ends of the runway surface have been determined, mark the positions using a nail and washer, chisel square, or paint if possible with a distinctive inscription to ensure future identification. Mark the survey point with a nail and washer inscribed with the setting company's name and year.					
			Horizontal		V	/ertical
	Cone Stop		the trim line. Sup chevrons. The stop the runway center at least as wide as	ator is the limit of construction or porting Features include stopway pway end survey point must be on line extended. Stopways must be		clude stopway oint must be on oways must be ny be wider.
Survey Point Location	Paved/Non- concrete Unpaved		Survey Point Loca the trim line at first Features are the st end survey point r extended. Stopway runway but may b	st good j opway o nust be ys must	pavement. chevrons. T on the runy be at least	Supporting 'he stopway vay centerline
			Survey Point Locator is the trim line at an apparent			
Accuracy Requirements (in		Horizontal			Vertical	
feet)					ometric	Ellipsoidal
,			1 ft		0.25 ft	± 0.20 ft
Resolution			ographic CoordinatesDistances and Elevationsundredth of arc secondNearest tenth of a foot			
Feature Attributes		Tundreath of arc second Nearest tenth of a foot				
Attribute (Datatype)			Desc	cription	1	
permanentId (String 6)			nent point identifier assigned by NGS to PACS and [Source: NGS]			ACS and
pointType (Enumeration: CodePointType)	pointType (Enumeration:ContainCodePointType)Controprovide		Contains the allowable values of a point type used by the ControlPoint feature. The point types may be supplementally provided as subtypes of ControlPoints for ease of use and clarification.			
name (VARCHAR2 (50))		Any commonly used name for the control point.				
runwayDesignator (String 7)		Not applicable to this point type				
runwayEndDesignator (String		Specify RunwayEnd Designator				
monumentType (Enumeration: CodeMonumentType)	monumentType (Enumeration:		The type of monument as defined by the Corps of Engineers EM 110-1-1002.			
description (VARCHAR2 (255		The monument description.				
status (Enumeration: codeStatu	18)	·	l description of the outer is used to describ	.		
ellipsoidHeight (Real) The heig ellipsoida			eight above the reference ellipsoid, measured along the bidal outer normal through the point in question. Also the geodetic height. [Source: NGS]			
yearOfSurvey (Number 4)			f the most recent run		-	sed to compute

dateRecovered (Date)	The date the monument was last field recovered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).
recoveredCondition	The condition and type of the marker (witness post) used to
(Enumeration:	identify the location of the monument.
CodeRecoveredCondition)	
fieldBook (String 254)	The field book.
globalPositionSystemSuitable	A Boolean indicating GPS suitability.
(Boolean)	
coordinateZone (Enumeration:	The State Plane Coordinate System Code for where the airport
CodeCoordinateZone)	is primarily located.
stampedDesignation (String 50)	The designation stamped onto the monument.
epoch (String 10)	Survey epoch used to establish the control point.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.8.6. Airport Control Point – Profile Points

Definition: Use this feature for		ield possessing sign	ificant geographic	c importance,	
such as the Primary and Second					
Airport Elevation, centerline pe	• •		•		
the Touchdown Zone Elevation					
Feature Group	Geospatial				
Feature Class Name	AirportControlP	oint			
Feature Type	Point				
CADD Standard Requiremen	its				
Layer/Level		Descri	ption		
C-TOPO-RNYE-	Runway centerli	ne elevation point			
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	6	- Continuous -	1	User Defined	
MicroStation Standards	5	Continuous	7	User Defined	
Information Assurance	Restricted				
Level	Restricted				
	AIXM				
Equivalent Standards	FGDC				
	SDSFIE	Control_point			
Documentation and	None				
Submission Requirements	None				
Related Features					
Data Capture Rules: Collect	three-dimensional	points along all usa	ble runways cente	erlines.	
Reduction of data must resolve to a profile with points at 10 foot intervals at certificated airports and					
Reduction of data must resolve	to a projite with p	e inite un 10 joer inite.	5	1	
Reduction of data must resolve no more than 50 feet at all airp			5	1	
				1	
no more than 50 feet at all airp	orts. None.	izontal		tical	

A D (Howiggertal	Ver	rtical	
Accuracy Requirements (in	Horizontal	Orthometric	Ellipsoidal	
feet)	± 1 ft	± 0.25 ft	± 0.20 ft	
Resolution -	Geographic Coordinates	Distances a	nd Elevations	
Resolution	Hundredth of arc second	Nearest ter	nth of a foot	
Feature Attributes				
Attribute (Datatype)	Des	cription		
permanentId (String 6)	Permanent point identifier ass SACS [Source: NGS]			
pointType (Enumeration: CodePointType)	ControlPoint feature. The point	Contains the allowable values of a point type used by the ControlPoint feature. The point types may be supplementally provided as subtypes of ControlPoints for ease of use and clarification		
name (VARCHAR2 (50))	Any commonly used name for	r the control point.		
runwayDesignator (String 7)	Specify Runway Designator			
runwayEndDesignator (String 3) Not applicable to this point ty	ре		
monumentType (Enumeration:	The type of monument as defi	ned by the Corps	of Engineers	
CodeMonumentType)	EM 110-1-1002.		-	
description (VARCHAR2 (255))) The monument description.	The monument description.		
status (Enumeration: codeStatus	A temporal description of the operational status of the fe			
	This attribute is used to descri			
ellipsoidHeight (Real)	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height. [Source: NGS]			
yearOfSurvey (Number 4)	The year of the most recent runway end survey used to conthe ARP		-	
dateRecovered (Date)	The date the monument was la date is YYYYMMDD (i.e. Se			
recoveredCondition	The condition and type of the	marker (witness p	ost) used to	
(Enumeration:	identify the location of the mo	identify the location of the monument.		
CodeRecoveredCondition)				
fieldBook (String 254)	The field book.			
globalPositionSystemSuitable (Boolean)	A Boolean indicating GPS sui	tability.		
coordinateZone (Enumeration:	The State Plane Coordinate S	ystem Code for wh	here the airport	
CodeCoordinateZone)	is primarily located.			
stampedDesignation (String 50)	The designation stamped onto	the monument.		
epoch (String 10)	Survey epoch used to establish	h the control point	•	
userFlag (String 254)	An operator-defined work are	a. This attribute c	an be used by	
-	the operator for user-defined s affect the subject item's data i store the subject item's data.	• •		
Alternative (Number(2))	· · · · · · · · · · · · · · · · · · ·	Discriminator used to tie features of a plan or proposal together		

5.8.7. Airport Control Point – Touchdown Zone Elevation (TDZE)

Definition: Use this feature for points on the airfield possessing significant geographic importance, such as the Primary and Secondary Airport Control Stations (PACS/SACS), Runway Intersections, Airport Elevation, centerline perpendicular points for NAVAIDs, Stopway Ends, Profile Points, and the Touchdown Zone Elevation (TDZE).

Feature Group	Geospatial					
Feature Class Name		ortControlPo	int			
Feature Type	3D F	3D Point				
CADD Standard Requiremen	ts					
Layer/Level			Descr	iption		
C-TOPO-RNYE-	Runy	way centerlin	e elevation point			
		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		6	Continuous	1	User Defined	
MicroStation Standards		5	Continuous	7	User Defined	
Information Assurance Level	Rest	ricted				
	AIX	Μ				
Equivalent Standards	FGE	DC				
-	SDS	FIE	Control_point			
Documentation and Submission Requirements	None		· · ·			
Related Features						
Data Capture Rules: The TD	ZE is	the highest o	levation along the	e runway contorlin	e within the first	
3000 feet from the threshold an					e wunun me jusi	
Monumentation	None	U	e centertine projit	<i>c aaaaaaaaaaaaaa</i>		
	11011		ontal	Vert	ical	
Survey Point Location		N/.		N/A		
				Vertical		
Accuracy Requirements (in	Horizontal ± 1 ft		Orthometric	Ellipsoidal		
feet)			± 0.25 ft	± 0.20 ft		
	(Geographic (Coordinates	Distances and	d Elevations	
Resolution		Hundredth of		Nearest tenth of a foot		
Feature Attributes						
Attribute (Datatype)			Des	scription		
permanentId (String 6)		Permanent J SACS [Sou		signed by NGS to I	PACS and	
pointType (Enumeration:				s of a point type us	ed by the	
CodePointType)				nt types may be su		
				rolPoints for ease of		
		clarification				
runwayDesignator (String 7)			ble to this point ty	/pe		
runwayEndDesignator (String	3)		nway End Designation			
name (VARCHAR2 (50))	/	1 2	, ,	or the control point.		
monumentType (Enumeration:		ž	5	ined by the Corps of		
CodeMonumentType)		EM 110-1-1		. 1	÷	
description (VARCHAR2 (255						
				operational status	of the feature.	
status (Enumeration: codeStatu	This attribute is used to describe real-time status.					
				ibe real-time status	•	
	,	This attribut	te is used to descr above the reference	ce ellipsoid, measur	ed along the	
status (Enumeration: codeStatu		This attribu The height a ellipsoidal o	te is used to descr above the reference outer normal throu	ce ellipsoid, measur 1gh the point in que	ed along the	
status (Enumeration: codeStatu ellipsoidHeight (Real)		This attribut The height a ellipsoidal of called the g	te is used to descr above the reference outer normal throu eodetic height. [S	ce ellipsoid, measur igh the point in que Source: NGS]	red along the estion. Also	
status (Enumeration: codeStatu		This attribut The height a ellipsoidal of called the g	te is used to descr above the reference outer normal throu eodetic height. [S	ce ellipsoid, measur 1gh the point in que	red along the estion. Also	

dateRecovered (Date)	The date the monument was last field recovered. Format for date is YYYYMMDD (i.e. September 15, 1994 = 19940915).
recoveredCondition	The condition and type of the marker (witness post) used to
(Enumeration:	identify the location of the monument.
CodeRecoveredCondition)	
fieldBook (String 254)	The field book.
globalPositionSystemSuitable	A Boolean indicating GPS suitability.
(Boolean)	
coordinateZone (Enumeration:	The State Plane Coordinate System Code for where the airport
CodeCoordinateZone)	is primarily located.
stampedDesignation (String 50)	The designation stamped onto the monument.
epoch (String 10)	Survey epoch used to establish the control point.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.8.8. Airport Control Point – Primary and Secondary Airport Control Stations (PACS/SACS)

Definition: Use this feature for points on the airfield possessing significant geographic importance, such as the Primary and Secondary Airport Control Stations (PACS/SACS), Runway Intersections, Airport Elevation, centerline perpendicular points for NAVAIDs, Stopway Ends, Profile Points, and the Touchdown Zone Elevation (TDZE).

the Touchdown Zone Elevation	(IDZE).				
Feature Group	Geospatial	Geospatial			
Feature Class Name	AirportControlPo	AirportControlPoint			
Feature Type	Point				
CADD Standard Requiremen	its				
Layer/Level		Descri	ption		
V-SURV-DATA-CTPT-	Survey data (ben	chmarks and horizo	ontal control points	or monuments)	
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	6	Continuous	1	User Defined	
MicroStation Standards	5	Continuous	7	User Defined	
Information Assurance	Restricted	·			
Level	Restricted				
	AIXM				
Equivalent Standards	FGDC				
	SDSFIE Control_point				
Documentation and	None				
Submission Requirements	INOILE				
Related Features					
Data Capture Rules: Refer to	AC 150/5300-16 f	for guidance on the	airport control ma	rks.	
Monumentation	None.				
Survey Point Location	Horizontal		Vertical		
Survey I onit Location	N	I/A	N/A		
Accuracy Requirements (in	Hori	zontal	Vert	ical	
feet)	HOIT		Orthometric	Ellipsoidal	
	Refer to	AC 150/5300-16 f	or accuracy require	ements.	

Resolution	Geographic Coordinates	Distances and Elevations
Resolution	Thousanth of arc second	Nearest hundredth of a foot
Feature Attributes		
Attribute (Datatype)	De	escription
permanentId (String 6)	Permanent point identifier as SACS [Source: NGS]	ssigned by NGS to PACS and
pointType (Enumeration: CodePointType)	ControlPoint feature. The po	es of a point type used by the bint types may be supplementally trolPoints for ease of use and
name (VARCHAR2 (50))	Any commonly used name f	or the control point.
runwayDesignator (String 7)	Not applicable to this point t	
runwayEndDesignator (String		
monumentType (Enumeration: CodeMonumentType)		fined by the Corps of Engineers
description (VARCHAR2 (255	()) The monument description.	
status (Enumeration: codeStatu	A temporal description of th This attribute is used to desc	e operational status of the feature. ribe real-time status.
ellipsoidHeight (Real)		ice ellipsoid, measured along the ugh the point in question. Also Source: NGS]
yearOfSurvey (Number 4)	<u>v</u> v	runway end survey used to compute
dateRecovered (Date)		last field recovered. Format for September 15, 1994 = 19940915).
recoveredCondition (Enumeration: CodeRecoveredCondition)	The condition and type of th identify the location of the n	e marker (witness post) used to nonument.
fieldBook (String 254)	The field book.	
globalPositionSystemSuitable (Boolean)	A Boolean indicating GPS st	uitability.
coordinateZone (Enumeration:	The State Plane Coordinate	System Code for where the airport
CodeCoordinateZone)	is primarily located.	· · · · · · · · · · · · · · · · · · ·
stampedDesignation (String 50) The designation stamped on	to the monument.
epoch (String 10)	Survey epoch used to establi	sh the control point.
userFlag (String 254)	An operator-defined work an the operator for user-defined	ea. This attribute can be used by system processes. It does not integrity and should not be used to
Alternative (Number(2))	Discriminator used to tie fea into a version.	tures of a plan or proposal together

5.8.9. Coordinate Grid Area

Definition: A regular pattern of horizontal and vertical lines used to represent regular coordinate intervals along the x and y axis. This grid line can be used to generate an arbitrary grid system which is common on locator maps.

common on focator maps.				
Feature Group	Geospatial			
Feature Class Name	CoordinateGridArea			
Feature Type	Line			

CADD Standard Requi	remen	ts						
Layer/Level	Description		Layer/Level		Description			
C-DETL-GRPH-	Graphics, gridlines, non-text items		S-GRID-MSC3-		Miscellaneous grid lines (Type 3)			
C-GRID-FRAM-	Frame (bounding f of an area referenc by a grid)			S-GRID-MSC4-		Miscellaneous grid lines (Type 4)		
C-GRID-MAJR-	Majo	or grid lines		S-GRID-VERT-	S-GRID-VERT-		Primary grid lines (vertical)	
C-GRID-MINR-	Minc	or grid lines		V-GRID-FRAM-		Frame		
S-GRID-HORZ-		ary grid line zontal)	es	V-GRID-MAJR-		Major grid lines		
S-GRID-MSC-		ellaneous g (Type 1)	rid	V-GRID-MINR-		Minor g	rid lines	
S-GRID-MSC2-	Misc	ellaneous g (Type 2)	rid					
		Colo	or	Linetype	Line V	Weight	Symbol	
AutoDesk Standards		2		Continuous	1 N	ИМ	User Defined	
MicroStation Standard		4		Continuous	,	7	Cor Defined	
Information Assurance Level		Restricted						
		AIXM		dinateGridArea			Extension	
Equivalent Standards		FGDC						
		SDSFIE Coordinate_grid_area						
Documentation and	No documentati		entation	is required for thi	s feature.			
Submission Requirement	nts			*				
Related Features	.//							
Data Capture Rules: <i>N</i> Monumentation	/A	No monue	mantatio	n nagyinad				
Monumentation		No monumentation required.		Vertical				
Survey Point Location		Horizontal N/A			Vertical N/A			
			11/.	A		Vertical		
Accuracy Requirement	s (in	Horizontal		ontal	Ortho	metric	Ellipsoidal	
feet)			N/.	٨		A //A	N/A	
						Distances and Elevations		
Resolution		Geographic Coordinates N/A		N/A				
Feature Attributes			1 1/.			14/	Π	
Attribute (Datat	vne)			Des	cription			
name (VARCHAR2 (50))			The name, code or identifier used to refer to an individual grid cell.					
description (VARCHAR2 (255))			Description of the feature.					
status (Enumeration: codeStatus) A tempor		emporal description of the operational status of the feature. s attribute is used to describe real-time status.						
userFlag (String 254)		An the affe	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.					
gridType (Enumeration:		Cod	Code indicating the type of grid.					

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.8.10. Elevation Contour

Definition: Connecting points on the surface of the earth of equal vertical elevation representing some fixed elevation interval.

Feature Group	Geospatial					
Feature Class Name	ElevationContour					
Feature Type	Line					
CADD Standard Requiremen						
Layer/Level	Descriptio	n				
C-TOPO-MAJR-	Major con					
C-TOPO-MINR-	Minor con					
V-TOPO-MAJR-	Major con	tours				
V-TOPO-MAJR-IDEN	Major con					
V-TOPO-MINR-	Minor con					
V-TOPO-MINR-IDEN	Minor con					
C-TOPO-MINR-ONEF	Minor con					
C-TOPO-MINR-TWOF	Minor con	tours				
	Color	r <u> </u>	Linetype	Line Weight	Symbol	
AutoDesk Standards	2		N/A	1 MM	User Defined	
MicroStation Standards	4			7	Oser Defined	
Information Assurance Level	Restricted					
	AIXM ElevationContou		r Extension			
Equivalent Standards	FGDC <i>ElevationContour</i>					
	SDSFIE		elevation_contou	r_line		
Documentation and Submission Requirements	No documentation is required for this feature.					
Related Features						
Data Capture Rules: <i>N/A</i>						
Monumentation	No monun	nentati	on required.			
Same Defect Langetter	Horizontal Vertical			tical		
Survey Point Location		N	/A	N/A		
	Horizontal		rontol	Vertical		
Accuracy Requirements (in			contai	Orthometric	Ellipsoidal	
feet)	One-half contour interval		One-half contour interval	N/A		
Resolution	Geographic Coordinates		Coordinates	Distances and Elevations		
Resolution		Hundredth of arc second		Five tenths of foot		
Feature Attributes						
Attribute (Datatype)			De	scription		
name (VARCHAR2 (50))	Name of the feature.					
description (VARCHAR2 (255						
			6.1 6 4			
status (Enumeration: codeStatu						
status (Enumeration: codeStatu	This	attribu		ibe real-time status		

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
contourValue	The elevation of the contour line.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.8.11. Image Area

Definition: The image footprint or coverage area. Feature Group Geospatial Feature Class Name ImageArea Feature Type Polygon CADD Standard Requirements Description Layer/Level Description V-AERI-BNDY- Aerial photograph boundaries AutoDesk Standards 1 Color Line Weight Symbol AutoDesk Standards 1 Continuous 7 User Defined Information Assurance Confidential Extension Extension Equivalent Standards 3 Confidential Extension FGDC ImageArea Extension Extension FGDC ImageArea Extension Extension Boundary of aerial imagery. Mo documentation is required for this feature. Survey Point Location No monumentation required. Survey Point Location No monumentation required. N/A N/A Accuracy Generation Oescription Activate Play of Accuracy of the imagery N/A Resolution N/A N/A N/A Geographic Coordinates Distaces and Elevations N/A </th <th>Sibilli illiage illica</th> <th></th> <th></th> <th></th> <th></th>	Sibilli illiage illica					
Feature Class Name ImageArea Feature Type Polygon CADD Standard Requirements Description V-AERI-BNDY- Aerial photograph boundaries AutoDesk Standards 1 Color Line Weight Symbol AutoDesk Standards 1 Continuous 1 MM User Defined Information Assurance Confidential 7 User Defined Level Confidential FGDC ImageArea Equivalent Standards FGDC ImageArea Extension FGDC ImageArea SDSFIE Image_area Documentation and Submission Requirements No documentation is required for this feature. Dota Capture Rules: Boundary of aerial imagery. Monumentation No monumentation required. Vertical Survey Point Location N/A N/A N/A Accuracy of the imagery N/A N/A Resolution N/A N/A N/A Feature Attributes N/A N/A N/A Monumentation (VARCHAR2 (50)) Name of the feature. N/	Definition: The image footprin		area.			
Feature Type Polygon CADD Standard Requirements Description Layer/Level Description V-AERI-BNDY- Aerial photograph boundaries AutoDesk Standards 1 Color Linetype Line Weight Symbol AutoDesk Standards 1 Continuous 1 MM User Defined Information Assurance Confidential TmageArea Extension Equivalent Standards AIXM ImageArea Extension FGDC ImageArea Extension Stantarea Documentation and Submission Requirements No documentation is required for this feature. No documentation required. Related Features Dotat Capture Rules: Boundary of aerial imagery. Monumentation No monumentation required. Survey Point Location No monumentation required. V/A N/A Resolution Geographic Coordinates Distances and Elevations N/A N/A N/A N/A Attribute (Datatype) Description A description or other unique information concerning the subject item, limited to 255 characters. S		v				
CADD Standard Requirements Layer/Level Description V-AERI-BNDY- Aerial photograph boundaries Color Line Weight Symbol AutoDesk Standards 1 Continuous 1 MM Symbol AutoDesk Standards 3 Continuous 7 User Defined Information Assurance Level Confidential ImageArea Extension Equivalent Standards AIXM ImageArea Extension FGDC ImageArea Extension Submission Requirements No documentation is required for this feature. No documentation required. Related Features No monumentation required. V/A N/A Survey Point Location N/A N/A N/A Accuracy Requirements (in feet) Geographic Coordinates Distances and Elevations N/A N/A N/A N/A Resolution Name of the feature. Description Mame of the feature. A description or other unique information concerning the subject item, limited to 255 characters. Status (Enumeration: codeStatus) A description or other oral description of the operational status of the feature.	Feature Class Name	ImageArea				
Layer/Level Description V-AERI-BNDY- Aerial photograph boundaries AutoDesk Standards 1 Line Weight Symbol MicroStation Standards 1 Continuous 1 MM User Defined Information Assurance Level Confidential 7 User Defined FGDC ImageArea Extension Extension FGDC Image_area SDSFIE Image_area Documentation and Submission Requirements No documentation is required for this feature. Vertical Related Features No documentation required. Vertical Vertical Survey Point Location No monumentation required. V/A N/A Resolution N/A N/A N/A Resolution Accuracy of the imagery N/A N/A MAR N/A N/A N/A N/A Resolution Geographic Coordinates Distances and Elevations N/A MAR N/A N/A N/A N/A N/A Attribute (Datatype) Description	Feature Type					
V-AERI-BNDY- Aerial photograph boundaries Color Linetype Line Weight Symbol AutoDesk Standards 1 Continuous 1 MM User Defined MicroStation Standards 3 Continuous 7 User Defined Information Assurance Level Confidential 7 User Defined Equivalent Standards AIXM ImageArea Extension FGDC ImageArea Extension Extension Bocumentation and Submission Requirements No documentation is required for this feature. No No Related Features Dotation required. No monumentation required. No Survey Point Location No monumentation required. N/A N/A Accuracy Requirements (in feet) Horizontal Vertical N/A Resolution Accuracy of the imagery N/A N/A Kesolution N/A N/A N/A Kesolution Mame of the feature. A description or other unique information concerning the subject item, limited to 255 characters. A description or other unique information concerning the subject item, limited to 255 characters. Status (Enumeration: codeSt	CADD Standard Requiremen	its				
ColorLinetypeLine WeightSymbolAutoDesk Standards1Continuous1 MMUser DefinedMicroStation Standards3Continuous7User DefinedInformation Assurance LevelConfidential7User DefinedEquivalent StandardsAIXMImageAreaExtensionFGDCImageAreaExtensionSDSFIEImage_areaSDSFIEDocumentation and Submission RequirementsNo documentation is required for this feature.Related FeaturesImageareaData Capture Rules:Boundary of aerial imagery.MonumentationNo monumentation required.Survey Point LocationN/AAccuracy Requirements (in feet)HorizontalAccuracy of the imageryN/AN/AN/AResolutionGeographic CoordinatesN/AN/AFeature AttributesN/AAttribute (Datatype) name (VARCHAR2 (250))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Layer/Level		Descr	iption		
AutoDesk Standards 1 Continuous 1 MM User Defined MicroStation Standards 3 7 User Defined Information Assurance Level Confidential 7 User Defined Equivalent Standards Confidential 7 User Defined Equivalent Standards AIXM ImageArea Extension FGDC ImageArea Extension Extension Submission Requirements No documentation is required for this feature. Extension Related Features No documentation required. Survey Point Location No monumentation required. Accuracy Requirements (in feet) Horizontal Vertical Resolution N/A N/A N/A Resolution N/A N/A N/A name (VARCHAR2 (50)) Name of the feature. name (VARCHAR2 (250)) A description or other unique information concerning the subject item, limited to 255 characters. status (Enumeration: codeStatus	V-AERI-BNDY-		Aerial photogra			
MicroStation Standards 3 Continuous 7 User Defined Information Assurance Level Confidential 7 User Defined Equivalent Standards Confidential Extension Extension Equivalent Standards AIXM ImageArea Extension Documentation and Submission Requirements No documentation is required for this feature. Extension Data Capture Rules: Boundary of aerial imagery. No monumentation required. Vertical Survey Point Location No monumentation required. N/A Accuracy Requirements (in feet) Horizontal Vertical Accuracy of the imagery N/A N/A Resolution N/A N/A Resolution N/A N/A Attribute (Datatype) A description or other unique information concerning the subject item, limited to 255 characters. status (Enumeration: codeStatus) A temporal description of the operational status of the feature. This attribute is used to describe real-time status. frameId (String 20) Image identification number of the covered area. photoDate (Date) Date the aerial photography was flown. Format for date is <th></th> <th>Color</th> <th>Linetype</th> <th>Line Weight</th> <th>Symbol</th>		Color	Linetype	Line Weight	Symbol	
MicroStation Standards 3 7 Information Assurance Level Confidential Confidential Equivalent Standards FGDC ImageArea Extension FGDC ImageArea Extension Documentation and Submission Requirements No documentation is required for this feature. Extension Related Features No documentation required. Image_area Image_area Monumentation No monumentation required. Image_area Image_area Survey Point Location No monumentation required. Image_area Image_area Survey Point Location No monumentation required. Image_area Image_area Accuracy Requirements (in feet) Horizontal Vertical Image_area Resolution N/A N/A N/A N/A Resolution N/A N/A N/A Image_area Matribute (Datatype) Name of the feature. Image identification or other unique information concerning the subject item, limited to 255 characters. Image identification number of the covered area. frameId (String 20) Image identification number of the covered area. This attribute is used to describe real-time status.		1	Continuous	1 MM	User Defined	
Level Confidential Equivalent Standards AIXM ImageArea Extension FGDC ImageArea Extension Documentation and Submission Requirements No documentation is required for this feature. Image_area Data Capture Rules: Boundary of aerial imagery. No monumentation required. Image Area Monumentation No monumentation required. Image Area Survey Point Location No monumentation required. Image Area Accuracy Requirements (in feet) Horizontal Vertical Accuracy of the imagery N/A N/A Resolution Accuracy of the imagery N/A N/A Resolution Accuracy of the imagery N/A N/A Feature Attributes N/A N/A N/A Attribute (Datatype) Description N/A N/A name (VARCHAR2 (50)) Name of the feature. A temporal description or other unique information concerning the subject item, limited to 255 characters. Subject item, limited to 255 characters. status (Enumeration: codeStatus) A temporal description of the operational status of the feature. This attribute is used to describe real-time status. frameId (3	Continuous	7	User Denned	
Equivalent Standards FGDC ImageArea SDSFIE Image_area Documentation and Submission Requirements No documentation is required for this feature. Related Features		Confidential	1			
SDSFIE Image_area Documentation and Submission Requirements No documentation is required for this feature. Related Features No monumentation required. Data Capture Rules: Boundary of aerial imagery. Monumentation Monumentation No monumentation required. Survey Point Location Horizontal Vertical Accuracy Requirements (in feet) Horizontal Vertical Resolution Accuracy of the imagery N/A N/A Feature Attributes Orthometric Ellipsoidal Attribute (Datatype) Description name (VARCHAR2 (50)) Name of the feature. description or other unique information concerning the subject item, limited to 255 characters. status (Enumeration: codeStatus) A temporal description of the operational status of the feature. This attribute is used to describe real-time status. frameId (String 20) Image identification number of the covered area. photoDate (Date) Date the aerial photography was flown. Format for date is			ImageArea		Extension	
Documentation and Submission Requirements No documentation is required for this feature. Related Features No documentation is required for this feature. Data Capture Rules: Boundary of aerial imagery. Monumentation Monumentation No monumentation required. Survey Point Location Horizontal Vertical Accuracy Requirements (in feet) Horizontal Vertical Accuracy of the imagery N/A N/A Resolution Geographic Coordinates Distances and Elevations N/A N/A N/A Resolution N/A N/A Attribute (Datatype) Description name (VARCHAR2 (50)) Name of the feature. description (VARCHAR2 (255)) A description or other unique information concerning the subject item, limited to 255 characters. status (Enumeration: codeStatus) A temporal description of the operational status of the feature. This attribute is used to describe real-time status. frameld (String 20) Image identification number of the covered area. photoDate (Date) Date the aerial photography was flown. Format for date is	Equivalent Standards	FGDC	ImageArea			
Submission Requirements No documentation is required for this feature. Related Features Data Capture Rules: Boundary of aerial imagery. Monumentation No monumentation required. Survey Point Location Horizontal Vertical Accuracy Requirements (in feet) Horizontal Vertical Accuracy Requirements (in feet) Accuracy of the imagery N/A N/A Resolution Geographic Coordinates Distances and Elevations N/A N/A N/A Resolution Name of the feature. Accuracy for the imagery N/A N/A Survey Point Coation Accuracy of the imagery N/A N/A N/A Accuracy Requirements (in feet) Accuracy of the imagery N/A N/A Accuracy of the imagery N/A N/A N/A Resolution Geographic Coordinates Distances and Elevations N/A Iname (VARCHAR2 (50)) Name of the feature. A description or other unique information concerning the subject item, limited to 255 characters. A temporal description of the operational status of the feature. This attribute is used to describe real-time status.		SDSFIE	Image_area			
Data Capture Rules: Boundary of aerial imagery. Monumentation No monumentation required. Survey Point Location Horizontal Vertical Accuracy Requirements (in feet) Horizontal Vertical Accuracy Requirements (in feet) Accuracy of the imagery N/A N/A Resolution Accuracy of the imagery N/A N/A Resolution Mame of the feature. Distances and Elevations Attribute (Datatype) N/A N/A name (VARCHAR2 (50)) Name of the feature. A description or other unique information concerning the subject item, limited to 255 characters. status (Enumeration: codeStatus) A temporal description of the operational status of the feature. This attribute is used to describe real-time status. frameId (String 20) Image identification number of the covered area. Date the aerial photography was flown. Format for date is		No documentation is required for this feature.				
MonumentationNo monumentation required.Survey Point LocationHorizontalVerticalAccuracy Requirements (in feet)HorizontalOrthometricEllipsoidalAccuracy of the imageryN/AN/AN/AResolutionGeographic CoordinatesDistances and ElevationsResolutionN/AN/AN/AFeature AttributesN/AN/AAttribute (Datatype)Name of the feature.Image identification or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Related Features					
MonumentationNo monumentation required.Survey Point LocationHorizontalVerticalAccuracy Requirements (in feet)HorizontalOrthometricEllipsoidalAccuracy of the imageryN/AN/AN/AResolutionGeographic CoordinatesDistances and ElevationsResolutionN/AN/AN/AFeature AttributesN/AN/AAttribute (Datatype)Name of the feature.Image identification or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Data Capture Rules: Bounda	ry of aerial im	nagery.			
Survey Point LocationN/AN/AAccuracy Requirements (in feet)HorizontalVerticalAccuracy of the imageryN/AN/AResolutionGeographic CoordinatesDistances and ElevationsN/AN/AN/AFeature AttributesN/AN/AAttribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Monumentation					
Accuracy Requirements (in feet)N/AN/AAccuracy of the imageryN/ASecond and and and and and and and and and a	Survey Doint Logation]	Horizontal	Vertical		
Accuracy Requirements (in feet)HorizontalOrthometricEllipsoidalAccuracy of the imageryN/AN/AResolutionGeographic CoordinatesDistances and ElevationsN/AN/AN/AFeature AttributesN/AN/AAttribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Survey I onit Location		N/A			
feet)Accuracy of the imageryN/AN/AResolutionGeographic CoordinatesDistances and ElevationsN/AN/AN/AFeature AttributesN/AN/AAttribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (50))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	A courses Dequirements (in	Horizontal		Vertical		
Accuracy of the imageryN/AN/AResolutionGeographic CoordinatesDistances and ElevationsN/AN/AN/AFeature AttributesN/AN/AMattribute (Datatype)name (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	· · ·			Orthometric	Ellipsoidal	
ResolutionN/AFeature AttributesN/AAttribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is		Accura	acy of the imagery	N/A	N/A	
N/AN/AFeature AttributesDescriptionAttribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Resolution	Geogra	phic Coordinates	Distances and Elevations		
Attribute (Datatype)Descriptionname (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is			N/A	N/A		
name (VARCHAR2 (50))Name of the feature.description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Feature Attributes					
description (VARCHAR2 (255))A description or other unique information concerning the subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	Attribute (Datatype)	Description				
subject item, limited to 255 characters.status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is		Name of the feature.				
status (Enumeration: codeStatus)A temporal description of the operational status of the feature. This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	description (VARCHAR2 (255					
This attribute is used to describe real-time status.frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is	status (Enumeration: codeStatu	5	5			
frameId (String 20)Image identification number of the covered area.photoDate (Date)Date the aerial photography was flown. Format for date is						
photoDate (Date) Date the aerial photography was flown. Format for date is	frameId (String 20)					
		ě				
YYYYMMDD (i.e. September 15, 1994 = 19940915)	YYYYMMDD (i.e. September 15, 1994 = 19940915)					

userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used t store the subject item's data.	
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.	

5.9. Group: MAN MADE STRUCTURES

5.9.1. Building

Definition: A three-dimensional structure (i.e. hangars, terminals, etc.) modeled with a bounding polygon.

Feature Group	Manmade Structures			
Feature Class Name	Building			
Feature Type	Polygon			
CADD Standard Requirem	ents			
Layer/Level		De	scription	
A-ELEV-OTLN-	Building outline	es		
C-BLDG-OTLN-	Buildings and c	other structures		
G-PLAN-OTLN-	Floor outline/pe	erimeter/building	footprint	
H-BLDG-OTLN-	Command posts	s, information cen	ters	
M-ELEV-OTLN-	Building outline	es		
V-BLDG-OTLN-	Buildings and c	other structures		
	~ •	- • ·		a b b
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	Color 2		1 MM	•
AutoDesk Standards MicroStation Standards		Continuous		User Defined
	2			•
MicroStation Standards Information Assurance	2 4			•
MicroStation Standards Information Assurance	2 4 Restricted	Continuous		User Defined
MicroStation Standards Information Assurance Level	2 4 Restricted AIXM	Continuous Building	1 MM 7	User Defined
MicroStation Standards Information Assurance Level	2 4 Restricted AIXM FGDC	Continuous Building Building	1 MM 7	User Defined

Data Capture Rules: Determine the terminal building complex, hangars, maintenance facilities, and other prominent buildings directly associated with aircraft operations and directly connected to the apron as individual polygon objects. Collect by field survey methods recently constructed and/or completed buildings not visible on imagery and meeting the above criteria. Extract the building outline feature as the footprint of the building at ground level. Determine the height at the highest point of the corresponding building. The AGL height of the polygon is determined as the difference between the base elevation and top elevation on the roof.

NOTE: If the building penetrates an OIS or is selected as a representative object, additionally identify, classify and document the building as an <u>ObstructionArea</u> and associated accuracy.

BUILDING BUILDING APRON TAXIWAY GUIDANCE LINE						
		$\mathbf{V} \setminus \mathbf{V}$	APRON			
		es the collection of airport	buildings.			
Monumentation	No mo	numentation required. Horizontal	V	Vertical		
Survey Point Location		N/A	N/A			
				ertical		
Accuracy Requirements (in feet)		Horizontal	Orthometric	Ellipsoidal		
(m leet)		± 3 ft	± 5 ft	N/A		
Resolution		ographic Coordinates	Distances and Elevations			
	Hu	indredth of arc second	Nearest foot			
Feature Attributes		Γ				
Attribute (Datatype)			Description			
name (VARCHAR2 (50))		Name of the feature.				
description (VARCHAR2 (25	5))	A description or other unit	·	oncerning the		
		subject item, limited to 255 characters. The code indicating the number of the building.				
buildingNumber (String 16)			umber of the build	ing.		
structureType	Trucal	The type of structure.				
(Enumeration: CodeStructure		This value differentieter	tructure antitica 1	y operational status		
status (Enumeration: codeStat	.us)	This value differentiates s Number of persons currer				
numberOfCurrentOccupants		number of persons curren	iny occupying the	suucture		
areaInside (Real)	(Integer) areaInside (Real) Total inside area of structure					
areaniside (Real) Total hiside area of structure structureHeight (Real) Maximum height of structure; i.e. AGL height						
structureHeight (Real)Maximum height of structure; i.e. AGL heightareaFloor (Real)Total inside floor area						
lightingTypeA description of the lighting system.(Enumeration:						
codeLightingConfigurationTy	(ne)					
markingfeatureType	r~)	The color of the marking	(\mathbf{s})			
(Enumeration:			~/			
codeMarkingFeatureType)						
		I				

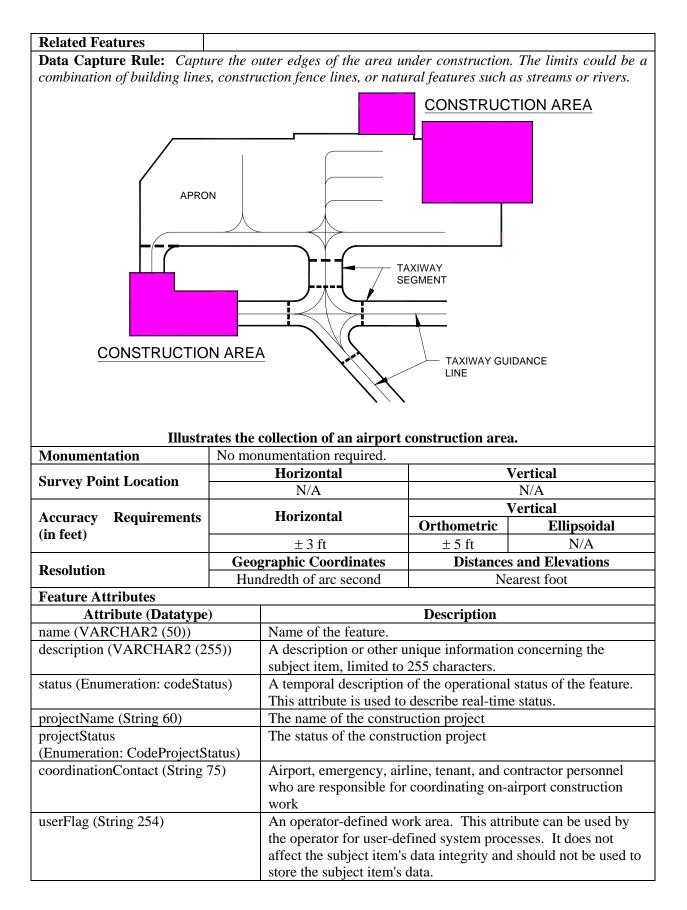
color	The type of the marking(s)
(Enumeration: codeColor)	
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.9.2. Construction Area

Definition: A defined area that is under construction, not intended for active use until authorized by the concerned authority. The area defines a boundary for personnel, material, and equipment engaged in the construction activity.

Feature Group	Manmade Structur	2 00	
Feature Class Name	ConstructionArea	.05	
Feature Type	Polygon		
CADD Standard Requ			
Layer/Level	Description	Layer/Level	Description
A-STAT-DEMO-	Demolition	L-STAT-FUTR-	Future work
A-STAT-DEMO- PHS1	Demolition - phase 1	L-STAT-NEWW-	New work
A-STAT-DEMO- PHS2	Demolition - phase 2	L-STAT-TEMP-	Temporary work
A-STAT-DEMO- PHS3	Demolition - phase 3	M-STAT-DEMO-	Demolition
A-STAT-FUTR-	Future work	M-STAT-DEMO- PHS1	Demolition - phase 1
A-STAT-NEWW-	New work	M-STAT-DEMO- PHS2	Demolition - phase 2
A-STAT-TEMP-	Temporary work	M-STAT-DEMO- PHS3	Demolition - phase 3
C-PROP-CONS-	Construction limits/controls, staging area	M-STAT-FUTR-	Future work
C-STAT-DEMO-	Demolition	M-STAT-NEWW-	New work
C-STAT-DEMO- PHS1	Demolition - phase 1	M-STAT-TEMP-	Temporary work
C-STAT-DEMO- PHS2	Demolition - phase 2	P-FUEL-NGAS-	Natural gas piping
C-STAT-DEMO- PHS3	Demolition - phase 3	P-STAT-DEMO-	Demolition
C-STAT-FUTR-	Future work	P-STAT-DEMO- PHS1	Demolition - phase 1
C-STAT-NEWW-	New work	P-STAT-DEMO- PHS2	Demolition - phase 2
C-STAT-TEMP-	Temporary work	P-STAT-DEMO- PHS3	Demolition - phase 3
E-STAT-DEMO- PHS1	Demolition - phase 1	P-STAT-FUTR-	Future work

Documentation and Submission Requirements		None				
Decumentation and		SDSFIE	structure_existing_sit	te		
Equivalent Standards		FGDC	ConstructionArea		Exten	ision
		AIXM	ConstructionArea		Exten	
Level		Restricted				
Information Assurance					1	1
MicroStation Standards	·de	4	Continuous		7	User Defined
AutoDesk Standards		161	Linetype		e Weight I MM	ľ.
PHS3		Color		Lind	Wojaht	Symbol
L-STAT-DEMO-	De	molition - phase 3				
PHS2	De	molition - phase 2	V-STAT-TEMP-	,	Temporary	work
PHS1 L-STAT-DEMO-						
L-STAT-DEMO-		molition - phase 1	V-STAT-NEWW-	.]	New work	
L-STAT-DEMO-	cor der in 1	molition (NOTE: nprehensive nolition is handled Model File Type: molition Plan)	<i>t</i> V-STAT-FUTR-]	Future work	
H-STAT-DEMO- PHS3		molition - phase 3	V-STAT-DEMO-		Demolition (NOTE: comprehensive demolition is handled in Model File Type: Demolition Plan)	
H-STAT-DEMO- PHS2	De	molition - phase 2	T-STAT-DEMO- PHS3		Demolition - phase 3	
H-STAT-DEMO- PHS1	De	molition - phase 1	T-STAT-DEMO- PHS2		Demolition - phase 2	
G-SITE-OTLN-	Sit	e plan - key map	T-STAT-DEMO- PHS1]	Demolition	1 - phase 1
F-STAT-TEMP-	Te	mporary work	S-STAT-TEMP-	,	Temporary	work
F-STAT-NEWW-		w work	S-STAT-NEWW-		New work	
F-STAT-FUTR-	Fu	ture work	S-STAT-FUTR-]	Future wor	k
F-STAT-DEMO- PHS3	De	molition - phase 3	S-STAT-DEMO-]	Demolition	ı - phase 3
F-STAT-DEMO- PHS2	De	molition - phase 2	S STAT DEMO]	Demolition	ı - phase 2
F-STAT-DEMO- PHS1		molition - phase 1	S-STAT-DEMO- PHS1]	Demolition	ı - phase 1
F-STAT-DEMO-	con den in 1	molition (NOTE: nprehensive nolition is handled Model File Type: molition Plan)	d S-STAT-DEMO-]	Demolition	ı
E-STAT-DEMO- PHS3	De	molition - phase 3	P-STAT-TEMP-	,	Temporary	work
E-STAT-DEMO- PHS2	De	molition - phase 2	P-STAT-NEWW-]	New work	



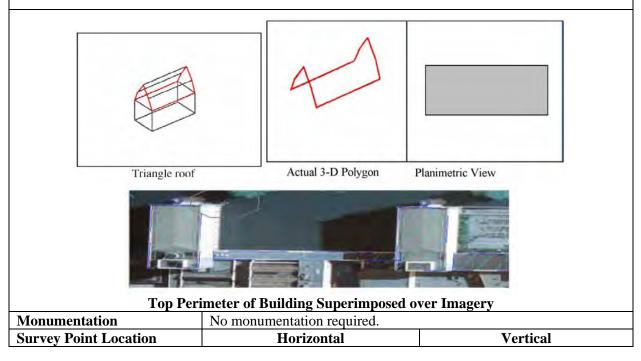
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.9.3. Roof

5.7.5. KUUI					
Definition: Structure on top of buildings, garages and other similar structures.					
Feature Group	Manmade Structu	ires			
Feature Class Name	Roof				
Feature Type	Polygon				
CADD Standard Requireme	ents				
Layer/Level		Descri	ption		
A-ROOF-OTLN	Roof outline				
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	5	Continuous	1 MM	User Defined	
MicroStation Standards	1	Continuous	7	User Dernieu	
Information Assurance	Restricted				
Level	1000000				
	AIXM	None			
Equivalent Standards	FGDC None				
	SDSFIE	None			
Documentation and					
Submission Requirements	None				
Related Features					

Data Capture Rules: Collect the roof outline to represent the outer edge of the roof as well as the break line or ridge lines of a sloped or multiple level roof. On flat roofs with elevator shafts or large HVAC units on the roof collect these items at the top of the units and shown as a roof within a roof feature.

NOTE: If the roof penetrates an OIS or is selected as a representative object, additionally identify, classify and document the roof as an <u>ObstructionArea</u> and associated accuracy.



	N/A	/A			
A commo ou De continent anta (in	Horizontal	Ver	tical		
Accuracy Requirements (in	Horizontai	Orthometric	Ellipsoidal		
feet)	± 3 ft	± 5 ft Distances ar	N/A		
Resolution	Geographic Coordinates	Distances an	d Elevations		
Resolution	Hundredth of arc second	Neare	st foot		
Feature Attributes					
Attribute (Datatype)	D	escription			
name (VARCHAR2 (50))	Name of the feature.				
description (VARCHAR2 (255))	Description of the feature.				
status (Enumeration: codeStatus)	A temporal description of th	A temporal description of the operational status of the feature.			
	This attribute is used to desc	ribe real-time statu	s.		
buildingNumber (String 16)	The code indicating the num	ber of the building			
userFlag (String 254)	An operator-defined work as	rea. This attribute of	can be used by		
		the operator for user-defined system processes. It does not			
	affect the subject item's data	affect the subject item's data integrity and should not be used to			
	store the subject item's data.				
Alternative (Number(2))Discriminator used to tie features of a			roposal together		
	into a version.	into a version.			

5.9.4. Fence

Definition: Any fencing (chain	n-link, razor wire	e, PVC, etc.) [Source	: FAA]			
Feature Group	Manmade Stru	ictures				
Feature Class Name	Fence					
Feature Type	Line					
CADD Standard Requirement	nts					
Layer/Level		Descr	ription			
C-DETL-FENC-	Fencing					
C-SITE-FENC-	Fences and ha	ndrails				
L-DETL-FENC-	Fencing					
L-SITE-FENC-	Fencing					
S-SAFE-FENC-	Fencing					
V-SITE-FENC-	Fences and ha	ndrails				
C-SECU-FENC-	Security fenci	ng				
	Color	Line type	Line Weight	Symbol		
AutoDesk Standards	5	Continuous	1 MM	User Defined		
MicroStation Standards	1	Continuous	7	User Denned		
Information Assurance Level	Restricted					
	AIXM	Fence		Extension		
Equivalent Standards	FGDC	Fence		Extension		
	SDSFIE					
Documentation and Submission Requirements	No documentation is required.					
Related Features						
	line along fence					

NOTE: If the fence penetrates an OIS or is selected as a representative object, additionally identify, classify and document the fence as an <u>Obstacle</u> and associated accuracy.

Monumentation	No monumentation required.					
Survey Doint Legation	Horizontal	Vertical				
Survey Point Location	N/A	N	/A			
A course av Beguinements (in	Horizontal	Ver	tical			
Accuracy Requirements (in feet)	Horizontai	Orthometric	Ellipsoidal			
leet)	± 3 ft	± 5 ft	N/A			
Resolution	Geographic Coordinates	Distances an	d Elevations			
	Hundredth of arc second	Neare	st foot			
Feature Attributes						
Attribute (Datatype)	Des	scription				
name (VARCHAR2 (50))	Name of the feature.					
description (VARCHAR2 (255))	A description or other unique	A description or other unique information concerning the				
	subject item, limited to 255 c	haracters.				
status (Enumeration: codeStatus)		A temporal description of the operational status of the feature.				
	This attribute is used to descr	ibe real-time status	5.			
type (String 16)	Indicate the fencing material	used.				
height (Real)	The overall distance from the	The overall distance from the surface of the ground to the top of				
	the fence.					
userFlag (String 254)	An operator-defined work area. This attribute can be used by					
	the operator for user-defined	system processes.	It does not affect			
		the subject item's data integrity and should not be used to store				
	the subject item's data.	the subject item's data.				
Alternative (Number(2))	Discriminator used to tie feat	ures of a plan or pr	oposal together			
	into a version.					

5.9.5. Gate

Definition: A gate is an openin	g in a fence or oth	er type of harrier h	etween areas	
Feature Group	Manmade Structures			
Feature Class Name	Gate			
Feature Type	Line			
CADD Standard Requiremen	its			
Layer/Level		Descr	iption	
L-DETL-GATE-	Gate			
L-SITE-GATE-	Gate			
C-SITE-GATE-	Gates along fenc	es or other barriers	intended to restric	ct access
	Color Linetype Line Weight Symbol			
AutoDesk Standards	214	Continuous	1 MM	User Defined
MicroStation Standards	5	Continuous	7	User Defined
Information Assurance Level	Restricted			
	AIXM	GateLine		Extension
Equivalent Standards	FGDCGateLineExtension			
	SDSFIE	gate_line		
Documentation and Submission Requirements	None			
Related Features				

Data Capture Rules: Collect of	center of gate from post-to-post.				
	an OIS or is selected as a represe	0	tionally identify,		
	as an <u>Obstacle</u> and associated accu	racy.			
Monumentation	No monumentation required.	1			
Survey Point Location	Horizontal	Vert	ical		
Survey I onte Elocation	N/A	N/.	A		
A aguna ay Daguinamanta (in	Horizontal	Vert	ical		
Accuracy Requirements (in feet)	Horizontai	Orthometric	Ellipsoidal		
leet)	± 3 ft	± 5 ft	N/A		
Resolution	Geographic Coordinates	Distances and	d Elevations		
Resolution	Hundredth of arc second	Neares	st foot		
Feature Attributes					
Attribute (Datatype)	De	escription			
name (VARCHAR2 (50))	Name, code or identifier use	d to identify the gat	e.		
description (VARCHAR2 (255))) A description or other uniqu	A description or other unique information concerning the			
	subject item, limited to 240	subject item, limited to 240 characters.			
status (Enumeration: codeStatus	s) A temporal description of th	A temporal description of the operational status of the feature.			
	This attribute is used to desc	ribe real-time status	5.		
type (VARCHAR2 (50))	The gate material and metho	d of construction.			
length (Real)	The overall distance from or	ne end of the gate to	the other.		
height (Real)	The overall distance from th	e surface of the top	of the gate.		
attended (Boolean)	A Boolean indicating wheth	A Boolean indicating whether the gate is tended by a guard or			
	other individual.				
userFlag (String 254)	An operator-defined work an	An operator-defined work area. This attribute can be used by			
	the operator for user-defined	the operator for user-defined system processes. It does not affect			
	-	the subject item's data integrity and should not be used to store			
	the subject item's data.				
Alternative (Number(2))	Discriminator used to tie fea	Discriminator used to tie features of a plan or proposal together			
	into a version.		-		

5.9.6. Tower

Definition: A structure created, by man, to facilitate an activity at an elevated level above the ground.						
Feature Group	Manmade Struct	Manmade Structures				
Feature Class Name	Tower					
Feature Type	Point					
CADD Standard Requiremen	its					
Layer/Level		Descr	iption			
C-STRC-TOWR-	Tower					
E-POLE-GUYS-	Guy equipment	Guy equipment				
V-POLE-GUYS-	Guy equipment					
V-STRC-TOWR-	Tower	Tower				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	7	Continuous	1	Lloon Dofined		
MicroStation Standards	0	0 Continuous 7 User Defined				
Information Assurance	on Assurance Destricted					
Level	Restricted					
Equivalent Standards	AIXM	VerticalStructure	2	Extension		
	FGDC	Tower		Extension		

	SDSFIE	tower_site
Documentation and Submission Requirements	No documentatio	on is required.
Related Features		-
Data Capture Rules: Collect	the point at the hig	hest location of the tower. When surveying guyed

Data Capture Rules: Collect the point at the highest location of the tower. When surveying guyed structures, capture any guys penetrating a surface separately from the structure itself. Determine and document the point where the guy wires penetrate the OIS at a distance greater than 100 feet from the actual structure, identify it as a separate point object.

	Monumentation	No monumentation required
ļ	classify and document the towe	r as an Obstacle and associated accuracy.
	NOTE: If the tower penetrates	an OIS or is selected as a representative object, additionally identify,

Monumentation	No r	monumentation required.			
Survey Point Location	Horizontal Vertical		ical		
Survey Fount Location	N/A		N/A		
		Horizontal	Vertical		
Accuracy Requirements (in feet)		Horizontai	Orthometric	Ellipsoidal	
leet)		± 3 ft	± 5 ft	N/A	
Resolution	(Geographic Coordinates	Distances and Elevations		
Resolution		Hundredth of arc second	Neares	st foot	
Feature Attributes					
Attribute (Datatype)		De	scription		
name (VARCHAR2 (50))		Name of the feature.			
description (VARCHAR2 (255)))	Description of the feature.			
status (Enumeration: codeStatus	s)	A temporal description of the	operational status	of the feature.	
		This attribute is used to descr	ibe real-time status	5.	
verticalStructureMaterial		Classifies the predominant material of the vertical object			
(Enumeration:					
CodeVerticalStructureMaterial))				
lightCode (Boolean)		A code indicating that the toy			
lightingType		A description of the lighting	system. Lighting sy	stem	
(Enumeration:		classifications are Approach;	Airport; Runway;	Taxiway; and	
codeLightingConfigurationTyp	e)	Obstruction			
markingFeatureType (Enumera	tion:	The type of the marking(s)			
codeMarkingFeatureType)					
color		The color of the marking(s)			
(Enumeration: codeColor)					
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not affect			
		the subject item's data integri	ty and should not b	be used to store	
	the subject item's data.				
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
		into a version.			
structureHeight (Real)		Maximum height of structure	; i.e. AGL height		

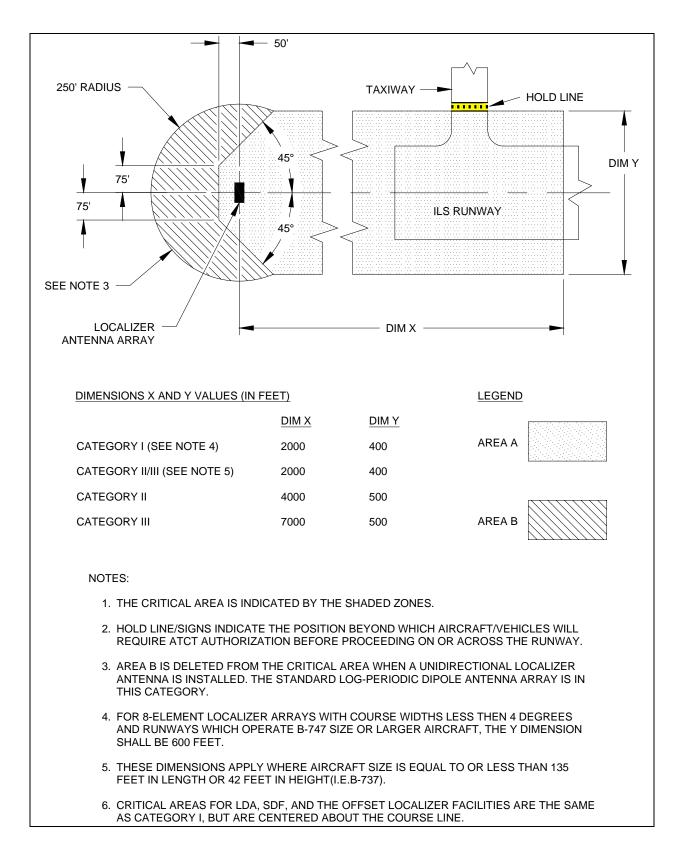
5.10. Group: NAVIGATIONAL AIDS

All of the different navigational aids are represented using a single feature type. To assist the data producer in identifying the different aids, each individual navigational aids is defined separately even though they are all represented by the single feature type NavigationalAidEquipment. Accuracies differ for many navigational aids. Be sure to collect the navigational aid within the accuracy stated in each navigational aid table.

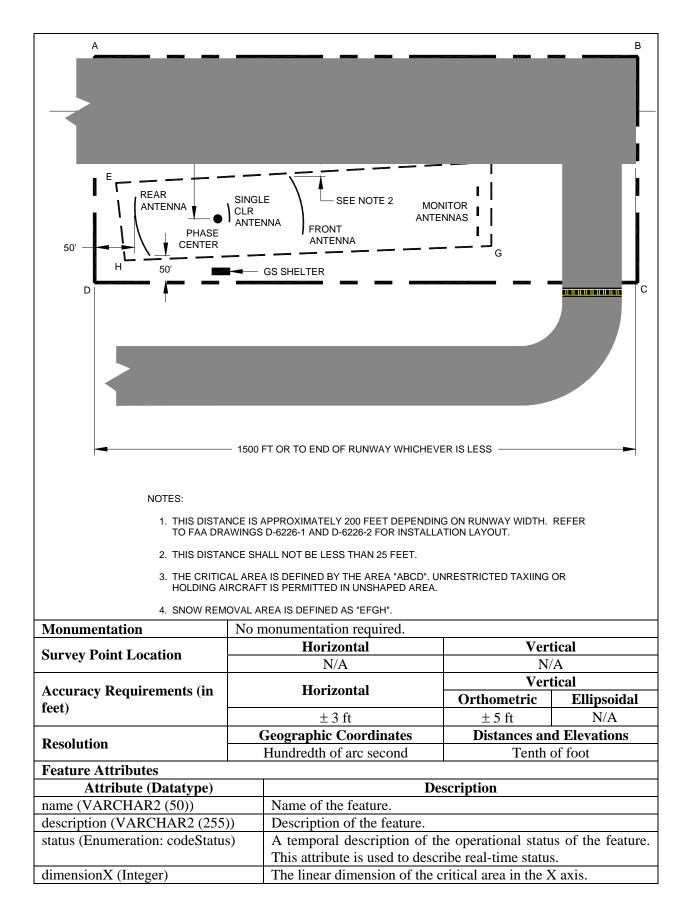
	•			
Definition: A zone encompass	ing a specific grou	nd area in the vicin	ity of a radiating ar	itenna array
which must be protected from parking and unlimited movement of surface and air traffic. The				
drawings included in this table	are representative,	be sure to refer to	the official source t	o ensure the
appropriate area is protected. [Source: FAA Orde	er 6750.16C]		
Feature Group	NavigationalAid	S		
Feature Class Name	NavaidCriticalA	rea		
Feature Type	Polygon			
CADD Standard Requiremen	nts			
Layer/Level		Descr	iption	
C-AIRF-AIDS-CRIT	A	irfield Navigationa	al Aid - Critical Are	a
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance	Restricted			
Level	Restricted			
	AIXM	ObstacleAssessm	nentAreaExtension	Extension
Equivalent Standards	FGDC	NavigationalAid	CriticalArea	Extension
	SDSFIE	airfield_buffer_z	one_area	
Documentation and	None			
Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	a closed polygon e	encompassing the g	reatest horizontal e	xtents of the
critical area for the NAVAID.	Critical areas are	normally associate	ed with the localizer	, glideslope,
MLS azimuth, MLS elevation, a	and Precision Appr	oach Radars. If ne	ecessary, identify th	e area using

5.10.1. NAVAID Critical Area

MLS azimuth, MLS elevation, and Precision Approach Radars. If necessary, identify the area using multiple polygons. Adjacent polygons must have shared edges and vertices and must not overlap polygons of the same feature.



ILS RUI	NWAY —				►
L E 200' TO 50' - GS ANTENNA MAST DIM Y K H	DIM	X			G
NOTES:					
1. THE CRITICAL AREA IS DEFINED BY THE PEN	ITAGON "E	FGHJ".			
2. ALL AIRCRAFT MAY BE PARKED AS CLOSE A DIRECTIONAL ANTENNAS AS DEFINED BY LIN		IND A GLIDE	SLOPE MAST	WITH	
3. FACILITY TYPE	CATEG DIM X	<u>ORY I</u> <u>DIM Y</u>	CATEGO DIM X	<u>ORY II/III</u> <u>DIM Y</u>	
ALL IMAGE GLIDE SLOPES SMALL AIRCRAFT •	800	100	800	100	
NULL REFERENCE MEDIUM AIRCRAFT •• LARGE AIRCRAFT •••	2000 3100	200 200	2500 3200	200 200	
SIDEBAND AND CAPTURE EFFECT MEDIUM AND LARGE AIRCRAFT ••/•••	1300	200	1300	200	
ALL DISTANCES ARE IN FEET AND REPRESENT THE MINIMUM ALLOWABLE DISTANCES FROM THE NEAREST POINT ON THE AIRCRAFT LONGITUDINAL AXIS (LINE FROM NOSE TO TAIL) TO THE GLIDE SLOPE ANTENNA, AS DEFINED IN FIGURE 1-3.					
 SMALL AIRCRAFT ARE DEFINED AS A 60' IN LENGTH AND 20' IN HEIGHT (I.E VEHICLES AND HELICOPTERS. 					
 MEDIUM AIRCRAFT ARE DEFINED AS 160' IN LENGTH AND 38' IN TAIL HEIG 	-		NSIONS LESS	S THAN	
••• LARGE AIRCRAFT ARE DEFINED AS A OR GREATER THAN 38' IN TAIL HEIG	-	GREATER T	HAN 160' IN L	ENGTH	
THE SMALL, MEDIUM AND LARGE AIR DIMENSIONS USED IN COMPUTER M TO THIS DOCUMENT ONLY.					



dimensionY (Integer)	The linear dimension of the critical area in the Y axis.			
userFlag (String 254)	An operator-defined work area. This attribute can be used by			
	the operator for user-defined system processes. It does not			
	affect the subject item's data integrity and should not be used to			
	store the subject item's data.			
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together			
	into a version.			

5.10.2. Navaid Equipment – Airport Beacon (APBN)

Definition: A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacons flash alternately white and green, but are differentiated from civil beacons by dual-peaked (two quick) white flashes between the green flashes.

green musiles:					
Feature Group	Navigational Aid	Navigational Aids			
Feature Class Name	NavaidEquipmen	NavaidEquipment			
Feature Type	Point				
CADD Standard Requireme	ents				
Layer/Level		Descr	iption		
C-AFLD-AIDS-	Airfield Navigat	ional Aid			
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	Continuous	7	User Denneu	
Information Assurance	Unclassified				
Level	Uliciassifieu				
	AIXM	NavaidEquipmentExtension Extension		Extension	
Equivalent Standards	FGDC	FGDC NavigationalAidEquipment			
	SDSFIE <i>navigational_aid_point</i>				
Documentation and	Document this fo	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Submission Requirements	Document uns to	eature as described	in paragraphs <u>1.5.</u>	<u>2</u> anu <u>1.5.5</u> .	
Related Features					
Data Capture Rules: Collec	t the horizontal an	d vertical positions	of the NAVAID us	sing the survey	
point identified below. If the N	AVAID penetrate.	s an OIS or is select	ted as a represente	ative object,	
additionally identify, classify a	and document the	NAVAID using the	OBSTACLE featur	e type and	
associated accuracy. When id	entifying a NAVAI	D as an obstacle, si	urvey the highest p	point on the entire	
structure as the top elevation	including appurter	nances.			
Monumentation	No monumentati	ion required.			
	Hori	izontal	Vertical		
Survey Point Location			The intersection	of the ground,	
Survey I onit Location	Center of cover	cover or axis of rotation gravel, concrete pad, or other base		pad, or other base	
	and plumb line through the HSP.			hrough the HSP.	

	Obstruction			
Accuracy Requirements (in	Horizontal	Ver Orthometric	tical Ellipsoidal	
feet)	± 5 ft	± 10 ft	N/A	
Resolution	Geographic Coordinates	Distances ar	nd Elevations	
	Hundredth of arc second	Nearest	one foot	
Feature Attributes		• .•		
Attribute (Datatype)		escription		
name (VARCHAR2 (50))	Name of the feature		1	
description (VARCHAR2 (255)) A description or other unique subject item, limited to 255		cerning the	
faaFacilityId (String 4) navaidEquipmentType	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42]			
(Enumeration: CodeNavaidEquipmentType)	Specifies the type of NAVA			
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	system. For example the loc up the Instrument landing s	Identifies the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System.		
useCode (Enumeration:	The code that represents the airspace structure in which the			
CodeUseCode) antennaToThresholdDistance (l	aeronautical navigational aiReal)The distance in feet that the threshold. Provide the distance	antenna is from th	-	

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the navigational
(Enumeration:	aid is offset from the runway. Determine the appropriate
CodeOffsetDirection)	direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and
	PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.3. Navaid Equipment – Air Route Surveillance Radar (ARSR) or Airport Surveillance Radar (ASR)

Definition: These radars are used to detect and display an aircraft's position while operating in the			
terminal area (ASR) and en route (ARSR) between terminal areas.			
Feature Group	e Group Navigational Aids		
Feature Class Name	Class Name NavaidEquipment		
Feature Type	Point		

CADD Standard Requirement	nts					
Layer/Level	Description					
C-AFLD-AIDS-	Airfield Navigat	ional Aid -				
	Color	Line Type	Line Weight	Symbol		
AutoDesk Standards	4	Continuous	1	User Defined		
MicroStation Standards	7	Continuous	7	User Defined		
Information Assurance	Unclassified					
Level		1				
	AIXM	NavaidEquipmen		Extension		
Equivalent Standards	FGDC	NavaidEquipmen		Extension		
	SDSFIE	navigational_aid	l_point			
Documentation and	Document this fe	eature as described	l in paragraphs <u>1.5</u>	.2 and 1.5.3.		
Submission Requirements			- r			
Related Features						
Data Capture Rules: Collect						
point identified below. If the NA						
additionally identify, classify an		-	-			
associated accuracy. When ide			urvey the highest p	point on the entire		
structure as the top elevation in						
Monumentation	No monumentati	•	**			
	Horiz	zontal		tical		
Survey Point Location	Center of cover or axis of		The intersection	0		
	rotation		gravel, concrete pad, or other base and plumb line through the HSP.			
Horizontal Survey Point						
	Vertical					
Accuracy Requirements (in	Horiz	zontal	Ver Orthometric	Ellipsoidal		
feet)	+ 1	0 ft	$\pm 20 \text{ ft}$	N/A		
		Coordinates		nd Elevations		
Resolution						
	Hundredth of arc second Nearest one foot		one loor			

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2 (50))	Name of the feature
description (VARCHAR2 (255))	A description or other unique information concerning the
	subject item, limited to 255 characters.
faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the
	identifier of the associated localizer. Do not enter the prefix "I"
	for ILS or "M" used with the MLS systems. Where more than
	one ASR is in operation at the same location or at an associated
	location, these equipments will be identified with the letters A,
	B, C, etc., following the identification (e.g., NQIB). The same
	applies to PAR identifiers. These alpha codes must be the same
	as those used to accomplish the daily flight log. For ARSR
	facilities, use "Z" plus the identifier of the controlling ARTCC
	or military installation. Light systems will use the airport
	identifier and runway number. [Source:FAA Order 8250-42]
navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	Identifies the newigetional aid equipment as part of an error 11
navigationalAidSystemType (Enumeration:	Identifies the navigational aid equipment as part of an overall
CodeNavaidSystemType)	system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth
CodervavaidSystem Type)	and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical
	runway end. This should be the same distance as the antenna to
	threshold distance unless the runway end the navigational aid
	serves has a displaced threshold. Provide this distance to the
	nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the navigational
(Enumeration:	aid is offset from the runway. Determine the appropriate
CodeOffsetDirection)	direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	A temperature of the event in the term of the first
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
owner (String 75)	This attribute is used to describe real-time status. The owner of the facility
owner (String 75) runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
TunwayEnutu (Sullig 5)	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and
	PAR.
L	

referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.4. Navaid Equipment – Approach Light System (ALS)

Definition: An airport lighting			landing aircraft by	radiating light
beams in a directional pattern th	•	•		
runway on final approach for la			r-Discharge Sequei	itial Flashing
Lights or Sequenced Flashing I				
Feature Group	Navigational Aid	ls		
Feature Class Name	NavaidEquipmen	nt		
Feature Type	Point			
CADD Standard Requirement	its			
Layer/Level		Descr	iption	
C-AFLD-AIDS-	Airfield Navigat	ional Aid -		
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance				
Level	Unclassified			
	AIXM	NavaidEquipment	ť	Extension
Equivalent Standards	FGDC	NavaidEquipment	tExtension	Extension
	SDSFIE	navigational_aid_	point	
Documentation and	Desument this facture as described in nonserve he 15.2 and 15.2			
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect	the horizontal and	l vertical positions	of the NAVAID usir	ng the survey
point identified below. If the NA	AVAID penetrates	an OIS or is selected	ed as a representati	ve object,
additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and				
associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire				
structure as the top elevation including appurtenances.				
Monumentation	No monumentation required.			
Survey Point Location	Horizontal Vertical			

	Horizontal center of the center light of the first and last lights rows	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	
Pilot's perspective of an ALSF-2.	Collecting the first light or center light of the first row.	Collecting the last light or center light of last row.	
Types of Approach Light System	s are:		
1. ALSF-1- Approach Light Syst	em with Sequenced Flashing Ligh	ts in ILS Cat-I configuration.	
2. ALSF-2- Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration. The ALSF-2 may operate as an SSALR when weather conditions permit.			
3. SSALF- Simplified Short Approach Light System with Sequenced Flashing Lights.			
4. SSALR- Simplified Short Approach Light System with Runway Alignment Indicator Lights.			

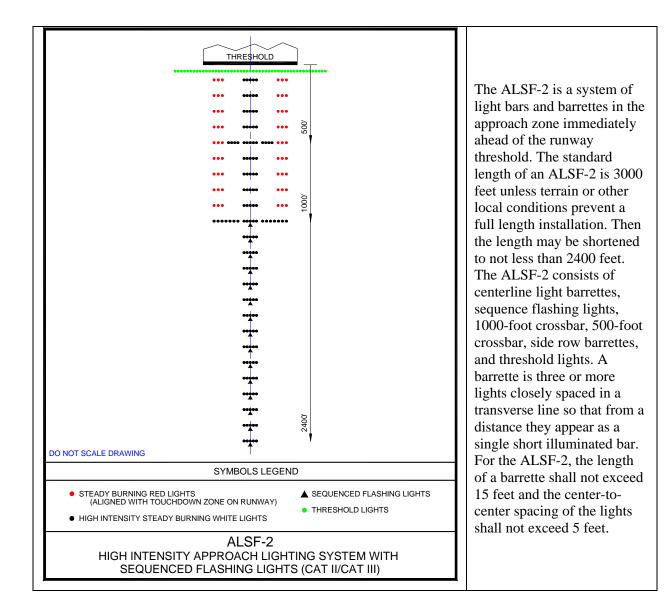
5. MALSF- Medium Intensity Approach Light System with Sequenced Flashing Lights.

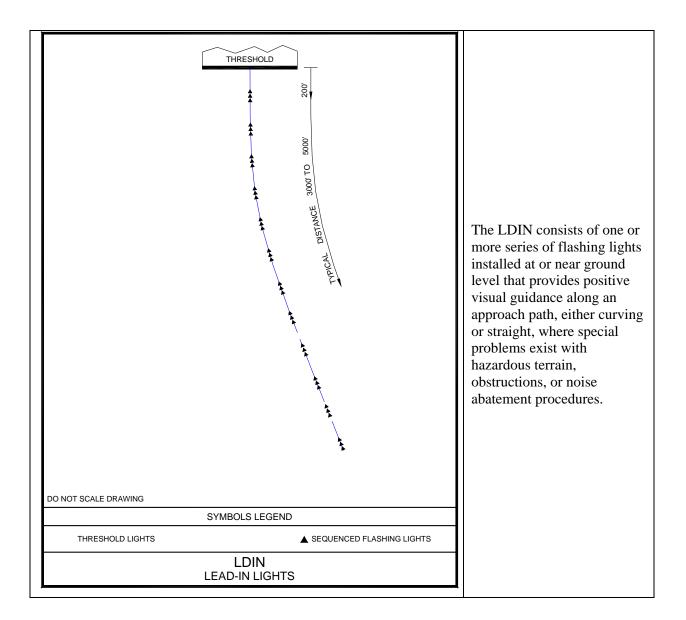
6. MALSR- Medium Intensity Approach Light System with Runway Alignment Indicator Lights.

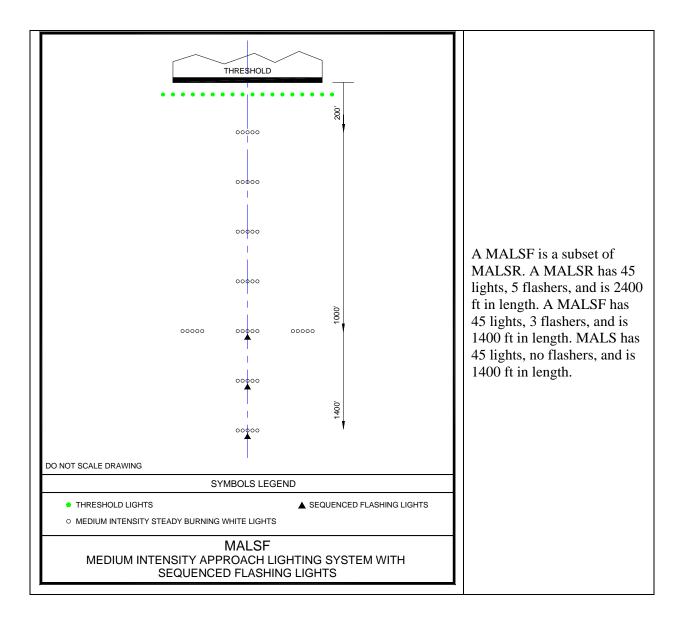
7. LDIN- Lead-in-light system.

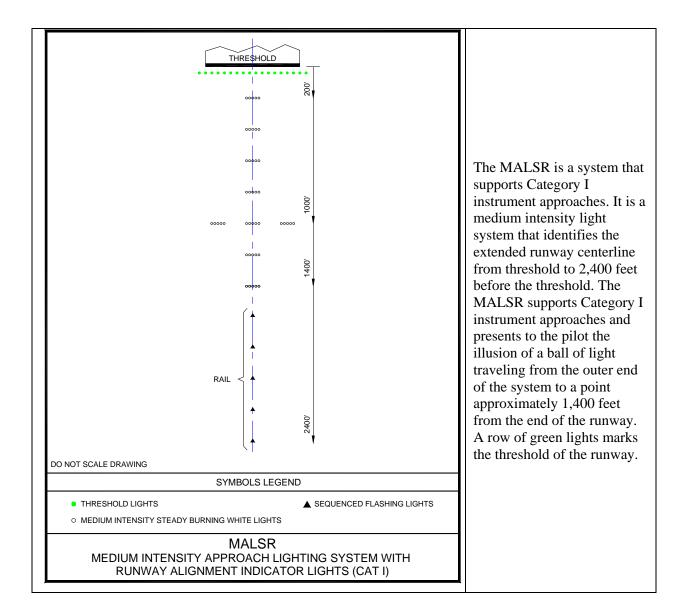
8. RAIL- Runway Alignment Indicator Lights- Sequenced Flashing Lights which are installed only in combination with other light systems.

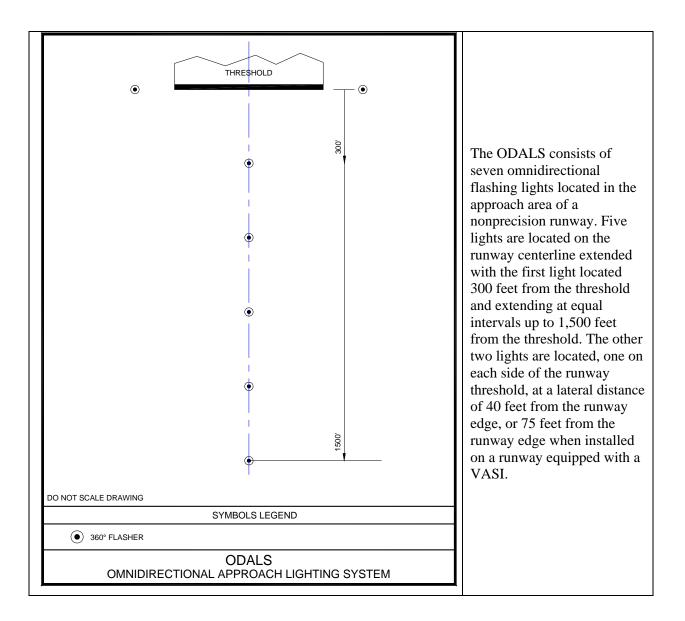
9. ODALS- Omnidirectional Approach Lighting System.

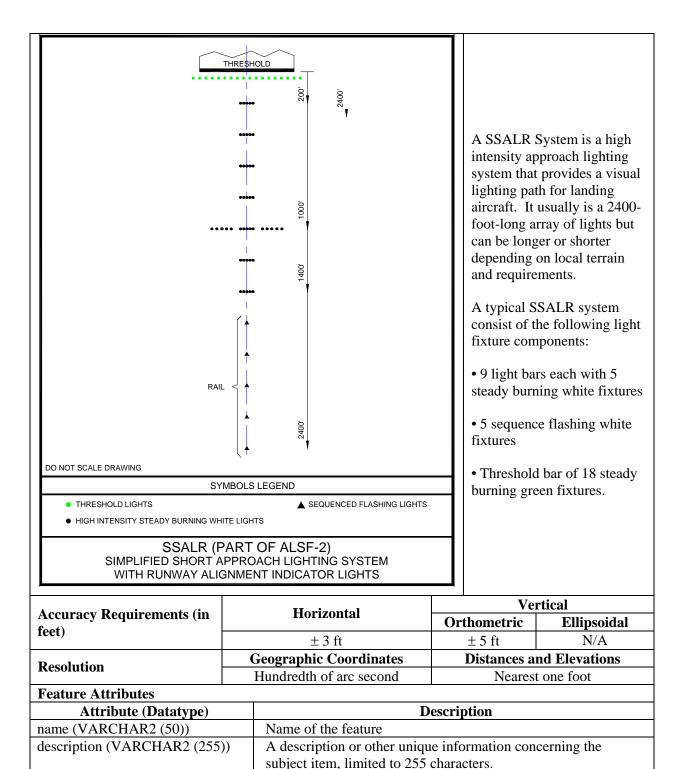












faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID
(Enumeration: CodeNavaidequipmentType)	
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration: CodeUseCode)	The code that represents the airspace structure in which the aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection (Enumeration: CodeOffsetDirection) lightingType (Enumeration: CodeLightingConfigurationType)	Enter the direction (right, left, or on centerline) the navigational aid is offset from the runway. Determine the appropriate direction from the approach threshold down the runway. The type of Visual navigational aid system (use only when CodeNavaidEquipmentType is set to "visual")
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75) runwayEndId (String 3)	The owner of the facility Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]

thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the	
	Landing Threshold Point (or Fictitious Threshold Point).	
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-	
	100]	
userFlag (String 254)	An operator-defined work area. This attribute can be used by	
	the operator for user-defined system processes. It does not	
	affect the subject item's data integrity and should not be used to	
	store the subject item's data.	
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the	
	elevation is the center of the antenna cover. For MLSAZ,	
	MLSEL, and End Fire Type Glide Slope Antennas, the elevation	
	is the phase center of the reference point.	
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together	
	into a version.	

5.10.5. Navaid Equipment – Back Course Marker (BCM)

Definition: Provides runway alignment aircraft guidance on approach. Feature Group Navigational Aids Feature Class Name NavaidEquipment Feature Type Point CADD Standard Requirements Layer/Level Description C-AFLD-AIDS- Airfield Navigational Aid - MicroStation Standards 4 Line Type Symbol AutoDesk Standards 4 Continuous 7 User Defined Information Assurance Unclassified 1 User Defined Equivalent Standards 7 Continuous 7 Extension Documentation and Submission Requirements AIXM NavaidEquipment Extension Extension Documentation and Submission Requirements Document this feature as described in paragraphs 1.5.2 and 1.5.3. Document this feature as described in paragraphs 1.5.2 and 1.5.3. Related Features Document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. Mommentation No monumentation required. Vertical Genter of antenna array.	5.10.5. Mavala Equipment =		· · · · ·		
Feature Class Name NavaidEquipment Feature Type Point CADD Standard Requirements Description Layer/Level Description C-AFLD-AIDS- Airfield Navigational Aid - C-AFLD-AIDS- Airfield Navigational Aid - AutoDesk Standards 4 Continuous 1 User Defined MicroStation Standards 7 Continuous 1 User Defined Information Assurance Level Unclassified 1 User Defined Bubmission Requirements AIXM NavaidEquipment Extension SDSFIE navigational_aid_point Extension Document this feature as described in paragraphs 1.5.2 and 1.5.3. Document this feature as described in paragraphs 1.5.2 and 1.5.3. Related Features Document the NAVAID poentrates an OIS or is selected as a representative object, additionally identify ig an NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Survey Point Location Horizontal		alignment aircraft guidance on approach.			
Feature Type Point CADD Standard Requirements Layer/Level Description C-AFLD-AIDS- Airfield Navigational Aid - Color Line Type Line Weight Symbol AutoDesk Standards 4 1 User Defined MicroStation Standards 7 Continuous 7 User Defined Information Assurance Unclassified 1 User Defined Equivalent Standards 7 Continuous 7 User Defined FGDC NavaidEquipment Extension Extension SDSFIE navigational_aid_point Document this feature as described in paragraphs 1.5.2 and 1.5.3. Al 1.5.3. Related Features Document this feature as described in paragraphs 1.5.2 and 1.5.3. Al 1.5.3. Related Features Document the NAVAID point identify of leasify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Survey Point Location Horizontal Vertical feet) ±10 ft ±20 ft	Feature Group1	Javigational Aids			
CADD Standard Requirements Layer/Level Description C-AFLD-AIDS- Airfield Navigational Aid - Color Line Type Line Weight Symbol AutoDesk Standards 4 1 User Defined MicroStation Standards 7 Unclassified 1 User Defined Information Assurance Level AIXM NavaidEquipment Extension Extension Equivalent Standards GDC NavaidEquipmentExtension Extension Extension Submission Requirements AIXM NavaidEquipmentextension Extension Extension Belated Features Document this feature as described in paragraphs 1.5.2 and 1.5.3. Document this feature as described in paragraphs 1.5.2 and 1.5.3. Bata Capture Rules: Collect the horizontal and vertical positions of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Survey Point Location Horizontal Vertical <th>Feature Class NameI</th> <th>NavaidEquipmen</th> <th colspan="3">VavaidEquipment</th>	Feature Class NameI	NavaidEquipmen	VavaidEquipment		
Layer/Level Description C-AFLD-AIDS- Airfield Navigational Aid - Color Line Type Line Weight Symbol AutoDesk Standards 4 1 User Defined MicroStation Standards 7 7 User Defined Information Assurance Unclassified 7 Extension Equivalent Standards 7 NavaidEquipment Extension FGDC NavaidEquipmentExtension Extension Submission Requirements Document this feature as described in paragraphs 1.5.2 and 1.5.3. and 1.5.3. Related Features Document this feature as described in paragraphs 1.5.2 and 1.5.3. and 1.5.3. Data Capture Rules: Collect the horizontal and vertical positions of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Survey Point Location No monumentation required. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Accuracy Re	Feature Type1	Point			
C-AFLD-AIDS- Airfield Navigational Aid - Color Line Type Line Weight Symbol AutoDesk Standards 4 Continuous 1 User Defined MicroStation Standards 7 Continuous 1 User Defined Information Assurance Level Unclassified 1 User Defined Equivalent Standards AIXM NavaidEquipment Extension FGDC NavaidEquipmentExtension Extension SDSFIE navigational_aid_point Document this feature as described in paragraphs 1.5.2 and 1.5.3. Related Features Document this feature as described in paragraphs 1.5.2 and 1.5.3. And 1.5.3. Data Capture Rules: Collect the horizontal and vertical positions of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a partenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Survey Point Location Horizontal Vertical Generation Geographic Coordinates Distances and Elevations	CADD Standard Requireme	ents			
ColorLine TypeLine WeightSymbolAutoDesk Standards4Continuous1User DefinedMicroStation Standards7Continuous7User DefinedInformation Assurance LevelUnclassified7ExtensionEquivalent StandardsAIXMNavaidEquipmentExtensionFGDCNavaidEquipmentExtensionExtensionSDSFIEnavigational_aid_pointDocumentation and SDSFIEDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Related FeaturesDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Intervery point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.VerticalSurvey Point LocationNo monumentation required.The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.Accuracy Requirements (in feet)HorizontalVerticalCenter of antenna array.The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.Accuracy Requirements (in feet)± 10 ft± 20 ftMaccuracy Requirements (in feet)± 10 ft± 20 ftMaccuracy Requirements (in feet)Geographic CoordinatesDistances and Elevations	Layer/Level		Des	scription	
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MicroStation Standards 7 7 Information Assurance Level Unclassified 7 AIXM NavaidEquipment Extension Equivalent Standards AIXM NavaidEquipment Extension FGDC NavaidEquipment Extension Extension Documentation and Submission Requirements Document this feature as described in paragraphs 1.5.2 and 1.5.3. Related Features Document the Network of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Monumentation No monumentation required. The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP. Accuracy Requirements (in feet) Horizontal ± 10 ft Center of antense Unclassified to the 20 ft N/A	AutoDesk Standards	4	Continuous	1	Lloor Defined
Level Onclassified AIXM NavaidEquipment Extension FGDC NavaidEquipmentExtension Extension Submission Requirements Document this feature as described in paragraphs 1.5.2 and 1.5.3. Related Features Document this feature as described in paragraphs 1.5.2 and 1.5.3. Data Capture Rules: Collect the horizontal and vertical positions of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest both on the entire structure as the top elevation including appurtenances. The intersection of the ground, gravel, concret pad, or other base and plumb line trought the HSP. Monumentation Horizontal array. The intersection of the Second, gravel, concret pad, or other base and plumb line trought the HSP. Accuracy Requirements (in feet) Horizontal array. The intersection of the Second, gravel, concret pad, or other base and plumb line trought the HSP. Accuracy Requirements (in feet) ± 10 ft ± 20 ft N/A Besolution Geographic Coordinates Distances art Elevations	MicroStation Standards	7	Continuous	7	User Defined
Equivalent StandardsFGDCNavaidEquipmentExtensionExtensionSDSFIEnavigational_aid_pointExtensionDocumentation and Submission RequirementsDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Related FeaturesDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Data Capture Rules:Collect the horizontal and vertical positions of the NAVAID using the survey point identify delow. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.Survey Point LocationHorizontal ± 10 ftGeographic CoordinatesDistances and ElevationsResolutionExtensionKellipsoidal the HSP.ResolutionExtensionKellipsoidal the HSP.ResolutionGeographic CoordinatesDistances and Elevations		Unclassified			
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Documentation and Submission RequirementsDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Related FeaturesDocument this feature as described in paragraphs 1.5.2 and 1.5.3.Data Capture Rules: Collect the horizontal and vertical positions of the NAVAID using the survey point identified below. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as using the OBSTACLE feature type and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.MonumentationNo monumentation required.Survey Point LocationCenter of antenna array.The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.Accuracy Requirements (in feet)HorizontalVerticalResolutionSurvey Point LocationHorizontalResolutionVerticalResolutionSurvey Point Location	Equivalent Standards	FGDC			Extension
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feet) Crthometric Ellipsoidal ± 10 ft ± 20 ft N/A Besolution Geographic Coordinates Distances and Elevations	A courses Dequirements (in	Horizontal		Ve	ertical
± 10 ft ± 20 ft N/A Besolution Geographic Coordinates Distances and Elevations	• •	ΠοΓιζοπιαι		Orthometric	Ellipsoidal
		±	10 ft	± 20 ft	N/A
Negrost one feet	Posolution	Geographic Coordinates		Distances and Elevations	
indicidul of all second invalest one foot	Resolution	Hundredth	of arc second	Neares	st one foot

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2 (50))	Name of the feature
description (VARCHAR2 (255))	A description or other unique information concerning the
r c c c c c c c c c c c c c c c c c c c	subject item, limited to 255 characters.
faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the
	identifier of the associated localizer. Do not enter the prefix "I"
	for ILS or "M" used with the MLS systems. Where more than
	one ASR is in operation at the same location or at an associated
	location, these equipments will be identified with the letters A,
	B, C, etc., following the identification (e.g., NQIB). The same
	applies to PAR identifiers. These alpha codes must be the same
	as those used to accomplish the daily flight log. For ARSR
	facilities, use "Z" plus the identifier of the controlling ARTCC
	or military installation. Light systems will use the airport
	identifier and runway number. [Source:FAA Order 8250-42]
navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifies the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
useCode (Enumeration:	and MLS Elevation make up a Microwave Landing System
CodeUseCode)	The code that represents the airspace structure in which the aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
antenna i o i mesnoluDistance (Keai)	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical
conterniteDistance (rear)	runway end. This should be the same distance as the antenna to
	threshold distance unless the runway end the navigational aid
	serves has a displaced threshold. Provide this distance to the
	nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the navigational
(Enumeration:	aid is offset from the runway. Determine the appropriate
CodeOffsetDirection)	direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach aid (such as a BAB) provide a concrete feature for each
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and PAR.

referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.6. Navaid Equipment – Distance Measuring Equipment (DME)

Definition: Provides distance (and in some systems groundspeed) information only from the ground facility to aircraft.

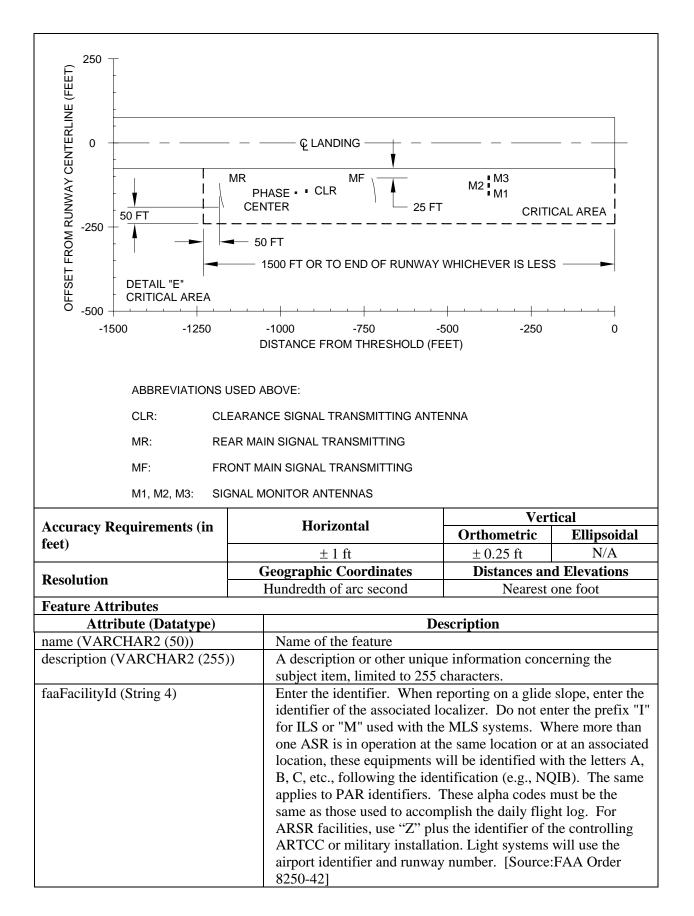
facility to aircraft.				
Feature Group	Navigational Aids			
Feature Class Name	NavaidEquipment			
Feature Type	Point			
CADD Standard Requireme	nts			
Layer/Level		D	escription	
C-AFLD-AIDS-	Airfield Navig	ational Aid		
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance	Unclassified			
Level		1		1
	AIXM	NavaidEquipm		Extension
Equivalent Standards	FGDC	NavaidEquipm	entExtension	Extension
	SDSFIE navigational_aid_point			
Documentation and	Document this	fastura se descri	bed in paragraphs 1	5.2 and 1.5.3
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP.				
If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify,				
classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a				
NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including				
appurtenances.				
Monumentation	No monumentation required.			
Survey Point Location	Hori	zontal	Ve	rtical
DME or DME paired with a LOC	Center of antenna cover. Cen		Center of antenna	cover.

DME frequency paired with MLS azimuth, NDB or VOR	Cente	r of antenna cover	The intersection of t concrete pad, or oth line through the HS	er base and plumb	
		VSP			
			Ver	rtical	
Accuracy Requirements (in feet)		Horizontal	Orthometric	Ellipsoidal	
		± 1 ft	± 1 ft	N/A	
Resolution		eographic Coordinates		nd Elevations	
Feature Attributes	Hundredth of arc second Nearest one foot			t one foot	
Attribute (Datatype)			Description		
name (VARCHAR2 (50))		Name of the feature	Description		
description (VARCHAR2 (255	5))	A description or other unique information concerning the			
	- //	subject item, limited to 255 characters.			
faaFacilityId (String 4)		Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42]			
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)		Specifies the type of NA	VAID		
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)		Identifes the navigationa system. For example the up the Instrument landin and MLS Elevation mak	localizer and glidesl g system (ILS) or the	ope together make e MLS Azimuth	

useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical
	runway end. This should be the same distance as the antenna
	to threshold distance unless the runway end the navigational
	aid serves has a displaced threshold. Provide this distance to
	the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
owner (String 75)	This attribute is used to describe real-time status.
owner (String 75) runwayEndId (String 3)	The owner of the facility Identify the primary instrument runway served by the facility.
TullwayEllulu (Sullig 5)	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
letereneer onnen poorerteigne	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
<u> </u>	into a version.

5.10.7. Navaid Equipment –Glide Slope – End Fire (GS)					
Definition: Provides vertical guidance for aircraft during approach and landing.					
Feature Group	Navigational Aids				
Feature Class Name	NavaidEquipment				
Feature Type	Point				
CADD Standard Requirements					
Layer/Level	Description				
C-AFLD-AIDS-	Airfield Navigational Aid -				
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7		7		
Information Assurance Level	Unclassified				
Equivalent Standards	AIXM	NavaidEquipment		Extension	
	FGDC	NavaidEquipmentExtension		Extension	
	SDSFIE	navigational_aid_point			
Documentation and Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.				
Related Features					
Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.					
Monumentation	No monumentation required.				
Survey Point Location	Horizontal		Vertical		
	Phase center re	eference point.	Phase center reference point.		
61					

5 10 7 N. ... **F** + CIEdo SL End Ein .



navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	specifies die type of the trib
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
	and MLS Elevation make up a Microwave Landing System.
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical
	runway end. This should be the same distance as the antenna to
	threshold distance unless the runway end the navigational aid
	serves has a displaced threshold. Provide this distance to the
stonEndDistance (Dec1)	nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
offsetDistance (Real)	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the navigational
(Enumeration:	aid is offset from the runway. Determine the appropriate
CodeOffsetDirection)	direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
reference Doint Threshold (Deel)	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source:
	Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
an obioracrossing reight (itear)	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
<i>ao</i> ()	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.

ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
_	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.8. Navaid Equipment – Fan Marker (FM)

Definition: Electronic NAVA	AID that provides horiz	ontal (alignment) guidance for airc	craft on a final	
approach.					
Feature Group	Navigational Aids				
Feature Class Name	NavaidEquipment				
Feature Type	Point				
CADD Standard Requirem	ents				
Layer/Level		Descri	otion		
C-AFLD-AIDS-	Airfield Navigational	Aid -			
	Color Line Type Line Weight Symbol				
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	Continuous	7	User Defined	
Information Assurance	Unclassified				
Level	Unclassified				
	AIXM	NavaidEquipm	ent	Extension	
Equivalent Standards	FGDC	NavaidEquipm	entExtension	Extension	
	SDSFIE navigational_aid_point				
Documentation and	Document this facture	a ag dagarihad in	porographs 150	and 1 5 2	
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.				
Related Features					
Data Capture Rules: Collec	t the position of the NA	AVAID using the	HSP and the elev	ation at the VSP.	

Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

Monumentation	Monumentation No monumentation required.				
		Horizontal	Verti	Vertical	
Survey Point Location				The intersection of the ground,	
Survey I onte Elocation	Cente	er of antenna array.	gravel, concrete pa		
			and plumb line three	ough the HSP.	
A course of Beguinements		Horizontal	Verti	cal	
Accuracy Requirements		Horizontai	Orthometric	Ellipsoidal	
(in feet)	± 10 ft		± 20 ft	N/A	
Resolution	Ge	eographic Coordinates	Distances and	Elevations	
Resolution	Hundredth of arc second		Nearest of	Nearest one foot	
Feature Attributes					
Attribute (Datatype)	e) Description				
name (VARCHAR2 (50))		Name of the feature	Name of the feature		
description (VARCHAR2 (25	(5))	A description or other unique information concerning the			
subject item, limited to 240 ch			40 characters.	-	

faaFacilityId (String 4) navaidEquipmentType (Enumeration:	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
	and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.9. Navaid Equipment – Glideslope (GS)

10.7. Navalu Equipment – Ondeslope (05)					
Definition: Provides vertical guidance for aircraft during approach and landing.					
Feature Group	Navigational Ai	Navigational Aids			
Feature Class Name	NavaidEquipme	ent			
Feature Type	Point				
CADD Standard Requireme	ents				
Layer/Level		Des	cription		
C-AFLD-AIDS-		Airfield Na	vigational Aid -		
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	Continuous	7	User Definieu	
Information Assurance Level	Unclassified				
	AIXM	NavaidEquipmer	ıt	Extension	
Equivalent Standards	FGDC	NavaidEquipmentExtension		Extension	
	SDSFIE	navigational_aid_point			
Documentation and Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.				
Related Features					
Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP.					
If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify,					
classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a					
NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including					
appurtenances.					
Manunantation	No monthematic				

Monumentation	No monumentation required.	
	Horizontal	Vertical
Survey Point Location	Center of Antenna Supporting	The intersection of the ground, gravel, concrete pad, or other base
		and plumb line through the HSP.

		E B B	VSP	
Accuracy Requirements		Horizontal	Ver Orthometric	rtical Ellipsoidal
(in feet)		± 1 ft	$\pm 0.25 \text{ ft}$	$\pm 0.20 \text{ ft}$
	Ce	ographic Coordinates		nd Elevations
Resolution		indredth of arc second		t one foot
Feature Attributes	110		Ivealest	
Attribute (Datatype)			Description	
name (VARCHAR2 (50))		Name of the feature	Description	
description (VARCHAR2 (25))	55))	A description or other un		oncerning the
faaFacilityId (String 4)		subject item, limited to 255 characters.Enter the identifier. When reporting on a glide slope, enter identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where mon than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha 		enter the prefix ns. Where more ation or at an e identified with fication (e.g., s. These alpha omplish the daily the identifier of on. Light systems
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)		Specifies the type of NAVAID		
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)		Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System		
useCode (Enumeration: CodeUseCode)		The code that represents aeronautical navigational		re in which the

antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
antenna i o i mesnoluDistance (Real)	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical
centermeDistance (Real)	runway end. This should be the same distance as the antenna
	to threshold distance unless the runway end the navigational
	aid serves has a displaced threshold. Provide this distance to
	the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
onsetDistance (Kear)	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.10.Navaid Equipment – Ground Controlled Approach (GCA) Touchdown Reflectors

Definition: Electronic NAVAII	D equipment that provides precision approach information for incoming
aircraft.	
Feature Group	Navigational Aids

Feature Class Name	NavaidEquipmer	nt		
Feature Type	Point			
CADD Standard Requiremen	ts			
Layer/Level		Descr	iption	
C-AFLD-AIDS-	Airfield Navigat	ional Aid -		
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4		1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance Level	Unclassified			
	AIXM	NavaidEquipmer	ıt	Extension
Equivalent Standards	FGDC	NavaidEquipmer	ntExtension	Extension
	SDSFIE	navigational_aia	l_point	
Documentation and Submission Requirements	Document this fe	eature as described	in paragraphs <u>1.5.</u>	. <u>2</u> and <u>1.5.3</u> .
Related Features				
Data Capture Rules: Collect to If the NAVAID penetrates an O. classify and document the NAVA NAVAID as an obstacle, survey appurtenances.	IS or is selected as AID as an Obstacl	s a representative of e and associated a	bject, additionally ccuracy. When ide	v identify, entifying a
Monumentation	No monumentati	ion required		
Wonumentation			Vor	tical
Survey Point Location	Horizontal Center of Antenna Array		The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	
	HSP			
	VSP			

A acuracy Decurrents (Horizontal	Vert	Vertical		
Accuracy Requirements (in feet)	Horizolital	Orthometric	Ellipsoidal		
leet)	± 10 ft	± 20 ft	± 20 ft		
Resolution	Geographic Coordinates	caphic Coordinates Distances and H			
Resolution	Hundredth of arc second Nearest one foot				
Feature Attributes					
Attribute (Datatype)	De	escription			
name (VARCHAR2 (50))	Name of the feature	Name of the feature			
description (VARCHAR2 (255))	A description or other unique information concerning the subject item limited to 255 characters				
faaFacilityId (String 4)	subject item, limited to 255 characters.Enter the identifier. When reporting on a glide slope, endidentifier of the associated localizer. Do not enter the pre"I" for ILS or "M" used with the MLS systems. Where nthan one ASR is in operation at the same location or at anassociated location, these equipments will be identified vthe letters A, B, C, etc., following the identification (e.g.,NQIB). The same applies to PAR identifiers. These alphcodes must be the same as those used to accomplish the offlight log. For ARSR facilities, use "Z" plus the identifiedthe controlling ARTCC or military installation. Light systemwill use the airport identifier and runway number.[Source:FAA Order 8250-42]				
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NAVA	2			
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	Identifes the navigational aid system. For example the loc up the Instrument landing sy and MLS Elevation make up	alizer and glideslop stem (ILS) or the M	e together make MLS Azimuth		
useCode (Enumeration: CodeUseCode)	The code that represents the aeronautical navigational aid	airspace structure i			
antennaToThresholdDistance (Re		antenna is from the			
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.				
stopEndDistance (Real)	Provide the distance distance centerline to the stop end of		nna along the		
offsetDistance (Real)	The distance in feet that the	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.			
offsetDirection	Enter the direction (right, let	ft, or on centerline)	the		
(Enumeration: CodeOffsetDirection)	navigational aid is offset from the runway. Determine the appropriate direction from the approach threshold down the runway.				
lightingType (Enumeration: CodeLightingConfigurationType)	The type of Visual navigation CodeNavaidEquipmentType	-	only when		

status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.11.Navaid Equipment – Inner Marker (IM)

Definition: Marker beacon used with an ILS (CAT II) precision approach located between the middle marker and the end of the ILS runway, transmitting a radiation pattern keyed at six dots per second and indicating to the pilot, both aurally and visually, that he/she is at the designated decision height (DH), normally 100 feet above the touchdown zone elevation, on the ILS CAT II approach. It also marks progress during a CAT III approach.

Feature Group	Navigational A	ids				
Feature Class Name	NavaidEquipm	ent				
Feature Type	Point					
CADD Standard Requirements						
Layer/Level		Desci	ription			
C-AFLD-AIDS	Airfield Navig	ational Aid -				
	Color	Line Type	Line Weight	Symbol		
AutoDesk Standards	4 Cartingen 1 Hard Defin					
MicroStation Standards	7	Continuous	7	User Defined		
Information Assurance Level	Unclassified					
	AIXM	NavaidEquipmen	et (Extension		
Equivalent Standards	FGDC					
	SDSFIE navigational_aid_point					
Documentation and	Document this	factura as describe	d in paragraphs 1	5.2 and 1.5.3		
Submission Requirements		feature as describe	a în paragraphis <u>T</u>	<u>.3.2</u> aliu <u>1.3.3</u> .		

Related Features				
Data Capture Rules: Collect th If the NAVAID penetrates an OI classify and document the NAVA	ne position of the NAVAID using the S or is selected as a representative ID as an Obstacle and associated of the highest point on the entire struc	object, additionally accuracy. When ider	identify, 1tifying a	
Monumentation	No monumentation required.			
	Horizontal	Vert	ical	
Survey Point Location	Center of Antenna Array Center of Antenna Array The intersection of the gr gravel, concrete pad, or co base and plumb line throw HSP.			
	HSP	and a second sec		
Accuracy Requirements (in feet)	Horizontal	Vert Orthometric	Ellipsoidal	
Accuracy Requirements (in	Horizontal ± 10 ft	Orthometric ± 20 ft	Ellipsoidal N/A	
Accuracy Requirements (in	Horizontal ± 10 ft Geographic Coordinates	Orthometric± 20 ftDistances and	Ellipsoidal N/A d Elevations	
Accuracy Requirements (in feet) Resolution	Horizontal ± 10 ft	Orthometric ± 20 ft	Ellipsoidal N/A d Elevations	
Accuracy Requirements (in feet) Resolution Feature Attributes	Horizontal ± 10 ft Geographic Coordinates Hundredth of arc second	Orthometric \pm 20 ftDistances andNearest of	Ellipsoidal N/A d Elevations	
Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype)	Horizontal ± 10 ft Geographic Coordinates Hundredth of arc second D	Orthometric± 20 ftDistances and	Ellipsoidal N/A d Elevations	
Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	Horizontal ± 10 ft Geographic Coordinates Hundredth of arc second D Name of the feature	Orthometric ± 20 ft Distances and Nearest of escription	Ellipsoidal N/A d Elevations one foot	
Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype)	Horizontal ± 10 ft Geographic Coordinates Hundredth of arc second D Name of the feature	Orthometric ± 20 ft Distances and Nearest of escription ue information concord	Ellipsoidal N/A d Elevations one foot	

navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	specifies the type of the value
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
CodervavaldSystem(Type)	and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	
	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
$(\mathbf{p}_{1}, \mathbf{p}_{2})$	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the
	physical runway end. This should be the same distance as the
	antenna to threshold distance unless the runway end the
	navigational aid serves has a displaced threshold. Provide this
	distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
	store die Subject tennis duid.

ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.12.Navaid Equipment – Localizer (LOC)

Definition: The component			es course guidance	e to the runway		
Feature Group	Navigational Aids					
Feature Class Name	NavaidEquipm					
Feature Type	Point					
CADD Standard Requiren						
Layer/Level			Descri	ption		
C-AFLD-AIDS-	Airfield Navig	ationa				
	Color		Line Type	Line Weight	Symbol	
AutoDesk Standards	4			1	· · · ·	
MicroStation Standards	7		Continuous	7	User Defined	
Information Assurance	XX 1 (C) 1					
Level	Unclassified					
	AIXM	Nav	aidEquipment		Extension	
Equivalent Standards	FGDC	Nav	aidEquipmentExt	tension	Extension	
	SDSFIE	navi	igational_aid_poi	int		
Documentation and						
Submission	Document this	featu	re as described in	paragraphs <u>1.5.2</u> a	and <u>1.5.3</u> .	
Requirements						
Related Features						
Data Capture Rules: Colle	ect the position of	f the l	NAVAID using the	e HSP and the elev	ation at the VSP.	
If the NAVAID penetrates ar						
classify and document the N						
NAVAID as an obstacle, sur	vey the highest p	oint c	on the entire struc	cture as the top elev	vation including	
appurtenances.	1					
				ey point for validat		
		-		e. When the ends o	•	
Monumentation				he positions using		
	washer, chisel square, or paint if possible with a distinctive inscription to					
	ensure future identification. Mark the survey point with a nail and washer					
			etting company's			
	H	orizoi	ntal		tical	
Survey Point Location	Center of Ante	onna S	upporting	The intersection of the ground,		
Survey I onte Elocation	Center of Antenna Supporting Structure		gravel, concrete pad, or other base			
	Sudduid			and plumb line th	rough the HSP.	

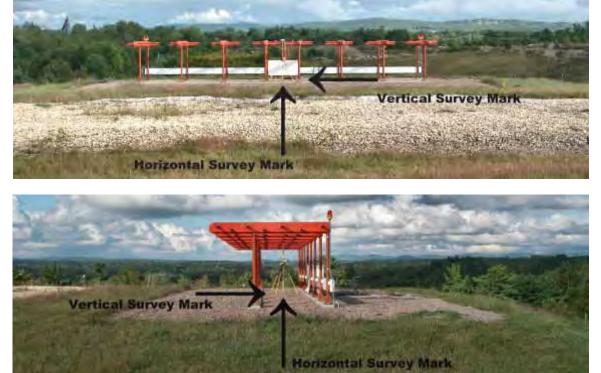
Determining the HSP and Vertical Point #1 of a Localizer

A localizer (LOC) antenna array is normally located beyond the departure end of the runway it serves (localizer 17 is on the south end of the runway) and generally consists of several pairs of directional antennas. The localizer operates as a component of the Instrument Landing System or ILS; however, it can be operated by itself. Since the localizer is made up of a set of arrays (antenna's) it provides a unique challenge in determining the center of the antenna unit. In the figure below, there are 14 antenna elements. The proper method of determining the HSP is to find the center of the supporting structure at the center of the antenna array. In this figure, this is the center of the center of structures supporting the seventh antenna element from each side.

	 	 	_	<u> </u>	 	 	
				.			
_		_					

Illustration of a localizer antenna array depicting each of the elements and the selection of the HSP and Vertical Point #1.

In order to locate the center of the supporting structure the surveyor, is required to first locate the center of the array and then the center of the supporting structure. In order to locate the center of the supporting structure in the figure above, the surveyor would locate the center of the space between the seventh element from each end. It is recommended the surveyor use tape measures or string to form a "X" and then use a plumb bob to locate the point at the base of the antenna. Another method of the same technique is to draw lines in between the bolts supporting the elements and forming an "X" to locate the center. If the antenna array has an odd number of elements such as 15, then the center of the supporting structure would be the center of the eighth element.



A course Be quinements	Horizontal	Vertical		
Accuracy Requirements (in feet)	Horizolitai	Orthometric	Ellipsoidal	
(m leet)	± 1 ft	± 0.25 ft	N/A	
Resolution	Geographic Coordinates	Distances and Elevations		
Resolution	Hundredth of arc second	Nearest one foot		

Feature Attributes	
Attribute (Datatype)	Description
name (VARCHAR2 (50))	Name of the feature
description (VARCHAR (255))	A description or other unique information concerning the subject item, limited to 255 characters.
faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42]
navaidEquipmentType (Enumeration:	Specifies the type of NAVAID
CodeNavaidequipmentType)	Identifies the new igetional aid activity at as part of an arrest
navigationalAidSystemType (Enumeration:	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make
(Enumeration: CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the navigational
(Enumeration:	aid is offset from the runway. Determine the appropriate
CodeOffsetDirection)	direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
owner (Sumg /S)	The owner of the facility

runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAP) provide a separate facture for each
	aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.13.Navaid Equipment – Localizer Type Directional Aid (LDA)

Definition: A NAVAID used f	V 1	,	7	0.00000000
Definition: A NAVAID used f				
comparable to a localizer but w	· · · · · ·	A	nd is not aligned v	with the runway.
Feature Group	Navigational Ai			
Feature Class Name	NavaidEquipme	nt		
Feature Type	Point			
CADD Standard Requirement	nts			
Layer/Level		Descr	iption	
C-AFLD-AIDS-		Airfield Navi	gational Aid -	
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	- Continuous	7	User Defined
Information Assurance	Unclassified			
Level	Unclassified			
	AIXM	NavaidEquipme	ent	Extension
Equivalent Standards	FGDC	NavaidEquipme	entExtension	Extension
	SDSFIE	navigational_ai	d_point	
Documentation and	De sum ent this f		in nonconcello 1.5	0 and 1 5 2
Submission Requirements	Document this fo	eature as described	in paragraphs <u>1.5</u>	<u>.2</u> and <u>1.5.5</u> .
Related Features				
Data Capture Rules: Collect	the position of the	NAVAID using the	HSP and the elev	ation at the VSP.
If the NAVAID penetrates an O		8		
classify and document the NAV				
NAVAID as an obstacle, survey			•	
appurtenances.			1	0

Monumentation	No r	nonumentation required.				
		Horizontal	Ver	tical		
Survey Point Location	Cent Strue	of the ground, pad, or other ine through the				
Accuracy Requirements (in		Horizontal		tical		
feet)		Horizontai	Orthometric	Ellipsoidal		
		± 1 ft	± 1 ft	N/A		
Resolution		Geographic Coordinates		d Elevations		
		Hundredth of arc second	Nearest	one foot		
Feature Attributes		_				
Attribute (Datatype)			escription			
name (VARCHAR2 (50))		Name of the feature				
description (VARCHAR2 (255)))	A description or other uniqu		cerning the		
foo Eogility Id (String A)		subject item, limited to 255		along orter the		
faaFacilityId (String 4)		Enter the identifier. When r identifier of the associated lo				
		"I" for ILS or "M" used with		L .		
		than one ASR is in operation	•			
		associated location, these eq				
		the letters A, B, C, etc., follo				
		NQIB). The same applies to	-			
		codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of				
		the controlling ARTCC or military installation. Light systems				
		will use the airport identifier				
		[Source:FAA Order 8250-42				
navaidEquipmentType		Specifies the type of NAVAID				
(Enumeration:		1 71				
CodeNavaidequipmentType)						
navigationalAidSystemType		Identifes the navigational aid	d equipment as par	t of an overall		
(Enumeration:		system. For example the localizer and glideslope together make				
CodeNavaidSystemType)		up the Instrument landing system (ILS) or the MLS Azimuth				
		and MLS Elevation make up a Microwave Landing System				
useCode (Enumeration:		The code that represents the		in which the		
CodeUseCode)		aeronautical navigational aid	l is utilized.			
antennaToThresholdDistance (F	Real)	The distance in feet that the antenna is from the runway				
		threshold. Provide the distance to the nearest tenth of a foot.				
centerlineDistance (Real)		Distance from the centerline perpendicular point to the				
		physical runway end. This s				
		antenna to threshold distance unless the runway end the				
		navigational aid serves has a displaced threshold. Provide this				
		distance to the nearest tenth				
stopEndDistance (Real)		Provide the distance distance the from the antenna along the				
		centerline to the stop end of				
offsetDistance (Real)		The distance in feet that the feature is offset from the runway				
		centerline. Provide this distance to the nearest tenth of a foot.				

offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
6 6 (,	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
1	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.14.Navaid Equipment – Middle Marker (MM)

Definition: A marker beacon that defines a point along the glideslope of an ILS normally located at or near the point of decision height (ILS Category I). It is keyed to transmit alternate dots and dashes, with the alternate dots and dashes keyed at the rate of 95 dot/dash combinations per minute on a 1300 Hz tone, which is received aurally and visually by compatible airborne equipment.

TIZ tolic, which is received aura	5 5 5	1	ne equipment.	
Feature Group	Navigational Aid	ls		
Feature Class Name	NavaidEquipmer	nt		
Feature Type	Point			
CADD Standard Requiremen	ts			
Layer/Level		Descr	iption	
C-AFLD-AIDS-	Airfield Navigational Aid -			
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined

Information Assurance Level	Unclassified				
	AIXM	NavaidEquipment	Extension		
Equivalent Standards	FGDC <i>NavaidEquipmentExtension</i> Extension				
	SDSFIE navigational_aid_point				
Documentation and	Document this fo	ature as described in paragraphs 1.5.	2 and 1 5 3		
Submission Requirements	Document uns le	ature as described in paragraphs <u>1.5.</u>	<u>.2</u> allu <u>1.3.3</u> .		
Related Features					

Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

Monumentation	No monumentation requ	uired.		
	Horizontal		Vertical	
Survey Point Location	Center of Antenna Array		ection of the grour ad, or other base a e HSP.	
		HSP		tical
Accuracy Requirements (in	Horizontal		Orthometric	Ellipsoidal
feet)	± 10 ft		± 20 ft	N/A
Resolution	Geographic Coord	inates		d Elevations
	Hundredth of arc s		Nearest	one foot
Feature Attributes				
Attribute (Datatype)			scription	
name (VARCHAR2 (50))	Name of the feat			
description (VARCHAR2 (255))) A description or subject item, lim		e information cono characters.	cerning the

faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS- 100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.15.Navaid Equipment – MLS Azimuth Antenna (MLSAZ)

Definition: Antenna in a Microwave Landing System (MLS) providing horizontal guidance for incoming aircraft. MLS is precision instrument approach system operating in the microwave spectrum which normally consists of an Azimuth Station, an Elevation Station and Precision Distance Measuring Equipment.

Lyupment.				
Feature Group	Navigational Aid	ls		
Feature Class Name	NavaidEquipmer	nt		
Feature Type	Point			
CADD Standard Requiremen	ts			
Layer/Level	Description			
C-AFLD-AIDS-	Airfield Navigati	ional Aid -		
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance	Unclassified			
Level				1
	AIXM	NavaidEquipmer	ıt	Extension
Equivalent Standards	FGDC	NavaidEquipmer	ıtExtension	Extension
	SDSFIE	navigational_aid	l_point	
Documentation and Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect	the position of the	NAVAID using the	HSP and the elev	ation at the VSP.
If the NAVAID penetrates an O	IS or is selected as	a representative of	bject, additionally	v identify,
classify and document the NAV	AID as an Obstacl	e and associated a	ccuracy. When ide	entifying a
NAVAID as an obstacle, survey	the highest point of	on the entire struct	ture as the top elev	vation including
appurtenances.				
Monumentation	No monumentati	on required.		

Monumentation	No monumentation required.	
Survey Point Location	Horizontal	Vertical
Survey I onit Location	Phase Center Reference Point	Phase Center Reference Point

	ines added to rey point locations	HSP VSP			
Accuracy Requirements (in	Horizontal		tical		
feet)	± 1 ft	Orthometric ± 1 ft	Ellipsoidal N/A		
	Geographic Coordinates	=,	d Elevations		
Resolution	Hundredth of arc second	Nearest			
Feature Attributes					
Attribute (Datatype)	De	scription			
name (VARCHAR2 (50))	Name of the feature				
description (VARCHAR2 (255)) A description or other uniqu subject item, limited to 255		cerning the		
faaFacilityId (String 4)	Enter the identifier. When r identifier of the associated lo "I" for ILS or "M" used with than one ASR is in operation associated location, these eq the letters A, B, C, etc., follo NQIB). The same applies to codes must be the same as th flight log. For ARSR facilit the controlling ARTCC or m will use the airport identifier [Source:FAA Order 8250-42]	bcalizer. Do not er the MLS systems at the same location upments will be identification op PAR identifiers. hose used to accommiss, use "Z" plus the initiary installation or and runway number 2]	ther the prefix Where more on or at an dentified with ation (e.g., These alpha aplish the daily he identifier of Light systems		
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NAVA	ID			
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	system. For example the loc- up the Instrument landing sy and MLS Elevation make up	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System			
useCode (Enumeration: CodeUseCode)	The code that represents the aeronautical navigational aid	l is utilized.			
antennaToThresholdDistance (R	teal) The distance in feet that the threshold. Provide the distant				

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.16.Navaid Equipment – MLS Elevation Antenna (MLSEZ)

Definition: Antenna in a Microwave Landing System (MLS) providing vertical guidance for incoming aircraft. MLS is precision instrument approach system operating in the microwave spectrum which normally consists of an Azimuth Station, an Elevation Station and Precision Distance Measuring Fauinment

Equipment.	
Feature Group	Navigational Aids
-	·

Feature Class Name	NavaidEquip	oment			
Feature Type	Point				
CADD Standard Requirements					
Layer/Level	A * C 1151		cription		
C-AFLD-AIDS-		igational Aid -			
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous		User Defined	
MicroStation Standards	7		7		
Information Assurance Level	Unclassified	M · IF ·	,	Entenden	
Equivalant Stondards	AIXM	* *		Extension	
Equivalent Standards	FGDC			Extension	
Documentation and Submission Requirements		SDSFIEnavigational_aid_pointDocument this feature as described in paragraphs 1.5.2 and 1.5.3.			
Related Features Data Capture Rules: <i>Collect the</i>				ation at the UCD	
If the NAVAID penetrates an OIS of classify and document the NAVAID NAVAID as an obstacle, survey the appurtenances. Monumentation) as an Obstacle e highest point c	e and associated a on the entire struct	ccuracy. When ide	ntifying a	
Monumentation		ntation required. rizontal	Vor	tical	
Survey Point Location		r Reference Point		Reference Point	
describe survey	point locations	1.			
		HSP			
Accuracy Bogwing on the fire		HSP HSP VSP	With the second secon	tical	
Accuracy Requirements (in feet)		tontal	Orthometric	Ellipsoidal	
Accuracy Requirements (in feet)	±	J ft	$\begin{array}{c} \textbf{Orthometric} \\ \pm 0.25 \text{ ft} \end{array}$	Ellipsoidal N/A	
feet)	± Geographic	I ft Coordinates	$\begin{array}{c} \textbf{Orthometric} \\ \pm 0.25 \text{ ft} \\ \textbf{Distances ar} \end{array}$	Ellipsoidal N/A d Elevations	
· ·	± Geographic	J ft	$\begin{array}{c} \textbf{Orthometric} \\ \pm 0.25 \text{ ft} \\ \textbf{Distances ar} \end{array}$	Ellipsoidal N/A	
feet)	± Geographic	I ft Coordinates	$\begin{array}{c} \textbf{Orthometric} \\ \pm 0.25 \text{ ft} \\ \textbf{Distances ar} \end{array}$	Ellipsoidal N/A d Elevations	
feet)	± Geographic	I ft Coordinates of arc second	$\begin{array}{c} \textbf{Orthometric} \\ \pm 0.25 \text{ ft} \\ \textbf{Distances ar} \end{array}$	Ellipsoidal N/A d Elevations	

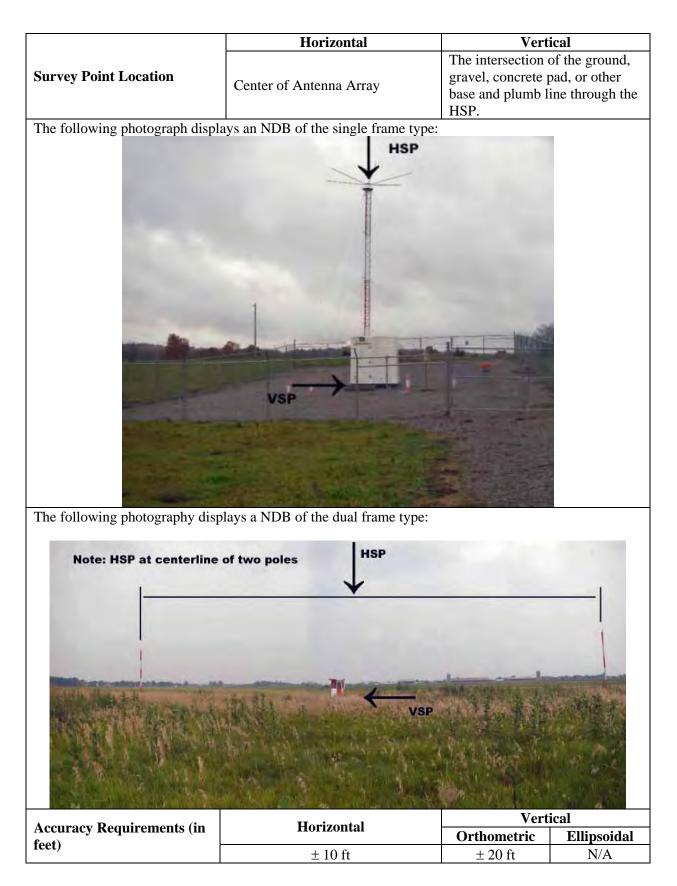
description (VARCHAR2 (255))	A description or other unique information concerning the
description (vrittern itt2 (255))	subject item, limited to 255 characters.
faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the
	identifier of the associated localizer. Do not enter the prefix
	"I" for ILS or "M" used with the MLS systems. Where more
	than one ASR is in operation at the same location or at an
	associated location, these equipments will be identified with
	the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha
	codes must be the same as those used to accomplish the daily
	flight log. For ARSR facilities, use "Z" plus the identifier of
	the controlling ARTCC or military installation. Light systems
	will use the airport identifier and runway number.
	[Source:FAA Order 8250-42]
navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	specifies the type of the value
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together
CodeNavaidSystemType)	make up the Instrument landing system (ILS) or the MLS
Codervavalusystem rype)	Azimuth and MLS Elevation make up a Microwave Landing
	System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
and the restored state (Real)	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the
	physical runway end. This should be the same distance as the
	antenna to threshold distance unless the runway end the
	navigational aid serves has a displaced threshold. Provide this
	distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
(centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	and derburger (be to though)
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.

F	
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used
	to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.17.Navaid Equipment – Non-Directional Beacon (NDB)

		· /		
Definition: An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an				
aircraft equipped with direction finding equipment can determine his/her bearing to or from the radio				
beacon and "home" on or track to or from the station. When the radio beacon is installed in conjunction				
with the Instrument Landing Sys	stem marker, it is	normally called a C	ompass Locator.	
Feature Group	Navigational Aids			
Feature Class Name	NavaidEquipme	ent		
Feature Type	Point			
CADD Standard Requirement	S			
Layer/Level Description				
C-AFLD-AIDS-	Airfield Navigational Aid -			
	Color Line Type Line Weight Symbol			
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance Level Unclassified				
	AIXM	NavaidEquipment	L	Extension
Equivalent Standards	FGDC	FGDCNavaidEquipmentExtensionExtension		
	SDSFIE	navigational_aid_	point	
Documentation and				
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect th	he position of the	NAVAID using the I	HSP and the eleva	tion at the VSP.
If the NAVAID penetrates an OL	S or is selected as	a representative of	bject, additionally	identify,
classify and document the NAVA	ID as an Obstacl	e and associated ac	curacy. When ider	ntifying a
NAVAID as an obstacle, survey	the highest point o	on the entire structu	re as the top eleve	tion including
appurtenances.			-	5
**				

appurienances.	
Monumentation	No monumentation required.



Resolution	Geographic Coordinates	Distances and Elevations		
	Hundredth of arc second	Nearest one foot		
Feature Attributes				
Attribute (Datatype)		scription		
name (VARCHAR2 (50))	Name of the feature			
description (VARCHAR2 (255))		A description or other unique information concerning the subject item, limited to 255 characters.		
faaFacilityId (String 4)	identifier of the associated lo "I" for ILS or "M" used with than one ASR is in operation associated location, these equ the letters A, B, C, etc., follow NQIB). The same applies to codes must be the same as the flight log. For ARSR facilitie the controlling ARTCC or mi will use the airport identifier [Source:FAA Order 8250-42]	ipments will be identified with wing the identification (e.g., PAR identifiers. These alpha ose used to accomplish the daily es, use "Z" plus the identifier of ilitary installation. Light systems and runway number.]		
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NAVAI	D		
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	system. For example the loca up the Instrument landing sys	equipment as part of an overall lizer and glideslope together make stem (ILS) or the MLS Azimuth a Microwave Landing System		
useCode (Enumeration: CodeUseCode)		airspace structure in which the		
antennaToThresholdDistance (R	eal) The distance in feet that the a			
centerlineDistance (Real)	Distance from the centerline physical runway end. This sl antenna to threshold distance	perpendicular point to the hould be the same distance as the unless the runway end the displaced threshold. Provide this		
stopEndDistance (Real)	Provide the distance distance centerline to the stop end of t	the from the antenna along the he runway.		
offsetDistance (Real)		eature is offset from the runway nce to the nearest tenth of a foot.		
offsetDirection	Enter the direction (right, left			
(Enumeration:	navigational aid is offset from	-		
CodeOffsetDirection)	runway.	e approach threshold down the		
lightingType (Enumeration: CodeLightingConfigurationType	The type of Visual navigation CodeNavaidEquipmentType	nal aid system (use only when is set to "visual")		
status (Enumeration: codeStatus)		e operational status of the feature. ribe real-time status.		
owner (String 75)	The owner of the facility			

runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS- 100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.18.Navaid Equipment – Outer Marker (OM)

Definition: A marker beacon at or near the glideslope intercept altitude of an ILS approach. It is keyed to transmit two dashes per second on a 400 Hz tone, which is received aurally and visually by compatible airborne equipment. The OM is normally located four to seven miles from the runway threshold on the extended centerline of the runway.

Feature Group	Navigational Aids				
Feature Class Name	NavaidEquipment				
Feature Type	Point				
CADD Standard Requirements	CADD Standard Requirements				
Layer/Level	Description				
C-AFLD-AIDS-	Airfield Navigational Aid -				
	Color Line Type Line Weight Symbol				
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	7 7 7 7		User Dermeu	
Information Assurance Level	Unclassified				
	AIXM NavaidEquipment Extension				
Equivalent Standards	FGDC	<i>NavaidEquipmentExtension</i> Extension		Extension	
	SDSFIE	navigational_aid	_point		
Documentation and				5.2 and 1.5.3	
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.				

Related Features				
If the NAVAID penetrates an OIS classify and document the NAVA	te position of the NAVAID using the S or is selected as a representative ID as an Obstacle and associated of he highest point on the entire struc	object, additionally accuracy. When ide	identify, ntifying a	
Monumentation	No monumentation required.			
	· · · · · · · · · · · · · · · · · · ·	Horizontal Vertical		
Survey Point Location	Center of Antenna Array	The intersection of the ground gravel, concrete pad, or other base and plumb line through th HSP.		
	VSP			
	II	Vert		
Accuracy Requirements (in			tical	
Accuracy Requirements (in	Horizontal	Orthometric	tical Ellipsoidal	
feet)	± 10 ft	$\begin{array}{c} \textbf{Orthometric} \\ \pm 20 \text{ ft} \end{array}$		
feet)			Ellipsoidal N/A	
	± 10 ft	± 20 ft	Ellipsoidal N/A d Elevations	
feet) Resolution Feature Attributes	± 10 ft Geographic Coordinates	± 20 ft Distances an	Ellipsoidal N/A d Elevations	
feet) Resolution Feature Attributes Attribute (Datatype)	± 10 ft Geographic Coordinates Hundredth of arc second De	± 20 ft Distances an	Ellipsoidal N/A d Elevations	
feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	± 10 ft Geographic Coordinates Hundredth of arc second Name of the feature	± 20 ft Distances an Nearest escription	Ellipsoidal N/A d Elevations one foot	
feet) Resolution Feature Attributes Attribute (Datatype)	± 10 ft Geographic Coordinates Hundredth of arc second Name of the feature	± 20 ft Distances an Nearest escription the information conc	Ellipsoidal N/A d Elevations one foot	

navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
	and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the
	physical runway end. This should be the same distance as the
	antenna to threshold distance unless the runway end the
	navigational aid serves has a displaced threshold. Provide this
	distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
*	centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway
	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	-
	FAA AAS-100]
thresholdCrossingHeight (Real)	FAA AAS-100]The designated crossing height of the flight path angle above
thresholdCrossingHeight (Real)	FAA AAS-100]
thresholdCrossingHeight (Real) highAngle (Real)	FAA AAS-100]The designated crossing height of the flight path angle above
	FAA AAS-100] The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
	FAA AAS-100]The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).Maximum approach light vertical angle [Source: FAA AAS-
highAngle (Real)	 FAA AAS-100] The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point). Maximum approach light vertical angle [Source: FAA AAS-100]
highAngle (Real)	FAA AAS-100]The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).Maximum approach light vertical angle [Source: FAA AAS- 100]An operator-defined work area. This attribute can be used by

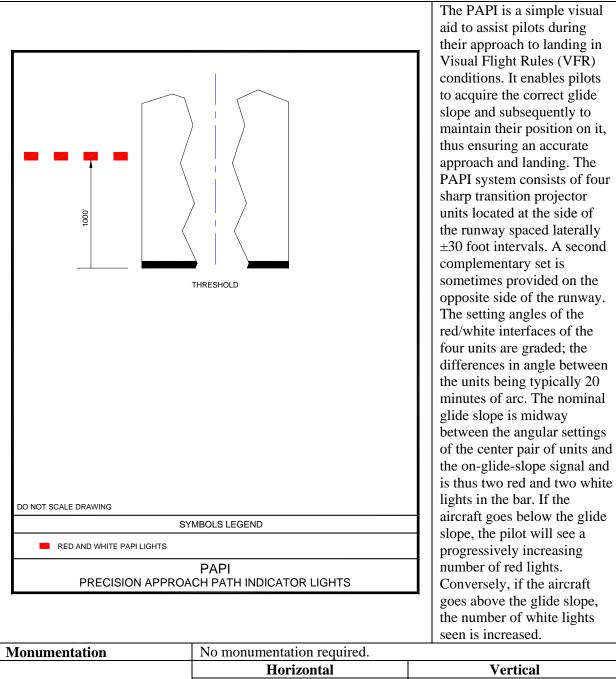
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.19.Navaid Equipment – Precision Approach Path Indicator (PAPI) System

Definition: An airport lighting facility, similar to VASI, providing vertical approach slope guidance to aircraft during approach to landing. PAPIs consist of a single row of either two or four lights, normally installed on the left side of the runway, and have an effective visual range of about 5 miles during the day and up to 20 miles at night. PAPIs radiate a directional pattern of high intensity red and white focused light beams which indicate that the pilot is "on path" if the pilot sees an equal number of white lights and red lights, with white to the left of the red; "above path" if the pilot sees more white than red lights.

lights; and "below path" if the	pilot sees more red	than white lights.		
Feature Group	Navigational Ai	ds		
Feature Class Name	NavaidEquipme	nt		
Feature Type	Point			
CADD Standard Requirement	nts			
Layer/Level		Descr	iption	
C-AFLD-AIDS-		Airfield Navigational Aid -		
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	Lloon Dofined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance Level	Unclassified			
	AIXM	NavaidEquipmer	nt	Extension
Equivalent Standards	FGDC	NavaidEquipmer	itExtension	Extension
	SDSFIE	navigational_aia	_point	
Documentation and Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect	the position of the	NAVAID using the	e HSP and the elev	vation at the VSP.

Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.



	No monumentation required:		
	Horizontal	Vertical	
Survey Point Location	Center of light array	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	

	HSP				
	VSP				
Accuracy Requirements (in	Horizontal	Vertical			
feet)	± 5 ft	Orthometric ± 10 ft	Ellipsoidal N/A		
	Geographic Coordinates	Distances an			
Resolution	Hundredth of arc second	Nearest			
Feature Attributes	Hundredun of the second	ivearest			
Attribute (Datatype)	De	scription			
name (VARCHAR2 (50))	Name of the feature	•			
description (VARCHAR2 (255)) A description or other uniqu	A description or other unique information concerning the			
-	subject item, limited to 255	subject item, limited to 255 characters.			
faaFacilityId (String 4)	identifier of the associated lo "I" for ILS or "M" used with than one ASR is in operation associated location, these eq the letters A, B, C, etc., follo NQIB). The same applies to codes must be the same as th flight log. For ARSR facilit the controlling ARTCC or m will use the airport identifier [Source:FAA Order 8250-42	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42]			
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NAVA				
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	system. For example the loc make up the Instrument land	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System			
useCode (Enumeration:	The code that represents the	The code that represents the airspace structure in which the			
CodeUseCode)		aeronautical navigational aid is utilized.			
antennaToThresholdDistance (F			-		
centerlineDistance (Real)	threshold. Provide the distantDistance from the centerlinephysical runway end. This santenna to threshold distancenavigational aid serves has adistance to the nearest tenth	perpendicular poi hould be the same e unless the runwa displaced thresho	nt to the distance as the y end the		

stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.		
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.		
offsetDirection	Enter the direction (right, left, or on centerline) the		
(Enumeration:	navigational aid is offset from the runway. Determine the		
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.		
lightingType	The type of Visual navigational aid system (use only when		
(Enumeration:	CodeNavaidEquipmentType is set to "visual")		
CodeLightingConfigurationType)			
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.		
	This attribute is used to describe real-time status.		
owner (String 75)	The owner of the facility		
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.		
	When more than one runway is served by a precision approach		
	aid (such as a PAR), provide a separate feature for each		
	runway. This attribute is only required for ILS, MLS, TLS,		
	and PAR.		
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the		
	referencePoint.		
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.		
	Provide this distance to the nearest tenth of a foot. [Source:		
	FAA AAS-100]		
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above		
	the Landing Threshold Point (or Fictitious Threshold Point).		
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]		
userFlag (String 254)	An operator-defined work area. This attribute can be used by		
	the operator for user-defined system processes. It does not		
	affect the subject item's data integrity and should not be used to		
	store the subject item's data.		
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the		
	elevation is the center of the antenna cover. For MLSAZ,		
	MLSEL, and End Fire Type Glide Slope Antennas, the		
	elevation is the phase center of the reference point.		
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together		
	into a version.		

5.10.20.Navaid Equipment – Precision Approach Radar (PAR) Touchdown Reflectors

Definition: Radar equipment in some ATC facilities operated by the FAA and/or the military services at joint-use civil/military locations and separate military installations to detect and display azimuth, elevation, and range of aircraft on the final approach course to a runway.

Feature Group	Navigational Aids		
Feature Class Name	NavaidEquipment		
Feature Type	Point		
CADD Standard Requirements			
Layer/Level	Description		
C-AFLD-AIDS-	Airfield Navigational Aid -		

	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Centimere	1	User Defined	
MicroStation Standards	7	- Continuous	7	User Defined	
Information Assurance Level	Unclassified				
	AIXM	NavaidEquipmer	ıt	Extension	
Equivalent Standards	FGDC	NavaidEquipmer	ntExtension	Extension	
-	SDSFIE	navigational_aid			
Documentation and Submission Requirements	Document this f	·	in paragraphs <u>1.5.2</u> and <u>1.5.3</u> .		
Related Features					
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV. NAVAID as an obstacle, survey appurtenances.	IS or is selected a AID as an Obstac	s a representative of le and associated a	bject, additionally ccuracy. When ide	identify, ntifying a	
Monumentation	No monumentat	ion required.			
		izontal	Ver	tical	
			The intersection	of the ground,	
Survey Point Location	Contraction		gravel, concrete pad, or other		
	Center of array		base and plumb line through the		
			HSP.		
Accuracy Bequirements (in	Hor	Horizontal		Vertical	
Accuracy Requirements (in feet)	1101		Orthometric	tric Ellipsoidal	
leet)	± 5 ft		± 10 ft	N/A	
Deschution	Geographic	c Coordinates	Distances and Elevations		
Resolution	Hundredth	of arc second	Nearest one foot		
Feature Attributes					
Attribute (Datatype)		De	escription		
name (VARCHAR2 (50))	Name of	the feature	2		
description (VARCHAR2 (255					
	subject item, limited to 255 characters.				
faaFacilityId (String 4)	Enter the	identifier. When r	eporting on a glide	slope, enter the	
	identifier of the associated localizer. Do not enter the prefix				
	"I" for ILS or "M" used with the MLS systems. Where more				
	than one ASR is in operation at the same location or at an				
	associated location, these equipments will be identified with				
	the letters A, B, C, etc., following the identification (e.g.,				
	NQIB). The same applies to PAR identifiers. These alpha				
	codes must be the same as those used to accomplish the daily				
	flight log. For ARSR facilities, use "Z" plus the identifier of				
	the controlling ARTCC or military installation. Light systems				
	will use the airport identifier and runway number.				
	[Source:FAA Order 8250-42]				
	I Constitute	the type of NAVA	11)		
navaidEquipmentType	Specifies	the type of 101101			
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies				

navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall	
(Enumeration:	system. For example the localizer and glideslope together make	
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth	
	and MLS Elevation make up a Microwave Landing System	
useCode (Enumeration:	The code that represents the airspace structure in which the	
CodeUseCode)	aeronautical navigational aid is utilized.	
antennaToThresholdDistance (Real)		
	threshold. Provide the distance to the nearest tenth of a foot.	
centerlineDistance (Real)	Distance from the centerline perpendicular point to the	
conternineDistance (real)	physical runway end. This should be the same distance as the	
	antenna to threshold distance unless the runway end the	
	navigational aid serves has a displaced threshold. Provide this	
	distance to the nearest tenth of a foot.	
stopEndDistance (Real)	Provide the distance distance the from the antenna along the	
	centerline to the stop end of the runway.	
offsetDistance (Real)	The distance in feet that the feature is offset from the runway	
	centerline. Provide this distance to the nearest tenth of a foot.	
offsetDirection	Enter the direction (right, left, or on centerline) the	
(Enumeration:	navigational aid is offset from the runway. Determine the	
CodeOffsetDirection)	appropriate direction from the approach threshold down the	
	runway.	
lightingType	The type of Visual navigational aid system (use only when	
(Enumeration:	CodeNavaidEquipmentType is set to "visual")	
CodeLightingConfigurationType)	Coder (d'aladiquipment l'ype is set to "fisual")	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.	
status (Enumeration: codestatus)	This attribute is used to describe real-time status.	
owner (String 75)	The owner of the facility	
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.	
	When more than one runway is served by a precision approach	
	aid (such as a PAR), provide a separate feature for each	
	runway. This attribute is only required for ILS, MLS, TLS,	
	and PAR.	
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the	
	referencePoint.	
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.	
	Provide this distance to the nearest tenth of a foot. [Source:	
	FAA AAS-100]	
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above	
	the Landing Threshold Point (or Fictitious Threshold Point).	
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-	
	100]	
userFlag (String 254)	An operator-defined work area. This attribute can be used by	
usering (string 25 t)	the operator for user-defined system processes. It does not	
	affect the subject item's data integrity and should not be used to	
	store the subject item's data.	
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the	
	elevation is the center of the antenna cover. For MLSAZ,	
	MLSEL, and End Fire Type Glide Slope Antennas, the	
	elevation is the phase center of the reference point.	

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.21.Navaid Equipment – Pulse Light Approach Slope Indicator (PLASI) System

Definition: Pulse Light Approach Slope Indicator (PLASI) systems are a visual approach aid for use in visual flight conditions.

visual ment conditions.					
Feature Group	Navigational Aids				
Feature Class Name	NavaidEquipment				
Feature Type	Point				
CADD Standard Requirement	S				
Layer/Level	Description				
C-AFLD-AIDS-	Airfield Navigational Aid -				
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	Continuous	7		
Information Assurance Level	Unclassified				
	AIXM	NavaidEquipment		Extension	
Equivalent Standards	FGDC	NavaidEquipmentExtension		Extension	
	SDSFIE	navigational_aid_point			
Documentation and					
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.				
Related Features					
Data Capture Rules: Collect th	he position of the	NAVAID using the	HSP and the eleve	ation at the VSP.	

If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

uppurientances.				
Monumentation	No monumentation required.			
		Horizontal	Vertical	
			The intersection of the ground,	
Survey Point Location	Cor	Center of light array	gravel, concrete pad, or other	
	Cel	ter of fight array	base and plumb line through the	
			HSP.	
Accuracy Requirements (in feet)		Horizontal	Vertical	
		Horizontai	Orthometric	Ellipsoidal
	± 5 ft		± 10 ft	N/A
Resolution	Geographic Coordinates		Distances and Elevations	
		Hundredth of arc second Nearest one foot		one foot
Feature Attributes				
Attribute (Datatype)		De	scription	
name (VARCHAR2 (50))	Name of the feature			
description (VARCHAR2 (255))		A description or other unique information concerning the		
		subject item, limited to 255 characters.		

faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the
Taar achityta (Sunig 4)	identifier of the associated localizer. Do not enter the prefix
	"I" for ILS or "M" used with the MLS systems. Where more
	than one ASR is in operation at the same location or at an
	associated location, these equipments will be identified with
	the letters A, B, C, etc., following the identification (e.g.,
	NQIB). The same applies to PAR identifiers. These alpha
	codes must be the same as those used to accomplish the daily
	flight log. For ARSR facilities, use "Z" plus the identifier of
	the controlling ARTCC or military installation. Light systems
	will use the airport identifier and runway number.
	[Source:FAA Order 8250-42]
navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	specifies the type of IVAVAID
CodeNavaidequipmentType)	
	Identifies the newigational aid equipment as part of an overall
navigationalAidSystemType (Enumeration:	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
CodenavaldSystemType)	
useCode (Enumeration:	and MLS Elevation make up a Microwave Landing System The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
· · · · · · · · · · · · · · · · · · ·	
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway threshold. Provide the distance to the respect to the feet
$\sum_{n=1}^{\infty} (\mathbf{p}_{n+1})$	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the
	physical runway end. This should be the same distance as the
	antenna to threshold distance unless the runway end the
	navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Beel)	
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
offsetDistance (Real)	centerline to the stop end of the runway. The distance in feet that the feature is offset from the runway
offsetDistance (Real)	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	
(Enumeration:	Enter the direction (right, left, or on centerline) the navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
lightingType	runway. The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	Coucivavalui: Yupinent i ype is set to visual)
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
status (Enumeration. couestatus)	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
TunwayEnutu (Sullig 5)	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS- 100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.22.Navaid Equipment – Pulsating Visual Approach Slope Indicator (PVASI)

Definition: The Visual Approach Slope Indicator (VASI) is a system of lights on the side of an airport runway that provides visual descent guidance information during the approach to a runway.

Feature Group	Navigational A	ids		
Feature Class Name	NavaidEquipm	ent		
Feature Type	Point			
CADD Standard Requirement	nts			
Layer/Level		Desc	cription	
C-AFLD-AIDS-		Airfield Nav	vigational Aid -	
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Denned
Information Assurance	Unclassified			
Level	Uliciassified			
	AIXM	NavaidEquipmen	t	Extension
Equivalent Standards	FGDC	NavaidEquipmen	tExtension	Extension
	SDSFIE navigational_aid_point			
Documentation and	Document this	facture of describe	d in nonoomonha 15	2 and 1 5 2
Submission Requirements	Document this	feature as describe	u ili paragrapiis <u>1.5</u>	<u>.∠</u> and <u>1.3.3</u> .
Related Features				

Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

Monumentation	No monumentation required.	
	Horizontal	Vertical
Survey Point Location	Center of light array	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.

	HSP	
	*	
-	-	
		and the second se
	10 7	

	TT · / 1	V	Vertical		
Accuracy Requirements	Horizontal	Orthometric	Ellipsoidal		
(in feet)	± 5 ft	± 10 ft	N/A		
Resolution	Geographic Coordinates	Distances	and Elevations		
Resolution	Hundredth of arc second	Neare	st one foot		
Feature Attributes					
Attribute (Datatype)		Description			
name (VARCHAR2 (50))	Name of the feature				
description (VARCHAR2 (255	5)) A description or other us subject item, limited to 2	•	concerning the		
faaFacilityId (String 4)	identifier of the associate "I" for ILS or "M" used than one ASR is in opera associated location, thes the letters A, B, C, etc., NQIB). The same appli- codes must be the same flight log. For ARSR fa the controlling ARTCC will use the airport ident	 Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] 			
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NA	VAID			
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	Identifes the navigationa system. For example the up the Instrument landin and MLS Elevation mak	localizer and glide g system (ILS) or e up a Microwave	eslope together make the MLS Azimuth Landing System		
useCode (Enumeration: CodeUseCode)	The code that represents aeronautical navigationa	l aid is utilized.			
antennaToThresholdDistance (Real) The distance in feet that threshold. Provide the d		•		

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS- 100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.23.Navaid Equipment – Runway End Identifier Lights (REIL)

Definition: Two synchronized flashing lights, one on each side of the runway threshold, which provide		
rapid and positive identification of the approach end of a particular runway.		
Feature Group	Navigational Aids	
Feature Class Name	NavaidEquipment	
Feature Type	Point	

CADD Standard Requirement	ts			
Layer/Level	Description			
C-AFLD-AIDS-		Airfield Nav	vigational Aid -	
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance	Unclassified			
Level	Unclassified			
	AIXM	NavaidEquipmen	ıt	Extension
Equivalent Standards	FGDCNavaidEquipmentExtensionExtension		Extension	
	SDSFIE	navigational_aid	_point	
Documentation and	Decument this feature as described in performing 1.5.2 and 1.5.2			
Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect t	he position of the	NAVAID using th	e HSP and the elev	vation at the VSP.
If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify,				
classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a				
NAVAID as an obstacle, survey	NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including			vation including
appurtenances.				

IS 10	THREEHOLD THREEHOLD	two flashing intensity lig each approa a runway. T directed tow approach zo	tem consisting of g, white, high hts located at ich end corner of The REILs are wards the one to enable ntify the end of
RUNWAY END IN	IDENTIFICATION LIGHTS	1	
Monumentation	No monumentation required.		
	Horizontal		tical
Survey Point Location	Center of Light	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	
Accuracy Requirements (in	Horizontal	Vertical	
feet)		Orthometric	Ellipsoidal N/A
	± 3 ft Geographic Coordinates	± 5 ft Distances at	n/A nd Elevations
	Ocographic Coordinates		
Resolution		Nearest	one toot
	Hundredth of arc second	Nearest	one foot
Feature Attributes	Hundredth of arc second		one foot
	Hundredth of arc second	Nearest Description	one foot

faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the
Taar achityta (Sunig 4)	identifier of the associated localizer. Do not enter the prefix
	"I" for ILS or "M" used with the MLS systems. Where more
	than one ASR is in operation at the same location or at an
	associated location, these equipments will be identified with
	the letters A, B, C, etc., following the identification (e.g.,
	NQIB). The same applies to PAR identifiers. These alpha
	codes must be the same as those used to accomplish the daily
	flight log. For ARSR facilities, use "Z" plus the identifier of
	the controlling ARTCC or military installation. Light systems
	will use the airport identifier and runway number.
	[Source:FAA Order 8250-42]
navaidEquipmentType	Specifies the type of NAVAID
(Enumeration:	specifies the type of IVAVAID
CodeNavaidequipmentType)	
	Identifies the newigational aid equipment as part of an everall
navigationalAidSystemType (Enumeration:	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth
CodenavaldSystemType)	
useCode (Enumeration:	and MLS Elevation make up a Microwave Landing System The code that represents the airspace structure in which the
CodeUseCode)	
· · · · · · · · · · · · · · · · · · ·	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway threshold. Provide the distance to the respect to the feet
$\sum_{n=1}^{\infty} (\mathbf{p}_{n+1})$	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the
	physical runway end. This should be the same distance as the
	antenna to threshold distance unless the runway end the
	navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Beel)	
stopEndDistance (Real)	Provide the distance distance the from the antenna along the
offsetDistance (Real)	centerline to the stop end of the runway. The distance in feet that the feature is offset from the runway
offsetDistance (Real)	centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	
(Enumeration:	Enter the direction (right, left, or on centerline) the navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
lightingType	runway. The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	Coucivavalui: Yupinent i ype is set to visual)
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
status (Enumeration. couestatus)	This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
TunwayEnutu (Sullig 5)	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.24.Navaid Equipment – Simplified Directional Facility (SDF)

Definition: NAVAID used for nonprecision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy.

accuracy.				
Feature Group	Navigational Aid	ls		
Feature Class Name	NavaidEquipment			
Feature Type	Point			
CADD Standard Requiremen	ts			
Layer/Level	Description			
C-AFLD-AIDS-		Airfield Navi	gational Aid -	
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Defined
Information Assurance	Unclassified			
Level	Uliciassified			
	AIXM	NavaidEquipmer	ıt	Extension
Equivalent Standards	FGDC	NavaidEquipmer	itExtension	Extension
	SDSFIE	navigational_aia	l_point	
Documentation and Submission Requirements	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features				
Data Capture Rules: Collect t	the position of the	NAVAID using the	HSP and the eleve	ation at the VSP.
If the NAVAID penetrates an O		8		
classify and document the NAV		•	• •	
NAVAID as an obstacle, survey			•	
appurtenances.			1	0
Monumentation	No monumentati	on required.		
		-		

		Horizontal	Vert	ical
Survey Point Location		ter of Antenna Supporting cture	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	
A		Hanizantal	Vert	ical
Accuracy Requirements (in feet)		Horizontal	Orthometric	Ellipsoidal
		± 1 ft	± 1 ft	N/A
Resolution		Geographic Coordinates	Distances and Elevations	
		Hundredth of arc second	Nearest of	one foot
Feature Attributes		D		
Attribute (Datatype)			scription	
name (VARCHAR2 (50))		Name of the feature	·:	• .1
description (VARCHAR2 (255)))	A description or other unique		erning the
		subject item, limited to 255 c		11
faaFacilityId (String 4) navaidEquipmentType		Enter the identifier. When re- identifier of the associated lo "I" for ILS or "M" used with than one ASR is in operation associated location, these equi- the letters A, B, C, etc., follo NQIB). The same applies to codes must be the same as the flight log. For ARSR facilities the controlling ARTCC or m will use the airport identifier [Source:FAA Order 8250-42] Specifies the type of NAVA	bcalizer. Do not en- the MLS systems. a the same location upments will be id owing the identifica PAR identifiers. Those used to accomp- tes, use "Z" plus the ultary installation.	ter the prefix Where more on or at an entified with tion (e.g., These alpha plish the daily e identifier of Light systems
(Enumeration: CodeNavaidequipmentType)				
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)		Identifes the navigational aid system. For example the loca up the Instrument landing sy and MLS Elevation make up	alizer and glideslop stem (ILS) or the M	e together make ILS Azimuth
useCode (Enumeration: CodeUseCode)		The code that represents the aeronautical navigational aid	airspace structure i	
antennaToThresholdDistance (Real) The distance in feet that the antenna is from the r threshold. Provide the distance to the nearest ten		•		
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance a antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide distance to the nearest tenth of a foot.		t to the distance as the end the	
stopEndDistance (Real)		Provide the distance distance centerline to the stop end of		ina along the
offsetDistance (Real)		The distance in feet that the tenter in the tenter of the distance in feet that the tenter in the distance in	feature is offset from	

offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the
,	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	eodor (uvulai quipinoner ypo is set to visuar)
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
status (Enumeration. codestatus)	This attribute is used to describe real-time status.
owner (String 75)	
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS,
	and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
	referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-
	100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
- postalie (unon (real)	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.25.Navaid Equipment – Tactical Air Navigation (TACAN)

Definition: An ultra-high frequency electronic rho-theta air navigation aid which provides suitably				
equipped aircraft a continuous i	ndication of beari	ng and distance to	the TACAN station	n.
Feature Group	Navigationa	Navigational Aids		
Feature Class Name	NavaidEqui	NavaidEquipment		
Feature Type	Point			
CADD Standard Requiremen	CADD Standard Requirements			
Layer/Level	Description			
C-AFLD-AIDS-	Airfield Navigational Aid -			
	Color Line Type Line Weight Symbol			
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Denneu
Information Assurance	Unclassified			
Level	Unclassified			
Equivalent Standards	AIXM	NavaidEquipmer	nt	Extension

	FGDC	NavaidEquipme	ntExtension	Extension	
	SDSFIE	navigational_ai		•	
Documentation and Submission Requirements	Document this feature as described in paragraphs <u>$1.5.2$</u> and <u>$1.5.3$</u> .		<u>.2</u> and <u>1.5.3</u> .		
Related Features					
Data Capture Rules: Collect If the NAVAID penetrates an classify and document the NA NAVAID as an obstacle, survey appurtenances.	OIS or is sele VAID as an O	cted as a represen bstacle and associ	tative object, add ated accuracy. W	itionally identify, hen identifying a	
Monumentation	No monumenta	ation required.			
		rizontal		rtical	
Survey Point Location	Center of Ante	Center of Antenna Cover Center of Antenna Cover Hubble Cover Center of Antenna		pad, or other	
	- 24milion -		VSP	tical	
Accuracy Requirements (in	Ho	rizontal			
feet)		10.6	Orthometric	Ellipsoidal	
		= 10 ft	$\pm 20 \text{ ft}$	N/A	
Resolution	Geographic Coordinates Hundredth of arc second			Distances and Elevations Nearest one foot	
Feature Attributes	Tunureuu	i or are second	Incalest		
Attribute (Datatype)		ח	escription		
name (VARCHAR2 (50))	Name o	f the feature			
description (VARCHAR2 (50))			ue information con	cerning the	
ucsenpuoli (VARCHARZ (233)	A description or other unique information concerning the subject item, limited to 255 characters.				

faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.26.Navaid Equipment – Tricolor Visual Approach Slope Indicator System (TRCV)

Definition: Tri-color visual approach slope indicators normally consist of a single light unit projecting a three-color visual approach path into the final approach area of the runway upon which the indicator is installed.

is instancu.				
Feature Group	Navigational Aid	ds		
Feature Class Name	NavaidEquipme	nt		
Feature Type	Point			
CADD Standard Requirement	nts			
Layer/Level		Description		
C-AFLD-AIDS-		Airfield Navi	gational Aid -	
	Color	Line Type	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1	User Defined
MicroStation Standards	7	Continuous	7	User Dernied
Information Assurance	Unclassified			
Level	Unclassified			
	AIXM	NavaidEquipmen	et (Extension
Equivalent Standards	FGDC	NavaidEquipmen	tExtension	Extension
	SDSFIE navigational_aid_point			
Documentation and	Decument this f	actura og dagarikad	in noncomple 15	0 and 152
Submission Requirements	Document uns 16	eature as described	in paragraphs <u>1.5.</u>	<u>.2</u> and <u>1.5.5</u> .
Related Features				
Data Capture Rules: Collect	the position of the	NAVAID using the	HSP and the eleve	ation at the VSP.
If the NAVAID a substant of the O		,	1. , 11., 11	• 1

If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

Monumentation	No monumentation required.	
	Horizontal	Vertical
Survey Point Location	Center of light array	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.

	HSP		tical	
Accuracy Requirements (in	Horizontal	Orthometric	Ellipsoidal	
feet)	± 5 ft	$\pm 10 \text{ ft}$	N/A	
Deschaften	Geographic Coordinates		d Elevations	
Resolution	Hundredth of arc second	Nearest	one foot	
Feature Attributes				
Attribute (Datatype)		escription		
name (VARCHAR2 (50))	Name of the feature			
description (VARCHAR2 (255)) faaFacilityId (String 4) navaidEquipmentType (Enumeration:	subject item, limited to 255 Enter the identifier. When a identifier of the associated 1 "I" for ILS or "M" used with than one ASR is in operation associated location, these ex- the letters A, B, C, etc., follow NQIB). The same applies to codes must be the same as the flight log. For ARSR facility the controlling ARTCC or m will use the airport identifie [Source:FAA Order 8250-4]	A description or other unique information concerning the subject item, limited to 255 characters. Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID		
CodeNavaidequipmentType) navigationalAidSystemType (Enumeration: CodeNavaidSystemType) useCode (Enumeration: CodeUseCode) antennaToThresholdDistance (Ref	Identifes the navigational aisystem. For example the locup the Instrument landing syand MLS Elevation make upThe code that represents theaeronautical navigational aideal)The distance in feet that thethreshold. Provide the dista	alizer and glideslo vstem (ILS) or the a Microwave Lar airspace structure d is utilized. antenna is from the	pe together make MLS Azimuth ading System in which the e runway	

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.27.Navaid Equipment – "T" Visual Approach Slope Indicator System (T-VASI) Definition: T-VASI system provides approach slope guidance by means of illuminated symbols like the PAPI.

Feature Group	Navigational Aids
Feature Class Name	NavaidEquipment
Feature Type	Point

CADD Standard Requiremen	its				
Layer/Level	Description				
C-AFLD-AIDS-			Airfield Navi	gational Aid -	
	0	Color	Line Type	Line Weight	Symbol
AutoDesk Standards		4	Continuous	1	User Defined
MicroStation Standards		7	Continuous	7	Oser Defined
Information Assurance Level	Uncla	ssified			
	AIXM NavaidEquipment Extension			Extension	
Equivalent Standards	FGDO		NavaidEquipmer	ntExtension	Extension
	SDSF	IE	navigational_aid	_point	
Documentation and Submission Requirements	Docur	nent this fe	eature as described	in paragraphs <u>1.5.</u>	<u>2</u> and <u>1.5.3</u> .
Related Features					
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey appurtenances.	IS or is AID as o the hig	selected as an Obstacl hest point o	a representative of e and associated a on the entire struct	bject, additionally ccuracy. When ide	identify, ntifying a
Monumentation	No mo		on required.		
		Horiz	zontal	Ver	
Survey Point Location	Center	r of light ar	тау	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.	
Accuracy Requirements (in		Horiz	zontal	Ver	
feet)				Orthometric	Ellipsoidal
,	± 5 ft				
	~			± 10 ft	± 10 ft
Resolution		eographic	Coordinates	Distances an	d Elevations
		eographic			d Elevations
Feature Attributes		eographic	Coordinates of arc second	Distances an Nearest	d Elevations
Feature Attributes Attribute (Datatype)		eographic Iundredth c	Coordinates of arc second	Distances an	d Elevations
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))	H	eographic Iundredth c Name of	Coordinates of arc second Do the feature	Distances an Nearest escription	d Elevations one foot
Feature Attributes Attribute (Datatype)	H	eographic lundredth o Name of A descrij	Coordinates of arc second Do the feature otion or other uniq	Distances an Nearest escription ue information con	d Elevations one foot
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	H	eographic Iundredth c Name of A descrij subject it	Coordinates of arc second Do the feature ption or other uniq em, limited to 255	Distances an Nearest escription ue information con characters.	d Elevations one foot
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))	H	eographic Iundredth o Name of A descrij subject it Enter the	Coordinates of arc second Dethe feature ption or other uniquem, limited to 255 identifier. When	Distances an Nearest escription ue information con characters. reporting on a glid	d Elevations one foot cerning the e slope, enter
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	H	eographic Iundredth o Name of A descrip subject it Enter the the ident	Coordinates of arc second Determined the feature ption or other uniquem, limited to 255 identifier. When ifier of the associa	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r	d Elevations one foot accerning the e slope, enter not enter the
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255	H	eographic Iundredth o Name of A descrij subject it Enter the the ident prefix "I	Coordinates of arc second Determined the feature otion or other uniquest tem, limited to 255 identifier. When ifier of the associa ' for ILS or "M" us	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s	d Elevations one foot accerning the e slope, enter not enter the systems. Where
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255	H	eographic lundredth o Name of A descrij subject it Enter the the ident prefix "I' more tha	Coordinates of arc second Determined the feature otion or other uniques the feature otion or other uniquest the feature otion of the associal other other other other other other the feature other other other other other other other other the feature the feature other other other other other other other other the feature the	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255	H	eographic Iundredth o Name of A descrij subject it Enter the the ident prefix "I' more tha an associ	Coordinates of arc second Dethe feature ption or other uniquem, limited to 255 identifier. When ifier of the associa ' for ILS or "M" us n one ASR is in op ated location, thes	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	H	eographic Iundredth o Name of A descrip subject it Enter the the ident prefix "I' more tha an associ with the	Coordinates of arc second Determined the feature otion or other uniques the feature otion or other uniquest the feature otion of the associal other other other other other other the feature other other other other other other other other the feature the feature other other other other other other other other the feature the	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g.,
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255	H	eographic Iundredth of Name of A descrij subject it Enter the the ident prefix "I' more tha an associ with the NQIB). codes mu	Coordinates of arc second Determined to 255 bidentifier. When ifier of the associa ' for ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies t ast be the same as the same	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers.	d Elevations one foot one foot cerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255	H	eographic Iundredth of Name of A descrip subject it Enter the the ident prefix "I' more tha an associ with the NQIB). codes mu flight log	Coordinates of arc second Determined the feature ption or other uniquest identifier. When ifier of the associat ' for ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies to ist be the same as to s. For ARSR facili	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s beration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus to	d Elevations one foot accerning the e slope, enter tot enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily he identifier of
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	H	eographic Iundredth of Name of A descrip subject it Enter the the ident prefix "I" more tha an associ with the NQIB). codes mu flight log the contr	Coordinates of arc second Determined to 255 e identifier. When ifier of the associat ' for ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies t ist be the same as g. For ARSR facili olling ARTCC or the second second of a conditional second second second second second the same applies to the same as the same as the same as the second second second second second second second second second second the same applies to the same as the same as the same as the same as the same second secon	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus t military installation	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily the identifier of n. Light systems
Feature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	H	eographic Iundredth o Name of A descrip subject it Enter the the ident prefix "I" more tha an associ with the NQIB). codes mu flight log the contr will use t	Coordinates of arc second Determined to 255 e identifier. When ifier of the associa ' for ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies t ist be the same as g. For ARSR facili olling ARTCC or the airport identifie	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus to military installation er and runway num	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily the identifier of n. Light systems
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) faaFacilityId (String 4)	H	eographic Iundredth of Name of A descrij subject it Enter the the ident prefix "I' more tha an associ with the NQIB). codes mu flight log the contr will use t [Source:]	Coordinates of arc second Determined to 255 of the feature of the feature of the feature of the association of the association if or ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies to ast be the same as to g. For ARSR facilition onling ARTCC or to the airport identified FAA Order 8250-4	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus t military installation er and runway num 2]	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily the identifier of n. Light systems
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) faaFacilityId (String 4) navaidEquipmentType	H	eographic Iundredth of Name of A descrij subject it Enter the the ident prefix "I' more tha an associ with the NQIB). codes mu flight log the contr will use t [Source:]	Coordinates of arc second Determined to 255 e identifier. When ifier of the associa ' for ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies t ist be the same as g. For ARSR facili olling ARTCC or the airport identifie	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus t military installation er and runway num 2]	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily the identifier of n. Light systems
Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) faaFacilityId (String 4)	H	eographic Iundredth of Name of A descrij subject it Enter the the ident prefix "I' more tha an associ with the NQIB). codes mu flight log the contr will use t [Source:]	Coordinates of arc second Determined to 255 of the feature of the feature of the feature of the association of the association if or ILS or "M" us n one ASR is in op ated location, thes letters A, B, C, etc The same applies to ast be the same as to g. For ARSR facilition onling ARTCC or to the airport identified FAA Order 8250-4	Distances an Nearest escription ue information con characters. reporting on a glid ted localizer. Do r sed with the MLS s peration at the same e equipments will ., following the ide to PAR identifiers. those used to accor ties, use "Z" plus t military installation er and runway num 2]	d Elevations one foot accerning the e slope, enter not enter the systems. Where e location or at be identified entification (e.g., These alpha nplish the daily the identifier of n. Light systems

navigationalAidSystemType (Enumeration:	Identifes the navigational aid equipment as part of an overall system. For example the localizer and glideslope together
CodeNavaidSystemType)	make up the Instrument landing system (ILS) or the MLS
	Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration: CodeOffsetDirection)	navigational aid is offset from the runway. Determine the
	appropriate direction from the approach threshold down the
	runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision
	approach aid (such as a PAR), provide a separate feature for
	each runway. This attribute is only required for ILS, MLS,
	TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the
referencePointThreshold (Real)	referencePoint. Distance from the runway reference point to the threshold.
referencer om timeshold (Keal)	Provide this distance to the nearest tenth of a foot. [Source:
	FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS- 100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used
	to store the subject item's data.
ellipsoidElevation (Real)	to store the subject item's data. The Base Elevation for most NAVAIDs. For ILS DME, the
ellipsoidElevation (Real)	
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal
	together into a version.

5.10.28.Navaid Equipment – VHF Omni Directional Range (VOR)

Definition: A ground based electronic newigetion aid transmitting yory high frequency newigetion					
Definition: A ground-based electronic navigation aid transmitting very high frequency navigation					
signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the					
NAS. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature. Voice features may be used by ATC or FSS for transmitting					
		a by ATC of FSS I	or transmitting		
instructions/information to pilo	1				
Feature Group	Navigational Ai				
Feature Class Name	NavaidEquipme	ent			
Feature Type	Point				
CADD Standard Requiremen	nts				
Layer/Level			ription		
C-AFLD-AIDS-		Airfield Navi	igational Aid -		
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Continuous	1	User Defined	
MicroStation Standards	7	Continuous	7	User Dermed	
Information Assurance	Unclassified				
Level	Unclassified				
	AIXM	NavigationalAidE	Equipment	Extension	
Equivalent Standards	FGDC	NavaidEquipment	tExtension	Extension	
	SDSFIE	navigational_aid_	point		
Documentation and	Description		- -	0 1 1 5 0	
Submission Requirements	Document this i	feature as described	i în paragraphs <u>1.5</u>	<u>.2</u> and <u>1.5.5</u> .	
Related Features					
Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP.					
	the position of the	e NAVAID using the	e HSP and the ele	vation at the VSP.	
Data Capture Rules: Collect	1 0	8			
Data Capture Rules: <i>Collect</i> <i>If the NAVAID penetrates an O</i>	IS or is selected a	as a representative	object, additionall	ly identify,	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV	IS or is selected of AID as an Obstat	ns a representative cle and associated a	object, additionall accuracy. When id	ly identify, lentifying a	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey	IS or is selected of AID as an Obstat	ns a representative cle and associated a	object, additionall accuracy. When id	ly identify, lentifying a	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV	IS or is selected of AID as an Obstand the highest poin	as a representative cle and associated of t on the entire struc	object, additionall accuracy. When id	ly identify, lentifying a	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey appurtenances.	IS or is selected of AID as an Obstant the highest point No monumenta	as a representative cle and associated of t on the entire struct tion required.	object, additionall accuracy. When id ture as the top ele	ly identify, lentifying a vation including	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey appurtenances. Monumentation	IS or is selected of AID as an Obstant the highest point No monumenta	as a representative cle and associated of t on the entire struc	object, additionall accuracy. When id ture as the top ele Ve r	ly identify, lentifying a vation including r tical	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey appurtenances.	IS or is selected of AID as an Obstan the highest poin No monumenta Hor	as a representative cle and associated of t on the entire struc tion required.	object, additionall accuracy. When id sture as the top ele Ver The intersection	ly identify, lentifying a vation including rtical of the ground,	
Data Capture Rules: Collect If the NAVAID penetrates an O classify and document the NAV NAVAID as an obstacle, survey appurtenances. Monumentation	IS or is selected of AID as an Obstant the highest point No monumenta	as a representative cle and associated of t on the entire struc tion required.	object, additionall accuracy. When id sture as the top ele Ver The intersection	<i>ly identify,</i> <i>lentifying a</i> <i>vation including</i> rtical of the ground, pad, or other base	

VSP Standalone VO	R		VSP OR coupled with I	DME
Accuracy Requirements (in	Horizo	ontal		tical
feet)			Orthometric	Ellipsoidal
	± 10		± 20 ft	N/A
Resolution	Geographic C			nd Elevations
Feature Attributes	Hundredth of	arc second	Inearest	one foot
Attribute (Datatype)		D	escription	
name (VARCHAR2 (50))	Name of th			
description (VARCHAR2 (255) faaFacilityId (String 4) navaidEquipmentType	subject iter Enter the i identifier of "I" for ILS than one A associated the letters NQIB). The codes mus flight log, the control will use the [Source:FA	m, limited to 255 dentifier. When of the associated 1 or "M" used with SR is in operation location, these eff A, B, C, etc., foll he same applies to t be the same as to For ARSR facili ling ARTCC or to	reporting on a glid localizer. Do not e h the MLS systems on at the same local quipments will be owing the identifier o PAR identifiers. hose used to accor ties, use "Z" plus t military installation er and runway num 2]	e slope, enter the enter the prefix s. Where more tion or at an identified with cation (e.g., These alpha nplish the daily he identifier of n. Light systems
(Enumeration: CodeNavaidequipmentType) navigationalAidSystemType (Enumeration: CodeNavaidSystemType) useCode (Enumeration: CodeUseCode) antennaToThresholdDistance (R	Identifes th system. Fo up the Inst and MLS I The code t aeronautic	ne navigational as or example the loo rument landing s Elevation make us hat represents the al navigational as	id equipment as pa calizer and glideslo ystem (ILS) or the p a Microwave La e airspace structure	ope together make MLS Azimuth nding System in which the

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility.
	When more than one runway is served by a precision approach
	aid (such as a PAR), provide a separate feature for each
	runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold.
	Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above
	the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the
	elevation is the center of the antenna cover. For MLSAZ,
	MLSEL, and End Fire Type Glide Slope Antennas, the
	elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.10.29.Navaid Equipment – Visual Approach Slope Indicator System (VASI)

Definition: An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he/she is "on path" if he/she sees red/white, "above path" if white/white, and "below path" if red/red. Some airports serving large aircraft have three-bar VASIs which provide two visual glide paths to the same runway.

Easture Crown	Noviantianal A	da			
Feature Group Feature Class Name	Navigational Ai	NavaidEquipment			
	Point				
Feature Type					
CADD Standard Requirement	IS	D	•		
Layer/Level	Description				
C-AFLD-AIDS-	~ .	Airfield Navigational Aid -			
	Color	Line Type	Line Weight	Symbol	
AutoDesk Standards	4	Confinitous		User Defined	
MicroStation Standards	7	Commutations	7		
Information Assurance Level	Unclassified	T		T.	
	AIXM	NavaidEquipmer	<i>it</i>	Extension	
Equivalent Standards	FGDC	NavaidEquipmer	ntExtension	Extension	
	SDSFIE	navigational_aid	l_point		
Documentation and Submission Requirements	Document this f	feature as describe	d in paragraphs <u>1.5</u>	5.2 and <u>1.5.3</u> .	
Related Features Data Capture Rules: <i>Collect th</i>					
If the NAVAID penetrates an OI classify and document the NAVA NAVAID as an obstacle, survey appurtenances.	MD as an Obstack the highest point of the highest point of the highest point of the highest point of the high set of the high	e and associated a on the entire struct	ccuracy. When ide	ntifying a	
Monumentation	No monumenta	•	1		
	Hori	izontal	Vertical		
Survey Point Location	Center of Light Array		The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.		
		HSP			
Accuracy Requirements (in	Hori	izontal		tical	
feet)			Orthometric	Ellipsoidal	
,		5 ft	± 10 ft	N/A	
Resolution	Geographic	c Coordinates	Distances an	d Elevations	
пероницон		of arc second	Nearest	one foot	
Feature Attributes					
		Do	scription		
Attribute (Datatype)	Nome of t		scription		
	Name of t			amina tha	

faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42] Specifies the type of NAVAID
(Enumeration:	
CodeNavaidequipmentType)	
navigationalAidSystemType	Identifes the navigational aid equipment as part of an overall
(Enumeration:	system. For example the localizer and glideslope together make
CodeNavaidSystemType)	up the Instrument landing system (ILS) or the MLS Azimuth and MLS Elevation make up a Microwave Landing System
useCode (Enumeration:	The code that represents the airspace structure in which the
CodeUseCode)	aeronautical navigational aid is utilized.
antennaToThresholdDistance (Real)	The distance in feet that the antenna is from the runway
	threshold. Provide the distance to the nearest tenth of a foot.
centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.

referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.30.Navaid Equipment – VOR/TACAN (VORTAC)

Definition: A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance measuring equipment (DME) at one site.

measuring equipment (DME) at a	one site.				
Feature Group	Navigational Aids				
Feature Class Name	NavaidEquipme	ent			
Feature Type	Point				
CADD Standard Requirements	5				
Layer/Level		Descrip	otion		
C-AFLD-AIDS-		Airfield Naviga	ational Aid -		
	Color Line Type Line Weight Symbol				
AutoDesk Standards	4	Continuous	1	User	
MicroStation Standards	7 Continuous 7 Defined				
Information Assurance Level	Unclassified				
	AIXM	<i>NavaidEquipment</i> Extension			
Equivalent Standards	FGDC	NavaidEquipmentExtension Extension			
	SDSFIE	navigational_aid_point			
Documentation and	Decument this f	acture of described	in nonomonto 15) and 152	
Submission Requirements	Document this I	Document this feature as described in paragraphs $1.5.2$ and $1.5.3$.			
Related Features					

Data Capture Rules: Collect the position of the NAVAID using the HSP and the elevation at the VSP. If the NAVAID penetrates an OIS or is selected as a representative object, additionally identify, classify and document the NAVAID as an Obstacle and associated accuracy. When identifying a NAVAID as an obstacle, survey the highest point on the entire structure as the top elevation including appurtenances.

Monumentation	No monumentation required.	
	Horizontal	Vertical
Survey Point Location	Center of Antenna Cover	The intersection of the ground, gravel, concrete pad, or other base and plumb line through the HSP.

	HSP			
Accuracy Requirements (in	Horizontal	Verti Orthometric		
feet)	± 10 ft	$\pm 20 \text{ ft}$	Ellipsoidal N/A	
	Geographic Coordinates	Distances and		
Resolution	Hundredth of arc second	Nearest o		
Feature Attributes				
Attribute (Datatype)	Desc	ription		
name (VARCHAR2 (50))	Name of the feature			
description (VARCHAR2 (255))	A description or other unique i subject item, limited to 255 ch	aracters.		
faaFacilityId (String 4)	Enter the identifier. When reporting on a glide slope, enter the identifier of the associated localizer. Do not enter the prefix "I" for ILS or "M" used with the MLS systems. Where more than one ASR is in operation at the same location or at an associated location, these equipments will be identified with the letters A, B, C, etc., following the identification (e.g., NQIB). The same applies to PAR identifiers. These alpha codes must be the same as those used to accomplish the daily flight log. For ARSR facilities, use "Z" plus the identifier of the controlling ARTCC or military installation. Light systems will use the airport identifier and runway number. [Source:FAA Order 8250-42]			
navaidEquipmentType (Enumeration: CodeNavaidequipmentType)	Specifies the type of NAVAID)		
navigationalAidSystemType (Enumeration: CodeNavaidSystemType)	Identifes the navigational aid e system. For example the locali up the Instrument landing syste and MLS Elevation make up a	zer and glideslope em (ILS) or the MI Microwave Landi	together make LS Azimuth ng System	
useCode (Enumeration: CodeUseCode)	The code that represents the ai aeronautical navigational aid is	s utilized.		
antennaToThresholdDistance (Real)	The distance in feet that the an threshold. Provide the distance			

centerlineDistance (Real)	Distance from the centerline perpendicular point to the physical runway end. This should be the same distance as the antenna to threshold distance unless the runway end the navigational aid serves has a displaced threshold. Provide this distance to the nearest tenth of a foot.
stopEndDistance (Real)	Provide the distance distance the from the antenna along the centerline to the stop end of the runway.
offsetDistance (Real)	The distance in feet that the feature is offset from the runway centerline. Provide this distance to the nearest tenth of a foot.
offsetDirection	Enter the direction (right, left, or on centerline) the
(Enumeration:	navigational aid is offset from the runway. Determine the
CodeOffsetDirection)	appropriate direction from the approach threshold down the runway.
lightingType	The type of Visual navigational aid system (use only when
(Enumeration:	CodeNavaidEquipmentType is set to "visual")
CodeLightingConfigurationType)	
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature. This attribute is used to describe real-time status.
owner (String 75)	The owner of the facility
runwayEndId (String 3)	Identify the primary instrument runway served by the facility. When more than one runway is served by a precision approach aid (such as a PAR), provide a separate feature for each runway. This attribute is only required for ILS, MLS, TLS, and PAR.
referencePointEllipsoidHeight	Provide the height above the ellipsoid (HAE) for the referencePoint.
referencePointThreshold (Real)	Distance from the runway reference point to the threshold. Provide this distance to the nearest tenth of a foot. [Source: FAA AAS-100]
thresholdCrossingHeight (Real)	The designated crossing height of the flight path angle above the Landing Threshold Point (or Fictitious Threshold Point).
highAngle (Real)	Maximum approach light vertical angle [Source: FAA AAS-100]
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
ellipsoidElevation (Real)	The Base Elevation for most NAVAIDs. For ILS DME, the elevation is the center of the antenna cover. For MLSAZ, MLSEL, and End Fire Type Glide Slope Antennas, the elevation is the phase center of the reference point.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.10.31.NAVAID Site Definition: The parcel, lease, or right-of-way boundary for a NAVAID or facility that is located off airport property.

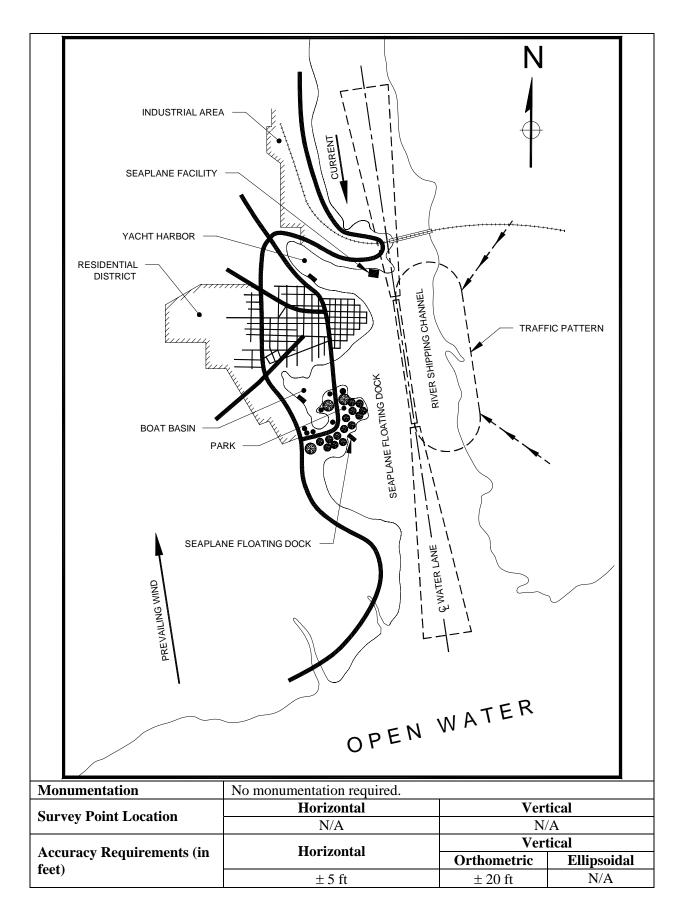
Feature Group	Navigational Aids
Feature Class Name	NAVAIDSite
Feature Type	Polygon

CADD Standard Requirements					
Layer/Level		Dese	cription		
C-AIRF-AIDS-SITE	Airfield Nav	vigational Aid - Site	e		
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	1	Continuous	1	User Defined	
MicroStation Standards	3	Continuous	7	User Denned	
Information Assurance Level	Unclassified	1			
	AIXM	NavaidSite	Extension		
Equivalent Standards	FGDC	NavigationalAidS	Site	Extension	
	SDSFIE	Airfield_facility_	surface_site		
Documentation and Submission Requirements	No documer	No documentation required.			
Related Features					
Data Capture Rules: Collect a clo			ontal extent.		
Monumentation		entation required.	1		
Survey Point Location	Ho	orizontal		tical	
Survey I onit Elocation		N/A		/A	
Accuracy Requirements (in	Horizontal		Vertical		
feet)		nizontai	Orthometric	Ellipsoidal	
leet)	± 5 ft		± 10 ft	N/A	
Resolution		nic Coordinates	Distances and Elevations		
Resolution	Hundredt	h of arc second	Nearest one foot		
Feature Attributes					
Attribute (Datatype)		Des	scription		
name (VARCHAR2 (50))	Name of t	he feature			
description (VARCHAR2 (255))		scription of the faci			
status (Enumeration: codeStatus)	A tempora	al description of the	operational status	s of the feature.	
	This attrib	oute is used to descr	ibe real-time statu	s.	
faaFacilityId (String 4)		on identifier assign			
facilityType (String 16)		of facility or feature			
propertyCustodian (String 50)		nal property manage o of the site	ement office respo	onsible for	
userFlag (String 254)	An operat	or-defined work are	ea. This attribute of	can be used by	
		or for user-defined			
		subject item's data i	integrity and shoul	ld not be used to	
		ubject item's data.			
Alternative (Number(2))		ator used to tie feat	ures of a plan or p	roposal together	
	into a vers	sion			

5.11. Group: SEAPLANE

5.11.1. Water Operating Area

Definition: An area designated			ng of aircraft. Thi	s is equivalent to
the Airport Operating Area of a	land based airpor	t.		
Feature Group	SeaPlane			
Feature Class Name	WaterOperating	Area		
Feature Type	Polygon			
CADD Standard Requirement	its			
Layer/Level		Descr	iption	
C-SEAP-WTOA-		Seaplai	ne dock	
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Defined
Information Assurance	Unclassified			
Level	Uliciassifieu			
	AIXM	None		
Equivalent Standards	FGDC	None		
	SDSFIE	None		
Documentation and	None			
Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	the WaterOperati	ngArea using a bo	unding polygon to	capture the area
at its greatest extents.				



Resolution	(Geographic Coordinates	Distances and Elevations
Resolution	Fi	ve hundredth of arc second	Nearest foot
Feature Attributes			
Attribute (Datatype)		Des	scription
name (VARCHAR2 (50))		Name of the feature water bo	dy (river/lake).
description (VARCHAR2 (255)))	Description of the feature.	
status (Enumeration: codeStatus	s)		operational status of the feature.
		This attribute is used to descr	ibe real-time status.
surfaceMaterial		Code used to indicate the type	e of water the water operating area
(Enumeration: CodeSurfaceMat	terial	is on or planned to use.	
length (Integer)			the WaterOperatingArea to the
		nearest 5 feet	
width (Integer)		Specify the overall width of t nearest 5 feet	he waterOperatingArea to the
currentFlowRate (Integer)		Measure and specify the rate	
		WaterOperatingArea in miles	per hour
compassLocation		Specify the magnetic bearing	of the current flow direction
(Enumeration:			
CodeCompassLocation)			
tidalRange (Integer)		Specify (in feet) the height di	fference in height from mean low
		mean high tide	
coordinatedUseType			ted use of the waterway. If no
(Enumeration:			majority of the coordinated use
CodeCoordinatedUseType)		then specify multiple.	
coordinatedUseActivityLevel			y based on percentage of daily use
(Integer)		x	e type. If coordinated use type is
		multiple provide the largest a	ctivity level of the single most
		expected activity.	
userFlag (String 254)		L .	ea. This attribute can be used by
			system processes. It does not
			integrity and should not be used to
		store the subject item's data.	
Alternative (Number(2))			ures of a plan or proposal together
		into a version.	

5.11.2. Water Lane End

Definition: The end of the water lane (typically located at the furthest end of a turning basin) suitable for landing or takeoff runs of aircraft. WaterLaneEnds define the water lane and describe the approach/departure procedure characteristics of a water lane.

Feature Group	SeaPlane					
Feature Class Name	WaterLaneEnd					
Feature Type	Point					
CADD Standard Requiremen	its					
Layer/Level		Descr	iption			
C-SEAP-LNDA-	Seaplane landing	Seaplane landing area				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	4	Continuous	1 MM	User Defined		
MicroStation Standards	7	Continuous	7	User Dernied		
Information Assurance Level	Restricted					

	AIX	M	None		
Equivalent Standards	FGI		None		
-	SDS	FIE	None		
Documentation and Submission Requirements	Non	e	·		
Related Features					
Data Capture Rules: Collect	a poin	t on the ti	urning basin boundar	y identifying the po	oint where
aeronautical activity is expected			-	ys define the area,	locate the
WaterLaneEnd at least 10 feet	inside	the marke	ers or buoys.		
			TURNING BA		
		STRUCTION HT ON POLE		PREVAILING WIND	
Monumentation	No r		tation required.		
Survey Point Location		Ho	orizontal	Ver	
			N/A	N/	
Accuracy Requirements (in		Но	orizontal	Verto	
feet)			± 5 ft	$\pm 20 \text{ ft}$	Ellipsoidal N/A
		Coograph	$\frac{\pm 5}{10}$ nic Coordinates		d Elevations
Resolution			edth of arc second	Neares	
Feature Attributes	11			i i i i i i i i i i i i i i i i i i i	51 1001
Attribute (Datatype)			De	scription	
name (VARCHAR2 (50))		Name o	f the feature.		
description (VARCHAR2 (255)))		tion of the feature.		
magneticBearing	.,	Comput lane to t WaterLa	e and specify the mag the nearest degree bas aneEnd points. This is for a land based airpo	ed on the location s similar to the run	of the reciprocal

T ('	
compassLocation	Code indicating the cardinal compass location of the turning
(Enumeration:	basin from centroid of the WaterLaneEnd. This feature is
CodeCompassLocation)	similar to the land based airport RunwayEnd.
restriction (String 240)	Any restrictions or cautions associated with the sea plane
	landing area.
airMarker (Boolean)	Code specifying if a standard air maker is used to indicate if a
	standard air marker is in use at the location.
type (Boolean)	Identifies the WaterLaneEnd as the primary or alternate.
	Primary = Y, alternate=N
color	The color of the air marker at the location (if any)
(Enumeration: CodeColor)	
lightingType	Type of lighting available at the location (if any)
(Enumeration:	
CodeLightingConfigurationType)	
approachGuidance	Identifies the type of approach guidance in use or planned for
(Enumeration:	the water operating area.
CodeApproachGuidance)	
Length (Number 10)	Specify the overall length of the primary water lane
width (Number 10)	Specify the overall width of the primary water lane
depth (Number 10)	Specify the depth of the primary water lane with respect to
	mean lowest low tide
centroid	The geographic location of the primary water centroid, used to
	determine the primary and alternate water lanes within the water
	operating area.
status (Enumeration: codeStatus)	Describes the operational status of the feature.
userFlag (String 254)	An operator-defined work area. This attribute can be used by
	the operator for user-defined system processes. It does not
	affect the subject item's data integrity and should not be used to
	store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.
	into u verbion.

5.11.3. Taxi Channel

				n
Definition: A water channel u		ement of aircraft b	etween on shore f	facilities and the
water lane. [Source AC 150/539	95-1]			
Feature Group	SeaPlane			
Feature Class Name	TaxiChannel			
Feature Type	Polygon			
CADD Standard Requiremen	ts			
Layer/Level		Descr	iption	
C-SEAP-TAXI-	Seaplane landing	g area		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1 MM	User Defined
MicroStation Standards	7	Continuous	7	User Denned
Information Assurance	Restricted			
Level	Restricted			
	AIXM	None		
Equivalent Standards	FGDC	None		
	SDSFIE	None		

Documentation and	N			
Submission Requirements	Non	e		
Related Features				
Data Capture Rules: Collect	the tax	ci channel at its greatest horizo	ontal extents. Exist	ing markers or
buoys may define the width. In	the in	stance the taxi channel is not n	narked for width, re	efer to width
published by FAA in the U.S. T				
Monumentation	No r	nonumentation required.	1	
Survey Point Location		Horizontal	Vert	
		N/A	N/	
Accuracy Requirements (in		Horizontal	Vert	
feet)			Orthometric	Ellipsoidal
		$\pm 5 \text{ ft}$	± 20 ft	N/A
Resolution		Geographic Coordinates	Distances an	
	Fi	ve hundredth of arc second	Neares	st foot
Feature Attributes		1		
Attribute (Datatype)			scription	
name (VARCHAR2 (50))		Any commonly used name as	ssociated with the t	axi channel.
description (VARCHAR2 (255	/ /	Description of the feature.		
status (Enumeration: codeStatu	s)	A temporal description of the		
		This attribute is used to descr		
restriction (String 240)		Any restrictions or cautions a		taxi channel
length (Number 10)		Specify the overall length of		
width (Number 10)		Specify the overall width of t		
depth (Number 10)		Specify the depth of the taxi	channel with respe	ct to mean
		lowest low tide		
userFlag (String 254)		An operator-defined work are		
		the operator for user-defined		
		affect the subject item's data	integrity and shoul	u not be used to
Alternative (Number(2))		store the subject item's data.	and of a plan are a	on agai to goth ar
Alternative (Number(2))		Discriminator used to tie feat into a version.	lures of a plan or pr	oposal together
		into a version.		

5.11.4. Turning Basin

Definition: A water area used for the maneuvering of aircraft where the use of water surface is restricted. Turning basins should be located adjacent to shoreline facilities and at each end of the water operating area.[Source AC 150/5395-1]

operating area.[Source AC 150/				
Feature Group	SeaPlane			
Feature Class Name	TurningBasin			
Feature Type	Polygon			
CADD Standard Requiremen	ts			
Layer/Level		Descr	iption	
C-SEAP-TBSN-	Seaplane landing	area		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	4	Continuous	1 MM	User Defined
MicroStation Standards	7	Continuous	7	User Dernieu
Information Assurance	Restricted			
Level	Restricted			

	AIXM	None		
Equivalent Standards	FGDC	None		
	SDSFIE	None		
Documentation and Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	the turning ba	isin at its greatest hori	zontal extents. Exis	sting markers or
buoys may define the boundary	; if so collect i	the boundary inside th	e buoys.	
	ON-SHORE FAI			
	AXI CHANNEL		ASIN	
	OBSTRUCTIO		APPROACH ZONE	
Monumentation	OBSTRUCTIO	WATER LANE	APPROACH ZONE - PREVAILING WIND	
	OBSTRUCTIO	WATER LANE	APPROACH ZONE	/A
Monumentation Survey Point Location	OBSTRUCTION POR	WATER LANE	APPROACH ZONE	/A tical
Monumentation	OBSTRUCTION POR	WATER LANE	APPROACH ZONE	/A tical Ellipsoidal
Monumentation Survey Point Location Accuracy Requirements (in	OBSTRUCTION POR	WATER LANE	APPROACH ZONE - PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft	/A tical Ellipsoidal N/A
Monumentation Survey Point Location Accuracy Requirements (in	OBSTRUCTION POR	water LANE $ -$	APPROACH ZONE - PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft Distances an	/A tical Ellipsoidal N/A d Elevations
Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution	OBSTRUCTION POR	WATER LANE	APPROACH ZONE - PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft Distances an	/A tical Ellipsoidal N/A
Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes	OBSTRUCTION POR	water LANE $ -$	APPROACH ZONE - PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft Distances an Neares	/A tical Ellipsoidal N/A d Elevations
Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype)	OBSTRUCTION POR CONTRACTION OF CONTRACTION POR CONTRACTICON POR CONTRACTIC	water Lane $ -$	APPROACH ZONE	/A tical Ellipsoidal N/A d Elevations
Monumentation Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	OBSTRUCTION LIGHT ON POO	water LANE $ -$	APPROACH ZONE - PREVAILING WIND PREVAILING WIND Vert Orthometric ± 20 ft Distances an Neares escription the turning basin	/A tical Ellipsoidal N/A d Elevations st foot
Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype)	OBSTRUCTIC LIGHT ON POO No monume	WATER LANE	APPROACH ZONE PREVAILING WIND PREVAILING WIND Vert Orthometric ± 20 ft Distances an Neares escription the turning basin e operational status	/A tical Ellipsoidal N/A d Elevations st foot of the feature.
Monumentation Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) status (Enumeration: codeStatu	OBSTRUCTION LIGHT ON POO NO MONUME	water LANE	APPROACH ZONE - PREVAILING WIND PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft Distances an Neares escription the turning basin e operational status ribe real-time status	/A tical Ellipsoidal N/A d Elevations st foot of the feature. s.
Monumentation Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	OBSTRUCTION LIGHT ON POO No monume	WATER LANE	APPROACH ZONE - PREVAILING WIND PREVAILING WIND Vert N/ Vert Orthometric ± 20 ft Distances an Neares escription the turning basin e operational status sribe real-time status associated with the	/A tical Ellipsoidal N/A d Elevations st foot of the feature. s. turning basin
Monumentation Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) status (Enumeration: codeStatu restriction (String 240)	OBSTRUCTIC LIGHT ON POO No monume No monume Five hunc Specific feet.	water LANE $ -$	APPROACH ZONE PREVAILING WIND PREVAILING WIND Vert Orthometric ± 20 ft Distances an Neares escription the turning basin e operational status sribe real-time status associated with the the turning basin to the turning basin the turning basin to the turning basin the turning basin the turning basin to the turning basin the turning basin th	/A tical Ellipsoidal N/A d Elevations st foot of the feature. s. turning basin o the nearest 5

depth (Number 10)	Specify the depth of the turning basin with respect to mean		
	lowest low tide to the nearest 0.5 foot.		
diameter (Number 10)	The diameter of the turning basin available for use by aircraft to		
	the nearest 5 feet.		
compassLocation	Code indicating the cardinal compass location of the turning		
(Enumeration:	basin from centroid of the WaterLaneEnd		
CodeCompassLocation)			
userFlag (String 254)	An operator-defined work area. This attribute can be used by		
	the operator for user-defined system processes. It does not		
	affect the subject item's data integrity and should not be used to		
	store the subject item's data.		
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together		
	into a version.		

5.11.5. Navigation Buoy

e			the bottom at a sp	ecific known locat	ion, which is
used as an aid to navigation or	for oth	er special pu	irpose.		
Feature Group	SeaPlane				
Feature Class Name	NavigationBuoy				
Feature Type	Point				
CADD Standard Requiremen	ts				
Layer/Level	Description				
C-SEAP-BUOY-	Sea	plane naviga	tion buoy		
		Color	Line type	Line Weight	Symbol
AutoDesk Standards		2	Continuous	1 MM	User Defined
MicroStation Standards		4	Continuous	7	User Denneu
Information Assurance Level	Unc	Unclassified			
	AIX	M	<i>NavigationBuoy</i> Core		Core
Equivalent Standards	FGI	DC	NavigationBuoy		
-	SDS	SDSFIE marine_navigation_buoy_point			
Documentation and Submission Requirements	None				
Related Features					
Data Capture Rules: Collect of time of data collection.	it the c	center and hi	ghest point on the	buoy regardless oj	^c water level at
Data Capture Rules: Collect d		<i>center and hi</i> nonumentati		buoy regardless oj	^c water level at
Data Capture Rules: <i>Collect a</i> <i>time of data collection.</i> Monumentation		nonumentati			^c water level at tical
Data Capture Rules: Collect of time of data collection.		nonumentati Horiz	on required.		tical
Data Capture Rules: Collect a time of data collection.MonumentationSurvey Point Location		nonumentati Horiz N	on required. zontal /A	Ver N/ Ver	tical
Data Capture Rules: Collect a time of data collection.MonumentationSurvey Point LocationAccuracy Requirements (in		nonumentati Horiz N	on required. zontal	Ver N	tical /A
Data Capture Rules: Collect a time of data collection.MonumentationSurvey Point Location	No r	nonumentati Horiz N Horiz ± 5	on required. zontal /A zontal 5 ft	Ver N/ Ver	tical 'A tical
Data Capture Rules: Collect of time of data collection. Monumentation Survey Point Location Accuracy Requirements (in feet)	No r	nonumentati Horiz N Horiz ± 5	on required. zontal /A zontal	Ver N/ Ver Orthometric	tical /A tical Ellipsoidal N/A
Data Capture Rules: Collect of time of data collection. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution	No r	nonumentati Horiz N Horiz ± 5 Geographic	on required. zontal /A zontal 5 ft	Ver N/ Ver Orthometric ± 20 ft	tical /A tical Ellipsoidal N/A d Elevations
Data Capture Rules: Collect of time of data collection. Monumentation Survey Point Location Accuracy Requirements (in feet)	No r	nonumentati Horiz N Horiz ± 5 Geographic	on required. zontal /A zontal 5 ft Coordinates n of arc second	VerN/VerOrthometric ± 20 ftDistances anNeare	tical /A tical Ellipsoidal N/A d Elevations
Data Capture Rules: Collect of time of data collection. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution	No r	nonumentati Horiz N Horiz ± : Geographic ve hundredtl	on required. zontal /A zontal 5 ft Coordinates n of arc second	Ver N/ Ver Orthometric ± 20 ft Distances an Neare scription	tical /A tical Ellipsoidal N/A d Elevations st foot

description (VARCHAR2 (255))	A description or other unique information concerning the buoy		
description (VARCHAR2 (255))			
	limited to 255 characters. Use this to describe navigational		
	requirements or warnings.		
designator (String 20)	The official number of the buoy.		
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.		
	This attribute is used to describe real-time status.		
type (Enumeration:	Discriminator - The type of the buoy or marker.		
CodeBuoyType)			
lightingType	Type of lighting available at the location (if any)		
(Enumeration:			
CodeLightingConfigurationType)			
color	Code used to indicate the navigational color of the buoy.		
(Enumeration:CodeColor)			
owner	Code indicating the owner of the navigation buoy.		
(Enumeration: CodeOwner)			
userFlag (String 254)	An operator-defined work area. This attribute can be used by		
	the operator for user-defined system processes. It does not		
	affect the subject item's data integrity and should not be used to		
	store the subject item's data.		
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together		
	into a version.		

5.11.6. Seaplane Ramp Centerline

Definition: The centerline of ra		esigned to transit s	seaplanes to or from	m land or water
Feature Group	SeaPlane			
Feature Class Name	SeaplaneRampCenterline			
Feature Type	Line			
CADD Standard Requiremen	ts			
Layer/Level	Description			
C-SEAP-RAMP-CNTR	Seaplane ramp c	enterline		
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	2	Continuous	1 MM	User Defined
MicroStation Standards	4	Continuous	7	User Defined
Information Assurance Level	Restricted			
	AIXM	SeaplaneRampSite Core		Core
Equivalent Standards	FGDC SeaplaneRampCenterline			
	SDSFIE sea_plane_ramp_centerline			
Documentation and Submission Requirements	None			
Related Features				
Data Capture Rules: Collect	centerline of ramp	from edge of pave	ments or other sur	face type utilized
for entering and exiting water.	Line extends from	edge of water to ap	pron or taxiway.	
Monumentation	No monumentati	on required.		
Survey Point Location	Horizontal		Vertical	
Survey Point Location	N/A		N/A	
A courses Dequinements (in	Horizontal		Vertical	
Accuracy Requirements (in feet)			Orthometric	Ellipsoidal
	± 5 ft		± 20 ft	N/A

Resolution	Geographic Coordinates	Distances and Elevations			
Resolution	Five hundredth of arc second	Nearest foot			
Feature Attributes	Feature Attributes				
Attribute (Datatype)	De	Description			
name (VARCHAR2 (50))	Name of the feature.				
description (VARCHAR2 (255)) Description of the feature.				
status (Enumeration: codeStatus	s) A temporal description of th	A temporal description of the operational status of the feature.			
	This attribute is used to descr	This attribute is used to describe real-time status.			
length (Integer)	Specify the length of the s water to the shoreline	eaplane ramp centerline from the			
userFlag (String 254)	the operator for user-define	n operator-defined work area. This attribute can be used by e operator for user-defined system processes. It does not fect the subject item's data integrity and should not be used to ore the subject item's data.			
Alternative (Number(2))	Discriminator used to tie feat	Discriminator used to tie features of a plan or proposal together			

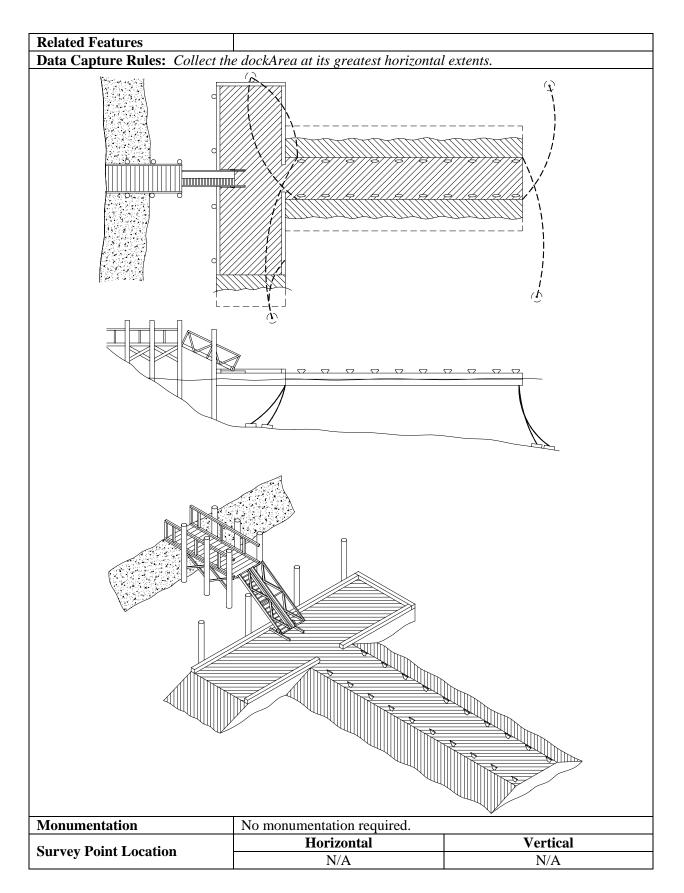
5.11.7. Seaplane Ramp Site

cillin Beaplane Ramp Bite					
Definition: Ramps specificall	y designed to trai	nsit seaplanes to or	from land to wate	r.	
Feature Group	SeaPlane				
Feature Class Name	SeaplaneRamp	Site			
Feature Type	Polygon				
CADD Standard Requireme	ents				
Layer/Level	Description				
C-SEAP-RAMP-	Seaplane ramp site				
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	3	Cartin	1 MM	U D. C 1	
MicroStation Standards	2	— Continuous	7	User Defined	
Information Assurance Level	Restricted				
	AIXM	SeaplaneRar	npSite	Core	
Equivalent Standards	FGDC	SeaplaneRar	SeaplaneRampSite		
	SDSFIE sea_plane_ramp_site				
Documentation and	No do sum antat	ion is manying for	this facture		
Submission Requirements	No documentation is required for this feature.				
Related Features					
Data Capture Rules: Collect	t the ramp width	at its greatest horiz	ontal limits.		
Monumentation	No monumenta	tion required.			
	Horizontal		Vertical		
Survey Point Location		N/A		N/A	
	Horizontal		Vertical		
Accuracy Requirements			Orthometric	Ellipsoidal	
(in feet)	± 5 ft		± 20 ft	N/A	
Develoption	Geographic Coordinates		Distances and Elevations		
Resolution	Five hundredth of arc second		Nearest foot		
Feature Attributes	•		•		
Attribute (Datatype)		D	escription		
name (VARCHAR2 (50))	Name of the feature.				
description (VARCHAR2 (25	5)) Descripti	on of the feature.			
• • •	•••••••••••••••••••••••••••••••••••••••				

status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
width (Integer)	Identify the width of the seaplane ramp site
slope (integer)	The slope of the ramp specified as an integer value.
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.11.8. Docking Area

Definition: A defined area on a s	eaplane base eith	er fixed or floating	g, intended to acco	ommodate	
aircraft for purposes of loading or	r unloading passe	ngers or cargo, refu	ueling, parking, or	r maintenance.	
Feature Group	SeaPlane				
Feature Class Name	DockArea				
Feature Type	Polygon				
CADD Standard Requirements	5				
Layer/Level		Descr	iption		
C-SEAP-DOCK-		Seaplar	ne dock		
	Color	Linetype	Line Weight	Symbol	
AutoDesk Standards	3	Continuous	1 MM	User Defined	
MicroStation Standards	2	Continuous	7	User Defined	
Information Assurance Level	Unclassified				
	AIXM	FloatingDockSit	e	Core	
Equivalent Standards	FGDC	FloatingDockSit	e		
	SDSFIE floating_dock_site				
Documentation and	None				
Submission Requirements	none				

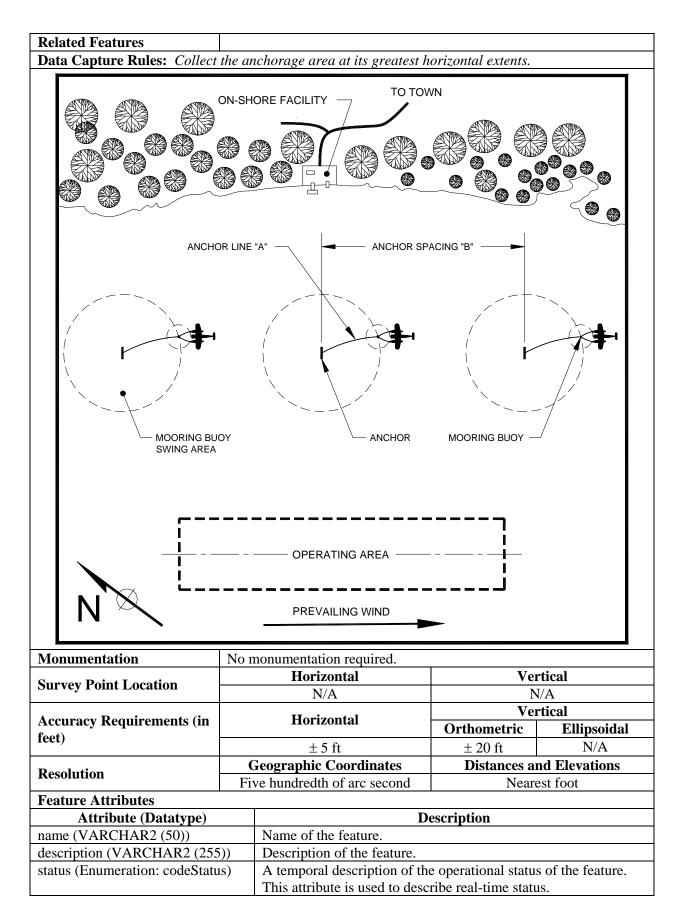


A course or Decrying or to (in	Harizantal	Vertical		
Accuracy Requirements (in	Horizontal	Orthometric	Ellipsoidal	
feet)	± 5 ft	± 20 ft	N/A	
Decelution	Geographic Coordinates	Distances an	d Elevations	
Resolution —	Five hundredth of arc second	Neares	st foot	
Feature Attributes		•		
Attribute (Datatype)	Des	cription		
name (VARCHAR (50))	Name of the feature.			
description (VARCHAR (255))	Description of the feature.			
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature			
	This attribute is used to descri			
userFlag (String 254)	An operator-defined work are	a. This attribute ca	an be used by	
	the operator for user-defined s			
	affect the subject item's data in	ntegrity and should	d not be used to	
	store the subject item's data.			
pier (Boolean)	Specify if a pier is available in			
pierLength (Integer)	Specify the overall length ava			
pierWidth (Integer)	Specify the overall length ava			
pierMaterial (Enumeration:	Specify the materials used in t	he construction of	the pier.	
CodeVerticalStructureMaterial))				
hoistingCapability (Integer)	Specify the hoisting capability			
marineRailwayPlatformLength	Specify the length of the mari	ne railway platforr	n	
(Integer)				
marineRailwayPlatformWidth	Specify the width of the marin	e railway platform	1	
(Integer)				
marineRailwayPlatformCapacity	Specify the capacity of the ma	arine railway platfo	orm in pounds	
(Integer)				
gangway (Boolean)	Specify if a gangway is availa			
gangwayLength (Integer)	Specify the overall length ava			
gangwayWidth (Integer)	Specify the overall length ava		way	
floatingDock (Boolean)	Specify if a floating dock is av			
gangwayMaterial (Enumeration:	Specify the material used to co	onstruct the gangw	yay	
CodeVerticalStructureMaterial)				
floatingDockLength (Integer)	Specify the overall length ava		U	
floatingDockWidth (Integer)	Specify the overall length ava			
floatingDockMaterial	Specify the material used in co	onstructing the doc	ckArea	
(Enumeration:				
CodeVerticalStructureMaterial)				
floatingBarge (Boolean)	Specify if a floating barge is a			
floatingBargeLength (Integer)	Specify the overall length ava			
floatingBargeWidth (Integer)	Specify the overall length ava			
floatingBargeMaterial Enumeration	: Specify the material used in co	onstructing the floa	aungBarge	
CodeVerticalStructureMaterial)	Discriminator 14- dis C. 4			
Alternative (Number(2))	Discriminator used to tie feature	ires of a plan or pro	oposal together	
	into a version.			

5.11.9. Anchorage Area

Definition: An area designated specifically for the parking of seaplanes.			
Feature Group	SeaPlane		

Feature Class Name	AnchorageArea			
Feature Type	Polygon			
CADD Standard Requireme	ents			
Layer/Level		Desc	ription	
C-SEAP-ANCH-		Seapla	ane dock	
	Color	Linetype	Line Weight	Symbol
AutoDesk Standards	3	Continuous	1 MM	User Defined
MicroStation Standards	2	Continuous	7	User Dermed
Information Assurance Level	Unclassified			
	AIXM	None		
Equivalent Standards	FGDC	None		
	SDSFIE	None		
Documentation and Submission Requirements	None			



userFlag (String 254)	An operator-defined work area. This attribute can be used by the
	operator for user-defined system processes. It does not affect the
	subject item's data integrity and should not be used to store the
	subject item's data.
mooringLocations (Integer)	Specify the number of mooring locations provided in the
	AnchorageArea.
length (Integer)	Specify the overall length available for the AnchorageArea
width (Integer)	Specify the overall length available for the floating dock
depth (Integer)	Specify the depth of the turning basin with respect to mean
	lowest low tide to the nearest 0.5 foot.
bottomConditions (String 240)	Specify the type of bottom conditions in the AnchorageArea.
restriction (String 240)	Any restrictions or cautions associated with the AnchorageArea
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.12. Group: SECURITY

5.12.1. Security Area

5.12.1. Security Area					
Definition: An area of the air carried out [Source: 49 CFR 15		which secu	rity measures requ	ired by 49 CFR 1	542.201 must be
Feature Group	Secu	irity			
Feature Class Name	SecurityArea				
Feature Type	Poly				
CADD Standard Requiremen		gon			
Layer/Level			Decer	intion	
Layel/Level	Description An area of the airport in which security measures required by 49 CFR				
C- SECR-SECA		1542.201			
		Color	Linetype	Line Weight	Symbol
AutoDesk Standards		6		1 MM	User Defined
MicroStation Standards		5	Continuous	7	User Defined
Information Assurance Level	Secr	ret			
	AIX	M	SecurityElement		Extension
Equivalent Standards	FGI	DC	SecurityArea		Extension
	SDS	FIE	None		
Documentation and	Nor	-			
Submission Requirements	Non	e			
Related Features					
Data Capture Rules: Collect	outlin	e of security	area at its greates	t horizontal extent	ts. Extents can be
defined by fences, paint lines, o	r spec	ific limits de	efined by airport au	thorities.	
Monumentation	No r	nonumentat	ion required.		
Survey Daint Leastion	Horizontal		Vertical		
Survey Point Location		N	[/A	N	/A
A P A- (:		Horizontal Vertical			tical
Accuracy Requirements (in		Hori	zontal	Orthometric	Ellipsoidal
feet)		± 5 ft		± 5 ft	N/A
		Geographic	Coordinates	Distances an	d Elevations
Resolution			ns of arc second	Neare	st foot
Feature Attributes					
Attribute (Datatype)			De	scription	
name (VARCHAR2 (50))		Name of t	he feature.	*	
description (VARCHAR2 (255))		n of the feature.		
status (Enumeration: codeStatu		· ·	l description of the	operational status	of the feature.
· · · · · · · · · · · · · · · · · · ·	/		ute is used to descr		
userFlag (String 254)		An operate	or-defined work are	ea. This attribute of	can be used by
		-	or for user-defined		•
			subject item's data i		
	store the subject item's data.				
Alternative (Number(2))			ator used to tie feat	ures of a plan or p	roposal together
		into a vers			

5.12.2. Security Identification Display Area

Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255 status (Enumeration: codeStatu userFlag (String 254) Alternative (Number(2))	Ho Ho Geograph Five hundre Name o)) Descrip s) A tempo This attr An oper the oper affect th store the	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ tic Coordinates edth of arc second	VerNOrthometric \pm 5 ftDistances and Nearcescriptione operational staturibe real-time staturibe real-time statuea. This attributesystem processesintegrity and should	us. can be used by . It does not ild not be used to	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	Ho Ho Geograph Five hundre Name o Name o)) Descrip s) A tempo This attu An oper the oper affect th	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ tic Coordinates edth of arc second De f the feature. tion of the feature. pral description of the ribute is used to description of the ribute is used to description of the ribute is used to description of the rator-defined work ar prator for user-defined the subject item's data	Ver N Ver Orthometric ± 5 ft Distances an Near escription e operational statu ribe real-time statu ea. This attribute system processes	VA rtical Ellipsoidal N/A nd Elevations est foot s of the feature. us. can be used by . It does not	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	Ho Ho Geograph Five hundre Name o)) Descrip s) A tempo This attr An oper the oper	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ tic Coordinates edth of arc second De f the feature. tion of the feature. prizonal description of the ribute is used to description of the rator-defined work ar rator for user-defined	Ver N Ver Orthometric ± 5 ft Distances an Near escription e operational statu ribe real-time statu ea. This attribute system processes	VA rtical Ellipsoidal N/A nd Elevations est foot s of the feature. us. can be used by . It does not	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255 status (Enumeration: codeStatu	Ho Ho Geograph Five hundre Name o)) Descrip s) A tempo This attr	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ pric Coordinates edth of arc second De f the feature. tion of the feature. tion of the feature. prizontal De prizontal	Ver N Ver Orthometric ± 5 ft Distances an Near escription	I/A rtical Ellipsoidal N/A nd Elevations est foot s of the feature. us.	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255)	Ho Ho Geograph Five hundre Name o)) Descrip s) A tempo	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ tic Coordinates edth of arc second De f the feature. tion of the feature. prizontal	Ver N Ver Orthometric ± 5 ft Distances an Near escription	VA rtical Ellipsoidal N/A nd Elevations est foot s of the feature.	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255)	Ho Ho Geograph Five hundre Name o)) Descrip	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ pric Coordinates adth of arc second De f the feature. tion of the feature.	Ver N Ver Orthometric ± 5 ft Distances an Near Scription	I/A rtical Ellipsoidal N/A nd Elevations est foot	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50))	Ho Ho Geograph Five hundre	tation required. prizontal N/A prizontal ± 5 ft bit Coordinates bit of arc second Def f the feature.	Ver N Ver Orthometric ± 5 ft Distances an Near	I/A rtical Ellipsoidal N/A nd Elevations	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype)	Ho Ho Geograph Five hundre	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ pric Coordinates edth of arc second De	Ver N Ver Orthometric ± 5 ft Distances an Near	I/A rtical Ellipsoidal N/A nd Elevations	
Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes	Ho Ho Geograph	tation required. prizontal N/A prizontal $\pm 5 \text{ ft}$ tic Coordinates edth of arc second	Ver N Ver Orthometric ± 5 ft Distances an Near	I/A rtical Ellipsoidal N/A nd Elevations	
Survey Point Location Accuracy Requirements (in feet) Resolution	Ho Ho Geograph	tation required. prizontal N/A prizontal ± 5 ft prizondinates	Ver N Ver Orthometric ± 5 ft Distances at	I/A rtical Ellipsoidal N/A nd Elevations	
Survey Point Location Accuracy Requirements (in feet)	Ho Ho Geograph	tation required. prizontal N/A prizontal ± 5 ft prizondinates	Ver N Ver Orthometric ± 5 ft Distances at	I/A rtical Ellipsoidal N/A nd Elevations	
Survey Point Location Accuracy Requirements (in	Ho	tation required. prizontal N/A prizontal ± 5 ft	Ver N Ver Orthometric ± 5 ft	I/A rtical Ellipsoidal N/A	
Survey Point Location Accuracy Requirements (in	Ho Ho	ation required. rizontal N/A prizontal	Ver N Ver Orthometric	I/A rtical Ellipsoidal	
Survey Point Location	Ho	rizontal N/A	Ver N Ver	I/A rtical	
		tation required.	Ver N	J/A	
		tation required.	Ve		
Monumentation		tation required.	-		
N <i>F</i> 4 4 •	3.7		inornies.		
defined by fences, paint lines, o		defined by airport a	uthorities		
Data Capture Rules: Collect				nts. Extents can be	
Related Features					
Submission Requirements	none				
Documentation and	None	•			
-	SDSFIE	none	. .		
Equivalent Standards	FGDC	SecurityIdentificat	ionDisplayArea	Extension	
	AIXM	SecurityElement		Extension	
Information Assurance Level	Secret				
MicroStation Standards	5	Continuous	7	Cisci Defined	
AutoDesk Standards	6	Continuous	1 MM	User Defined	
	Color	Linetype	Line Weight	Symbol	
C-AIRF-SECR-SIDA	Security Ident	ification Display Are			
Layer/Level		Descr	ription		
CADD Standard Requiremen					
Feature Type	Polygon	prugriiou			
Feature Class Name		SecurityIdDisplayArea			
	Security				
	lisj				
areas of the airport. [Source: D]		ins area includes the	security area and	may include other	
Definition: Portions of an airpor required by regulation must be, areas of the airport. [Source: DI Feature Group	, carried out. Th				

5.12.3. Security Perimeter Line

Definition: Any type of perimeter, such as barbed wire, high fences, motion detectors and armed				
guards at gates, that ensure no unauthorized visitors can gain entry.				
Feature Group	Security			
Feature Class Name	SecurityPerimeterLine			

Feature Type	Poly	gon				
CADD Standard Requiremen		0				
Layer/Level	Description					
C-DETL-FENC-SECU	Secu	rity Fencing				
		Color	Symbol			
AutoDesk Standards		4	None	1 MM	User Defined	
MicroStation Standards		7	None	7	User Denned	
Information Assurance Level	Conf	Confidential				
	AIX	M	SecurityElement		Extension	
Equivalent Standards	FGD	C	SecurityPerimete	rLine	Extension	
	SDS	FIE	security_perimet	er_line	•	
Documentation and Submission Requirements	None	2				
Related Features						
Data Capture Rules: Collect	outline	e of security	area at its greates	t horizontal exten	ts. Extents can be	
defined by fences, paint lines, o						
Monumentation	No n	nonumentati	on required.			
Survey Point Location		Horiz		Vertical		
		N	/A	N/A		
Accuracy Requirements (in		Horizontal		Vertical		
feet)				Orthometric	Ellipsoidal	
			5 ft	± 5 ft	N/A	
Resolution			Coordinates	Distances and Elevations		
	Fi	ve hundredtl	n of arc second	Nearest foot		
Feature Attributes				•		
Attribute (Datatype)		N. 6.1		scription		
name (VARCHAR2 (50))		Name of th			1	
description (VARCHAR2 (255))		on or other unique			
			n, limited to 255 cl	naracters. [Source	: SDSFIE	
status (Enumeration: codeStatu	c)	Attribute T	description of the	operational status	of the feature	
status (Enumeration, codeStatu	5)		ite is used to descr			
userFlag (String 254)			or-defined work are			
		1			•	
	the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to					
	store the subject item's data integrity and should not be used to					
Alternative (Number(2))		store the su				

5.12.4. Sterile Area

Definition: Portions of an airport defined in the airport security program that provide passengers access to boarding aircraft and to which the access is generally controlled by TSA, an aircraft operator,				
or a foreign air carrier. [Source:	or a foreign air carrier. [Source: DHS]			
Feature Group	Security			
Feature Class Name SterileArea				
Feature Type	Polygon			

CADD Standard Requirement	nts						
Layer/Level	Description						
C-AFLD-SECR-STER	Airfie	ld sterile ar	rea				
	C	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards		6	Continuous	1 MM	User Defined		
MicroStation Standards		5 Continuous		7	User Denned		
Information Assurance Level	Secret	Secret					
	AIXM	1	SecurityElement		Extension		
Equivalent Standards	FGDO	5	SterileArea		Extension		
	SDSF	IE	None		•		
Documentation and Submission Requirements	None						
Related Features							
Data Capture Rules: Collect defined by fences, paint lines, or					ts. Extents can be		
Monumentation			on required.				
	Horizontal			Ver	Vertical		
Survey Point Location	N/A			N/A			
A D 4- (i	Horizontol		Vertical				
Accuracy Requirements (in		Horizontal		Orthometric	Ellipsoidal		
feet)		± 5	5 ft	± 5 ft	N/A		
Resolution	G	eographic	Coordinates	Distances an	stances and Elevations		
Resolution	Five	e hundredtl	n of arc second	Nearest foot			
Feature Attributes							
Attribute (Datatype)			De	escription			
name (VARCHAR2 (50))		Name of t	he feature.				
description (VARCHAR2 (255))		on of the feature.				
status (Enumeration: codeStatu	s)			e operational statu			
				cribe real-time stat			
userFlag (String 254)		An operator-defined work area. This attribute can be used by					
		-		l system processes			
				integrity and shou	ald not be used to		
			subject item's data.				
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together					
		into a vers	s10n.				

5.13. Group: SURFACE TRANSPORTATION

5.13.1. Bridge

5.15.1. Driuge						
Definition: A structure used by		es that allow	vs passage over or	under an obstacle	such as a river,	
chasm, mountain, road or railro Feature Group		ce Transpor	tation			
Feature Class Name	Bridg	•	tation			
Feature Type	Polyg	on				
CADD Standard Requiremen		• .•				
Layer/Level		Description				
C-STRC-OTLN-	Bridges, piers, breakwaters, docks, floats, etc outlines					
L-SITE-BRDG-		Bridges				
M-MATL-CRAN-			cranes, and mono			
V-SITE-STRC-		, U	es, sheds, foundation	1 2 2	,	
V-STRC-OTLN-	•	^	eakwaters, docks,			
		Color	Linetype	Line Weight	Symbol	
AutoDesk Standards		(all)	Continuous	1 (all)	User Defined	
MicroStation Standards	7	' (all)	(all)	7 (all)	Oser Dernied	
Information Assurance Level	Restri	cted				
	AIXN	1	Bridge		Extension	
Equivalent Standards	FGDC		Bridge		Extension	
	SDSF	SDSFIE road_bridge_area			•	
Documentation and Submission Requirements	None		_ 0 _			
Related Features						
Data Capture Rules: Capture	the out	tline of brid	ge at its greatest h	orizontal extents.		
Monumentation			on required.			
		Horiz		Ver	tical	
Survey Point Location		N	/A	N/A		
				Vertical		
Accuracy Requirements (in	Horizontal		ontal	Orthometric	Ellipsoidal	
feet)		± 5	5 ft	$\pm 5 \text{ ft}$	N/A	
	G		Coordinates		d Elevations	
Resolution		<u> </u>	n of arc second		est foot	
Feature Attributes	111			Ticale		
Attribute (Datatype)			De	escription		
name (VARCHAR2 (50))		Name of t	he feature.	ser ipuon		
description (VARCHAR2 (255))		on of the feature.			
status (Enumeration: codeStatu		•	temporal description of the operational status of the feature.			
	~/	This attribute is used to describe real-time status.				
userFlag (String 254)			or-defined work ar			
		-	or for user-defined			
		·	subject item's data	• •		
			ubject item's data.			
surfaceMaterial (Enumeration:			ial used as a surface	ce for the bridge.		
CodeSurfaceMaterial)						

bridgeType	
(Enumeration: CodeBridgeType)	
verticalStructureMaterial	
Enumeration:	
CodeVerticalStructureMaterial)	
directionality	Code indicating the traffic flow of the bridge being classified.
(Enumeration: CodeDirectionality)	
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.13.2. Driveway Area

Definition: An access to a bu	ilding c	r other vehi	cle perking lot or a	torage area			
Feature Group				lorage area.			
Feature Class Name		Surface Transportation DrivewayArea					
		Polygon					
Feature Type		çon					
CADD Standard Requireme	nts		D	•			
Layer/Level	D.	1	Descr	iption			
C-ROAD-DRIV-		way edge of					
	1	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards		4	Continuous	1	User Defined		
MicroStation Standards		7	C officiation as	7			
Information Assurance Level	Restri	icted					
	AIXN	Л	DrivewayArea		Extension		
Equivalent Standards	FGD	С	DrivewayArea		Extension		
	SDSF	TIE	driveway_area				
Documentation and Submission Requirements	None		· · · · · · ·				
Related Features							
Data Capture Rules: Captur	e the or	utline of driv	veway at its greates	st horizontal exten	ts.		
Monumentation		onumentatio					
		Horiz	•	Ver	tical		
Survey Point Location		N/			/A		
					tical		
Accuracy Requirements (in		Horiz	ontal	Orthometric	Ellipsoidal		
feet)		± 5 ft		$\pm 5 \text{ ft}$	N/A		
	6		Coordinates	Distances and Elevations			
Resolution			n of arc second	Nearest Foot			
Feature Attributes	1.1.	ve nunareau		INCAL	811001		
Attribute (Datatype)			Do	scription			
name (VARCHAR2 (50))		Name of th		scription			
description (VARCHAR2 (25			n of the feature.		- f (1, - f t		
status (Enumeration: codeStatu	us)	This attrib	l description of the ute is used to descr	ribe real-time statu	s.		
userFlag (String 254)			or-defined work are				
			or user-defined syst				
			m's data integrity a	nd should not be u	sed to store the		
		subject iter					

surfaceMaterial (enumeration: CodeSurfaceMaterial)	The material used as a surface for the driveway.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.13.3. Driveway Centerline

Definition: The center of the d	riveway as measu	ured from the edge of	f the paved surface	e. The segments		
of a driveway centerline will co	pincide with the r	oad segments in orde	er to provide netwo	ork connectivity.		
Feature Group	Surface Transp	ortation				
Feature Class Name	DrivewayCenterline					
Feature Type	Line					
CADD Standard Requiremen	nts					
Layer/Level		Descri	ption			
C-ROAD-DRIV-CNTR	Driveway center	erline				
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	4	Continuous	1	User Defined		
MicroStation Standards	7	- Continuous	7	User Defined		
Information Assurance	Restricted		•			
Level			•	F ()		
	AIXM	DrivewayCenterl		Extension		
Equivalent Standards	FGDC	DrivewayCenterl	ine	Extension		
	SDSFIE	None				
Documentation and Submission Requirements	None					
Related Features						
Related Features Data Capture Rules: <i>Collect</i>	in the horizontal	plane at the center of	f driveway, and to	intersect with		
	in the horizontal	plane at the center of	f driveway, and to	intersect with		
Data Capture Rules: Collect	<i>in the horizontal</i> No monumenta	-	f driveway, and to	intersect with		
Data Capture Rules: Collect centerline of road/drive/ramp. Monumentation	No monumenta	-		o intersect with		
Data Capture Rules: Collect centerline of road/drive/ramp.	No monumenta Ho	ntion required.	Ver			
Data Capture Rules:Collectcenterline of road/drive/ramp.MonumentationSurvey Point Location	No monumenta Ho	ation required. rizontal N/A	Ver N	tical		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in	No monumenta Ho	ntion required.	Ver N	tical		
Data Capture Rules:Collectcenterline of road/drive/ramp.MonumentationSurvey Point Location	No monumenta Ho Ho	ation required. rizontal N/A	Ver N Ver	tical //A tical		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)	No monumenta Ho Ho	ntion required. rizontal N/A rizontal ± 5 ft	Ver N Ver Orthometric ± 5 ft	tical /A tical Ellipsoidal		
Data Capture Rules:Collectcenterline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in	No monumenta Ho Ho Geograph	ntion required. rizontal N/A rizontal	Ver N Ver Orthometric ± 5 ft Distances ar	tical /A tical Ellipsoidal N/A		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)	No monumenta Ho Ho Geograph	ntion required. rizontal N/A rizontal ± 5 ft ic Coordinates	Ver N Ver Orthometric ± 5 ft Distances ar	rtical //A rtical Ellipsoidal N/A nd Elevations		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)Resolution	No monumenta Ho Ho Geograph	ation required. rizontal N/A rizontal $\pm 5 \text{ ft}$ ic Coordinates dth of arc second	Ver N Ver Orthometric ± 5 ft Distances ar	rtical //A rtical Ellipsoidal N/A nd Elevations		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)ResolutionFeature Attributes	No monumenta Ho Ho Five hundre	ation required. rizontal N/A rizontal $\pm 5 \text{ ft}$ ic Coordinates dth of arc second	Ver N Ver Orthometric ± 5 ft Distances ar Neare	rtical //A rtical Ellipsoidal N/A nd Elevations		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)ResolutionFeature AttributesAttribute (Datatype)name (VARCHAR2 (50))	No monumenta Ho Ho Five hundre	$\frac{1}{1}$	Ver N Ver Orthometric ± 5 ft Distances ar Neare	rtical //A rtical Ellipsoidal N/A nd Elevations		
Data Capture Rules: Collect centerline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)ResolutionFeature Attributes Attribute (Datatype)	No monumenta Ho Ho Five hundre Name of Descripti	ntion required. rizontal N/A rizontal ± 5 ft ic Coordinates dth of arc second Des	Ver N Ver Orthometric ± 5 ft Distances an Neare	rtical //A rtical Ellipsoidal N/A nd Elevations sst Foot		
Data Capture Rules: Collectcenterline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)ResolutionFeature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	No monumenta Ho Ho Five hundre Name of D) Descripti s) A tempor	$\frac{\text{tion required.}}{\text{rizontal}}$ $\frac{\text{N/A}}{\text{rizontal}}$ $\frac{\pm 5 \text{ ft}}{\text{ic Coordinates}}$ $\frac{\text{dth of arc second}}{\text{Des}}$ $\frac{\text{Des}}{\text{the feature.}}$ $\frac{\text{ridon of the feature.}}{\text{ral description of the}}$	Ver N Ver Orthometric ± 5 ft Distances ar Neare scription	tical //A tical Ellipsoidal N/A nd Elevations est Foot of the feature.		
Data Capture Rules: Collect centerline of road/drive/ramp. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	No monumenta Ho Ho Five hundre Name of Descripti s) A tempor This attri	ation required. rizontal N/A rizontal $\pm 5 \text{ ft}$ ic Coordinates dth of arc second Des the feature. ion of the feature.	Ver N Orthometric ± 5 ft Distances ar Neare scription	rtical //A rtical Ellipsoidal N/A nd Elevations est Foot of the feature. s.		
Data Capture Rules: Collectcenterline of road/drive/ramp.MonumentationSurvey Point LocationAccuracy Requirements (in feet)ResolutionFeature AttributesAttribute (Datatype)name (VARCHAR2 (50))description (VARCHAR2 (255))	No monumenta Ho Ho Geograph Five hundre Name of Name of S) A tempor This attri An opera	ation required. rizontal N/A rizontal \pm 5 ft ic Coordinates dth of arc second Destination of the feature. ion of the feature. ral description of the bute is used to descriptor-defined work are	VerNOrthometric ± 5 ftDistances arNearescriptionoperational statusibe real-time statusa. This attribute ca	rtical //A rtical Ellipsoidal N/A nd Elevations st Foot of the feature. s. an be used by		
Data Capture Rules: Collect centerline of road/drive/ramp. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	No monumenta Ho Ho Geograph Five hundre Name of Descripti s) A tempor This attri An opera the opera	$\frac{\text{tion required.}}{\text{rizontal}}$ $\frac{\text{N/A}}{\text{rizontal}}$ $\frac{\pm 5 \text{ ft}}{\text{ic Coordinates}}$ $\frac{\text{Des}}{\text{the feature.}}$ $\frac{\text{Des}}{\text{the feature.}}$ $\frac{\text{ral description of the bute is used to description}$	Ver N Ver Orthometric ± 5 ft Distances an Neare scription operational status ibe real-time status a. This attribute ca system processes.	rtical //A rtical Ellipsoidal N/A nd Elevations st Foot of the feature. s. an be used by It does not affect		
Data Capture Rules: Collect centerline of road/drive/ramp. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	No monumenta Ho Ho Geograph Five hundre Name of Descripti s) A tempor This attri An opera the opera the subje	ntion required. rizontal N/A rizontal ± 5 ft ic Coordinates dth of arc second Des the feature. ion of the feature. ral description of the bute is used to description of the bute of user-defined second	Ver N Ver Orthometric ± 5 ft Distances an Neare scription operational status ibe real-time status a. This attribute ca system processes.	rtical //A rtical Ellipsoidal N/A nd Elevations st Foot of the feature. s. an be used by It does not affect		
Data Capture Rules: Collect centerline of road/drive/ramp. Monumentation Survey Point Location Accuracy Requirements (in feet) Resolution Feature Attributes Attribute (Datatype) name (VARCHAR2 (50)) description (VARCHAR2 (255) status (Enumeration: codeStatu	No monumenta Ho Ho Geograph Five hundre Name of D) Descripti s) A tempor This attri An opera the opera the subje the subje	ation required. rizontal N/A rizontal \pm 5 ft ic Coordinates dth of arc second Dest the feature. ion of the feature. ral description of the bute is used to descriptor-defined work are ator for user-defined secret ct item's data integrit	Ver N Ver Orthometric ± 5 ft Distances ar Neare scription operational status ibe real-time status a. This attribute cases system processes. ty and should not be	tical /A tical Ellipsoidal N/A nd Elevations sst Foot of the feature. s. an be used by It does not affect be used to store		

5.13.4. Parking Lot						
Definition: An area of an airport	used for parkin	g of automobiles, bu	ises, etc.			
Feature Group	Surface Transportation					
Feature Class Name	ParkingLot					
Feature Type	Polygon					
CADD Standard Requirements	3					
Layer/Level	Description					
C-PKNG-ISLD-	Parking islands					
C-PKNG-OTLN-	Parking lots					
	Color	Line type	Line Weight	Symbol		
AutoDesk Standards	84 (all)	Dashed-Spaced	1 mm (all)			
MicroStation Standards	256 (all)	(all)	7 (all)	User Defined		
Information Assurance Level	Restricted	, , , , , , , , , , , , , , , , , , ,		1		
	AIXM	ParkingLot		Extension		
Equivalent Standards	FGDC	ParkingLot		Extension		
1	SDSFIE	vehicle_parking_	area			
Documentation and		p				
Submission Requirements	None					
Related Features						
Data Capture Rules: Collect of	utline of parking	o lot at its greatest h	orizontal extents			
Monumentation	None					
		rizontal	Vertical			
Survey Point Location	N/A		N/A			
			Vertical			
Accuracy Requirements (in	Horizontal ± 5 ft		Orthometric	Ellipsoidal		
feet)			$\pm 5 \text{ ft}$	N/A		
		ic Coordinates		d Elevations		
Resolution		dth of arc second	Nearest Foot			
Feature Attributes	The number	ull of all second	Ineale	81 1 001		
Attribute (Datatype)		Do	scription			
	Any com	Any commonly used name for the parking area.				
name (VARCHAR2 (50))				•		
description (VARCHAR2 (255))	A descrip	tion of the parking l	ot.			
	A descrip A tempor	tion of the parking l al description of the	ot. operational status	of the feature.		
description (VARCHAR2 (255)) status (Enumeration: codeStatus)	A descrip A tempor This attril	tion of the parking l al description of the bute is used to descr	ot. operational status ibe real-time statu	of the feature.		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16)	A descrip A tempor This attril The prima	tion of the parking l al description of the bute is used to descr ary use of the parkin	ot. operational status ibe real-time statu g area.	s of the feature. s.		
description (VARCHAR2 (255)) status (Enumeration: codeStatus)	A descrip A tempor This attril The prima The total	tion of the parking l al description of the bute is used to descr ary use of the parkin parking spaces avail	ot. operational status ibe real-time statu og area. lable in the area in	s of the feature. s.		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer)	A descrip A tempor This attril The prima The total handicapp	tion of the parking l al description of the bute is used to descr ary use of the parkin parking spaces avail ped or reserved spac	ot. operational status ibe real-time statu ig area. lable in the area in es.	s of the feature. s. cluding		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16)	A descrip A tempor This attril The prima The total handicapp) The total	tion of the parking l al description of the bute is used to descr ary use of the parkin parking spaces avail	ot. operational status ibe real-time statu ig area. lable in the area in es.	s of the feature. s. cluding		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer)	A descrip A tempor This attril The prima The total handicapp) The total parking.	tion of the parking l al description of the bute is used to descr ary use of the parkin parking spaces avail ped or reserved spac number of spaces m	ot. operational status ibe real-time statu ig area. lable in the area in es.	s of the feature. s. cluding		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner	A descrip A tempor This attril The prima The total handicapp) The total parking.	tion of the parking l al description of the bute is used to descr ary use of the parkin parking spaces avail ped or reserved spac	ot. operational status ibe real-time statu ig area. lable in the area in es.	s of the feature. s. cluding		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner)	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne	tion of the parking l ral description of the bute is used to descri- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha	s of the feature. s. cluding ndicapped		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne An operat	tion of the parking l ral description of the bute is used to descr ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are	ot. operational status ibe real-time statu ag area. lable in the area in es. arked as being ha	an be used by		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner)	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne An operative operation	tion of the parking l ral description of the bute is used to descr ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes.	an be used by It does not affect		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner)	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne An operat the operat the subject	tion of the parking l al description of the bute is used to descri- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined s ct item's data integrit	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes.	an be used by It does not affect		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner) userFlag (String 254)	A descrip A tempor This attril The prima The total handicapp The total parking. The owne An operat the subject the subject	tion of the parking l al description of the bute is used to descri- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined so ct item's data integrit ct item's data.	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes. ty and should not	an be used by It does not affect be used to store		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner) userFlag (String 254) surfaceType (Enumeration:	A descrip A tempor This attril The prima The total handicapp The total parking. The owne An operat the subject the subject	tion of the parking l al description of the bute is used to descri- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined s ct item's data integrit	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes. ty and should not	an be used by It does not affect be used to store		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner) userFlag (String 254) surfaceType (Enumeration: codeSurfaceType)	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne An operat the subject the subject Type of d	tion of the parking l ral description of the bute is used to descr- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined ct item's data integrit ct item's data.	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes. ty and should not	an be used by It does not affect be used to store e surface.		
description (VARCHAR2 (255)) status (Enumeration: codeStatus) parkingLotUse (String 16) totalNumberSpaces (Integer) numberHandicapSpaces (Integer) owner (Enumeration: CodeOwner) userFlag (String 254) surfaceType (Enumeration:	A descrip A tempor This attril The prima The total handicapp) The total parking. The owne An operat the subject the subject Type of d	tion of the parking l cal description of the bute is used to descri- ary use of the parkin parking spaces avail ped or reserved spac number of spaces m er of the parking lot tor-defined work are tor for user-defined s ct item's data integrit ct item's data.	ot. operational status ibe real-time statu g area. lable in the area in es. arked as being ha ea. This attribute c system processes. ty and should not	an be used by It does not affect be used to store e surface.		

5.13.4. Parking Lot

5.13.5. Railroad Centerline						
Definition: Represents the cent	terline	of each pair	of rails [Source: AN	NSI: Data Conten	t Standards For	
Transportation Networks: Road	ls]					
Feature Group	Surf	ace Transpor	rtation			
Feature Class Name	Rail	RailroadCenterline				
Feature Type	Line					
CADD Standard Requiremen	ts					
Layer/Level			Descrij	otion		
C-RAIL-CNTR-	Cent	erlines				
C-RAIL-TRAK-		Railroads				
					Symbol	
AutoDesk Standards		91 (all)		1 (all)	, , , , , , , , , , , , , , , , , , ,	
MicroStation Standards		06 (all)	Continuous (all)	7 (all)	User Defined	
Information Assurance		. ,		/ (ull)		
Level		fidential				
	AIX	Μ	RailroadCenterlin	e	Extension	
Equivalent Standards	FGI	DC	RailroadCenterlin	e	Extension	
	SDS	FIE	railroad_centerlin	e		
Documentation and	Non	e				
Submission Requirements		-				
Related Features						
Data Capture Rules: In the hu In the vertical plane, collect the		1	0	e centerline of ea	ch pair of rails.	
Monumentation	Non	*	j nignesi ran.			
Wonumentation	TION		zontal	Vo	tical	
Survey Point Location					I/A	
	N/A				tical	
Accuracy Requirements (in		Hori	zontal	Orthometric	Ellipsoidal	
feet)			<i>τ</i> . α.		N/A	
			5 ft	$\pm 5 \text{ ft}$		
Resolution	1		Coordinates		nd Elevations	
	F	ive hundred	th of arc second	Neare	est Foot	
Feature Attributes		1	~	•		
Attribute (Datatype)				cription		
name (VARCHAR2 (50))			nonly used name for			
description (VARCHAR2 (255			ive remarks concerr			
Status (Enumeration codeStatus	s)	The curren used.	it status as to whethe	er the railroad seg	gment is being	
numberOfTracks (Integer)			er of tracks present			
owner			of the rail track			
(Enumeration: CodeOwner)			or the full track			
isBridge (Boolean)		Indicates o	viven railroad segme	nt is bridge (V- a	is bridge N- is	
isbridge (boolean)	Indicates given railroad segment is bridge (Y- a is b				15 011050, 11-15	
	not a bridge). Indicates given railroad segment is tunnel (Y- is a tunn					
istunnel (Boolean)				nt is tunnel (\mathbf{V}_{-})	s a tunnel N ₋ is	
istunnel (Boolean)		Indicates g	iven railroad segme	nt is tunnel (Y- i	s a tunnel, N- is	
		Indicates g	iven railroad segme			
istunnel (Boolean) userFlag (String 254)		Indicates g not a tunne An operate	iven railroad segme el). pr-defined work area	. This attribute c	an be used by	
		Indicates g not a tunne An operato the operato	viven railroad segme el). Dr-defined work area Dr for user-defined s	a. This attribute c ystem processes.	an be used by It does not affect	
		Indicates g not a tunne An operato the operato the subject	iven railroad segme el). pr-defined work area	a. This attribute c ystem processes.	an be used by It does not affect	

5.13.5. Railroad Centerline

directionality	Code indicating the traffic flow of the railroad segment being
(Enumeration: CodeDirectionality)	classified.
segmentType	Code indication the sequence or position of the segment being
(Enumeration: CodeSegmentType)	classified by the feature.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.13.6. Railroad Yard

Definition: Represents a railr	oad yard [Source:	ANSI: Data Content	t Standards For Tra	ansportation		
Networks: Roads]	1					
Feature Group	Surface Transpo	ortation				
Feature Class Name	RailroadYard					
Feature Type	Polygon					
CADD Standard Requireme	ents					
Layer/Level		Descri	ption			
C-RAIL-YARD-	Railroad Yard					
	Color	Linetype	Line Weight	Symbol		
AutoDesk Standards	4	Continuous	1	User Defined		
MicroStation Standards	7	Continuous	7	User Denned		
Information Assurance Level	Confidential					
	AIXM	RailroadYard		Extension		
Equivalent Standards	FGDC	RailroadYard		Extension		
•	SDSFIE	railroad_yard_are	ea			
Documentation and Submission Requirements	None					
Related Features						
Data Capture Rules: Collec		rd area its greatest h	orizontal extents.	Represented by		
fences, road or change in grou Monumentation	None					
Wonumentation			Var	4:00l		
Survey Point Location		rizontal		tical		
		N/A		/A		
Accuracy Requirements	Hor	rizontal		tical		
(in feet)			Orthometric	Ellipsoidal		
		±5 ft	$\pm 5 \text{ ft}$	N/A		
Resolution		ic Coordinates	Distances and Elevations			
	Five hundred	dth of arc second	Nearest Foot			
Feature Attributes						
Attribute (Datatype)			scription			
name (VARCHAR2 (50))		that represent the rai				
description (VARCHAR2 (25		ef description of the f				
status (Enumeration: codeStat	/ I	oral description of the ibute is used to descr	ne operational status of the feature. cribe real-time status.			
owner (Enumeration: CodeOv	vner) The owr	ner of the rail track				
userFlag (String 254)	An oper	ator-defined work are	ea. This attribute c	an be used by		
	the oper the subject	ator for user-defined ect item's data integri	system processes.	It does not affect		
	the subject	ect item's data.				

Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.13.7. Road Centerline

hugy of modeling				
•	ed from the edge of	•	•	
		have similar chara	cteristics.	
	rtation			
Line				
	Descr	iption		
Centerlines				
Color	Linetype	Line Weight	Symbol	
6	Continuous	1	User Defined	
5	Continuous	7	User Defined	
Confidential				
AIXM	RoadCenterline		Extension	
FGDC	RoadCenterline		Extension	
SDSFIE	road centerline		•	
	. –			
None				
e centerline of ro	oad by splitting the	edge of pavement	or painted	
	<i>J</i> I 0	0 51	1	
None				
Hori	zontal	Ver	tical	
N/A		N/A		
		X 7	/A	
Horizontal		Ver	/A tical	
Hori	zontal	Ver Orthometric		
	zontal 5 ft		tical	
±.	5 ft	Orthometric ± 5 ft	tical Ellipsoidal	
<u>±</u> Geographic	5 ft Coordinates	Orthometric ± 5 ft Distances an	tical Ellipsoidal N/A ad Elevations	
<u>±</u> Geographic	5 ft	Orthometric ± 5 ft Distances an	tical Ellipsoidal N/A	
<u>±</u> Geographic	5 ft Coordinates h of arc second	Orthometric ± 5 ft Distances an	tical Ellipsoidal N/A ad Elevations	
± Geographic Five hundredt	5 ft Coordinates h of arc second Des	Orthometric ± 5 ft Distances an Neares scription	tical Ellipsoidal N/A d Elevations st Foot	
± Geographic Five hundredt	5 ft Coordinates h of arc second Demonly used name for	Orthometric ± 5 ft Distances an Neares scription	tical Ellipsoidal N/A ad Elevations st Foot	
Ecographic Geographic Five hundredt Any comm Descriptio	5 ft Coordinates h of arc second Des nonly used name fo n of the feature.	Orthometric \pm 5 ftDistances an NearesNearesscriptionor the road centerline	tical Ellipsoidal N/A d Elevations st Foot	
± . Geographic Five hundredt Any comm Descriptio A tempora	5 ft Coordinates h of arc second Des nonly used name for n of the feature. Il description of the	Orthometric ± 5 ft Distances an Neares scription r the road centerling operational status	tical Ellipsoidal N/A d Elevations st Foot ne.	
± . Geographic Five hundredt Any comm Descriptio A tempora This attrib	5 ft Coordinates h of arc second Demonly used name for n of the feature. Il description of the ute is used to descri	Orthometric ± 5 ft Distances an Neares scription or the road centerlin operational status ibe real-time statu	tical Ellipsoidal N/A d Elevations st Foot ne.	
Even the second	5 ft Coordinates h of arc second Dea nonly used name for n of the feature. Il description of the ute is used to description of the of the centerline material	Orthometric \pm 5 ftDistances an NearesScriptionor the road centerlioperational status ibe real-time statu arking.	tical Ellipsoidal N/A d Elevations st Foot ne.	
Ecolorization Ecolori	5 ft Coordinates h of arc second Des nonly used name for n of the feature. I description of the ute is used to descr of the centerline ma or-defined work are	Orthometric \pm 5 ftDistances an NearesScriptionor the road centerlineoperational statusibe real-time statu arking.ca. This attribute c	tical Ellipsoidal N/A d Elevations st Foot ne. of the feature. s. an be used by	
±	5 ft Coordinates h of arc second Demonly used name for nonly used name for n of the feature. I description of the ute is used to descr of the centerline material or-defined work are or for user-defined	Orthometric \pm 5 ftDistances an NearesScriptionor the road centerlineoperational status ibe real-time statu arking.ea. This attribute c system processes.	tical Ellipsoidal N/A d Elevations st Foot ne. of the feature. s. an be used by It does not affect	
± Geographic Five hundredt Any comm Descriptio A tempora This attrib The color An operate the operate the subject	5 ft Coordinates h of arc second Dea nonly used name for n of the feature. Il description of the ute is used to description of the or for centerline may or defined work are or for user-defined t item's data integri	Orthometric \pm 5 ftDistances an NearesScriptionor the road centerlineoperational status ibe real-time statu arking.ea. This attribute c system processes.	tical Ellipsoidal N/A d Elevations st Foot ne. of the feature. s. an be used by It does not affect	
± Geographic Five hundredt Any comm Descriptio A tempora This attrib The color An operate the subject the subject	5 ft Coordinates h of arc second Demonly used name for nonly used name for n of the feature. I description of the ute is used to descr of the centerline material or-defined work are or for user-defined	Orthometric \pm 5 ftDistances an NearesNearesscriptionor the road centerlioperational status ibe real-time statu arking.ca. This attribute colspan="2">system processes.ty and should not be	tical Ellipsoidal N/A d Elevations st Foot ne. of the feature. s. an be used by It does not affect be used to store	
	Surface Transpo RoadCenterline Line Centerlines Color 6 5 Confidential AIXM GDC DSFIE None e centerline of ro fined. None Hori	Surface Transportation RoadCenterline Line Description Centerlines Color Linetype 6 Continuous 5 Confidential AIXM RoadCenterline GDC RoadCenterline GDSFIE road_centerline SDSFIE road_centerline None e centerline of road by splitting the fined. None Horizontal	Description Description Centerlines Line Weight 6 Continuous 1 5 Continuous 7 Confidential 7 7 Confidential RoadCenterline 7 GDC RoadCenterline 7 SDSFIE road_centerline 7 None	

5.13.8. Road Point

5.15.6. Kuau I ulli							
Definition: A point along the							
or ending a road segment or fo	or representing a si	ignificant position al	ong the roadway s	ystem such as			
the start or center of a bridge of	or the center of an	intersection [Source	: ANSI: Data Cont	tent Standards			
For Transportation Networks:	Roads]						
Feature Group	Surface Transpo	rtation					
Feature Class Name	RoadPoint	RoadPoint					
Feature Type	Point						
CADD Standard Requireme							
Layer/Level		Descri	ntion				
C-ROAD-POIN-	Road Point	205011	puon				
	Color	Line type	Line Weight	Symbol			
AutoDesk Standards	2		1 mm	-			
MicroStation Standards	4	 Continuous 	7	User Defined			
Information Assurance			/				
Level	Confidential						
	AIXM	RoadPoint		Extension			
Equivalent Standards	FGDC	RoadPoint		Extension			
	SDSFIE	None		•			
Documentation and	N						
Submission Requirements	None						
Related Features							
Data Capture Rules: Collect	t point at desired l	ocation using the tee	chnique necessarv	to achieve			
accuracy	<i>P</i> · · · · · · · · · · · · · · · · · ·						
Monumentation	None						
		rizontal	Ver	·tical			
Survey Point Location		N/A	N/A				
			Vertical				
Accuracy Requirements (in	Ho	rizontal	Orthometric				
feet)	_	± 5 ft	$\pm 5 \text{ ft}$	N/A			
		c Coordinates	Distances and Elevations				
Resolution		th of arc second		st Foot			
Feature Attributes	The fundice	an of are second	Iveare	51 1 001			
Attribute (Datatype)		D ₀	scription				
name (VARCHAR2 (50))	Nomo of	the feature.	scription				
description (VARCHAR2 (25)		on of the feature.	1	- f (1, - f - t			
status (Enumeration: codeStat	· •	ral description of the					
$\mathbf{F} = \mathbf{F} + $		bute is used to descr					
userFlag (String 254)		tor-defined work are					
	•	tor for user-defined					
	-	ct item's data integri	ty and should not l	be used to store			
		ct item's data.	C 1	1, 1			
	Discriminator used to tie features of a plan or proposal together						
Alternative (Number(2))	Discrimi into a ver		ures of a plan or p	roposal together			

	P ,	aejinea paini tine (e	excluding should		
<i>· edge of</i> None	pavement or	defined maint line (oveluding should		
collect a	s separate p	olygons depicting be	eginning, intersed		
	7		1		
None					
SDSF	E	road_site			
FGDC	1 /	RoadSegment		Extension	
AIXM	[RoadSegment		Extension	
Confid	lential				
	· · /		7 (all)		
	· /	Continuous (all)	1 mm (all)	User Defined	
		Linetype	Line Weight	Symbol	
Roads					
Roads					
Curbs					
Roads	Roads				
		Descript	tion		
.0					
	0				
RoadS	egment				
Surfac	e Transporta	tion			
			: Roads]		
	the road Surfac RoadS Polygo ents Roads Curbs Roads Roads Curbs Roads Curbs Roads Curbs Roads Roads Curbs Roads Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Roads Curbs Cu	the road system exce at Standards For Tran Surface Transporta RoadSegment Polygon ents Roads Curbs Roads Curbs Roads Curbs Roads Color 1 (all) 3 (all) Confidential AIXM FGDC SDSFIE None ect all road segments collect as separate p	the road system except that data providen t Standards For Transportation Networks Surface Transportation RoadSegment Polygon ents Descript Roads Curbs Roads Curbs Roads Roads Color Linetype 1 (all) 3 (all) Continuous (all) Confidential AIXM RoadSegment FGDC RoadSegment SDSFIE road_site None	RoadSegment Polygon nents Description Roads Curbs Roads Curbs Roads Curbs Roads Color Linetype Line Weight 1 (all) Continuous (all) 3 (all) Continuous (all) AIXM RoadSegment FGDC RoadSegment SDSFIE road_site None None	

5.13.9. Road Segment

route2Name (String 30)	The route number or other identifier that is affiliated with the second route type
route2Type (Enumeration: CodeRouteType)	The second route type for the road (Interstate, US, State, etc.)
route3Name (String 30)	The number or other identifier that is affiliated with the third route type
route3Type (Enumeration: CodeRouteType)	The third route type for the road (Interstate, US, State, etc.)
numberOfLanes (Integer)	The total number of lanes of traffic, counting both directions, not including turning lanes. [Source: SDSFIE Feature Table]
length (Real)	The length of the road segment measured at the centerline. [Source: SDSFIE Feature Table]
width (Real)	The average width of the road segment. [Source: SDSFIE Feature Table]
isBridge (Boolean)	Indicates given road segment is bridge (Y- a is bridge, N- is not a bridge). [Source: SDSFIE Feature Table]
isTunnel (Boolean)	Indicates given road segment is tunnel (Y- is a tunnel, Nis not a tunnel). [Source: SDSFIE Feature Table]
directionality (Enumeration: CodeDirectionality)	Code indicating the traffic flow on the road segment.
segmentType (Enumeration: CodeSegmentType)	Code indicating the type of segment being classified.
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
surfaceType (Enumeration: codeSurfaceType)	Type of material used to construct the surface.
surfaceMaterial (Enumeration: CodeSurfaceMaterial)	Material used to construct the surface of the road.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.13.10.Sidewalk

Definition: A paved or concrete pad used as a pedestrian walkway. Usually is composed of one or							
more SideWalkSegments.							
Feature Group	Surface Transport	ation					
Feature Class Name	Sidewalk						
Feature Type	Polygon						
CADD Standard Requirement	S						
Layer/Level		Descri	ption				
C-SITE-WALK-	Walks, trails and	d bicycle paths					
L-SITE-WALK-	Walks and steps	6					
V-SITE-WALK-	Walks, trails, an	d bicycle paths					
	Color	Linetype	Line Weight	Symbol			
AutoDesk Standards	8 (all)	8 (all) Cardinana (all) 1 mm (all) User Defined					
MicroStation Standards	9 (all) Continuous (all) 7 (all) User Defined						
Information Assurance Level	Restricted						

	AIX	M	Sidewalk		Extension	
Equivalent Standards	FGI	DC	Sidewalk		Extension	
-	SDS	FIE	pedestrian_sidew	alk area		
Documentation and Submission Requirements	Non	None				
Related Features						
Data Capture Rules: Collect a sidewalks intersect, collect as se sidewalk at the outer edge of pay	parate	e polygons				
Monumentation	Non					
			rizontal	Ver	tical	
Survey Point Location			N/A		/A	
				Ver	tical	
Accuracy Requirements (in		HO	rizontal	Orthometric	Ellipsoidal	
feet)		-	±5 ft	± 5 ft	N/A	
Deschation	(Geograph	ic Coordinates	Distances ar	nd Elevations	
Resolution			dth of arc second	Neare	st Foot	
Feature Attributes				•		
Attribute (Datatype)			Des	cription		
name (VARCHAR2 (50))		Name of t	he feature.	•		
description (VARCHAR2 (255)))	A brief de sidewalk.	escription of any spe	cial characteristics	s of the	
status (Enumeration: codeStatus)	-	al description of the oute is used to descri	·		
walkUse (String 26)		A short description of the primary use of the sidewalk.				
AmericanDisabilitiesAct (Boole	an)	Boolean indicating whether or not the walkway is in compliance with the American Disabilities Act.				
length (Real)		The overall length of the sidewalk section.				
width (Real)		The mean width of the sidewalk section.				
surfaceMaterial		Primary material used in the sidewalk and/or trail.				
(Enumeration:						
CodeSurfaceMaterial)						
userFlag (String 254)		An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.				
segmentType	Code indicating the type of segment being classified.			ified		
(Enumeration: CodeSegmentTy)	ne)		caung the type of se	Sment being eidss		
Alternative (Number(2))		Discrimin into a vers	ator used to tie featu	rres of a plan or p	roposal together	

5.13.11.Tunnel

 Definition: The area of a transportation passage, open at both ends, used to provide access through or under a natural obstacle.

 Feature Group
 Surface Transportation

 Feature Class Name
 Tunnel

 Feature Type
 Polygon

CADD Standard Requirement	S						
Layer/Level	Description						
L-SITE-TUNL-	Tunnels			•			
	Colo	r	Linetype	Line Weight	Symbol		
AutoDesk Standards	7		- Continuous	1 MM	User Defined		
MicroStation Standards	0		Continuous	7	User Defined		
Information Assurance Level	Restricte	d	·	·	·		
	AIXM		Tunnel		Extension		
Equivalent Standards	FGDC		Tunnel		Extension		
	SDSFIE		tunnel_area				
Documentation and	None						
Submission Requirements	None						
Related Features							
Data Capture Rules: Collect th	he tunnel e:	xtendi	ng between the entr	ance points with a	ı width defined		
by edge of pavement at either en							
Monumentation	None			1			
Survey Point Location			rizontal		rtical		
Survey I omt Docution			N/A		I/A		
Accuracy Requirements (in feet)		Ho	rizontal	Vei	rtical		
		110112011121		Orthometric	Ellipsoidal		
	$\pm 5 \text{ ft}$		± 5 ft	N/A			
Resolution		Geographic Coordinates			nd Elevations		
Resolution	Five h	Five hundredth of arc second		Nearest Foot			
Feature Attributes	•						
Attribute (Datatype)				scription			
name (VARCHAR2 (50))			he feature.				
description (VARCHAR2 (255))			on of the feature.				
status (Enumeration: codeStatus			al description of the				
			oute is used to descr		s.		
type (String 16)			e that represents the type of tunnel				
verticalClearance (Real)		Indicates the actual vertical clearance to the top of the tunnel					
	-	imposed by any restrictions.					
averageHeight (Real)		The average height of the tunnel.					
averageWidth (Real)		The average width of the tunnel.					
length (Real)		The length of the tunnel.					
userFlag (String 254)		An operator-defined work area. This attribute can be used by					
		the operator for user-defined system processes. It does not affect					
		the subject item's data integrity and should not be used to store the subject item's data.					
directionality	the	subjec	i nem s data.				
directionality (Enumeration:CodeDirectionalit	v)						
(Enumeration:CodeDirectionality)					ified		
segmentType (Enumeration: CodeSegmentType	tType) Code indicating the type of segment being classified.						
Alternative (Number(2))		rimin	ator used to the fast	ures of a plan or p	roposal together		
Anternative (multibel(2))		Discriminator used to tie features of a plan or proposal together into a version.					
into a version.							

5.14. Group: UTILITIES

5.14.1. Tank Site

Definition: An above or below						
waste, etc.) on a temporary ba	sis prior to trans	sfer, use, or dispos	al. Tanks are typi	ically located on		
TankSites.	1					
Feature Group	Utilities					
Feature Class Name	TankSite					
Feature Type	Polygon					
CADD Standard Requirement	S					
Layer/Level	Description					
L-DETL-TKST-		Tanl	x Site	1		
	Color Line type Line Weight Symbo					
AutoDesk Standards	4	Continuous	1 MM	User Defined		
MicroStation Standards	7	Continuous	7	User Denned		
Information Assurance Level	Confidential					
	AIXM	VerticalStructure		Core		
Equivalent Standards	FGDC	TankSite				
	SDSFIE	undefined_tank_s	site			
Documentation and	None					
Submission Requirements	None					
Related Features						
Data Capture Rules: Outer lin	its of tank outlin	le.				
Monumentation	As required by	local, State, or national	onal standards for	this type of data.		
Survey Point Location	Hor	izontal	Ver	tical		
Survey Folint Location	1	N/A	N	/A		
A courses Beguinements (in	Horizontal		Vertical			
Accuracy Requirements (in feet)	nor	izoiitai	Orthometric	Ellipsoidal		
leet)	+/	+/- 3 ft		N/A		
Resolution	Geographic Coordinates		Distances an	d Elevations		
Resolution	Five hundred	ths of arc second	Nearest Foot			
Feature Attributes						
Attribute (Datatype)		Des	scription			
name (VARCHAR2 (50))	Name of t	he feature.				
description (VARCHAR2 (255))) A descript	tion or other unique	information conce	erning the		
	subject ite	em, limited to 255 cl	haracters. [Source	: SDSFIE		
	Feature Ta	4				
status (Enumeration: codeStatus	, 1	al description of the	1			
		oute is used to descr		s.		
tankType (String 40)		scription of the tpy				
topElevation (Real)	The dimen	nsion indicating the	elevation of exter	ior top surface of		
		lid, hatch, rim, or re				
	(SI units) above some datum, if it is known. [Source: SDSFIE					
	Feature Table]					
lightCode (Boolean)	A code indicating that the obstacle is lighted [Source: AIXM]					
verticalStructureMaterial	Classifies	the predominant m	aterial of the vertic	cal object		
(Enumeration: CodeVerticalStructureMaterial)						

lightingType (Enumeration: codeLightingConfigurationType)	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction
markingFeatureType (Enumeration: codeMarkingFeatureType)	The type of the marking(s)
color (Enumeration: codeColor)	The color of the marking(s)
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together into a version.

5.14.2. Utility Line

5.14.2. Utility Line	eature typically represented	l as a lina	
Feature Group	Utilities	i as a fille.	
Feature Class Name	UtilityLine		
	Line		
Feature Type			
CADD Standard Requ		T /T 1	
Layer/Level	Description	Layer/Level	Description
C-FUEL-ABND-	Abandoned piping	M-HTCW-LTPL-	Main low temperature piping
C-FUEL-DEFL-	Defueling piping	M-HTCW-LTPS-	Low temperature service piping
C-FUEL-MAIN-	Main fuel piping	M-HTCW-STML-	Main steam piping
C-FUEL-SERV-	Service piping	M-HTCW-STMS-	Steam service piping
C-FUEL-TRCH-	Fuel line trench	M-HVAC-RETN-	Return ductwork
C-NGAS-ABND-	Abandoned piping	M-HVAC-SUPP-	Supply ductwork
C-NGAS-MAIN-	Main natural gas piping	M-HYDR-PIPE-	Hydraulic system piping
C-NGAS-SERV-	Service piping	M-INSL-PIPE-	Insulating oil piping
C-PROF-PIPE-	Piping	M-LUBE-PIPE-	Lubrication oil piping
C-SSWR-ABND-	Abandoned piping	M-PROC-PIPE-	Process piping
C-SSWR-MAIN-	Sanitary sewer piping	M-RCOV-PIPE-	Piping (includes fittings, valves)
C-SSWR-SERV-	Sanitary sewer service piping	M-REFG-PIPE-	Piping (includes fittings, valves)
C-STRM-ABND-	Abandoned piping	M-RWTR-PIPE-	Raw water piping
C-STRM-HDWL-	Headwalls and endwalls	M-STEM-PIPE-	Steam piping
C-STRM-MAIN-	Storm sewer piping	P-CMPA-PIPE-	Piping
C-STRM-ROOF-	Roof drain line	P-FUEL-FGAS-	Fuel gas piping
C-STRM-SERV-	Storm sewer service piping	P-FUEL-FOIL-	Fuel oil piping
C-STRM-SUBS-	Subsurface drain piping	P-LGAS-PIPE-	Piping
E-AIRF-DUCT-	Ductbanks	P-MDGS-PIPE-	Piping
E-CABL-COAX-	Coax cable	P-SANR-COND-	Condensate piping
E-CABL-FIBR-	Fiber optics cable	P-SANR-PIPE-	Piping

E-CABL-MULT-	Multi-conductor cable	P-SANR-VENT-	Vent piping
E-CABL-TRAY-	Cable trays and wireways	P-STRM-PIPE-	Storm drain piping
E-CIRC-CTRL-	Control and monitoring circuits	T-CABL-TRAY-	Cable trays and wireways
E-CIRC-MULT-	Multiple circuits	V-AIRF-DUCT-	Ductbanks
E-CIRC-SERS-	Series circuits	V-CIRC-CTRL-	Control and monitoring circuits
E-COMM-OVHD-	Overhead communications/teleph one lines	V-CIRC-MULT-	Multiple circuits
E-COMM-UNDR-	Underground communications/teleph one lines	V-CIRC-SERS-	Series circuits
E-DUCT-MULT-	Ductbank	V-COMM-OVHD-	Overhead communications/teleph one lines
E-GRND-CIRC-	Circuits	V-COMM-UNDR-	Underground communications/teleph one lines
E-LITE-CIRC-	Lighting circuits (including crosslines and homeruns)	V-DUCT-MULT-	Ductbank
E-POWR-CIRC-	Power circuits (including crosslines and homeruns)	V-ELEC-VALT-	Vaults
E-PRIM-OVHD-	Overhead electrical utility lines	V-FUEL-ABND-	Abandoned piping
E-PRIM-UNDR-	Underground electrical utility lines	V-FUEL-DEFL-	Defueling piping
E-SECD-OVHD-	Overhead electrical utility lines	V-FUEL-MAIN-	Main fuel piping
E-SECD-UNDR-	Underground electrical utility lines	V-FUEL-SERV-	Service piping
F-AFFF-PIPE-	Piping	V-FUEL-TRCH-	Fuel line trench
F-CO2S-PIPE-	CO2 piping or CO2 discharge nozzle piping	V-GTHP-PIPE-	Piping (includes fittings, valves)
F-HALN-PIPE-	Halon piping	V-HTCW-ABND-	Abandoned piping
F-IGAS-PIPE-	Inert gas piping	V-HTCW-CHLL-	Main chilled water piping
F-PROT-HOSE-	Fire hoses	V-HTCW-CHLS-	Chilled water service piping
F-SPRN-PIPE-	Sprinkler piping	V-HTCW-HTPL-	Main high temperature piping
F-WATR-PIPE-	Piping	V-HTCW-HTPS-	High temperature service piping
L-DETL-WIRE-	Wiring	V-HTCW-LTPL-	Main low temperature piping
L-IRRG-PIPE-	Piping	V-HTCW-LTPS-	Low temperature service piping

M-ACID-PIPE-		alkaline, and oil piping	V-HTCW-STM	IL-	Main s	steam piping
M-ACID-VENT-		alkaline, and oil vent piping	V-HTCW-STM	1S-	Steam	service piping
M-AFRZ-PIPE-		reeze piping	V-NGAS-ABN	D-	Aband	oned piping
M-AFRZ-WAST-	Waste piping	anti-freeze	V-PRIM-OVH	D-	Overhe utility	ead electrical lines
M-BRIN-PIPE-	Brine	system piping	V-PRIM-UND	R-	Underg utility	ground electrical lines
M-CHEM-PIPE-		g (includes s, valves)	V-PROF-PIPE-	-	Piping	
M-CNDW-PIPE-		enser water piping	V-SECD-OVH	D-	Overhe utility	ead electrical lines
M-COND-PIPE-		ensate piping des fittings, s)	V-SECD-UND	R-	Underg utility	ground electrical lines
M-CONT-WIRE-		oltage wiring	V-SSWR-ABN	D-	Aband	oned piping
M-CWTR-PIPE-		g (includes s, valves)	V-SSWR-MAI	N-		ry sewer piping
M-DETL-PIPE-	Piping		V-SSWR-SERV-		piping	
M-DETL-WIRE-		ical wiring	V-STRM-ABND-		Abandoned piping	
M-DUAL-PIPE-	fitting	g (includes s, valves)	V-STRM-MAIN-		Storm sewer piping	
M-GTHP-PIPE-		g (includes s, valves)	V-STRM-SUBS-		Subsurface drain piping	
M-HTCW-ABND-		loned piping	V-UTIL-ELEC-		telepho	lines, lights, one poles, unication lines
M-HTCW-CHLL-	Main piping	chilled water	V-UTIL-STEM-		Steam	
M-HTCW-CHLS-	Chille piping	d water service	V-UTIL-STRM	[-		sewer lines, ts, manholes, and alls
M-HTCW-HTPL-	piping		V-UTIL-WATI	R-	Water tanks	lines, hydrants,
M-HTCW-HTPS-		emperature e piping				
		Color	Linetype	Line V		Symbol
AutoDesk Standards		6 (all)	Continuous	1 MM	· /	User Defined
MicroStation Standard		5 (all)	(all)	7 (a	.11)	
Information Assurance	e Level	Restricted	~			~
		AIXM	VerticalStructure	2		Core
Equivalent Standards		FGDC	Utility Name			
Documentation and		SDSFIE None	None			
Submission Requireme	nts					
Related Features	~		<u> </u>			
Data Capture Rules: (Capture .	feature using tech	nique as required	to meet a	iccuraci	es below. Collect
in line segments.						

Monumentation	As required by local, State, or national standards for this type of data.				
Survey Point Location		Horizontal	Ver	tical	
Survey I onit Location		N/A	N/A		
		Horizontal	Ver	tical	
		Horizontai	Orthometric	Ellipsoidal	
Accuracy Requirements (in	Α	A $\pm 1 \text{ ft}$ $\pm 0.25 \text{ ft}$			
feet)	В	± 3 ft	± 10 ft	N/A	
	С	± 5 ft	± 10 ft	IN/A	
	D	± 10 ft	± 20 ft		
Resolution	G	eographic Coordinates	Distances an	d Elevations	
Α	H	Hundredth of arc second	Nearest Ter	nth of a foot	
В	Five	e Hundredths of arc second	Neares	st Foot	
С	Five	e Hundredths of arc second	Nearest Foot		
D		Tenth of arc second	Nearest Foot		
Feature Attributes					
Attribute (Datatype)		Description			
name (VARCHAR2 (50))		Name of the feature.			
description (VARCHAR2 (255))		Description of the feature.			
status (Enumeration: codeStatus)		A temporal description of the operational status of the feature.			
		This attribute is used to describe real-time status.			
utilityType		The type of utility represented by the feature.			
(Enumeration: CodeUtilityType)					
userFlag (String 254)		An operator-defined work area. This attribute can be used by			
		the operator for user-defined system processes. It does not			
	affect the subject item's data integrity and should not be used			d not be used to	
		store the subject item's data.			
directionality (Enumeration: CodeDirectionality		Code indicating the flow of t	ne utility being cla	ssined.	
(Enumeration: CodeDirectionali		Discriminator 1 to the form	amon of a slass as a	non ogol to gette se	
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
		into a version.			

5.14.3. Utility Point

Definition: Any ut	Definition: Any utility feature typically represented as a point.					
Feature Group		Utilities	•			
Feature Class Nar	ne	UtilityPoint				
Feature Type		Point				
CADD Standard	Requirement	S				
Layer/Level	De	scription	Layer/Level	Description		
C-DETL-TANK-	Tanks		V-STRM-INLT-	Inlets (curb, surface, and catch basins)		
C-FUEL-DEVC-	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves		V-STRM-MHOL-	Manholes		
C-FUEL-FTTG-	Caps, crosses, and tees		V-STRM-PUMP-	Pump stations		
C-FUEL-HYDR-	Hydrant control pits		V-TRAN-PADM-	Pad mounted transformers		
C-FUEL-JBOX-	Junction box handholes, t	xes, manholes, est boxes	V-TRAN-POLE-	Pole mounted transformers		

C-FUEL-METR-	Meters	V-UTIL-LINE-	Utilities
C-FUEL-PUMP-	Booster pump stations	V-UTIL-NGAS-	Gas lines, features, and valves
C-FUEL-TANK-	Fuel tanks	V-UTIL-SSWR-	Sanitary lines and manholes
C-FUEL-VENT-	Vent pits	E-SPCL-SRFS-	Surface Sensor System
C-FUEL-VLVE-	Valve pits	T-COMM- ANTN-	Telecommunications antennae
C-NGAS-DEVC-	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves	C-SITE-SECU-	CMRA Security camera locations outside of buildings
C-NGAS-FTTG-	Caps, crosses, and tees	E-LITE-PANL-	Main distribution panels, switchboards, lighting panels
C-NGAS-METR-	Meters	E-LITE-SPCL-	Special fixtures
C-NGAS-PUMP-	Compressor stations	E-LITE-SWCH-	Lighting contactors, photoelectric controls, low- voltage lighting controls, etc.
C-NGAS-REDC-	Reducing stations	E-LITE-WALL-	Wall mounted fixtures
C-NGAS-VENT-	Vent pits	E-LTNG-COND-	Lightning protection conductors
C-NGAS-VLVE-	Valve pits/boxes	E-LTNG-TERM-	Lightning protection terminals
C-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves	E-POLE-UTIL-	Utility poles
C-SSWR-FILT-	Filtration beds	E-POWR-BUSW-	Busways and wireways
C-SSWR-FTTG-	Caps and cleanouts	E-POWR-CABL-	Cable trays
C-SSWR-JBOX-	Junction boxes and manholes	E-POWR-FEED-	Feeders
C-SSWR-PUMP-	Booster pump stations	E-POWR-GENR-	Generators and auxiliary equipment
C-SSWR-TANK-	Septic tanks	E-POWR-JBOX-	Junction boxes
C-STRM-CULV-	Culverts	E-POWR-PANL-	Panelboards, switchboards, MCC, unit substations
C-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates	E-POWR-SWCH-	Disconnect switches, motor starters, contactors, etc.
C-STRM-EROS-	Erosion control (riprap)	E-SERT-BURD-	Buried sensors
C-STRM- FMON-	Flow monitoring station	E-SERT-UNDR-	Buried sensors
C-STRM-FTTG-	Caps and cleanouts	E-SPCL-JBOX-	Junction boxes
C-STRM-INLT-	Inlets (curb, surface, and catch basins)	E-SPCL-PANL-	Panelboards, backing boards, patch panel racks
C-STRM- MHOL-	Manholes	E-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)
C-STRM-PUMP-	Pump stations	E-TRAN-PADM-	Pad mounted transformers

C-STRM-STRC-	Storm drainage, headwalls, inlets, manholes, culverts, and drainage structures	E-TRAN-POLE-	Pole mounted transformers
E-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	F-AFFF-EQPM-	Equipment
E-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	F-ALRM-INDC-	Indicating appliances
E-CATH-ANOD-	Sacrificial anode system	F-ALRM-MANL-	Manual fire alarm pull stations
E-CATH-CURR-	Impress current system	F-ALRM-PHON-	Fire service or emergency telephone stations
E-CATH-TEST-	Test stations	F-CO2S-EQPM-	Equipment
E-COMM- EQPM-	Other communications distribution equipment	F-CTRL-PANL-	Control panels
E-COMM- JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	F-HALN-EQPM-	Halon equipment
E-ELEC-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	F-IGAS-EQPM-	Inert gas equipment
E-ELEC-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	F-LITE-EMER-	Emergency fixtures
E-ELEC-SUBS-	Other substation equipment	F-LITE-EXIT-	Exit fixtures
E-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches	F-LSFT-EGRE-	Egress requirements designator
E-ELEC-VALT-	Vaults	F-LSFT-OCCP-	Occupant load for egress capacity
E-GRND-EQUI-	Equipotential ground system	F-WATR-CONN-	Fire department connections
E-GRND-REFR-	Reference ground system	F-WATR-HYDR-	Hydrants
E-LITE-EMER-	Emergency fixtures (outline of light (if ceiling mounted) should go on E-LITE-CLNG)	F-WATR-PUMP-	Fire pumps
E-LITE-EXIT-	Exit fixtures (outline of light (if ceiling mounted) should go on	H-DECN-EQPM-	Decontamination equipment
E-LITE-CLNG-	Ceiling Fixtures	H-DISP-TANK-	Spill containment tanks
E-LITE-EXTR-	Exterior lights	L-DETL-VLVE-	Valves, fittings
E-LITE-JBOX-	Junction boxes	L-IRRG-SPKL-	Sprinklers
E-LITE-PANL-	Main distribution panels, switchboards, lighting panels	M-ACID-EQPM-	Acid, alkaline, and oil waste equipment
E-LITE-SPCL-	Special fixtures	M-BRIN-EQPM-	Brine system equipment

	I		1
E-LITE-SWCH-	Lighting contactors, photoelectric controls, low- voltage lighting controls, etc.	M-CHEM- EQPM-	Equipment
E-LITE-WALL-	Wall mounted fixtures	M-CNDW- EQPM-	Condenser water equipment
E-LTNG-COND-	Lightning protection conductors	M-CONT-THER-	Thermostats, controls, instrumentation, and sensors
E-LTNG-TERM-	Lightning protection terminals	M-CWTR- EQPM-	Equipment
E-POLE-UTIL-	Utility poles	M-DETL-BOIL-	Boilers
E-POWR- BUSW-	Busways and wireways	M-DETL-COIL-	Coils and fin tubes
E-POWR-CABL-	Cable trays	M-DETL-DUCT-	Ducts
E-POWR-FEED-	Feeders	M-DETL-EQPT-	Equipment and fixtures
E-IOWK-FEED-		M-DETE-EQIT-	Equipment and fixtures
E-POWR-GENR-	Generators and auxiliary equipment	M-DETL-FANS-	Fans
E-POWR-JBOX-	Junction boxes	M-DETL-PUMP-	Pumps and compressors
E-POWR-PANL-	Panelboards, switchboards, MCC, unit substations	M-DETL-TANK-	Tanks
E-POWR- SWCH-	Disconnect switches, motor starters, contactors, etc.	M-DETL-TRAP-	Traps and drains
E-SERT-BURD-	Buried sensors	M-DETL-VENT-	Vents
E-SERT-UNDR-	Buried sensors	M-DETL-VLVE-	Valves and fittings
E-SPCL-JBOX-	Junction boxes	M-DUAL-EQPM-	Equipment
E-SPCL-PANL-	Panelboards, backing boards, patch panel racks	M-DUST-DUCT-	Dust and fume ductwork
E-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)	M-DUST-EQPM-	Dust and fume collection equipment
E-TRAN-PADM-	Pad mounted transformers	M-GTHP-EQPM-	Equipment
E-TRAN-POLE-	Pole mounted transformers	M-HTCW-CHLP-	Chilled water plant
F-AFFF-EQPM-	Equipment	M-HTCW-DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves
F-ALRM-INDC-	Indicating appliances	M-HTCW-FTTG-	Caps and flanges
F-ALRM- MANL-	Manual fire alarm pull stations	M-HTCW-HTPP-	High temperature water plant
F-ALRM-PHON-	Fire service or emergency telephone stations	M-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes
F-CO2S-EQPM-	Equipment	M-HTCW-PITS-	Valve pits/vaults, steam pits
F-CTRL-PANL-	Control panels	M-HTCW- PUMP-	Pump stations
F-HALN-EQPM-	Halon equipment	M-HTCW-RTRN-	Return for all HTCW lines
F-IGAS-EQPM-	Inert gas equipment	M-HVAC- DAMP-	Fire and smoke dampers
F-LITE-EMER-	Emergency fixtures	M-HVAC-EQPM-	Air system equipment
F-LITE-EXIT-	Exit fixtures	M-HVAC-ROOF-	Roof mounted HVAC equipment
F-LSFT-EGRE-	Egress requirements designator	M-HWTR- EQPM-	Equipment

	Occupant load for egress		Piping (includes fittings,
F-LSFT-OCCP-	capacity	M-HWTR-PIPE-	valves)
F-WATR- CONN-	Fire department connections	M-HYDR-EQPM-	Hydraulic system equipment
F-WATR- HYDR-	Hydrants	M-INSL-EQPM-	Insulating oil equipment
F-WATR-PUMP-	Fire pumps	M-LUBE-EQPM-	Lubrication oil equipment
H-DECN-EQPM-	Decontamination equipment	M-MACH-BASE-	Machinery bases
H-DISP-TANK-	Spill containment tanks	M-MATL-LIFT-	Miscellaneous lifting equipment
L-DETL-VLVE-	Valves, fittings	M-PROC-EQPM-	Equipment
L-IRRG-SPKL-	Sprinklers	M-RCOV-EQPM-	Equipment
M-ACID-EQPM-	Acid, alkaline, and oil waste equipment	M-REFG-EQPM-	Equipment
M-BRIN-EQPM-	Brine system equipment	M-RWTR- EQPM-	Raw water equipment
M-CHEM- EQPM-	Equipment	M-STEM-EQPM-	Equipment
M-CNDW- EQPM-	Condenser water equipment	P-CMPA-EQPM-	Equipment
M-CONT-THER-	Thermostats, controls, instrumentation, and sensors	P-FUEL-EQPM-	Equipment
M-CWTR- EQPM-	Equipment	P-LGAS-EQPM-	Equipment
M-DETL-BOIL-	Boilers	P-MDGS-EQPM-	Equipment
M-DETL-COIL-	Coils and fin tubes	P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)
M-DETL-DUCT-	Ducts	P-SANR-FLDR-	Floor drains, sinks, and cleanouts
M-DETL-EQPT-	Equipment and fixtures	S-BRAC-VERT-	Vertical bracing
M-DETL-FANS-	Fans	S-GRAT-SUBS-	Subsurface grating
M-DETL-PUMP-	Pumps and compressors	S-PIPE-GATE-	Gates (flap gates, sluice gates, other)
M-DETL-TANK-	Tanks	T-CABL-COAX-	Coax cable
M-DETL-TRAP-	Traps and drains	T-CABL-FIBR-	Fiber optics cable
M-DETL-VENT-	Vents	T-CABL-MULT-	Multi-conductor cable
M-DETL-VLVE-	Valves and fittings	T-COMM-JBOX-	Junction boxes
M-DUAL- EQPM-	Equipment	T-EQPM-COPP-	Distribution equipment for copper
M-DUST-DUCT-	Dust and fume ductwork	T-EQPM-FIBR-	Distribution equipment for fiber optic
M-DUST- EQPM-	Dust and fume collection equipment	T-EQPM-OTHR-	Other telecommunications equipment
M-GTHP- EQPM-	Equipment	T-JACK-DATA-	Data/LAN jacks
M-HTCW- CHLP-	Chilled water plant	T-JACK-PHON-	Telephone jacks

M-HTCW- DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves	V-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers
M-HTCW- FTTG-	Caps and flanges	V-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices
M-HTCW- HTPP-	High temperature water plant	V-CATH-ANOD-	Sacrificial anode system
M-HTCW- JBOX-	Junction boxes, manholes, handholes, test boxes	V-CATH-CURR-	Impress current system
M-HTCW-PITS-	Valve pits/vaults, steam pits	V-CATH-TEST-	Test stations
M-HTCW- PUMP-	Pump stations	V-COMM- EQPM-	Other communications distribution equipment
M-HTCW- RTRN-	Return for all HTCW lines	V-COMM-JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices
M-HVAC- DAMP-	Fire and smoke dampers	V-ELEC-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers
M-HVAC- EQPM-	Air system equipment	V-ELEC-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices
M-HVAC- ROOF-	Roof mounted HVAC equipment	V-ELEC-SUBS-	Other substation equipment
M-HWTR- EQPM-	Equipment	V-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches
M-HWTR-PIPE-	Piping (includes fittings, valves)	V-FUEL-DEVC-	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves
M-HYDR- EQPM-	Hydraulic system equipment	V-FUEL-FTTG-	Caps, crosses, and tees
M-INSL-EQPM-	Insulating oil equipment	V-FUEL-HYDR-	Hydrant control pits
M-LUBE- EQPM-	Lubrication oil equipment	V-FUEL-JBOX-	Junction boxes, manholes, handholes, test boxes
M-MACH- BASE-	Machinery bases	V-FUEL-METR-	Meters
M-MATL-LIFT-	Miscellaneous lifting equipment	V-FUEL-PUMP-	Booster pump stations
M-PROC- EQPM-	Equipment	V-FUEL-TANK-	Fuel tanks
M-RCOV- EQPM-	Equipment	V-FUEL-VENT-	Vent pits

M DEEC FORM	Equipment		Volue nite
M-REFG-EQPM-	Equipment	V-FUEL-VLVE-	Valve pits
M-RWTR- EQPM-	Raw water equipment	V-GTHP-EQPM-	Equipment
M-STEM- EQPM-	Equipment	V-HTCW-CHLP-	Chilled water plant
P-CMPA-EQPM-	Equipment	V-HTCW-DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves
P-FUEL-EQPM-	Equipment	V-HTCW-FTTG-	Caps and flanges
P-LGAS-EQPM-	Equipment	V-HTCW-HTPP-	High temperature water plant
P-MDGS-EQPM-	Equipment	V-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes
P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)	V-HTCW-PITS-	Valve pits/vaults, steam pits
P-SANR-FLDR-	Floor drains, sinks, and cleanouts	V-HTCW-PUMP-	Pump stations
S-BRAC-VERT-	Vertical bracing	V-HTCW-RTRN-	Return for all HTCW lines
S-GRAT-SUBS-	Subsurface grating	V-LITE-FIXT-	Exterior Lights
S-PIPE-GATE-	Gates (flap gates, sluice gates, other)	V-NGAS-DEVC-	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves
T-CABL-COAX-	Coax cable	V-NGAS-FTTG-	Caps, crosses, and tees
T-CABL-FIBR-	Fiber optics cable	V-NGAS-METR-	Meters
T-CABL-MULT-	Multi-conductor cable	V-NGAS-PUMP-	Compressor stations
T-COMM- JBOX-	Junction boxes	V-NGAS-REDC-	Reducing stations
T-EQPM-COPP-	Distribution equipment for copper	V-NGAS-VENT-	Vent pits
T-EQPM-FIBR-	Distribution equipment for fiber optic	V-NGAS-VLVE-	Valve pits/boxes
T-EQPM-OTHR-	Other telecommunications equipment	V-POLE-UTIL-	Utility poles
T-JACK-DATA-	Data/LAN jacks	V-PROF-MHOL-	Manholes
T-JACK-PHON-	Telephone jacks	V-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)
V-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	V-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves
V-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	V-SSWR-FILT-	Filtration beds
V-CATH- ANOD-	Sacrificial anode system	V-SSWR-FTTG-	Caps and cleanouts
V-CATH-CURR-	Impress current system	V-SSWR-JBOX-	Junction boxes and manholes

V-CATH-TEST-	Test stations	V-SSWR-PUMP-	Booster pump stations
V-COMM- EQPM-	Other communications distribution equipment	V-SSWR-TANK-	Septic tanks
V-COMM- JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	V-STRM-CHUT-	Chutes and concrete erosion control structures
V-ELEC-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	V-STRM-CULV-	Culverts
V-ELEC-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	V-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates
V-ELEC-SUBS-	Other substation equipment	V-STRM-EROS-	Erosion control (riprap)
V-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches	V-STRM-FMON-	Flow monitoring station
V-FUEL-DEVC-	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves	V-STRM-FTTG-	Caps and cleanouts
V-FUEL-FTTG-	Caps, crosses, and tees	V-STRM-HDWL-	Headwalls and endwalls
V-FUEL-HYDR-	Hydrant control pits	V-STRM-INLT-	Inlets (curb, surface, and catch basins)
V-FUEL-JBOX-	Junction boxes, manholes, handholes, test boxes	V-STRM-MHOL-	Manholes
V-FUEL-METR-	Meters	V-STRM-PUMP-	Pump stations
V-FUEL-PUMP-	Booster pump stations	V-TRAN-PADM-	Pad mounted transformers
V-FUEL-TANK-	Fuel tanks	V-TRAN-POLE-	Pole mounted transformers
V-FUEL-VENT-	Vent pits	V-UTIL-LINE-	Utilities
V-FUEL-VLVE-	Valve pits	V-UTIL-NGAS-	Gas lines, features, and valves
V-GTHP-EQPM-	Equipment	V-UTIL-SSWR-	Sanitary lines and manholes
V-HTCW-CHLP-	Chilled water plant	E-SPCL-SRFS-	Surface Sensor System
V-HTCW- DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves	T-COMM- ANTN-	Telecommunications antennae
V-HTCW-FTTG-	Caps and flanges	C-SITE-SECU-	CMRA Security camera locations outside of buildings
V-HTCW-HTPP-	High temperature water plant	F-IGAS-EQPM-	Inert gas equipment
V-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes	F-LITE-EMER-	Emergency fixtures
V-HTCW-PITS-	Valve pits/vaults, steam pits	F-LITE-EXIT-	Exit fixtures
V-HTCW- PUMP-	Pump stations	F-LSFT-EGRE-	Egress requirements designator

V-HTCW-	Return for all HTCW lines	F-LSFT-OCCP-	Occupant load for egress
RTRN-			capacity
V-LITE-FIXT-	Exterior Lights	F-WATR-CONN-	Fire department connections
V-NGAS-DEVC-	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves	F-WATR-HYDR-	Hydrants
V-NGAS-FTTG-	Caps, crosses, and tees	F-WATR-PUMP-	Fire pumps
V-NGAS-METR-	Meters	H-DECN-EQPM-	Decontamination equipment
V-NGAS-PUMP-	Compressor stations	H-DISP-TANK-	Spill containment tanks
V-NGAS-REDC-	Reducing stations	L-DETL-VLVE-	Valves, fittings
V-NGAS-VENT-	Vent pits	L-IRRG-SPKL-	Sprinklers
V-NGAS-VLVE-	Valve pits/boxes	M-ACID-EQPM-	Acid, alkaline, and oil waste equipment
V-POLE-UTIL-	Utility poles	M-BRIN-EQPM-	Brine system equipment
V-PROF-MHOL-	Manholes	M-CHEM- EQPM-	Equipment
V-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)	M-CNDW- EQPM-	Condenser water equipment
V-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves	M-CONT-THER-	Thermostats, controls, instrumentation, and sensors
V-SSWR-FILT-	Filtration beds	M-CWTR- EQPM-	Equipment
V-SSWR-FTTG-	Caps and cleanouts	M-DETL-BOIL-	Boilers
V-SSWR-JBOX-	Junction boxes and manholes	M-DETL-COIL-	Coils and fin tubes
V-SSWR-PUMP-	Booster pump stations	M-DETL-DUCT-	Ducts
V-SSWR-TANK-	Septic tanks	M-DETL-EQPT-	Equipment and fixtures
V-STRM-CHUT-	Chutes and concrete erosion control structures	M-DETL-FANS-	Fans
V-STRM-CULV-	Culverts	M-DETL-PUMP-	Pumps and compressors
V-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates	M-DETL-TANK-	Tanks
V-STRM-EROS-	Erosion control (riprap)	M-DETL-TRAP-	Traps and drains
V-STRM- FMON-	Flow monitoring station	M-DETL-VENT-	Vents
V-STRM-FTTG-	Caps and cleanouts	M-DETL-VLVE-	Valves and fittings
V-STRM- HDWL-	Headwalls and endwalls	M-DUAL-EQPM-	Equipment
V-STRM-INLT-	Inlets (curb, surface, and catch basins)	M-DUST-DUCT-	Dust and fume ductwork
V-STRM- MHOL-	Manholes	M-DUST-EQPM-	Dust and fume collection equipment
V-STRM-PUMP-	Pump stations	M-GTHP-EQPM-	Equipment
V-TRAN- PADM-	Pad mounted transformers	M-HTCW-CHLP-	Chilled water plant

			N N N
V-TRAN-POLE-	Pole mounted transformers	M-HTCW-DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves
V-UTIL-LINE-	Utilities	M-HTCW-FTTG-	Caps and flanges
V-UTIL-NGAS-	Gas lines, features, and valves	M-HTCW-HTPP-	High temperature water plant
V-UTIL-SSWR-	Sanitary lines and manholes	M-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes
E-SPCL-SRFS-	Surface Sensor System	M-HTCW-PITS-	Valve pits/vaults, steam pits
T-COMM- ANTN-	Telecommunications antennae	M-HTCW- PUMP-	Pump stations
C-SITE-SECU-	MRA Security camera locations outside of buildings	M-HTCW-RTRN-	Return for all HTCW lines
C-STRM-FTTG-	Caps and cleanouts	M-HVAC- DAMP-	Fire and smoke dampers
C-STRM-INLT-	Inlets (curb, surface, and catch basins)	M-HVAC-EQPM-	Air system equipment
C-STRM- MHOL-	Manholes	M-HVAC-ROOF-	Roof mounted HVAC equipment
C-STRM-PUMP-	Pump stations	M-HWTR- EQPM-	Equipment
C-STRM-STRC-	Storm drainage, headwalls, inlets, manholes, culverts, and drainage structures	M-HWTR-PIPE-	Piping (includes fittings, valves)
E-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	M-HYDR-EQPM-	Hydraulic system equipment
E-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	M-INSL-EQPM-	Insulating oil equipment
E-CATH-ANOD-	Sacrificial anode system	M-LUBE-EQPM-	Lubrication oil equipment
E-CATH-CURR-	Impress current system	M-MACH-BASE-	Machinery bases
E-CATH-TEST-	Test stations	M-MATL-LIFT-	Miscellaneous lifting equipment
E-COMM- EQPM-	Other communications distribution equipment	M-PROC-EQPM-	Equipment
E-COMM- JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	M-RCOV-EQPM-	Equipment
E-ELEC-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	M-REFG-EQPM-	Equipment
E-ELEC-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	M-RWTR- EQPM-	Raw water equipment
E-ELEC-SUBS-	Other substation equipment	M-STEM-EQPM-	Equipment

	I	1	r1	
E-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches	P-CMPA-EQPM-	Equipment	
E-ELEC-VALT-	Vaults	P-FUEL-EQPM-	Equipment	
E-GRND-EQUI-	Equipotential ground system	P-LGAS-EQPM-	Equipment	
E-GRND-REFR-	Reference ground system	P-MDGS-EQPM-	Equipment	
E-LITE-EMER-	Emergency fixtures (outline of light (if ceiling mounted) should go on E-LITE-CLNG)	P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)	
E-LITE-EXIT-	Exit fixtures (outline of light (if ceiling mounted) should go on	P-SANR-FLDR-	Floor drains, sinks, and cleanouts	
E-LITE-CLNG-		S-BRAC-VERT-	Vertical bracing	
E-LITE-EXTR-	Exterior lights	S-GRAT-SUBS-	Subsurface grating	
E-LITE-JBOX-	Junction boxes	S-PIPE-GATE-	Gates (flap gates, sluice gates, other)	
E-LITE-PANL-	Main distribution panels, switchboards, lighting panels	T-CABL-COAX-	Coax cable	
E-LITE-SPCL-	Special fixtures	T-CABL-FIBR-	Fiber optics cable	
E-LITE-SWCH-	Lighting contactors, photoelectric controls, low- voltage lighting controls, etc.	T-CABL-MULT-	Multi-conductor cable	
E-LITE-WALL-	Wall mounted fixtures	M-DUAL-EQPM-	Equipment	
E-LTNG-COND-	Lightning protection conductors	M-DUST-DUCT-	Dust and fume ductwork	
E-LTNG-TERM-	Lightning protection terminals	M-DUST-EQPM-	Dust and fume collection equipment	
E-POLE-UTIL-	Utility poles	M-GTHP-EQPM-	Equipment	
E-POWR- BUSW-	Busways and wireways	M-HTCW-CHLP-	Chilled water plant	
E-POWR-CABL-	Cable trays	M-HTCW-DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves	
E-POWR-FEED-	Feeders	M-HTCW-FTTG-	Caps and flanges	
E-POWR-GENR-	Generators and auxiliary equipment	M-HTCW-HTPP-	High temperature water plant	
E-POWR-JBOX-	Junction boxes	M-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes	
E-POWR-PANL-	Panelboards, switchboards, MCC, unit substations	M-HTCW-PITS-	Valve pits/vaults, steam pits	
E-POWR- SWCH-	Disconnect switches, motor starters, contactors, etc.	M-HTCW- PUMP-	Pump stations	
E-SERT-BURD-	Buried sensors	M-HTCW-RTRN-	Return for all HTCW lines	
E-SERT-UNDR-	Buried sensors	M-HVAC- DAMP-	Fire and smoke dampers	
E-SPCL-JBOX-	Junction boxes	M-HVAC-EQPM-	Air system equipment	
E-SPCL-PANL-	Panelboards, backing boards, patch panel racks	M-HVAC-ROOF-	Roof mounted HVAC equipment	

E-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)	M-HWTR- EQPM-	Equipment	
E-TRAN-PADM-	Pad mounted transformers	M-HWTR-PIPE-	Piping (includes fittings, valves)	
E-TRAN-POLE-	Pole mounted transformers	M-HYDR-EQPM-	Hydraulic system equipment	
F-AFFF-EQPM-	Equipment	M-INSL-EQPM-	Insulating oil equipment	
F-ALRM-INDC-	Indicating appliances	M-LUBE-EQPM-	Lubrication oil equipment	
F-ALRM- MANL-	Manual fire alarm pull stations	M-MACH-BASE-	Machinery bases	
F-ALRM-PHON-	Fire service or emergency telephone stations	M-MATL-LIFT-	Miscellaneous lifting equipment	
F-CO2S-EQPM-	Equipment	M-PROC-EQPM-	Equipment	
F-CTRL-PANL-	Control panels	M-RCOV-EQPM-	Equipment	
F-HALN-EQPM-	Halon equipment	M-REFG-EQPM-	Equipment	
F-IGAS-EQPM-	Inert gas equipment	M-RWTR- EQPM-	Raw water equipment	
F-LITE-EMER-	Emergency fixtures	M-STEM-EQPM-	Equipment	
F-LITE-EXIT-	Exit fixtures	P-CMPA-EQPM-	Equipment	
F-LSFT-EGRE-	Egress requirements designator	P-FUEL-EQPM-	Equipment	
F-LSFT-OCCP-	Occupant load for egress capacity	P-LGAS-EQPM-	Equipment	
F-WATR- CONN-	Fire department connections	P-MDGS-EQPM-	Equipment	
F-WATR- HYDR-	Hydrants	P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)	
F-WATR-PUMP-	Fire pumps	P-SANR-FLDR-	Floor drains, sinks, and cleanouts	
H-DECN-EQPM-	Decontamination equipment	S-BRAC-VERT-	Vertical bracing	
H-DISP-TANK-	Spill containment tanks	S-GRAT-SUBS-	Subsurface grating	
L-DETL-VLVE-	Valves, fittings	S-PIPE-GATE-	Gates (flap gates, sluice gates, other)	
L-IRRG-SPKL-	Sprinklers	T-CABL-COAX-	Coax cable	
M-ACID-EQPM-	Acid, alkaline, and oil waste equipment	T-CABL-FIBR-	Fiber optics cable	
M-BRIN-EQPM-	Brine system equipment	T-CABL-MULT-	Multi-conductor cable	
M-CHEM- EQPM-	Equipment	P-CMPA-EQPM-	Equipment	
M-CNDW- EQPM-	Condenser water equipment	P-FUEL-EQPM-	Equipment	
M-CONT-THER-	Thermostats, controls, instrumentation, and sensors	P-LGAS-EQPM-	Equipment	
M-CWTR- EQPM-	Equipment	P-MDGS-EQPM-	Equipment	
M-DETL-BOIL-	Boilers	P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)	
M-DETL-COIL-	Coils and fin tubes	P-SANR-FLDR-	Floor drains, sinks, and cleanouts	
M-DETL-DUCT-	Ducts	S-BRAC-VERT-	Vertical bracing	

M-DETL-EQPT-	Equipment and fixtures	S-GRAT-SUBS-	Subsurface grating
M-DETL-FANS-	Fans	S-PIPE-GATE-	Gates (flap gates, sluice gates, other)
M-DETL-PUMP-	Pumps and compressors	T-CABL-COAX-	Coax cable
M-DETL-TANK-	Tanks	T-CABL-FIBR-	Fiber optics cable
M-DETL-TRAP-	Traps and drains	T-CABL-MULT-	Multi-conductor cable
M-DETL-VENT-	Vents	T-COMM-JBOX-	Junction boxes
M-DETL-VLVE-	Valves and fittings	T-EQPM-COPP-	Distribution equipment for copper
M-DUAL- EQPM-	Equipment	T-EQPM-FIBR-	Distribution equipment for fiber optic
M-DUST-DUCT-	Dust and fume ductwork	T-EQPM-OTHR-	Other telecommunications equipment
M-DUST- EQPM-	Dust and fume collection equipment	T-JACK-DATA-	Data/LAN jacks
M-GTHP- EQPM-	Equipment	T-JACK-PHON-	Telephone jacks
M-HTCW- CHLP-	Chilled water plant	V-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers
M-HTCW- DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves	V-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices
M-HTCW- FTTG-	Caps and flanges	V-CATH-ANOD-	Sacrificial anode system
M-HTCW- HTPP-	High temperature water plant	V-CATH-CURR-	Impress current system
M-HTCW- JBOX-	Junction boxes, manholes, handholes, test boxes	V-CATH-TEST-	Test stations
M-HTCW-PITS-	Valve pits/vaults, steam pits	V-COMM- EQPM-	Other communications distribution equipment
M-HTCW- PUMP-	Pump stations	V-COMM-JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices
M-HTCW- RTRN-	Return for all HTCW lines	V-ELEC-SUBS-	Other substation equipmentmarkers, oil/water separators, reducers, regulators, and valves
M-HVAC- DAMP-	Fire and smoke dampers	V-FUEL-FTTG-	Caps, crosses, and tees
M-HVAC- EQPM-	Air system equipment	V-FUEL-HYDR-	Hydrant control pits
M-HVAC- ROOF-	Roof mounted HVAC equipment	V-FUEL-JBOX-	Junction boxes, manholes, handholes, test boxes
M-HWTR- EQPM-	Equipment	V-FUEL-METR-	Meters

M-HWTR-PIPE-	Piping (includes fittings,	V-FUEL-PUMP-	B ooster nump stations
M-IIWIK-FIFL-	valves)	V-FULL-FUNIF-	Booster pump stations
M-HYDR- EQPM-	Hydraulic system equipment	V-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches
M-INSL-EQPM-	Insulating oil equipment	V-FUEL-DEVC-	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves
M-LUBE- EQPM-	Lubrication oil equipment	V-FUEL-FTTG-	Caps, crosses, and tees
M-MACH- BASE-	Machinery bases	V-FUEL-HYDR-	Hydrant control pits
M-MATL-LIFT-	Miscellaneous lifting equipment	V-FUEL-JBOX-	Junction boxes, manholes, handholes, test boxes
M-PROC- EQPM-	Equipment	V-FUEL-METR-	Meters
M-RCOV- EQPM-	Equipment	V-FUEL-PUMP-	Booster pump stations
M-REFG-EQPM-	Equipment	V-FUEL-TANK-	Fuel tanks
M-RWTR- EQPM-	Raw water equipment	V-FUEL-VENT-	Vent pits
M-STEM- EQPM-	Equipment	V-FUEL-VLVE-	Valve pits
P-CMPA-EQPM-	Equipment	V-GTHP-EQPM-	Equipment
P-FUEL-EQPM-	Equipment	V-HTCW-CHLP-	Chilled water plant
P-LGAS-EQPM-	Equipment	V-HTCW-DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves
P-MDGS-EQPM-	Equipment	V-HTCW-FTTG-	Caps and flanges
P-SANR-EQPM-	Equipment (e.g., sand/oil/water separators)	V-HTCW-HTPP-	High temperature water plant
P-SANR-FLDR-	Floor drains, sinks, and cleanouts	V-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes
S-BRAC-VERT-	Vertical bracing	V-HTCW-PITS-	Valve pits/vaults, steam pits
S-GRAT-SUBS-	Subsurface grating	V-HTCW-PUMP-	Pump stations
S-PIPE-GATE-	Gates (flap gates, sluice gates, other)	V-HTCW-RTRN-	Return for all HTCW lines
T-CABL-COAX-	Coax cable	V-LITE-FIXT-	Exterior Lights
T-CABL-FIBR-	Fiber optics cable	V-NGAS-DEVC-	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves
T-CABL-MULT-	Multi-conductor cable	V-NGAS-FTTG-	Caps, crosses, and tees

T-COMM- JBOX-	Junction boxes	V-NGAS-METR-	Meters	
T-EQPM-COPP-	Distribution equipment for copper	V-NGAS-PUMP-	Compressor stations	
T-EQPM-FIBR-	Distribution equipment for fiber optic	V-NGAS-REDC-	Reducing stations	
T-EQPM-OTHR-	Other telecommunications equipment	V-NGAS-VENT-	Vent pits	
T-JACK-DATA-	Data/LAN jacks	V-NGAS-VLVE-	Valve pits/boxes	
T-JACK-PHON-	Telephone jacks	V-POLE-UTIL-	Utility poles	
V-AIRF-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	V-PROF-MHOL-	Manholes	
V-AIRF-JBOX-	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	V-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)	
V-CATH- ANOD-	Sacrificial anode system	V-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves	
V-CATH-CURR-	Impress current system	V-SSWR-FILT-	Filtration beds	
V-CATH-TEST-	Test stations	V-SSWR-FTTG-	Caps and cleanouts	
V-COMM- EQPM-	Other communications distribution equipment	V-SSWR-JBOX-	Junction boxes and manholes	
V-COMM- JBOX-	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	V-SSWR-PUMP-	Booster pump stations	
V-ELEC-DEVC-	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	V-SSWR-TANK-	Septic tanks	
V-ELEC-JBOX-	Junction boxes, pull boxes,		Chutes and concrete erosion control structures	
V-ELEC-SUBS-	Other substation equipment	V-STRM-CULV-	Culverts	
V-ELEC-SWCH-	Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches	V-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates	
V-FUEL-DEVC-	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves	V-STRM-EROS-	Erosion control (riprap)	
V-FUEL-FTTG-	Caps, crosses, and tees	V-STRM-FMON-	Flow monitoring station	
V-FUEL-HYDR-	Hydrant control pits	V-STRM-FTTG-	Caps and cleanouts	
V-FUEL-JBOX-	Junction boxes, manholes, handholes, test boxes	V-STRM-HDWL-	Headwalls and endwalls	

V-FUEL-METR-	Meters	V-STRM-INLT-	Inlets (curb, surface, and
			catch basins)
V-FUEL-PUMP-	Booster pump stations	V-STRM-MHOL-	Manholes
V-FUEL-TANK-	Fuel tanks	V-STRM-PUMP-	Pump stations
V-FUEL-VENT-	Vent pits	V-TRAN-PADM-	Pad mounted transformers
V-FUEL-VLVE-	Valve pits	V-TRAN-POLE-	Pole mounted transformers
V-GTHP-EQPM-	Equipment	V-UTIL-LINE-	Utilities
V-HTCW-CHLP-	Chilled water plant	V-UTIL-NGAS-	Gas lines, features, and valves
V-HTCW- DEVC-	Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves	V-UTIL-SSWR-	Sanitary lines and manholes
V-HTCW-FTTG-	Caps and flanges	E-SPCL-SRFS-	Surface Sensor System
V-HTCW-HTPP-	High temperature water plant	T-COMM- ANTN-	Telecommunications antennae
V-HTCW-JBOX-	Junction boxes, manholes, handholes, test boxes	C-SITE-SECU-	CMRA Security camera locations outside of buildings
V-HTCW-PITS-	Valve pits/vaults, steam pits	V-NGAS-VLVE-	Valve pits/boxes
V-HTCW- PUMP-	Pump stations	V-POLE-UTIL-	Utility poles
V-HTCW- RTRN-	Return for all HTCW lines	V-PROF-MHOL-	Manholes
V-LITE-FIXT-	Exterior Lights	V-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)
V-NGAS-DEVC-	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves	V-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves
V-NGAS-FTTG-	Caps, crosses, and tees	V-SSWR-FILT-	Filtration beds
V-NGAS-METR-	Meters	V-SSWR-FTTG-	Caps and cleanouts
V-NGAS-PUMP-	Compressor stations	V-SSWR-JBOX-	Junction boxes and manholes
V-NGAS-REDC-	Reducing stations	V-SSWR-PUMP-	Booster pump stations
V-NGAS-VENT-	Vent pits	V-SSWR-TANK-	Septic tanks
V-NGAS-VLVE-	Valve pits/boxes	V-STRM-CHUT-	Chutes and concrete erosion control structures
V-POLE-UTIL-	Utility poles	V-STRM-CULV-	Culverts
V-PROF-MHOL-	Manholes	V-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates
V-SPCL-SYST-	Special systems (UMCS, EMCS, CATV, etc.)	V-STRM-EROS-	Erosion control (riprap)
V-SSWR-DEVC-	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves	V-STRM-FMON-	Flow monitoring station
V-SSWR-FILT-	Filtration beds	V-STRM-FTTG-	Caps and cleanouts

V-SSWR-FTTG-	Caps and cle	eanouts	V-STRM-HDW	L- Headwalls a	and endwalls	
V-SSWR-JBOX-	Junction box	xes and manholes	V-STRM-INLT	Inlets (curb, catch basins	surface, and	
V-SSWR-PUMP-	Booster pun	np stations	V-STRM-MHO	L- Manholes	Manholes	
V-SSWR-TANK-	Septic tanks		V-STRM-PUMI	P- Pump statio	Pump stations	
V-STRM-CHUT-		Chutes and concrete erosion control structures		A- Pad mounte	Pad mounted transformers	
V-STRM-CULV-	Culverts		V-TRAN-POLE	- Pole mount	ed transformers	
V-STRM-DEVC-	Downspouts, flumes, oil/water separators, and flap gates		V-UTIL-LINE-	Utilities		
V-STRM-EROS-	Erosion con	trol (riprap)	V-UTIL-NGAS	Gas lines, fo	eatures, and	
V-STRM- FMON-	Flow monite	oring station	V-UTIL-SSWR	- Sanitary lin	es and manholes	
V-STRM-FTTG-	Caps and cle	eanouts	E-SPCL-SRFS-	Surface Sen	sor System	
V-STRM-		and endwalls	T-COMM-	Telecommu		
HDWL-			ANTN-	antennae		
			C-SITE-SECU-	CMRA Sec locations ou buildings	urity camera itside of	
	•	Color	Line type	Line Weight	Symbol	
AutoDesk Standar	rds	6 (all)	Continuous	1 MM (all)		
MicroStation Star	ndards	5 (all)	(all)	7 (all)	User Defined	
Information Assu	rance Level	Restricted				
		AIXM	<i>Utility</i> Core		Core	
Equivalent Standa	ards	FGDC	VerticalStructure			
		SDSFIE				
Documentation an Submission Requi		None				
Related Features						
Data Capture Rul	es: Collect th	ne center of the obje	ect at the highest p	ooint.		
Monumentation			N/.	A		
Survey Point Loca	tion	Horiz	ontal	Ver	Vertical	
Survey I ont Loca		N/.	А	N	/A	
		Horiz	ontel	Ver	tical	
			ontai	Orthometric	Ellipsoidal	
Accuracy Require	ements (in	А	± 1ft	± 0.25 ft		
feet)		В	± 3 ft	± 10 ft		
		С	± 5 ft	± 10 ft		
		D	± 10 ft	± 20 ft		
Resolution		Geographic			nd Elevations	
Α		Hundredth of			nth of a foot	
		Five Hundredth	s of arc second	Neare	st Foot	
В				Nearest Foot		
B C		Five Hundredth	s of arc second	Neare	st Foot	
					st Foot st Foot	
С	s	Five Hundredth				
C D		Five Hundredth	rc second			
C D Feature Attribute	Datatype)	Five Hundredth	rc second Des	Neare		

description (VARCHAR2 (255))	Description of the feature.
status (Enumeration: codeStatus)	A temporal description of the operational status of the feature.
	This attribute is used to describe real-time status.
utilityType	The type of utility the feature represents.
(Enumeration: CodeUtilityType)	
userFlag (String 254)	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data.
Alternative (Number(2))	Discriminator used to tie features of a plan or proposal together
	into a version.

5.14.4. Utility Polygon

Definition: Any utility feature	e typically represe	nted as a polygon,	or hydro vaults.		
Feature Group	Utilities	1 50 /	<u> </u>		
Feature Class Name	UtilityPolygon	UtilityPolygon			
Feature Type	Polygon	Polygon			
CADD Standard Requireme					
Layer/Level		Description			
C-SSWR-LAGN-	Lagoons		•		
C-SSWR-LEAC-	Leach field				
C-SSWR-NITF-	Nitrification drai	n fields			
C-SSWR-PLNT-	Treatment plants				
C-STRM-AFFF-	AFFF lagoon/de	tention pond			
C-STRM-CHUT-	Chutes and conc	rete erosion contro	l structures		
C-STRM-LAGN-	Lagoons, ponds,	watersheds, and ba	asins		
E-AIRF-VALT-	Airfield lighting	vaults			
V-STRM-LAGN-	Lagoons, ponds,	watersheds, and ba	asins		
E-COMM-VALT-	Communications	s vault			
V-COMM-VALT-	Communications	s vault			
V-SSWR-LAGN-	Lagoons				
V-SSWR-LEAC-	Leach field				
V-SSWR-NITF-	Nitrification drai	n fields			
V-SSWR-PLNT-	Treatment plants				
V-STRM-AFFF-	AFFF lagoon/de	tention pond			
ν-σικινι-άγγγ-					
ν-51ΚΙΝΙ-ΑΓΓΓ-	Color	Line type	Line Weight	Symbol	
AutoDesk Standards	Color 6 (all)	Line type Continuous	Line Weight 1 MM (all)		
				Symbol User Defined	
AutoDesk Standards	6 (all)	Continuous	1 MM (all)		
AutoDesk Standards MicroStation Standards Information Assurance	6 (all) 5 (all)	Continuous	1 MM (all)		
AutoDesk Standards MicroStation Standards Information Assurance	6 (all) 5 (all) Restricted	Continuous (all)	1 MM (all) 7 (all)	User Defined	
AutoDesk Standards MicroStation Standards Information Assurance Level	6 (all) 5 (all) Restricted AIXM	Continuous (all) Utility	1 MM (all) 7 (all)	User Defined	
AutoDesk Standards MicroStation Standards Information Assurance Level	6 (all) 5 (all) Restricted AIXM FGDC SDSFIE	Continuous (all) Utility VerticalStructure	1 MM (all) 7 (all)	User Defined	
AutoDesk Standards MicroStation Standards Information Assurance Level Equivalent Standards	6 (all) 5 (all) Restricted AIXM FGDC	Continuous (all) Utility VerticalStructure	1 MM (all) 7 (all)	User Defined	
AutoDesk StandardsMicroStation StandardsInformation AssuranceLevelEquivalent StandardsDocumentation and	6 (all) 5 (all) Restricted AIXM FGDC SDSFIE	Continuous (all) Utility VerticalStructure	1 MM (all) 7 (all)	User Defined	
AutoDesk StandardsMicroStation StandardsInformation AssuranceLevelEquivalent StandardsDocumentation andSubmission Requirements	6 (all) 5 (all) Restricted AIXM FGDC SDSFIE None	Continuous (all) Utility VerticalStructure None	1 MM (all) 7 (all)	User Defined Core	

Survey Doint Logation	Horizontal		Ve	rtical	
Survey Point Location		N/A	N/A		
	Но	Horizontal		rtical	
	110		Orthometric	Ellipsoidal	
Accuracy Requirements (in	А	± 1 ft	± 0.25ft		
feet)	В	± 3 ft	± 10 ft	N/A	
	С	± 5 ft	± 10 ft	IN/A	
	D	± 10 ft	± 20 ft		
Resolution	Geograph	ic Coordinates	Distances a	nd Elevations	
Α	Hundredth	n of arc second	Nearest Te	enth of a foot	
В	Five Hundred	lths of arc second	Near	est Foot	
С	Five Hundred	lths of arc second	Nearest Foot		
D	Tenth of arc second		Nearest Foot		
Feature Attributes					
Attribute (Datatype)		D	escription		
name (VARCHAR2 (50))	Name o	Name of the feature.			
description (VARCHAR2 (255		Description of the feature.			
status (Enumeration: codeStatu		A temporal description of the operational status of the feature.			
		This attribute is used to describe real-time status.			
utilityType	• •	The type of utility the feature represents.			
(Enumeration: CodeUtilityTyp					
userFlag (String 254)	the open	An operator-defined work area. This attribute can be used by the operator for user-defined system processes. It does not			
		affect the subject item's data integrity and should not be used to			
		store the subject Item's data.			
Alternative (Number(2))		Discriminator used to tie features of a plan or proposal together			
	into a v	ersion.			

5.15. ATTRIBUTE ENUMERATIONS

The following tables contain the expected values in fields that are of type enumeration.

5.15.1. CodeAcqusitionType

. couchtequinto	
Value	Description
FEE_SIMPLE	Purchased real property; absolute ownership
EASEMENT	Rights given to use land in a specific manner
LEASED	Restricted use of land for a specific period of time

5.15.2. CodeAirportFacilityType

Value	Description
AD	Airport only
AH	Airport with helicopter landing area
Н	Helicopter (the stall speed method of calculating aircraft category does not apply)
HP	Heliport only
LS	Landing Site

5.15.3. CodeApproachCategory

Value	Description
А	Speed less than 91 knots
В	Speed 91 knots or more but less than 121 knots
С	Speed 121 knots or more but less than 141 knots
D	Speed 141 knots or more but less than 166 knots
Е	Speed 166 knots or more

5.15.4. CodeApproachGuidance

Value	Description
NON_VERTICAL	Runway is used for or planned use is for Non-Vertically Guided
	operations
PRECISION_CAT_I	Runway is used or or planned use is for Precision Category 1
	operations
PRECISION_CAT_II	Runway is used for or planned use is for Precision Category II
	operations
PRECISION_CAT_IIIA	Runway is used for or planned use is for Precision Category IIIa
	operations.
PRECISION_CAT_IIIB	Runway is used for or planned use is for Precision Category IIIb
	operations
PRECISION_CAT_IIIC	Runway is used for or planned use is for Precision Category IIIc
	operations
VERTICAL	Runway is used for or planned use is for Vertically Guided (other
	than precision) operations
VISUAL	Runway is used for or planned use is for visual operations only

5.15.5. CodeApronType

Value	Description
CARGO	Cargo loading area used for the loading/unloading of cargo
DE_ICING	Area used for deicing of aircraft
FUEL	Area used for aircraft fueling

Value	Description
HARDSTAND	Area used for parking a single aircraft. More temporary than parking
LOADING	Passenger loading area used for the loading/unloading of passengers
MAINT	Area used for maintenance of aircraft
MILITARY	Apron used by military
NORMAL	Apron
OTHER	Other
PARKING	Area used to park aircraft
RAMP	Access pavement between maintenance hangars opening to the apron and
	the apron edge
STAIRS	Stairs
TAXILANE	Area where plane is still under terminal control (airline dispatched) as
	opposed to tower control.
TEMPORARY	Temporary
TURNAROUND	Area used for aircraft to turn around

5.15.6. CodeBridgeType

Value	Description
ROAD	Road or highway bridge
RR	Railroad or Monorail Bridge
RWY	Runway Bridge
TWY	Taxiway Bridge

5.15.7. CodeBuoyType

Value	Description
Bn	Beacon
С	Can Buoy
F	Fixed
J	Junction (S or T Dayboard)
Κ	Rectangular (Range Dayboard)
Lb	Lighted buoy
Μ	Octagonal Dayboard
Ν	Nun Buoy
0	Other marking
S	Square Dayboard
Т	Triangle Dayboard

5.15.8. CodeClassAirspace

Name	Definition
А	Class of Airspace per ICAO Annex 11, Appendix 4
В	Class of Airspace per ICAO Annex 11, Appendix 4
С	Class of Airspace per ICAO Annex 11, Appendix 4
D	Class of Airspace per ICAO Annex 11, Appendix 4
E	Class of Airspace per ICAO Annex 11, Appendix 4
F	Class of Airspace per ICAO Annex 11, Appendix 4
G	Class of Airspace per ICAO Annex 11, Appendix 4
other	Other

Value	Description
AMBER	Amber [U.S. CADD]
BLACK	Black [U.S. CADD]
BLUE	Blue [U.S. CADD]
BROWN	Brown [U.S. CADD]
GREEN	Green [U.S. CADD]
GREEN-GREEN	Bidirectional (Source AC 150/5345-46C)
GREEN-RED	Bidirectional (Source AC 150/5345-46C)
GREEN-YELLOW	Bidirectional (Source AC 150/5345-46C)
GREY	Grey [U.S. CADD]
LIGHTGREY	LightGrey [U.S. CADD]
MAGENTA	Magenta [U.S. CADD]
ORANGE	Orange [U.S. CADD]
OTHER	Other [U.S. CADD]
PINK	Pink [U.S. CADD]
PURPLE	Purple [AIXM]
RED	Red [U.S. CADD]
RED-GREEN	Bidirectional (Source AC 150/5345-46C)
RED-RED	Bidirectional (Source AC 150/5345-46C)
TBD	To be determined
VIOLET	Violet [U.S. CADD]
WHITE	White [U.S. CADD]
WHITE-RED	Bidirectional (Source AC 150/5345-46C)
WHITE-WHITE	Bidirectional (Source AC 150/5345-46C)
WHITE-YELLOW	Bidirectional (Source AC 150/5345-46C)
YELLOW	Yellow [U.S. CADD]
YELLOW-GREEN	Bidirectional (Source AC 150/5345-46C)
YELLOW-RED	Bidirectional (Source AC 150/5345-46C)
YELLOW-YELLOW	Bidirectional (Source AC 150/5345-46C)

5.15.10.CodeCompassLocation

).CodeC	.CodeCompassLocation	
Value	Description	
Е	East (076 to 105° magnetic)	
ESE	East Southeast (106 to 135° magnetic)	
Ν	North (346 to 015° magnetic)	
NE	Northeast (046 to 075° magnetic)	
NNE	North Northeast (016 to 045° magnetic)	
NW	Northwest (316 to 345° magnetic)	
S	South (166 to 195° magnetic)	
SE	Southeast (136 to 165° magnetic)	
SSW	South Southwest (196 to 225° magnetic)	
SW	Southwest (226 to 255° magnetic)	
W	West (256 to 285° magnetic)	
WNW	West NorthWest (286 to 315° magnetic)	

5.15.11.CodeCoordinatedUseType

Value	Description
А	Aeronautical
М	Multiple
R	Recreational boating/fishing
S	Commercial Shipping/Fishing

5.15.12.CodeCoordinateZone

Value	Description
AK-1	NAD27 Alaska State Planes- Zone 1- US Foot (EPSG #26731)
AK-10	NAD27 Alaska State Planes- Zone 10- US Foot (EPSG #26740)
AK-2	NAD27 Alaska State Planes- Zone 2- US Foot (EPSG #26732)
AK-3	NAD27 Alaska State Planes- Zone 3- US Foot (EPSG #26733)
AK-4	NAD27 Alaska State Planes- Zone 4- US Foot (EPSG #26734)
AK-5	NAD27 Alaska State Planes- Zone 5- US Foot (EPSG #26735)
AK-6	NAD27 Alaska State Planes- Zone 6- US Foot (EPSG #26736)
AK-7	NAD27 Alaska State Planes- Zone 7- US Foot (EPSG #26737)
AK-8	NAD27 Alaska State Planes- Zone 8- US Foot (EPSG #26738)
AK83-1	NAD83 Alaska State Planes- Zone 1- Meter (EPSG #26931)
AK83-10	NAD83 Alaska State Planes- Zone 10- Meter (EPSG #26940)
AK83-10F	NAD83 Alaska State Planes- Zone 10- US Foot
AK83-1F	NAD83 Alaska State Planes- Zone 1- US Foot
AK83-2	NAD83 Alaska State Planes- Zone 2- Meter (EPSG #26932)
AK83-2F	NAD83 Alaska State Planes- Zone 2- US Foot
AK83-3	NAD83 Alaska State Planes- Zone 3- Meter (EPSG #26933)
AK83-3F	NAD83 Alaska State Planes- Zone 3- US Foot
AK83-4	NAD83 Alaska State Planes- Zone 4- Meter (EPSG #26934)
AK83-4F	NAD83 Alaska State Planes- Zone 4- US Foot
AK83-5	NAD83 Alaska State Planes- Zone 5- Meter (EPSG #26935)
AK83-5F	NAD83 Alaska State Planes- Zone 5- US Foot
AK83-6	NAD83 Alaska State Planes- Zone 6- Meter (EPSG #26936)
AK83-6F	NAD83 Alaska State Planes- Zone 6- US Foot
AK83-7	NAD83 Alaska State Planes- Zone 7- Meter (EPSG #26937)
AK83-7F	NAD83 Alaska State Planes- Zone 7- US Foot
AK83-8	NAD83 Alaska State Planes- Zone 8- Meter (EPSG #26938)
AK83-8F	NAD83 Alaska State Planes- Zone 8- US Foot
AK83-9	NAD83 Alaska State Planes- Zone 9- Meter (EPSG #26939)
AK83-9F	NAD83 Alaska State Planes- Zone 9- US Foot
AK-9	NAD27 Alaska State Planes- Zone 9- US Foot (EPSG #26739)
AL83-E	NAD83 Alabama State Planes- Eastern Zone- Meter (EPSG #26929)
AL83-EF	NAD83 Alabama State Planes- Eastern Zone- US Foot
AL83-W	NAD83 Alabama State Planes- Western Zone- Meter (EPSG #26930)
AL83-WF	NAD83 Alabama State Planes- Western Zone- US Foot
AL-E	NAD27 Alabama State Planes- Eastern Zone- US Foot (EPSG #26729)
ALHP-E	HPGN Alabama State Planes- Eastern Zone- Meter (EPSG #2759)
ALHP-EF	HPGN Alabama State Planes- Eastern Zone- US Foot
ALHP-W	HPGN Alabama State Planes- Western Zone- Meter (EPSG #2760)
ALHP-WF	HPGN Alabama State Planes- Western Zone- US Foot
AL-W	NAD27 Alabama State Planes- Western Zone- US Foot (EPSG #26730)

Value	Description
AR83-N	NAD83 Arkansas State Planes- Northern Zone- Meter (EPSG #26951)
AR83-NF	NAD83 Arkansas State Planes- Northern Zone- US Foot
AR83-S	NAD83 Arkansas State Planes- Southern Zone- Meter (EPSG #26952)
AR83-SF	NAD83 Arkansas State Planes- Southern Zone- US Foot
ARHP-N	HARN (HPGN) Arkansas State Planes- Northern Zone- Meter (EPSG #2764)
ARHP-NF	HARN (HPGN) Arkansas State Planes- Northern Zone- US Foot
ARHP-S	HARN (HPGN) Arkansas State Planes- Southern Zone- Meter (EPSG #2765)
ARHP-SF	HARN (HPGN) Arkansas State Planes- Southern Zone- US Foot
AR-N	NAD27 Arkansas State Planes- Northern Zone- US Foot (EPSG #26751)
AR-S	NAD27 Arkansas State Planes- Southern Zone- US Foot (EPSG #26752)
AZ83-C	NAD83 Arizona State Planes- Central Zone- Meter (EPSG #26949)
AZ83-CCM	NAD83 Arizona State Planes- Central Zone- Centimeter
AZ83-CF	NAD83 Arizona State Planes- Central Zone- US Foot
AZ83-CIF	NAD83 Arizona State Planes- Central Zone- Intnl Foot (EPSG #2223)
AZ83-E	NAD83 Arizona State Planes- East Zone- Meter (EPSG #26948)
AZ83-EF	NAD83 Arizona State Planes- East Zone- US Foot
AZ83-EIF	NAD83 Arizona State Planes- East Zone- Intnl Foot (EPSG #2222)
AZ83-W	NAD83 Arizona State Planes- West Zone- Meter (EPSG #26950)
AZ83-WF	NAD83 Arizona State Planes- West Zone- US Foot
AZ83-WIF	NAD83 Arizona State Planes- West Zone- Intnl Foot (EPSG #2224)
AZ-C	NAD27 Arizona State Planes- Central Zone- US Foot (EPSG #26749)
AZ-E	NAD27 Arizona State Planes- East Zone- US Foot (EPSG #26748)
AZHP-C	HPGN Arizona State Planes- Central Zone- Meter (EPSG #2762)
AZHP-CF	HPGN Arizona State Planes- Central Zone- US Foot
AZHP-CIF	HPGN Arizona State Planes- Central Zone- Intnl Foot (EPSG #2868)
AZHP-E	HPGN Arizona State Planes- East Zone- Meter (EPSG #2761)
AZHP-EF	HPGN Arizona State Planes- East Zone- US Foot
AZHP-EIF	HPGN Arizona State Planes- East Zone- Intnl Foot (EPSG #2867)
AZHP-W	HPGN Arizona State Planes- West Zone- Meter (EPSG #2763)
AZHP-WF	HPGN Arizona State Planes- West Zone- US Foot
AZHP-WIF	HPGN Arizona State Planes- West Zone- Intnl Foot (EPSG #2869)
AZ-W	NAD27 Arizona State Planes- West Zone- US Foot (EPSG #26750)
CA83-I	NAD83 California State Planes- Zone I- Meter (EPSG #26941)
CA83-IF	NAD83 California State Planes- Zone I- US Foot (EPSG #2225)
CA83-II	NAD83 California State Planes- Zone II- Meter (EPSG #26942)
CA83-IIF	NAD83 California State Planes- Zone II- US Foot (EPSG #2226)
CA83-V	NAD83 California State Planes- Zone V- Meter (EPSG #26945)
CA83-VF	NAD83 California State Planes- Zone V- US Foot (EPSG #2229)
CAHP-I	
CAHP-IF	HPGN California State Planes- Zone I- US Foot (EPSG #2870)
AZHP-C AZHP-CF AZHP-CIF AZHP-E AZHP-EF AZHP-EF AZHP-WF AZHP-WF AZHP-WF AZHP-WF CA83-I CA83-I CA83-IF CA83-II CA83-IIF CA83-IIF CA83-IIF CA83-IV CA83-IVF CA83-V CA83-VF CA83-VI CA83-VIF CA83-VIF CA83-VIF CA83-VIF	 HPGN Arizona State Planes- Central Zone- Meter (EPSG #2762) HPGN Arizona State Planes- Central Zone- US Foot HPGN Arizona State Planes- Central Zone- Intnl Foot (EPSG #2868) HPGN Arizona State Planes- East Zone- Meter (EPSG #2761) HPGN Arizona State Planes- East Zone- US Foot HPGN Arizona State Planes- East Zone- Intnl Foot (EPSG #2867) HPGN Arizona State Planes- East Zone- Meter (EPSG #2763) HPGN Arizona State Planes- West Zone- Meter (EPSG #2763) HPGN Arizona State Planes- West Zone- US Foot HPGN Arizona State Planes- West Zone- US Foot HPGN Arizona State Planes- West Zone- US Foot (EPSG #2869) NAD27 Arizona State Planes- West Zone- US Foot (EPSG #26750) NAD83 California State Planes- Zone I- Meter (EPSG #26941) NAD83 California State Planes- Zone II- Meter (EPSG #26942) NAD83 California State Planes- Zone III- Meter (EPSG #26942) NAD83 California State Planes- Zone III- Meter (EPSG #26943) NAD83 California State Planes- Zone III- US Foot (EPSG #2227) NAD83 California State Planes- Zone IV- Meter (EPSG #26944) NAD83 California State Planes- Zone IV- US Foot (EPSG #2228) NAD83 California State Planes- Zone V- Meter (EPSG #26945) NAD83 California State Planes- Zone V- Meter (EPSG #26945) NAD83 California State Planes- Zone V- Meter (EPSG #2229) NAD83 California State Planes- Zone V- US Foot (EPSG #2229) NAD83 California State Planes- Zone V- US Foot (EPSG #2229) NAD83 California State Planes- Zone V- US Foot (EPSG #2230) HPGN California State Planes- Zone II- Meter (EPSG #26946) NAD83 California State Planes- Zone VI- US Foot (EPSG #2230) HPGN California State Planes- Zone II- Meter (EPSG #2766)

Value	Description
CAHP-IIF	HPGN California State Planes- Zone II- US Foot (EPSG #2871)
CAHP-III	HPGN California State Planes- Zone III- Meter (EPSG #2768)
CAHPIIIF	HPGN California State Planes- Zone III- US Foot (EPSG #2872)
CAHP-IV	HPGN California State Planes- Zone IV- Meter (EPSG #2769)
CAHP-IVF	HPGN California State Planes- Zone IV- US Foot (EPSG #2873)
CAHP-V	HPGN California State Planes- Zone V- Meter (EPSG #2770)
CAHP-VF	HPGN California State Planes- Zone V- US Foot (EPSG #2874)
CAHP-VI	HPGN California State Planes- Zone VI- Meter (EPSG #2771)
CAHP-VIF	HPGN California State Planes- Zone VI- US Foot (EPSG #2875)
CA-I	NAD27 California State Planes- Zone I- US Foot (EPSG #26741)
CA-II	NAD27 California State Planes- Zone II- US Foot (EPSG #26742)
CA-III	NAD27 California State Planes- Zone III- US Foot (EPSG #26743)
CA-IV	NAD27 California State Planes- Zone IV- US Foot (EPSG #26744)
CA-V	NAD27 California State Planes- Zone V- US Foot (EPSG #26745)
CA-VI	NAD27 California State Planes- Zone VI- US Foot (EPSG #26746)
CA-VII	NAD27 California State Planes- Zone VII- US Foot (EPSG #26747)
CO83-C	NAD83 Colorado State Planes- Central Zone- Meter (EPSG #26954)
CO83-CF	NAD83 Colorado State Planes- Central Zone- US Foot (EPSG #2232)
CO83-N	NAD83 Colorado State Planes- Northern Zone- Meter (EPSG #26953)
CO83-NF	NAD83 Colorado State Planes- Northern Zone- US Foot (EPSG #2231)
CO83-S	NAD83 Colorado State Planes- Southern Zone- Meter (EPSG #26955)
CO83-SF	NAD83 Colorado State Planes- Southern Zone- US Foot (EPSG #2233)
CO-C	NAD27 Colorado State Planes- Central Zone- US Foot (EPSG #26754)
COHP-C	HPGN Colorado State Planes- Central Zone- Meter (EPSG #2773)
COHP-CF	HPGN Colorado State Planes- Central Zone- US Foot (EPSG #2877)
COHP-N	HPGN Colorado State Planes- Northern Zone- Meter (EPSG #2772)
COHP-NF	HPGN Colorado State Planes- Northern Zone- US Foot (EPSG #2876)
COHP-S	HPGN Colorado State Planes- Southern Zone- Meter (EPSG #2774)
COHP-SF	HPGN Colorado State Planes- Southern Zone- US Foot (EPSG #2878)
CO-N	NAD27 Colorado State Planes- Northern Zone- US Foot (EPSG #26753)
CO-S	NAD27 Colorado State Planes- Southern Zone- US Foot (EPSG #26755)
CT	NAD27 Connecticut State Plane Zone- US Foot (EPSG #26756)
CT83	NAD83 Connecticut State Plane Zone- Meter (EPSG #26956)
CT83F	NAD83 Connecticut State Plane Zone- US Foot (EPSG #2234)
CTHP	HPGN/HARN Connecticut State Plane Zone- Meter (EPSG #2775)
CTHPF	HPGN/HARN Connecticut State Plane Zone- US Foot (EPSG #2879)
DE	NAD27 Delaware State Planes- US Foot (EPSG #26757)
DE83	NAD83 Delaware State Planes- Meter (EPSG #26957)
DE83F	NAD83 Delaware State Planes- US Foot (EPSG #2235)
DEHP	HPGN Delaware State Planes- Meter (EPSG #2776)
DEHPF	HPGN Delaware State Planes- US Foot (EPSG #2880)
FL83-E	NAD83 Florida State Planes- Eastern Zone- Meter (EPSG #26958)
FL83-EF	NAD83 Florida State Planes- Eastern Zone- US Foot (EPSG #2236)
FL83-N	NAD83 Florida State Planes- Northern Zone- Meter (EPSG #26960)
FL83-NF	NAD83 Florida State Planes- Northern Zone- US Foot (EPSG #2238)
FL83-W	NAD83 Florida State Planes- Western Zone- Meter (EPSG #26959)
FL83-WF	NAD83 Florida State Planes- Western Zone- US Foot (EPSG #2237)

Value	Description
FL-E	NAD27 Florida State Planes- Eastern Zone- US Foot (EPSG #26758)
FLHP-E	HPGN Florida State Planes- Eastern Zone- Meter (EPSG #2777)
FLHP-EF	HPGN Florida State Planes- Eastern Zone- US Foot (EPSG #2881)
FLHP-N	HPGN Florida State Planes- Northern Zone- Meter (EPSG #2779)
FLHP-NF	HPGN Florida State Planes- Northern Zone- US Foot (EPSG #2883)
FLHP-W	HPGN Florida State Planes- Western Zone- Meter (EPSG #2778)
FLHP-WF	HPGN Florida State Planes- Western Zone- US Foot (EPSG #2882)
FL-N	NAD27 Florida State Planes- Northern Zone- US Foot (EPSG #26760)
FL-W	NAD27 Florida State Planes- Western Zone- US Foot (EPSG #26759)
GA83-E	NAD83 Georgia State Planes- Eastern Zone- Meter (EPSG #26966)
GA83-EF	NAD83 Georgia State Planes- Eastern Zone- US Foot (EPSG #2239)
GA83-W	NAD83 Georgia State Planes- Western Zone- Meter (EPSG #26967)
GA83-WF	NAD83 Georgia State Planes- Western Zone- US Foot (EPSG #2240)
GA-E	NAD27 Georgia State Planes- Eastern Zone- US Foot (EPSG #26766)
GAHP-E	HARN (HPGN) Georgia State Planes- Eastern Zone- Meter (EPSG #2780)
GAHP-EF	HARN (HPGN) Georgia State Planes- Eastern Zone- US Foot (EPSG #2884)
GAHP-W	HARN (HPGN) Georgia State Planes- Western Zone- Meter (EPSG #2781)
GAHP-WF	HARN (HPGN) Georgia State Planes- Western Zone- US Foot (EPSG #2885)
GA-W	NAD27 Georgia State Planes- Western Zone- US Foot (EPSG #26767)
HI-1	NAD27 Hawaii State Planes- Zone 1- US Foot
HI-2	NAD27 Hawaii State Planes- Zone 2- US Foot
HI-3	NAD27 Hawaii State Planes- Zone 3- US Foot
HI-4	NAD27 Hawaii State Planes- Zone 4- US Foot
HI-5	NAD27 Hawaii State Planes- Zone 5- US Foot
HI83-1	NAD83 Hawaii State Planes- Zone 1- Meter (EPSG #26961)
HI83-1F	NAD83 Hawaii State Planes- Zone 1- US Foot
HI83-2	NAD83 Hawaii State Planes- Zone 2- Meter (EPSG #26962)
HI83-2F	NAD83 Hawaii State Planes- Zone 2- US Foot
HI83-3	NAD83 Hawaii State Planes- Zone 3- Meter (EPSG #26963)
HI83-3F	NAD83 Hawaii State Planes- Zone 3- US Foot
HI83-4	NAD83 Hawaii State Planes- Zone 4- Meter (EPSG #26964)
HI83-4F	NAD83 Hawaii State Planes- Zone 4- US Foot
HI83-5	NAD83 Hawaii State Planes- Zone 5- Meter (EPSG #26965)
HI83-5F	NAD83 Hawaii State Planes- Zone 5- US Foot
HIHP-1	NAD83(HARN) / Hawaii zone 1 (EPSG #2782)
HIHP-2	NAD83(HARN) / Hawaii zone 2 (EPSG #2783)
HIHP-3	NAD83(HARN) / Hawaii zone 3 (EPSG #2784)
HIHP-4	NAD83(HARN) / Hawaii zone 4 (EPSG #2785)
HIHP-5	NAD83(HARN) / Hawaii zone 5 (EPSG #2786)
IA83-N	NAD83 Iowa State Planes- Northern Zone- Meter (EPSG #26975)
IA83-NF	NAD83 Iowa State Planes- Northern Zone- US Foot
IA83-S	NAD83 Iowa State Planes- Southern Zone- Meter (EPSG #26976)
IA83-SF	NAD83 Iowa State Planes- Southern Zone- US Foot
IAHP-N	HARN (HPGN) Iowa State Planes- Northern Zone- Meter (EPSG #2794)
IAHP-NF	HARN (HPGN) Iowa State Planes- Northern Zone- US Foot
IAHP-S	HARN (HPGN) Iowa State Planes- Southern Zone- Meter (EPSG #2795)
IAHP-SF	HARN (HPGN) Iowa State Planes- Southern Zone- US Foot

Value	Description
IA-N	NAD27 Iowa State Planes- Northern Zone- US Foot (EPSG #26775)
IA-S	NAD27 Iowa State Planes- Southern Zone- US Foot (EPSG #26776)
ID83-C	NAD83 Idaho State Planes- Central Zone- Meter (EPSG #26969)
ID83-CF	NAD83 Idaho State Planes- Central Zone- US Foot (EPSG #2242)
ID83-E	NAD83 Idaho State Planes- Eastern Zone- Meter (EPSG #26968)
ID83-EF	NAD83 Idaho State Planes- Eastern Zone- US Foot (EPSG #2241)
ID83-W	NAD83 Idaho State Planes- Western Zone- Meter (EPSG #26970)
ID83-WF	NAD83 Idaho State Planes- Western Zone- US Foot (EPSG #2243)
ID-C	NAD27 Idaho State Planes- Central Zone- US Foot (EPSG #26769)
ID-E	NAD27 Idaho State Planes- Eastern Zone- US Foot (EPSG #26768)
IDHP-C	HARN (HPGN) Idaho State Planes- Central Zone- Meter (EPSG #2788)
IDHP-CF	HARN (HPGN) Idaho State Planes- Central Zone- US Foot (EPSG #2887)
IDHP-E	HARN (HPGN) Idaho State Planes- Eastern Zone- Meter (EPSG #2787)
IDHP-EF	HARN (HPGN) Idaho State Planes- Eastern Zone- US Foot (EPSG #2886)
IDHP-W	HARN (HPGN) Idaho State Planes- Western Zone- Meter (EPSG #2789)
IDHP-WF	HARN (HPGN) Idaho State Planes- Western Zone- US Foot (EPSG #2888)
ID-W	NAD27 Idaho State Planes- Western Zone- US Foot (EPSG #26770)
IL83-E	NAD83 Illinois State Planes- Eastern Zone- Meter (EPSG #26971)
IL83-EF	NAD83 Illinois State Planes- Eastern Zone- US Foot
IL83-W	NAD83 Illinois State Planes- Western Zone- Meter (EPSG #26972)
IL83-WF	NAD83 Illinois State Planes- Western Zone- US Foot
IL-E	NAD27 Illinois State Planes- Eastern Zone- US Foot (EPSG #26771)
ILHP-E	HARN (HPGN) Illinois State Planes- Eastern Zone- Meter (EPSG #2790)
ILHP-EF	HARN (HPGN) Illinois State Planes- Eastern Zone- US Foot
ILHP-W	HARN (HPGN) Illinois State Planes- Western Zone- Meter (EPSG #2791)
ILHP-WF	HARN (HPGN) Illinois State Planes- Western Zone- US Foot
ILLIMAP	NAD27 Illinois Survey Mapping System- US Foot
IL-W	NAD27 Illinois State Planes- Western Zone- US Foot (EPSG #26772)
IN83-E	NAD83 Indiana State Planes- Eastern Zone- Meter (EPSG #26973)
IN83-EF	NAD83 Indiana State Planes- Eastern Zone- US Foot (EPSG #2244)
IN83-W	NAD83 Indiana State Planes- Western Zone- Meter (EPSG #26974)
IN83-WF	NAD83 Indiana State Planes- Western Zone- US Foot (EPSG #2245)
IN-E	NAD27 Indiana State Planes- Eastern Zone- US Foot (EPSG #26773)
INHP-E	HARN (HPGN) Indiana State Planes- Eastern Zone- Meter (EPSG #2792)
INHP-EF	HARN (HPGN) Indiana State Planes- Eastern Zone- US Foot (EPSG #2889)
INHP-W	HARN (HPGN) Indiana State Planes- Western Zone- Meter (EPSG #2793)
INHP-WF	HARN (HPGN) Indiana State Planes- Western Zone- US Foot (EPSG #2890)
IN-W	NAD27 Indiana State Planes- Western Zone- US Foot (EPSG #26774)
KS83-N	NAD83 Kansas State Planes- Northern Zone- Meter (EPSG #26977)
KS83-NF	NAD83 Kansas State Planes- Northern Zone- US Foot
KS83-S	NAD83 Kansas State Planes- Southern Zone- Meter (EPSG #26978)
KS83-SF	NAD83 Kansas State Planes- Southern Zone- US Foot
KSHP-N	HARN (HPGN) Kansas State Planes- Northern Zone- Meter (EPSG #2796)
KSHP-NF	HARN (HPGN) Kansas State Planes- Northern Zone- US Foot
KSHP-S	HARN (HPGN) Kansas State Planes- Southern Zone- Meter (EPSG #2797)
KSHP-SF	HARN (HPGN) Kansas State Planes- Southern Zone- US Foot
KS-N	NAD27 Kansas State Planes- Northern Zone- US Foot (EPSG #26777)

Value	Description
KS-S	NAD27 Kansas State Planes- Southern Zone- US Foot (EPSG #26778)
KY83-N	NAD83 Kentucky State Planes- Northern Zone- Meter (EPSG #26979)
KY83-NF	NAD83 Kentucky State Planes- Northern Zone- US Foot (EPSG #2246)
KY83-S	NAD83 Kentucky State Planes- Southern Zone- Meter (EPSG #26980)
KY83-SF	NAD83 Kentucky State Planes- Southern Zone- US Foot (EPSG #2247)
KYHP-N	HPGN Kentucky State Planes- Northern Zone- Meter (EPSG #2798)
KYHP-NF	HPGN Kentucky State Planes- Northern Zone- US Foot (EPSG #2891)
KYHP-S	HPGN Kentucky State Planes- Southern Zone- Meter (EPSG #2799)
KYHP-SF	HPGN Kentucky State Planes- Southern Zone- US Foot (EPSG #2892)
KY-N	NAD27 Kentucky State Planes- Northern Zone- US Foot (EPSG #26779)
KY-S	NAD27 Kentucky State Planes- Southern Zone- US Foot (EPSG #26780)
LA83-N	NAD83 Louisiana State Planes- Northern Zone- Meter (EPSG #26981)
LA83-NF	NAD83 Louisiana State Planes- Northern Zone- US Foot
LA83-0	NAD83 Louisiana State Planes- Offshore- Meter (EPSG #32199)
LA83-OF	NAD83 Louisiana State Planes- Offshore- US Foot
LA83-S	NAD83 Louisiana State Planes- Southern Zone- Meter (EPSG #26982)
LA83-SF	NAD83 Louisiana State Planes- Southern Zone- US Foot
LAHP-N	HPGN Louisiana State Planes- Northern Zone- Meter (EPSG #2800)
LAHP-NF	HPGN Louisiana State Planes- Northern Zone- US Foot
LAHP-O	HPGN Louisiana State Planes- Offshore- Meter
LAHP-OF	HPGN Louisiana State Planes- Offshore- US Foot
LAHP-S	HPGN Louisiana State Planes- Southern Zone- Meter (EPSG #2801)
LAHP-SF	HPGN Louisiana State Planes- Southern Zone- US Foot
LA-N	NAD27 Louisiana State Planes- Northern Zone- US Foot (EPSG #26781)
LA-O	NAD27 Louisiana State Planes- Offshore- US Foot (EPSG #32099)
LA-S	NAD27 Louisiana State Planes- Southern Zone- US Foot (EPSG #26782)
LL-83	NAD83 Latitude/Longitude- Degrees
LL84	WGS84 Lat/Long- Degrees180 ==> +180 (EPSG #4326)
MA	NAD27 Massachusetts State Planes- Mainland Zone- US Foot (EPSG
	#26786)
MA27-IS	NAD27 Massachusetts State Planes- Island Zone- US Foot (EPSG #26787)
MA83	NAD83 Massachusetts State Planes- Mainland Zone- Meter (EPSG #26986)
MA83F	NAD83 Massachusetts State Planes- Mainland Zone- US Foot (EPSG #2249)
MA83-IS	NAD83 Massachusetts State Planes- Island Zone- Meter (EPSG #26987)
MA83-ISF	NAD83 Massachusetts State Planes- Island Zone- US Foot (EPSG #2250)
MAHP	HPGN/HARN Massachusetts State Planes- Mainland Zone- Meter (EPSG
	#2805)
MAHPF	HPGN/HARN Massachusetts State Planes- Mainland Zone- US Foot (EPSG
	#2894)
MAHP-IS	HPGN/HARN Massachusetts State Planes- Island Zone- Meter (EPSG
	#2806)
MAHP-ISF	HPGN/HARN Massachusetts State Planes- Island Zone- US Foot (EPSG
	#2895)
MD	NAD27 Maryland State Plane Zone- US Foot (EPSG #26785)
MD83	NAD83 Maryland State Plane Zone- Meter (EPSG #26985)
MD83F	NAD83 Maryland State Plane Zone- US Foot (EPSG #2248)
MDHP	HPGN Maryland State Plane Zone- Meter (EPSG #2804)

Value	Description
МЕ83-Е	NAD83 Maine State Planes- Eastern Zone- Meter (EPSG #26983)
ME83-EF	NAD83 Maine State Planes- Eastern Zone- US Foot
ME83-W	NAD83 Maine State Planes- Western Zone- Meter (EPSG #26984)
ME83-WF	NAD83 Maine State Planes- Western Zone- US Foot
ME-E	NAD27 Maine State Planes- Eastern Zone- US Foot (EPSG #26783)
MEHP-E	HPGN Maine State Planes- Eastern Zone- Meter (EPSG #2802)
MEHP-EF	HPGN Maine State Planes- Eastern Zone- US Foot
MEHP-W	HPGN Maine State Planes- Western Zone- Meter (EPSG #2803)
MEHP-WF	HPGN Maine State Planes- Western Zone- US Foot
ME-W	NAD27 Maine State Planes- Western Zone- US Foot (EPSG #26784)
MI27-C	NAD27 Michigan State Planes- Central Zone- US Foot (EPSG #26812)
MI27-N	NAD27 Michigan State Planes- Northern Zone- US Foot (EPSG #26811)
MI27-S	NAD27 Michigan State Planes- Southern Zone- US Foot (EPSG #26813)
MI83-C	NAD83 Michigan State Planes- Central Zone- Meter (EPSG #26989)
MI83-CF	NAD83 Michigan State Planes- Central Zone- US Foot
MI83-CIF	NAD83 Michigan State Planes- Central Zone- Intnl Foot (EPSG #2252)
MI83-N	NAD83 Michigan State Planes- Northern Zone- Meter (EPSG #26988)
MI83-NF	NAD83 Michigan State Planes- Northern Zone- US Foot
MI83-NIF	NAD83 Michigan State Planes- Northern Zone- Intnl Foot (EPSG #2251)
MI83-S	NAD83 Michigan State Planes- Southern Zone- Meter (EPSG #26990)
MI83-SF	NAD83 Michigan State Planes- Southern Zone- US Foot
MI83-SIF	NAD83 Michigan State Planes- Southern Zone- Intnl Foot (EPSG #2253)
MIHP-C	HARN (HPGN) Michigan State Planes- Central Zone- Meter (EPSG #2808)
MIHP-CF	HARN (HPGN) Michigan State Planes- Central Zone- US Foot
MIHP-CIF	HARN (HPGN) Michigan State Planes- Central Zone- Intnl Foot (EPSG #2897)
MIHP-N	HARN (HPGN) Michigan State Planes- Northern Zone- Meter (EPSG #2807)
MIHP-NF	HARN (HPGN) Michigan State Planes- Northern Zone- US Foot
MIHP-NIF	HARN (HPGN) Michigan State Planes- Northern Zone- Intnl Foot (EPSG #2896)
MIHP-S	HARN (HPGN) Michigan State Planes- Southern Zone- Meter (EPSG #2809)
MIHP-SF	HARN (HPGN) Michigan State Planes- Southern Zone- US Foot
MIHP-SIF	HARN (HPGN) Michigan State Planes- Southern Zone- Intnl Foot (EPSG #2898)
MN83-C	NAD83 Minnesota State Planes- Central Zone- Meter (EPSG #26992)
MN83-CF	NAD83 Minnesota State Planes- Central Zone- US Foot
MN83-N	NAD83 Minnesota State Planes- Northern Zone- Meter (EPSG #26991)
MN83-NF	NAD83 Minnesota State Planes- Northern Zone- US Foot
MN83-S	NAD83 Minnesota State Planes- South Zone- Meter (EPSG #26993)
MN83-SF	NAD83 Minnesota State Planes- South Zone- US Foot
MN-C	NAD27 Minnesota State Planes- Central Zone- US Foot (EPSG #26792)
MNHP-C	HARN (HPGN) Minnesota State Planes- Central Zone- Meter (EPSG #2811)
MNHP-CF	HARN (HPGN) Minnesota State Planes- Central Zone- US Foot
MNHP-N	HARN (HPGN) Minnesota State Planes- Northern Zone- Meter (EPSG #2810)
MNHP-NF	HARN (HPGN) Minnesota State Planes- Northern Zone- US Foot
MNHP-S	HARN (HPGN) Minnesota State Planes- South Zone- Meter (EPSG #2812)
MNHP-SF	HARN (HPGN) Minnesota State Planes- South Zone- US Foot

Value	Description
MN-N	NAD27 Minnesota State Planes- Northern Zone- US Foot (EPSG #26791)
MN-S	NAD27 Minnesota State Planes- South- US Foot (EPSG #26793)
M083-C	NAD83 Missouri State Planes- Central Zone- Meter (EPSG #26997)
MO83-CF	NAD83 Missouri State Planes- Central Zone- US Foot
МО83-Е	NAD83 Missouri State Planes- Eastern Zone- Meter (EPSG #26996)
MO83-EF	NAD83 Missouri State Planes- Eastern Zone- US Foot
MO83-W	NAD83 Missouri State Planes- Western Zone- Meter (EPSG #26998)
MO83-WF	NAD83 Missouri State Planes- Western Zone- US Foot
MO-C	NAD27 Missouri State Planes- Central Zone- US Foot (EPSG #26797)
MO-E	NAD27 Missouri State Planes- Eastern Zone- US Foot (EPSG #26796)
MOHP-C	HARN (HPGN) Missouri State Planes- Central Zone- Meter (EPSG #2816)
MOHP-CF	HARN (HPGN) Missouri State Planes- Central Zone- US Foot
MOHP-E	HARN (HPGN) Missouri State Planes- Eastern Zone- Meter (EPSG #2815)
MOHP-EF	HARN (HPGN) Missouri State Planes- Eastern Zone- US Foot
MOHP-W	HARN (HPGN) Missouri State Planes- Western Zone- Meter (EPSG #2817)
MOHP-WF	HARN (HPGN) Missouri State Planes- Western Zone- US Foot
MO-W	NAD27 Missouri State Planes- Western Zone- US Foot (EPSG #26798)
MS83-E	NAD83 Mississippi State Planes- Eastern Zone- Meter (EPSG #26994)
MS83-EF	NAD83 Mississippi State Planes- Eastern Zone- US Foot (EPSG #2254)
MS83-TM	NAD83 Mississippi Transverse Mercator Projection (meters)
MS83-W	NAD83 Mississippi State Planes- Western Zone- Meter (EPSG #26995)
MS83-WF	NAD83 Mississippi State Planes- Western Zone- US Foot (EPSG #2255)
MS-E	NAD27 Mississippi State Planes- Eastern Zone- US Foot (EPSG #26794)
MSHP-E	HPGN Mississippi State Planes- Eastern Zone- Meter (EPSG #2813)
MSHP-EF	HPGN Mississippi State Planes- Eastern Zone- US Foot (EPSG #2899)
MSHP-W	HPGN Mississippi State Planes- Western Zone- Meter (EPSG #2814)
MSHP-WF	HPGN Mississippi State Planes- Western Zone- US Foot (EPSG #2900)
MS-W	NAD27 Mississippi State Planes- Western Zone- US Foot (EPSG #26795)
MT83	NAD83 Montana State Plane Zone- Meter (EPSG #32100)
MT83F	NAD83 Montana State Plane Zone- US Foot
MT83IF	NAD83 Montana State Planes- Intnl Foot (EPSG #2256)
MT-C	NAD27 Montana State Planes- Central Zone- US Foot (EPSG #32002)
MTHP	HPGN Montana State Plane Zone- Meter (EPSG #2818)
MTHPF	HPGN Montana State Plane Zone- US Foot
MTHPIF	HPGN Montana State Planes- Intnl Foot (EPSG #2901)
MT-N	NAD27 Montana State Planes- Northern Zone- US Foot (EPSG #32001)
MT-S	NAD27 Montana State Planes- Southern Zone- US Foot (EPSG #32003)
NB83	NAD83 Nebraska State Planes- Meter (EPSG #32104)
NB83F	NAD83 Nebraska State Planes- US Foot
NBHP	HPGN/HARN Nebraska State Planes- Meter (EPSG #2819)
NBHPF	HPGN/HARN Nebraska State Planes- US Foot
NB-N	NAD27 Nebraska State Planes- Northern Zone- US Foot (EPSG #32005)
NB-S	NAD27 Nebraska State Planes- Southern Zone- US Foot (EPSG #32006)
NC	NAD27 North Carolina State Planes- US Foot (EPSG #32019)
NC83	NAD83 North Carolina State Planes- Meter (EPSG #32119)
NC83F	NAD83 North Carolina State Planes- US Foot (EPSG #2264)
NCHP	HARN (HPGN) North Carolina State Planes- Meter

Value	Description
NCHPF	HARN (HPGN) North Carolina State Planes- US Foot
ND83-N	NAD83 North Dakota State Planes- Northern Zone- Meter (EPSG #32120)
ND83-NF	NAD83 North Dakota State Planes- Northern Zone- US Foot
ND83-S	NAD83 North Dakota State Planes- Southern Zone- Meter (EPSG #32121)
ND83-SF	NAD83 North Dakota State Planes- Southern Zone- US Foot
NDHP-N	HARN (HPGN) North Dakota State Planes- Northern Zone- Meter (EPSG
	#2832)
NDHP-NF	HARN (HPGN) North Dakota State Planes- Northern Zone- US Foot
NDHP-S	HARN (HPGN) North Dakota State Planes- Southern Zone- Meter (EPSG
	#2833)
NDHP-SF	HARN (HPGN) North Dakota State Planes- Southern Zone- US Foot
ND-N	NAD27 North Dakota State Planes- Northern Zone- US Foot (EPSG #32020)
ND-S	NAD27 North Dakota State Planes- Southern Zone- US Foot (EPSG #32021)
NE83	NAD83 Nebraska State Planes- Meter
NE83F	NAD83 Nebraska State Planes- US Foot
NE-N	NAD27 Nebraska State Planes- Northern Zone- US Foot
NE-S	NAD27 Nebraska State Planes- Southern Zone- US Foot
NH	NAD27 New Hampshire State Planes- US Foot (EPSG #32010)
NH83	NAD83 New Hampshire State Planes- Meter (EPSG #32110)
NH83F	NAD83 New Hampshire State Planes- US Foot
NHHP	HPGN/HARN New Hampshire State Planes- Meter (EPSG #2823)
NHHPF	HPGN/HARN New Hampshire State Planes- US Foot
NJ	NAD27 New Jersey State Planes- US Foot (EPSG #32011)
NJ83	NAD83 New Jersey State Planes- Meter (EPSG #32111)
NJ83F	NAD83 New Jersey State Planes- US Foot
NJHP	HARN (HPGN) New Jersey State Planes- Meter (EPSG #2824)
NJHPF	HARN (HPGN) New Jersey State Planes- US Foot
NM83-C	NAD83 New Mexico State Planes- Central Zone- Meter (EPSG #32113)
NM83-CF	NAD83 New Mexico State Planes- Central Zone- US Foot (EPSG #2258)
NM83-E	NAD83 New Mexico State Planes- Eastern Zone- Meter (EPSG #32112)
NM83-EF	NAD83 New Mexico State Planes- Eastern Zone- US Foot (EPSG #2257)
NM83-W	NAD83 New Mexico State Planes- Western Zone- Meter (EPSG #32114)
NM83-WF	NAD83 New Mexico State Planes- Western Zone- US Foot (EPSG #2259)
NM-C	NAD27 New Mexico State Planes- Central Zone- US Foot (EPSG #32013)
NM-E	NAD27 New Mexico State Planes- Eastern Zone- US Foot (EPSG #32012)
NMHP-C	HPGN New Mexico State Planes- Central Zone- Meter (EPSG #2826)
NMHP-CF	HPGN New Mexico State Planes- Central Zone- US Foot (EPSG #2903)
NMHP-E	HPGN New Mexico State Planes- Eastern Zone- Meter (EPSG #2825)
NMHP-EF	HPGN New Mexico State Planes- Eastern Zone- US Foot (EPSG #2902)
NMHP-W	HPGN New Mexico State Planes- Western Zone- Meter (EPSG #2827)
NMHP-WF	HPGN New Mexico State Planes- Western Zone- US Foot (EPSG #2904)
NM-W	NAD27 New Mexico State Planes- Western Zone- US Foot (EPSG #32014)
NV83-C	NAD83 Nevada State Planes- Central Zone- Meter (EPSG #32108)
NV83-CF	NAD83 Nevada State Planes- Central Zone- US Foot
NV83-E	NAD83 Nevada State Planes- Eastern Zone- Meter (EPSG #32107)
NV83-EF	NAD83 Nevada State Planes- Eastern Zone- US Foot
NV83-W	NAD83 Nevada State Planes- Western Zone- Meter (EPSG #32109)

Value	Description
NV83-WF	NAD83 Nevada State Planes- Western Zone- US Foot
NV-C	NAD27 Nevada State Planes- Central Zone- US Foot (EPSG #32008)
NV-E	NAD27 Nevada State Planes- Eastern Zone- US Foot (EPSG #32007)
NVHP-C	HARN (HPGN) Nevada State Planes- Central Zone- Meter (EPSG #2821)
NVHP-CF	HARN (HPGN) Nevada State Planes- Central Zone- US Foot
NVHP-E	HARN (HPGN) Nevada State Planes- Eastern Zone- Meter (EPSG #2820)
NVHP-EF	HARN (HPGN) Nevada State Planes- Eastern Zone- US Foot
NVHP-W	HARN (HPGN) Nevada State Planes- Western Zone- Meter (EPSG #2822)
NVHP-WF	HARN (HPGN) Nevada State Planes- Western Zone- US Foot
NV-W	NAD27 Nevada State Planes- Western Zone- US Foot (EPSG #32009)
NY83-C	NAD83 New York State Planes- Central Zone- Meter (EPSG #32116)
NY83-CF	NAD83 New York State Planes- Central Zone- US Foot (EPSG #2261)
NY83-E	NAD83 New York State Planes- Eastern Zone- Meter (EPSG #32115)
NY83-EF	NAD83 New York State Planes- Eastern Zone- US Foot (EPSG #2260)
NY83-LI	NAD83 New York State Planes- Long Island- Meter (EPSG #32118)
NY83-LIF	NAD83 New York State Planes- Long Island- US Foot (EPSG #2263)
NY83-W	NAD83 New York State Planes- Western Zone- Meter (EPSG #32117)
NY83-WF	NAD83 New York State Planes- Western Zone- US Foot (EPSG #2262)
NY-C	NAD27 New York State Planes- Central Zone- US Foot (EPSG #32016)
NY-E	NAD27 New York State Planes- Eastern Zone- US Foot (EPSG #32015)
NYHP-C	HARN (HPGN) New York State Planes- Central Zone- Meter (EPSG #2829)
NYHP-CF	HARN (HPGN) New York State Planes- Central Zone- US Foot (EPSG
	#2906)
NYHP-E	HARN (HPGN) New York State Planes- Eastern Zone- Meter (EPSG #2828)
NYHP-EF	HARN (HPGN) New York State Planes- Eastern Zone- US Foot (EPSG
	#2905)
NYHP-LI	HARN (HPGN) New York State Planes- Long Island- Meter (EPSG #2831)
NYHP-LIF	HARN (HPGN) New York State Planes- Long Island- US Foot (EPSG
	#2908)
NYHP-W	HARN (HPGN) New York State Planes- Western Zone- Meter (EPSG #2830)
NYHP-WF	HARN (HPGN) New York State Planes- Western Zone- US Foot (EPSG
NV I I	#2907) NAD27 New York State Blance, Long Island, US Foot (EDSC #22018)
NY-LI NY-W	NAD27 New York State Planes- Long Island- US Foot (EPSG #32018)NAD27 New York State Planes- Western Zone- US Foot (EPSG #32017)
OH83-N	NAD27 New Tork State Flanes- Western Zone- OS Floor (EFSG #32017) NAD83 Ohio State Planes- Northern Zone- Meter (EPSG #32122)
OH83-NF	NAD83 Ohio State Planes- Northern Zone- US Foot
OH83-S	NAD83 Ohio State Planes- Normeni Zone- OS Poot NAD83 Ohio State Planes- Southern Zone- Meter (EPSG #32123)
OH83-SF	NAD83 Ohio State Planes- Southern Zone- US Foot
OHHP-N	HARN (HPGN) Ohio State Planes- Northern Zone- Meter (EPSG #2834)
OHHP-NF	HARN (HPGN) Ohio State Planes- Northern Zone- US Foot
OHHP-S	HARN (HPGN) Ohio State Planes- Southern Zone- Meter (EPSG #2835)
OHHP-SF	HARN (HPGN) Ohio State Planes- Southern Zone- US Foot
OH-N	NAD27 Ohio State Planes- Northern Zone- US Foot (EPSG #32022)
OH-S	NAD27 Ohio State Planes- Normeni Zone- US Foot (EPSG #32022) NAD27 Ohio State Planes- Southern Zone- US Foot (EPSG #32023)
OH-3 OK83-N	NAD27 Onto State Planes- Southern Zone- US Foot (EPSG #32025) NAD83 Oklahoma State Planes- Northern Zone- Meter (EPSG #32124)
OK83-NF	NAD83 Oklahoma State Planes- Northern Zone- US Foot (EPSG #22124)
OK83-NF OK83-S	NAD83 Oklahoma State Planes- Northern Zone- OS Poot (EPSG #2207) NAD83 Oklahoma State Planes- Southern Zone- Meter (EPSG #32125)
OK83-SF	NAD83 Oklahoma State Planes- Southern Zone- US Foot (EPSG #22125)
0100-91	NADOJ UNIANOMA STATE FIANES- SOUMETH ZONE- US FOOT (EFSU #2208)

OKHP-NHPGN Oklahoma State Planes- Northern Zone- Meter (EPSG #2836OKHP-NFHPGN Oklahoma State Planes- Northern Zone- US Foot (EPSG #29	• \
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	,
OKHP-S HPGN Oklahoma State Planes- Southern Zone- Meter (EPSG #2837	,
OKHP-SF HPGN Oklahoma State Planes- Southern Zone- US Foot (EPSG #29	
OK-N NAD27 Oklahoma State Planes- Northern Zone- US Foot (EPSG #3	· · · · · · · · · · · · · · · · · · ·
OK-S NAD27 Oklahoma State Planes- Southern Zone- US Foot (EPSG #3	,
OR83-N NAD83 Oregon State Planes- Northern Zone- Meter (EPSG #32126)	,
OR83-NF NAD83 Oregon State Planes- Northern Zone- US Foot	,
OR83-NIF NAD83 Oregon State Planes- Northern Zone- Intnl Foot (EPSG #22	69)
OR83-S NAD83 Oregon State Planes- Southern Zone- Meter (EPSG #32127)	
OR83-SF NAD83 Oregon State Planes- Southern Zone- US Foot	/
OR83-SIF NAD83 Oregon State Planes- Southern Zone- Intnl Foot (EPSG #22	70)
OR83- NAD83 Oregon GIS- International Foot (EPSG #2992)	,
SSCGIS	
ORHP-N HPGN Oregon State Planes- Northern Zone- Meter (EPSG #2838)	
ORHP-NF HPGN Oregon State Planes- Northern Zone- US Foot	
ORHP-NIF HPGN Oregon State Planes- Northern Zone- Intnl Foot (EPSG #291	3)
ORHP-SHPGN Oregon State Planes- Southern Zone- Meter (EPSG #2839)	.,
ORHP-SF HPGN Oregon State Planes- Southern Zone- US Foot	
ORHP-SIF HPGN Oregon State Planes- Southern Zone- Intnl Foot (EPSG #291	4)
OR-N NAD27 Oregon State Planes- Northern Zone- US Foot (EPSG #3202	
OR-S NAD27 Oregon State Planes- Southern Zone- US Foot (EPSG #3202	
PA83-N NAD83 Pennsylvania State Planes- Northern Zone- Meter (EPSG #3	
PA83-NF NAD83 Pennsylvania State Planes- Northern Zone- US Foot (EPSG	
PA83-S NAD83 Pennsylvania State Planes- Southern Zone- Meter (EPSG #3	
PA83-SF NAD83 Pennsylvania State Planes- Southern Zone- US Foot (EPSG	,
PAHP-N HARN (HPGN) Pennsylvania State Planes- Northern Zone- Meter	,
PAHP-NF HARN (HPGN) Pennsylvania State Planes- Northern Zone- US Foo	t
PAHP-S HARN (HPGN) Pennsylvania State Planes- Southern Zone- Meter	
PAHP-SF HARN (HPGN) Pennsylvania State Planes- Southern Zone- US Foo	t
PA-N NAD27 Pennsylvania State Planes- Northern Zone- US Foot (EPSG	
PA-S NAD27 Pennsylvania State Planes- Southern Zone- US Foot (EPSG	#32029)
PR-1 NAD27 Puerto Rico and Virgin Islands- Zone 1- US Foot	
PR-2 NAD27 Puerto Rico- St Croix Virgin Island- Zone 2- US Foot	
PR83 NAD83 Puerto Rico and Virgin Islands- Meter (EPSG #32161)	
PR83F NAD83 Puerto Rico and Virgin Islands- US Foot	
PRHP HPGN Puerto Rico and Virgin Islands- Meter (EPSG #2866)	
PRHPF HPGN Puerto Rico and Virgin Islands- US Foot	
RI NAD27 Rhode Island State Planes- US Foot (EPSG #32030)	
RI83 NAD83 Rhode Island State Planes- Meter (EPSG #32130)	
RI83F NAD83 Rhode Island State Planes- US Foot	
RIHP HPGN/HARN Rhode Island State Planes- Meter (EPSG #2840)	
RIHPF HPGN/HARN Rhode Island State Planes- US Foot	
SC83 NAD83 South Carolina State Planes- Meter (EPSG #32133)	
SC83F NAD83 South Carolina State Planes- US Foot	
SC83IF NAD83 South Carolina State Planes- Intnl Foot (EPSG #2273)	
SCHP HARN (HPGN) South Carolina State Planes- Meter	

	Description
SCHPF 1	HARN (HPGN) South Carolina State Planes- US Foot
	HARN (HPGN) South Carolina State Planes- Intnl Foot
SC-N	NAD27 South Carolina State Planes- Northern Zone- US Foot (EPSG
4	#32031)
SC-S	NAD27 South Carolina State Planes- Southern Zone- US Foot (EPSG
Ŧ	#32033)
SD83-N	NAD83 South Dakota State Planes- Northern Zone- Meter (EPSG #32134)
SD83-NF	NAD83 South Dakota State Planes- Northern Zone- US Foot
SD83-S	NAD83 South Dakota State Planes- Southern Zone- Meter (EPSG #32135)
SD83-SF	NAD83 South Dakota State Planes- Southern Zone- US Foot
SDHP-N	HARN (HPGN) South Dakota State Planes- Northern Zone- Meter (EPSG
ŧ	#2841)
SDHP-NF	HARN (HPGN) South Dakota State Planes- Northern Zone- US Foot
SDHP-S	HARN (HPGN) South Dakota State Planes- Southern Zone- Meter (EPSG
4	#2842)
SDHP-SF	HARN (HPGN) South Dakota State Planes- Southern Zone- US Foot
SD-N	NAD27 South Dakota State Planes- Northern Zone- US Foot (EPSG #32034)
SD-S	NAD27 South Dakota State Planes- Southern Zone- US Foot (EPSG #32035)
TN	NAD27 Tennessee State Plane Zone- US Foot (EPSG #2204)
TN83 1	NAD83 Tennessee State Plane Zone- Meter (EPSG #32136)
TN83F	NAD83 Tennessee State Plane Zone- US Foot (EPSG #2274)
TNHP 1	HPGN Tennessee State Plane Zone- Meter (EPSG #2843)
TNHPF 1	HPGN Tennessee State Plane Zone- US Foot (EPSG #2915)
TX83-C	NAD83 Texas State Planes- Central Zone- Meter (EPSG #32139)
TX83-CF	NAD83 Texas State Planes- Central Zone- US Foot (EPSG #2277)
TX83-N 1	NAD83 Texas State Planes- Northern Zone- Meter (EPSG #32137)
TX83-NC	NAD83 Texas State Planes- North Central Zone- Meter (EPSG #32138)
TX83-NCF	NAD83 Texas State Planes- North Central Zone- US Foot (EPSG #2276)
TX83-NF	NAD83 Texas State Planes- Northern Zone- US Foot (EPSG #2275)
TX83-S	NAD83 Texas State Planes- Southern Zone- Meter (EPSG #32141)
TX83-SC I	NAD83 Texas State Planes- South Central Zone- Meter (EPSG #32140)
TX83-SCF	NAD83 Texas State Planes- South Central Zone- US Foot (EPSG #2278)
TX83-SF	NAD83 Texas State Planes- Southern Zone- US Foot (EPSG #2279)
TX-C	NAD27 Texas State Planes- Central Zone- US Foot (EPSG #32039)
TXHP-C	HPGN/HARN Texas State Planes- Central Zone- Meter (EPSG #2846)
	HPGN/HARN Texas State Planes- Central Zone- US Foot (EPSG #2918)
	HPGN/HARN Texas State Planes- Northern Zone- Meter (EPSG #2844)
	HPGN/HARN Texas State Planes- North Central Zone- Meter (EPSG #2845)
	HPGN/HARN Texas State Planes- North Central Zone- US Foot (EPSG
	#2917)
TXHP-NF	HPGN/HARN Texas State Planes- Northern Zone- US Foot (EPSG #2916)
TXHP-S	HPGN/HARN Texas State Planes- Southern Zone- Meter (EPSG #2848)
TXHP-SC	HPGN/HARN Texas State Planes- South Central Zone- Meter (EPSG #2847)
	HPGN/HARN Texas State Planes- South Central Zone- US Foot (EPSG
	#2919)
TXHP-SF	HPGN/HARN Texas State Planes- Southern Zone- US Foot (EPSG #2920)
TX-N	NAD27 Texas State Planes- Northern Zone- US Foot (EPSG #32037)
TX-NC 1	NAD27 Texas State Planes- North Central Zone- US Foot (EPSG #32038)

Value	Description
TX-S	NAD27 Texas State Planes- Southern Zone- US Foot (EPSG #32041)
TX-SC	NAD27 Texas State Planes- South Central Zone- US Foot (EPSG #32040)
UT83-C	NAD83 Utah State Planes- Central Zone- Meter (EPSG #32143)
UT83-CF	NAD83 Utah State Planes- Central Zone- US Foot
UT83-CIF	NAD83 Utah State Planes- Central Zone- Intnl Foot (EPSG #2281)
UT83-N	NAD83 Utah State Planes- Northern Zone- Meter (EPSG #32142)
UT83-NF	NAD83 Utah State Planes- Northern Zone- US Foot
UT83-NIF	NAD83 Utah State Planes- Northern Zone- Intnl Foot (EPSG #2280)
UT83-S	NAD83 Utah State Planes- Southern Zone- Meter (EPSG #32144)
UT83-SF	NAD83 Utah State Planes- Southern Zone- US Foot
UT83-SIF	NAD83 Utah State Planes- Southern Zone- Intnl Foot (EPSG #2282)
UT-C	NAD27 Utah State Planes- Central Zone- US Foot (EPSG #32043)
UTHP-C	HARN (HPGN) Utah State Planes- Central Zone- Meter (EPSG #2850)
UTHP-CF	HARN (HPGN) Utah State Planes- Central Zone- US Foot
UTHP-CIF	HARN (HPGN) Utah State Planes- Central Zone- Intnl Foot (EPSG #2922)
UTHP-N	HARN (HPGN) Utah State Planes- Northern Zone- Meter (EPSG #2849)
UTHP-NF	HARN (HPGN) Utah State Planes- Northern Zone- US Foot
UTHP-NIF	HARN (HPGN) Utah State Planes- Northern Zone- Intnl Foot (EPSG #2921)
UTHP-S	HARN (HPGN) Utah State Planes- Southern Zone- Meter (EPSG #2851)
UTHP-SF	HARN (HPGN) Utah State Planes- Southern Zone- US Foot
UTHP-SIF	HARN (HPGN) Utah State Planes- Southern Zone- Intnl Foot (EPSG #2923)
UTM27-1	NAD27 UTM- Zone 1 North- Meter
UTM27-10	NAD27 UTM- Zone 10 North- Meter (EPSG #26710)
UTM27-10F	NAD27 UTM- Zone 10 North- US Foot
UTM27-10IF	NAD27 UTM- Zone 10 North- Intnl Foot
UTM27-11	NAD27 UTM- Zone 11 North- Meter (EPSG #26711)
UTM27-11F	NAD27 UTM- Zone 11 North- US Foot
UTM27-11IF	NAD27 UTM- Zone 11 North- Intnl Foot
UTM27-12	NAD27 UTM- Zone 12 North- Meter (EPSG #26712)
UTM27-12F	NAD27 UTM- Zone 12 North- US Foot
UTM27-12IF	NAD27 UTM- Zone 12 North- Intnl Foot
UTM27-13	NAD27 UTM- Zone 13 North- Meter (EPSG #26713)
UTM27-13F	NAD27 UTM- Zone 13 North- US Foot
UTM27-13IF	NAD27 UTM- Zone 13 North- Intnl Foot
UTM27-14	NAD27 UTM- Zone 14 North- Meter (EPSG #26714)
UTM27-14F	NAD27 UTM- Zone 14 North- US Foot
UTM27-14IF	NAD27 UTM- Zone 14 North- Intnl Foot
UTM27-15	NAD27 UTM- Zone 15 North- Meter (EPSG #26715)
UTM27-15F	NAD27 UTM- Zone 15 North- US Foot
UTM27-15IF	NAD27 UTM- Zone 15 North- Intnl Foot
UTM27-16	NAD27 UTM- Zone 16 North- Meter (EPSG #26716)
UTM27-16F	NAD27 UTM- Zone 16 North- US Foot
UTM27-16IF	NAD27 UTM- Zone 16 North- Intnl Foot
UTM27-17	NAD27 UTM- Zone 17 North- Meter (EPSG #26717)
UTM27-17F	NAD27 UTM- Zone 17 North- US Foot
UTM27-17IF	NAD27 UTM- Zone 17 North- Intnl Foot
UTM27-18	NAD27 UTM- Zone 18 North- Meter (EPSG #26718)

Value	Description
UTM27-18F	NAD27 UTM- Zone 18 North- US Foot
UTM27-18IF	NAD27 UTM- Zone 18 North- Intnl Foot
UTM27-19	NAD27 UTM- Zone 19 North- Meter (EPSG #26719)
UTM27-19F	NAD27 UTM- Zone 19 North- US Foot
UTM27-19IF	NAD27 UTM- Zone 19 North- Intnl Foot
UTM27-1N	NAD27 / UTM zone 1N (EPSG #26701)
UTM27-2	NAD27 UTM- Zone 2 North- Meter
UTM27-20	NAD27 UTM- Zone 20 North- Meter (EPSG #26720)
UTM27-20F	NAD27 UTM- Zone 20 North- US Foot
UTM27-20IF	NAD27 UTM- Zone 20 North- Intnl Foot
UTM27-21	NAD27 UTM- Zone 21 North- Meter (EPSG #26721)
UTM27-21F	NAD27 UTM- Zone 21 North- US Foot
UTM27-21IF	NAD27 UTM- Zone 21 North- Intnl Foot
UTM27-22	NAD27 UTM- Zone 22 North- Meter (EPSG #26722)
UTM27-22F	NAD27 UTM- Zone 22 North- US Foot
UTM27-22IF	NAD27 UTM- Zone 22 North- Intnl Foot
UTM27-23	NAD27 UTM- Zone 23 North- Meter
UTM27-23F	NAD27 UTM- Zone 23 North- US Foot
UTM27-23IF	NAD27 UTM- Zone 23 North- Intnl Foot
UTM27-2N	NAD27 / UTM zone 2N (EPSG #26702)
UTM27-3	NAD27 UTM- Zone 3 North- Meter (EPSG #26703)
UTM27-3F	NAD27 UTM- Zone 3 North- US Survey Foot
UTM27-3IF	NAD27 UTM- Zone 3 North- Intnl Foot
UTM27-4	NAD27 UTM- Zone 4 North- Meter (EPSG #26704)
UTM27-4F	NAD27 UTM- Zone 4 North- US Survey Foot
UTM27-4IF	NAD27 UTM- Zone 4 North- Intnl Foot
UTM27-5	NAD27 UTM- Zone 5 North- Meter (EPSG #26705)
UTM27-58	NAD27 UTM- Zone 58 North- Meter
UTM27-59	NAD27 UTM- Zone 59 North- Meter
UTM27-5F	NAD27 UTM- Zone 5 North- US Foot
UTM27-5IF	NAD27 UTM- Zone 5 North- Intnl Foot
UTM27-6	NAD27 UTM- Zone 6 North- Meter (EPSG #26706)
UTM27-60	NAD27 UTM- Zone 60 North- Meter
UTM27-6F	NAD27 UTM- Zone 6 North- US Foot
UTM27-6IF	NAD27 UTM- Zone 6 North- Intnl Foot
UTM27-7	NAD27 UTM- Zone 7 North- Meter (EPSG #26707)
UTM27-7F	NAD27 UTM- Zone 7 North- US Foot
UTM27-7IF	NAD27 UTM- Zone 7 North- Intnl Foot
UTM27-8	NAD27 UTM- Zone 8 North- Meter (EPSG #26708)
UTM27-8F	NAD27 UTM- Zone 8 North- US Foot
UTM27-8IF	NAD27 UTM- Zone 8 North- Intnl Foot
UTM27-9	NAD27 UTM- Zone 9 North- Meter (EPSG #26709)
UTM27-9F	NAD27 UTM- Zone 9 North- US Foot
UTM27-9IF	NAD27 UTM- Zone 9 North- Intnl Foot
UTM83-1	NAD83 UTM- Zone 1 North- Meter (EPSG #26901)
UTM83-10	NAD83 UTM- Zone 10 North- Meter (EPSG #26910)
UTM83-10F	NAD83 UTM- Zone 10 North- US Foot

Value	Description
UTM83-10IF	NAD83 UTM- Zone 10 North- Intnl Foot
UTM83-11	NAD83 UTM- Zone 11 North- Meter (EPSG #26911)
UTM83-11F	NAD83 UTM- Zone 11 North- US Foot
UTM83-11IF	NAD83 UTM- Zone 11 North- Intnl Foot
UTM83-12	NAD83 UTM- Zone 12 North- Meter (EPSG #26912)
UTM83-12F	NAD83 UTM- Zone 12 North- US Foot
UTM83-12IF	NAD83 UTM- Zone 12 North- Intnl Foot
UTM83-13	NAD83 UTM- Zone 13 North- Meter (EPSG #26913)
UTM83-13F	NAD83 UTM- Zone 13 North- US Foot
UTM83-13IF	NAD83 UTM- Zone 13 North- Intnl Foot
UTM83-14	NAD83 UTM- Zone 14 North- Meter (EPSG #26914)
UTM83-14F	NAD83 UTM- Zone 14 North- US Foot
UTM83-14IF	NAD83 UTM- Zone 14 North- Intnl Foot
UTM83-15	NAD83 UTM- Zone 15 North- Meter (EPSG #26915)
UTM83-15F	NAD83 UTM- Zone 15 North- US Foot
UTM83-15IF	NAD83 UTM- Zone 15 North- Intnl Foot
UTM83-16	NAD83 UTM- Zone 16 North- Meter (EPSG #26916)
UTM83-16F	NAD83 UTM- Zone 16 North- US Foot
UTM83-16IF	NAD83 UTM- Zone 16 North- Intnl Foot
UTM83-17	NAD83 UTM- Zone 17 North- Meter (EPSG #26917)
UTM83-17F	NAD83 UTM- Zone 17 North- US Foot
UTM83-17IF	NAD83 UTM- Zone 17 North- Intnl Foot
UTM83-18	NAD83 UTM- Zone 18 North- Meter (EPSG #26918)
UTM83-18F	NAD83 UTM- Zone 18 North- US Foot
UTM83-18IF	NAD83 UTM- Zone 18 North- Intnl Foot
UTM83-19	NAD83 UTM- Zone 19 North- Meter (EPSG #26919)
UTM83-19F	NAD83 UTM- Zone 19 North- US Foot
UTM83-19IF	NAD83 UTM- Zone 19 North- Intnl Foot
UTM83-2	NAD83 UTM- Zone 2 North- Meter (EPSG #26902)
UTM83-20	NAD83 UTM- Zone 20 North- Meter (EPSG #26920)
UTM83-20F	NAD83 UTM- Zone 20 North- US Foot
UTM83-20IF	NAD83 UTM- Zone 20 North- Intnl Foot
UTM83-21	NAD83 UTM- Zone 21 North- Meter (EPSG #26921)
UTM83-21F	NAD83 UTM- Zone 21 North- US Foot
UTM83-21IF	NAD83 UTM- Zone 21 North- Intnl Foot
UTM83-22	NAD83 UTM- Zone 22 North- Meter (EPSG #26922)
UTM83-22F	NAD83 UTM- Zone 22 North- US Foot
UTM83-22IF	NAD83 UTM- Zone 22 North- Intnl Foot
UTM83-23	NAD83 Universal Transverse Mercator- Zone 23 North- Meter
UTM83-3	NAD83 UTM- Zone 3 North- Meter (EPSG #26903)
UTM83-3F	NAD83 UTM- Zone 3 North- US Survey Foot
UTM83-4	NAD83 UTM- Zone 4 North- Meter (EPSG #26904)
UTM83-4F	NAD83 UTM- Zone 4 North- US Survey Foot
UTM83-5	NAD83 UTM- Zone 5 North- Meter (EPSG #26905)
UTM83-58	NAD83 UTM- Zone 58 North- Meter
UTM83-59	NAD83 UTM- Zone 59 North- Meter
UTM83-5F	NAD83 UTM- Zone 5 North- US Survey Foot

Value	Description
UTM83-5IF	NAD83 UTM- Zone 5 North- Intnl Foot
UTM83-6	NAD83 UTM- Zone 6 North- Meter (EPSG #26906)
UTM83-60	NAD83 UTM- Zone 60 North- Meter
UTM83-6F	NAD83 UTM- Zone 6 North- US Foot
UTM83-6IF	NAD83 UTM- Zone 6 North- Intnl Foot
UTM83-7	NAD83 UTM- Zone 7 North- Meter (EPSG #26907)
UTM83-7F	NAD83 UTM- Zone 7 North- US Foot
UTM83-7IF	NAD83 UTM- Zone 7 North- Intnl Foot
UTM83-8	NAD83 UTM- Zone 8 North- Meter (EPSG #26908)
UTM83-8F	NAD83 UTM- Zone 8 North- US Foot
UTM83-8IF	NAD83 UTM- Zone 8 North- Intnl Foot
UTM83-9	NAD83 UTM- Zone 9 North- Meter (EPSG #26909)
UTM83-9F	NAD83 UTM- Zone 9 North- US Foot
UTM83-9IF	NAD83 UTM- Zone 9 North- Intnl Foot
UTM84-10N	WGS 1984 UTM- Zone 10 North- Meter (EPSG #32610)
UTM84-10S	WGS 1984 UTM- Zone 10 South- Meter (EPSG #32710)
UTM84-11N	WGS 1984 UTM- Zone 11 North- Meter (EPSG #32611)
UTM84-11S	WGS 1984 UTM- Zone 11 South- Meter (EPSG #32711)
UTM84-12N	WGS 1984 UTM- Zone 12 North- Meter (EPSG #32612)
UTM84-12S	WGS 1984 UTM- Zone 12 South- Meter (EPSG #32712)
UTM84-13N	WGS 1984 UTM- Zone 13 North- Meter (EPSG #32613)
UTM84-13S	WGS 1984 UTM- Zone 13 South- Meter (EPSG #32713)
UTM84-14N	WGS 1984 UTM- Zone 14 North- Meter (EPSG #32614)
UTM84-14S	WGS 1984 UTM- Zone 14 South- Meter (EPSG #32714)
UTM84-15N	WGS 1984 UTM- Zone 15 North- Meter (EPSG #32615)
UTM84-15S	WGS 1984 UTM- Zone 15 South- Meter (EPSG #32715)
UTM84-16N	WGS 1984 UTM- Zone 16 North- Meter (EPSG #32616)
UTM84-16S	WGS 1984 UTM- Zone 16 South- Meter (EPSG #32716)
UTM84-17N	WGS 1984 UTM- Zone 17 North- Meter (EPSG #32617)
UTM84-17S	WGS 1984 UTM- Zone 17 South- Meter (EPSG #32717)
UTM84-18N	WGS 1984 UTM- Zone 18 North- Meter (EPSG #32618)
UTM84-18S	WGS 1984 UTM- Zone 18 South- Meter (EPSG #32718)
UTM84-19N	WGS 1984 UTM- Zone 19 North- Meter (EPSG #32619)
UTM84-19S	WGS 1984 UTM- Zone 19 South- Meter (EPSG #32719)
UTM84-1N	WGS 1984 UTM- Zone 1 North- Meter (EPSG #32601)
UTM84-1S	WGS 1984 UTM- Zone 1 South- Meter (EPSG #32701)
UTM84-20N	WGS 1984 UTM- Zone 20 North- Meter (EPSG #32620)
UTM84-20S	WGS 1984 UTM- Zone 20 South- Meter (EPSG #32720)
UTM84-21N	WGS 1984 UTM- Zone 21 North- Meter (EPSG #32621)
UTM84-21S	WGS 1984 UTM- Zone 21 South- Meter (EPSG #32721)
UTM84-22N	WGS 1984 UTM- Zone 22 North- Meter (EPSG #32622)
UTM84-22S	WGS 1984 UTM- Zone 22 South- Meter (EPSG #32722)
UTM84-23N	WGS 1984 UTM- Zone 23 North- Meter (EPSG #32623)
UTM84-23S	WGS 1984 UTM- Zone 23 South- Meter (EPSG #32723)
UTM84-24N	WGS 1984 UTM- Zone 24 North- Meter (EPSG #32624)
UTM84-24S	WGS 1984 UTM- Zone 24 South- Meter (EPSG #32724)
UTM84-25N	WGS 1984 UTM- Zone 25 North- Meter (EPSG #32625)

Value	Description
UTM84-25S	WGS 1984 UTM- Zone 25 South- Meter (EPSG #32725)
UTM84-26N	WGS 1984 UTM- Zone 26 North- Meter (EPSG #32626)
UTM84-26S	WGS 1984 UTM- Zone 26 South- Meter (EPSG #32726)
UTM84-27N	WGS 1984 UTM- Zone 27 North- Meter (EPSG #32627)
UTM84-27S	WGS 1984 UTM- Zone 27 South- Meter (EPSG #32727)
UTM84-28N	WGS 1984 UTM- Zone 28 North- Meter (EPSG #32628)
UTM84-28S	WGS 1984 UTM- Zone 28 South- Meter (EPSG #32728)
UTM84-29N	WGS 1984 UTM- Zone 29 North- Meter (EPSG #32629)
UTM84-29S	WGS 1984 UTM- Zone 29 South- Meter (EPSG #32729)
UTM84-2N	WGS 1984 UTM- Zone 2 North- Meter (EPSG #32602)
UTM84-2S	WGS 1984 UTM- Zone 2 South- Meter (EPSG #32702)
UTM84-30N	WGS 1984 UTM- Zone 30 North- Meter (EPSG #32630)
UTM84-30S	WGS 1984 UTM- Zone 30 South- Meter (EPSG #32730)
UTM84-31N	WGS 1984 UTM- Zone 31 North- Meter (EPSG #32631)
UTM84-31S	WGS 1984 UTM- Zone 31 South- Meter (EPSG #32731)
UTM84-32N	WGS 1984 UTM- Zone 32 North- Meter (EPSG #32632)
UTM84-32S	WGS 1984 UTM- Zone 32 South- Meter (EPSG #32732)
UTM84-33N	WGS 1984 UTM- Zone 33 North- Meter (EPSG #32633)
UTM84-33S	WGS 1984 UTM- Zone 33 South- Meter (EPSG #32733)
UTM84-34N	WGS 1984 UTM- Zone 34 North- Meter (EPSG #32634)
UTM84-34S	WGS 1984 UTM- Zone 34 South- Meter (EPSG #32734)
UTM84-35N	WGS 1984 UTM- Zone 35 North- Meter (EPSG #32635)
UTM84-35S	WGS 1984 UTM- Zone 35 South- Meter (EPSG #32735)
UTM84-36N	WGS 1984 UTM- Zone 36 North- Meter (EPSG #32636)
UTM84-36S	WGS 1984 UTM- Zone 36 South- Meter (EPSG #32736)
UTM84-37N	WGS 1984 UTM- Zone 37 North- Meter (EPSG #32637)
UTM84-37S	WGS 1984 UTM- Zone 37 South- Meter (EPSG #32737)
UTM84-38N	WGS 1984 UTM- Zone 38 North- Meter (EPSG #32638)
UTM84-38S	WGS 1984 UTM- Zone 38 South- Meter (EPSG #32738)
UTM84-39N	WGS 1984 UTM- Zone 39 North- Meter (EPSG #32639)
UTM84-39S	WGS 1984 UTM- Zone 39 South- Meter (EPSG #32739)
UTM84-3N	WGS 1984 UTM- Zone 3 North- Meter (EPSG #32603)
UTM84-3S	WGS 1984 UTM- Zone 3 South- Meter (EPSG #32703)
UTM84-40N	WGS 1984 UTM- Zone 40 North- Meter (EPSG #32640)
UTM84-40S	WGS 1984 UTM- Zone 40 South- Meter (EPSG #32740)
UTM84-41N	WGS 1984 UTM- Zone 41 North- Meter (EPSG #32641)
UTM84-41S	WGS 1984 UTM- Zone 41 South- Meter (EPSG #32741)
UTM84-42N	WGS 1984 UTM- Zone 42 North- Meter (EPSG #32642)
UTM84-42S	WGS 1984 UTM- Zone 42 South- Meter (EPSG #32742)
UTM84-43N	WGS 1984 UTM- Zone 43 North- Meter (EPSG #32643)
UTM84-43S	WGS 1984 UTM- Zone 43 South- Meter (EPSG #32743)
UTM84-44N	WGS 1984 UTM- Zone 44 North- Meter (EPSG #32644)
UTM84-44S	WGS 1984 UTM- Zone 44 South- Meter (EPSG #32744)
UTM84-45N	WGS 1984 UTM- Zone 45 North- Meter (EPSG #32645)
UTM84-45S	WGS 1984 UTM- Zone 45 South- Meter (EPSG #32745)
UTM84-46N	WGS 1984 UTM- Zone 46 North- Meter (EPSG #32646)
UTM84-46S	WGS 1984 UTM- Zone 46 South- Meter (EPSG #32746)

Value	Description
UTM84-47N	WGS 1984 UTM- Zone 47 North- Meter (EPSG #32647)
UTM84-47S	WGS 1984 UTM- Zone 47 South- Meter (EPSG #32747)
UTM84-48N	WGS 1984 UTM- Zone 48 North- Meter (EPSG #32648)
UTM84-48S	WGS 1984 UTM- Zone 48 South- Meter (EPSG #32748)
UTM84-49N	WGS 1984 UTM- Zone 49 North- Meter (EPSG #32649)
UTM84-49S	WGS 1984 UTM- Zone 49 South- Meter (EPSG #32749)
UTM84-4N	WGS 1984 UTM- Zone 4 North- Meter (EPSG #32604)
UTM84-4S	WGS 1984 UTM- Zone 4 South- Meter (EPSG #32704)
UTM84-50N	WGS 1984 UTM- Zone 50 North- Meter (EPSG #32650)
UTM84-50S	WGS 1984 UTM- Zone 50 South- Meter (EPSG #32750)
UTM84-51N	WGS 1984 UTM- Zone 51 North- Meter (EPSG #32651)
UTM84-51S	WGS 1984 UTM- Zone 51 South- Meter (EPSG #32751)
UTM84-52N	WGS 1984 UTM- Zone 52 North- Meter (EPSG #32652)
UTM84-52S	WGS 1984 UTM- Zone 52 South- Meter (EPSG #32752)
UTM84-53N	WGS 1984 UTM- Zone 53 North- Meter (EPSG #32653)
UTM84-53S	WGS 1984 UTM- Zone 53 South- Meter (EPSG #32753)
UTM84-54N	WGS 1984 UTM- Zone 54 North- Meter (EPSG #32654)
UTM84-54S	WGS 1984 UTM- Zone 54 South- Meter (EPSG #32754)
UTM84-55N	WGS 1984 UTM- Zone 55 North- Meter (EPSG #32655)
UTM84-55S	WGS 1984 UTM- Zone 55 South- Meter (EPSG #32755)
UTM84-56N	WGS 1984 UTM- Zone 56 North- Meter (EPSG #32656)
UTM84-56S	WGS 1984 UTM- Zone 56 South- Meter (EPSG #32756)
UTM84-57N	WGS 1984 UTM- Zone 57 North- Meter (EPSG #32657)
UTM84-57S	WGS 1984 UTM- Zone 57 South- Meter (EPSG #32757)
UTM84-58N	WGS 1984 UTM- Zone 58 North- Meter (EPSG #32658)
UTM84-58S	WGS 1984 UTM- Zone 58 South- Meter (EPSG #32758)
UTM84-59N	WGS 1984 UTM- Zone 59 North- Meter (EPSG #32659)
UTM84-59S	WGS 1984 UTM- Zone 59 South- Meter (EPSG #32759)
UTM84-5N	WGS 1984 UTM- Zone 5 North- Meter (EPSG #32605)
UTM84-5S	WGS 1984 UTM- Zone 5 South- Meter (EPSG #32705)
UTM84-60N	WGS 1984 UTM- Zone 60 North- Meter (EPSG #32660)
UTM84-60S	WGS 1984 UTM- Zone 60 South- Meter (EPSG #32760)
UTM84-6N	WGS 1984 UTM- Zone 6 North- Meter (EPSG #32606)
UTM84-6S	WGS 1984 UTM- Zone 6 South- Meter (EPSG #32706)
UTM84-7N	WGS 1984 UTM- Zone 7 North- Meter (EPSG #32607)
UTM84-7S	WGS 1984 UTM- Zone 7 South- Meter (EPSG #32707)
UTM84-8N	WGS 1984 UTM- Zone 8 North- Meter (EPSG #32608)
UTM84-8S	WGS 1984 UTM- Zone 8 South- Meter (EPSG #32708)
UTM84-9N	WGS 1984 UTM- Zone 9 North- Meter (EPSG #32609)
UTM84-9S	WGS 1984 UTM- Zone 9 South- Meter (EPSG #32709)
UTM89-30N	WGS 1984 UTM- Zone 30 North- Meter
UTMHP-10	HPGN UTM- Zone 10 North- Meter
UTMHP-10F	HPGN UTM- Zone 10 North- US Foot
UTMHP-10IF	HPGN UTM- Zone 10 North- Intnl Foot
UTMHP-11	HPGN UTM- Zone 11 North- Meter
UTMHP-11F	HPGN UTM- Zone 11 North- US Foot
UTMHP-11IF	HPGN UTM- Zone 11 North- Intnl Foot

Value	Description	
UTMHP-12	HPGN UTM- Zone 12 North- Meter	
UTMHP-12F	HPGN UTM- Zone 12 North- US Foot	
UTMHP-12IF	HPGN UTM- Zone 12 North- Intnl Foot	
UTMHP-13	HPGN UTM- Zone 13 North- Meter	
UTMHP-13F	HPGN UTM- Zone 13 North- US Foot	
UTMHP-13IF	HPGN UTM- Zone 13 North- Intnl Foot	
UTMHP-14	HPGN UTM- Zone 14 North- Meter	
UTMHP-14F	HPGN UTM- Zone 14 North- US Foot	
UTMHP-14IF	HPGN UTM- Zone 14 North- Intnl Foot	
UTMHP-15	HPGN UTM- Zone 15 North- Meter	
UTMHP-15F	HPGN UTM- Zone 15 North- US Foot	
UTMHP-15IF	HPGN UTM- Zone 15 North- Intnl Foot	
UTMHP-16	HPGN UTM- Zone 16 North- Meter	
UTMHP-16F	HPGN UTM- Zone 16 North- US Foot	
UTMHP-16IF	HPGN UTM- Zone 16 North- Intnl Foot	
UTMHP-17	HPGN UTM- Zone 17 North- Meter	
UTMHP-17F	HPGN UTM- Zone 17 North- US Foot	
UTMHP-17IF	HPGN UTM- Zone 17 North- Intnl Foot	
UTMHP-18	HPGN UTM- Zone 18 North- Meter	
UTMHP-18F	HPGN UTM- Zone 18 North- US Foot	
UTMHP-18IF	HPGN UTM- Zone 18 North- Intnl Foot	
UT-N	NAD27 Utah State Planes- Northern Zone- US Foot (EPSG #32042)	
UT-S	NAD27 Utah State Planes- Southern Zone- US Foot (EPSG #32044)	
VA83-N	NAD83 Virginia State Planes- Northern Zone- Meter (EPSG #32146)	
VA83-NF	NAD83 Virginia State Planes- Northern Zone- US Foot (EPSG #2283)	
VA83-S	NAD83 Virginia State Planes- Southern Zone- Meter (EPSG #32147)	
VA83-SF	NAD83 Virginia State Planes- Southern Zone- US Foot (EPSG #2284)	
VAHP-N	HPGN/HARN Virginia State Planes- Northern Zone- Meter (EPSG #2853)	
VAHP-NF	HPGN/HARN Virginia State Planes- Northern Zone- US Foot (EPSG #2924)	
VAHP-S	HPGN/HARN Virginia State Planes- Southern Zone- Meter (EPSG #2854)	
VAHP-SF	HPGN/HARN Virginia State Planes- Southern Zone- US Foot (EPSG #2925)	
VA-N	NAD27 Virginia State Planes- Northern Zone- US Foot (EPSG #32046)	
VA-S	NAD27 Virginia State Planes- Southern Zone- US Foot (EPSG #32047)	
VT	NAD27 Vermont State Planes- US Foot (EPSG #32045)	
VT83	NAD83 Vermont State Planes- Meter (EPSG #32145)	
VT83F	NAD83 Vermont State Planes- US Foot	
VTHP	HPGN/HARN Vermont State Planes- Meter (EPSG #2852)	
VTHPF	HPGN/HARN Vermont State Planes- US Foot	
WA83-N	NAD83 Washington State Planes- Northern Zone- Meter (EPSG #32148)	
WA83-NF	NAD83 Washington State Planes- Northern Zone- US Foot (EPSG #2285)	
WA83-S	NAD83 Washington State Planes- Southern Zone- Meter (EPSG #32149)	
WA83-SF	NAD83 Washington State Planes- Southern Zone- US Foot (EPSG #2286)	
WAHP-N	HPGN Washington State Planes- Northern Zone- Meter (EPSG #2855)	
WAHP-NF	HPGN Washington State Planes- Northern Zone- US Foot (EPSG #2926)	
WAHP-S	HPGN Washington State Planes- Southern Zone- Meter (EPSG #2856)	
WAHP-SF	HPGN Washington State Planes- Southern Zone- US Foot (EPSG #2927)	
WA-N	NAD27 Washington State Planes- Northern Zone- US Foot (EPSG #32048)	

Value	Description	
WA-S	NAD27 Washington State Planes- Southern Zone- US Foot (EPSG #32049)	
WI83-C	NAD83 Wisconsin State Planes- Central Zone- Meter (EPSG #32153)	
WI83-CF	NAD83 Wisconsin State Planes- Central Zone- US Foot (EPSG #2288)	
WI83-N	NAD83 Wisconsin State Planes- Northern Zone- Meter (EPSG #32152)	
WI83-NF	NAD83 Wisconsin State Planes- Northern Zone- US Foot (EPSG #2287)	
WI83-S	NAD83 Wisconsin State Planes- Southern Zone- Meter (EPSG #32154)	
WI83-SF	NAD83 Wisconsin State Planes- Southern Zone- US Foot (EPSG #2289)	
WI-C	NAD27 Wisconsin State Planes- Central Zone- US Foot (EPSG #32053)	
WIHP-C	HPGN Wisconsin State Planes- Central Zone- Meter (EPSG #2860)	
WIHP-CF	HPGN Wisconsin State Planes- Central Zone- US Foot (EPSG #2929)	
WIHP-N	HPGN Wisconsin State Planes- Northern Zone- Meter (EPSG #2859)	
WIHP-NF	HPGN Wisconsin State Planes- Northern Zone- US Foot (EPSG #2928)	
WIHP-S	HPGN Wisconsin State Planes- Southern Zone- Meter (EPSG #2861)	
WIHP-SF	HPGN Wisconsin State Planes- Southern Zone- US Foot (EPSG #2930)	
WI-N	NAD27 Wisconsin State Planes- Northern Zone- US Foot (EPSG #32052)	
WI-S	NAD27 Wisconsin State Planes- Southern Zone- US Foot (EPSG #32054)	
WV83-N	NAD83 West Virginia State Planes- Northern Zone- Meter (EPSG #32150)	
WV83-NF	NAD83 West Virginia State Planes- Northern Zone- US Foot	
WV83-S	NAD83 West Virginia State Planes- Southern Zone- Meter (EPSG #32151)	
WV83-SF	NAD83 West Virginia State Planes- Southern Zone- US Foot	
WVHP-N	HARN (HPGN) West Virginia State Planes- Northern Zone- Meter (EPSG	
	#2857)	
WVHP-NF	HARN (HPGN) West Virginia State Planes- Northern Zone- US Foot	
WVHP-S	HARN (HPGN) West Virginia State Planes- Southern Zone- Meter (EPSG	
	#2858)	
WVHP-SF	HARN (HPGN) West Virginia State Planes- Southern Zone- US Foot	
WV-N	NAD27 West Virginia State Planes- Northern Zone- US Foot (EPSG #32050)	
WV-S	NAD27 West Virginia State Planes- Southern Zone- US Foot (EPSG #32051)	
WY83-E	NAD83 Wyoming State Planes- Eastern- Meter (EPSG #32155)	
WY83-EC	NAD83 Wyoming State Planes- East Central Zone- Meter (EPSG #32156)	
WY83-ECF	NAD83 Wyoming State Planes- East Central Zone- US Foot	
WY83-EF	NAD83 Wyoming State Planes- Eastern- US Foot	
WY83-W	NAD83 Wyoming State Planes- Western- Meter (EPSG #32158)	
WY83-WC	NAD83 Wyoming State Planes- West Central Zone- Meter (EPSG #32157)	
WY83-WCF	NAD83 Wyoming State Planes- West Central Zone- US Foot	
WY83-WF	NAD83 Wyoming State Planes- Western- US Foot	
WY-E	NAD27 Wyoming State Planes- Eastern Zone- US Foot (EPSG #32055)	
WY-EC	NAD27 Wyoming State Planes- East Central Zone- US Foot (EPSG #32056)	
WYHP-E	HPGN/HARN Wyoming State Planes- Eastern- Meter (EPSG #2862)	
WYHP-EC	HPGN/HARN Wyoming State Planes- East Central Zone- Meter (EPSG	
	#2863)	
WYHP-ECF	HPGN/HARN Wyoming State Planes- East Central Zone- US Foot	
WYHP-EF	HPGN/HARN Wyoming State Planes- Eastern- US Foot	
WYHP-W	HPGN/HARN Wyoming State Planes- Western- Meter (EPSG #2865)	
WYHP-WC	HPGN/HARN Wyoming State Planes- West Central Zone- Meter (EPSG	
	#2864)	
WYHP-WCF	HPGN/HARN Wyoming State Planes- West Central Zone- US Foot	
WYHP-WF	HPGN/HARN Wyoming State Planes- Western- US Foot	

Value	Description	
WY-W	NAD27 Wyoming State Planes- Western Zone- US Foot (EPSG #32058)	
WY-WC	NAD27 Wyoming State Planes- West Central Zone- US Foot (EPSG #32057)	

5.15.13.CodeDesignGroup

Group #	Tail Height (ft)	Wingspan (ft)
Ι	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

5.15.14.CodeDesignSurfaceType

Value	Description
BRL	Building restriction line (not a standard)
FATO	Final Approach and Takeoff Clearance Surface
HAS	Heliport Safety Area
HPZ	Heliport Protection Zone
IAOFZ	Inner Approach Obstacle Free Zone
ITOFZ	Inner Transitional Obstacle Free Zone
OFZ	Obstacle Free Zone
POFZ	Precision obstacle free zone (See AC 150/5300-13)
PRSIFR	Parallel Runway Separation Simultaneous IFR Operations
PRSVFR	Parallel Runway Separation Simultaneous VFR Operations
ROFA	Runway Object Free Area
RPZ	Runway protection zone (See AC 150/5300-13)
RSA	Runway safety area
RWYPTX	Runway to Parallel Taxiway and Taxiline Separation
TOFA	Taxiway and taxilane object free area (See AC 150/5300-13)
TSA	Threshold sighting area
TSS	Threshold Siting Surface (See AC 150/5300-13)
TXSA	Taxiway safety area (See AC 150/5300-13)

5.15.15.CodeDirectionality

Value	Description
BI	Bidirectional
ES	One way from end-to-startpoint
SE	One way from start-to-endpoint

5.15.16.CodeFaaRegion

Value	Description
AAL	Alaska
ACE	Central
AEA	Eastern
AGL	Great Lakes
ANE	New England
ANM	Northwest Mountain
ASO	Southern

Value	Description
ASW	Southwest
AWP	Western Pacific

5.15.17.CodeFuel

Value	Description		
А	Jet A, without icing inhibitor		
A+	Jet A+, Kerosene fuel, Type A, Jet A or JP-1 With icing inhibitor.		
A1	Jet A1, without icing inhibitor		
A1+	Jet A1+, Jet A1 with icing inhibitor.		
В	Jet B, Wide cut turbine fuel, Without icing inhibitor.		
B+	Jet B+, wide cut turbine fuel with icing inhibitor.		
С	91/96 octane gasoline, leaded, No MIL Spec.		
F	80 octane gasoline, unleaded, No MIL Spec.		
G	Aviation Gasoline (AVGAS), octane unknown		
Н	108/135 octane gasoline, leaded, No MIL Spec		
J	Jet fuel available but type is unknown		
J4	JP-4, Wide cut turbine fuel MIL Spec T-5624		
J5	JP-5, Kerosene MIL Spec T-5624		
J8	JP-8, Semi Kerosene MIL Spec T-83133, without icing inhibitor		
Κ	73 octane gasoline, unleaded, No MIL Spec		
Х	Storage tanks available and fuel type unknown or the tanks were used at one time for		
	aviation products but may now store other products		
7	JP-7, Jet Propellant type 7 (Glass Tank Fuel)		
80	80/87 octane gasoline, leaded, MIL-L-5572F (RED)		
100	100/130 octane gasoline, leaded, MIL-L-5572F (GREEN)		
100LL	100/130 MIL Spec, low lead, aviation gasoline (BLUE)		
115	115/145 octane gasoline, leaded, MIL-L-5572F (PURPLE)		

5.15.18.CodeGateStandType

Name	Definition
ANG-NI	Angled nose-in parking position
ANG-NO	Angled nose-out parking position
HS	Hard stand
ISO	Isolated parking position.
JB	Jet bridge
NI	Nose-in parking position.
OTHER	Other
PR	Portable ramp
RMT	Remote parking position.
SR	Stairs
TM	Temporary
UNK	unknown

5.15.19.CodeGridType

Name	Definition
ed50	European Datum 1950
gaussKruger	Gauss Kruger
GEOREF	World Geographic Reference System

Name	Definition
ING	Irish National Grid Reference Survey
LCC	Lambert Conformal Conic
LL	Latitude, longitude
MIL	Military
OTHER	Other
RT90	Swedish Coordinate System
SPCS	State Plane Coordinate System
UPS	Universal Polar Stereographic
USNG	United States National Grid for Spatial Addressing
UTM	Universal Transverse Mercator

5.15.20.CodeHazardCategory

Class	Division	Description
1		Explosives are any substance or article, including a device, which is
		designed to function by explosion or which, by chemical reaction
		within itself is able to function in a similar manner even if not designed
		to function by explosion (unless the article is otherwise classed under a
		provision of 49CFR).
	1.1	Explosives that have a mass explosion hazard. A mass explosion is one
		which affects almost the entire load instantaneously
	1.2	Explosives that have a projection hazard but not a mass explosion
		hazard
	1.3	Explosives that have a fire hazard and either a minor blast hazard or a
		minor projection hazard or, both but not a mass explosion hazard.
	1.4	Explosives that present a minor explosion hazard. The explosive effects
		are largely confined to the package and no projection of fragments of
		appreciable size or range is to be expected. An external fire must not
		cause virtually instantaneous explosion of almost the entire contents of
		the package.
	1.5	Blasting agents consist of very insensitive explosives. This division
		comprises substances which have a mass explosion hazard but are so
		insensitive that there is very little probability of initiation or of
		transition from burning to detonation under normal conditions of
		transport.
	1.6	Consists of extremely insensitive articles which do not have a mass
		explosive hazard. This division comprises articles which contain only
		extremely insensitive detonating substances and which demonstrate a
		negligible probability of accidental initiation or propagation.
2		HazMat Class 2 includes all gases which are compressed and stored for
		transportation. Class 2 has three divisions: Flammable (also called
		combustible), Non-Flammable/Non-Poisonous, and Poisonous.
	2.1	Flammable Gas - 454 kg (1001 lb) of any material which is a gas at 20
		°C (68 °F) or less and 101.3 kPa (14.7 psi) of pressure (a material
		which has a boiling point of 20 °C (68 °F) or less at 101.3 kPa (14.7
		psi)) which-
		1. Is ignitable at 101.3 kPa (14.7 psi) when in a mixture of 13
		percent or less by volume with air; or
		2. Has a flammable range at 101.3 kPa (14.7 psi) with air of at
		least 12 percent regardless of the lower limit.

Class	Division	Description
	2.2	Non-Flammable, Non-Poisonus Gas - This division includes compressed gas, liquefied gas, pressurized cryogenic gas, compressed gas in solution, asphyxiant gas and oxidizing gas. A non-flammable, nonpoisonous compressed gas (Division 2.2) means any material (or mixture) which:
		 Exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20 °C (68 °F), and Does not meet the definition of Division 2.1 or 2.3.
	2.3	 Poison Gas - Gas poisonous by inhalation means a material which is a gas at 20 °C or less and a pressure of 101.3 kPa (a material which has a boiling point of 20 °C or less at 101.3kPa (14.7 psi)) and which: Is known to be so toxic to humans as to pose a hazard to health during transportation, or In the absence of adequate data on human toxicity, is presumed to be toxic to humans because when tested on laboratory animals it has an LC50 value of not more than 5000 ml/m³. See 49CFR 173.116(a) for assignment of Hazard Zones A, B, C or D. LC50 values for values for mixtures may be determined using the formula in 49 CFR 173.133(b)(1)(i)
3		HazMat Class 3 are flammable liquids. They are liquids with flash point of not more than 60.5° C (141°F), or any material in a liquid phase with a flash point at or above 37.8°C (100°F).
4		HazMat Class 4 are Flammable solids. Flammable Solids are any materials in the solid phase of matter that can readily undergo combustion in the presence of a source of ignition under standard circumstances, i.e. without: Artificially changing variables such as pressure or density; or Adding accelerants.
	4.1	Flammable Solid
	4.2	Spontaneously Combustible
	4.3	Dangerous When Wet - Dangerous when wet material is material that, by contact with water, is liable to become spontaneously flammable or to give off flammable or toxic gas at a rate greater than 1 liter per kilogram of the material, per hour, when tested in accordance with the UN Manual of Tests and Criteria.
5		HazMat Class 5 Oxidizing Agents and Organic Peroxides - An oxidizer is a chemical that readily yields oxygen in reactions, thereby causing or enhancing combustion
	5.1	Oxidizers - An oxidizer is a material that may, generally by yielding oxygen, cause or enhance the combustion of other materials
	5.2	Organic Peroxides - An organic peroxide is any organic compound containing oxygen (O) in the bivalent -O-O- structure and which may be considered a derivative of hydrogen peroxide, where one or more of the hydrogen atoms have been replaced by organic radicals (with some exceptions)

Class	Division	Description
6		HazMat Class 6 is Toxic and Infectious Substances. Poisonous material
		is a material, other than a gas, known to be so toxic to humans that it
		presents a health hazard during transportation
	6.1	Poisonous material is a material, other than a gas, which is known to be
		so toxic to humans as to afford a hazard to health during transportation,
		or which, in the absence of adequate data on human toxicity:
	6.2	Biohazards
7		HazMat Class 7 is Radioactive substances. Radioactive substances are
		materials that emit radiation.
8		Hazmat Class 8 is Corrosive Substances. A corrosive material is a
		liquid or solid that causes full thickness destruction of human skin at
		the site of contact within a specified period of time. A liquid that has a
		severe corrosion rate on steel or aluminum based on the criteria in
		49CFR 173.137(c)(2) is also a corrosive material.
9		HazMat Class 9 is Miscellaneous Substances. The miscellaneous
		hazardous materials category encompasses all hazardous materials that
		do not fit one of the definitions listed in Class 1 through Class 8.

5.15.21.CodeHazardType

Value	Description
BASH	Bird Aircraft Strike Hazard
DEER STRIKE	
TBD	Hazard yet to be determined
TORTOISE_PITFALL	
UNKNOWN	

5.15.22.CodeHowAcquired

Value	Description
AIP_DEVELOPMENT	Land acquired using AIP funds for airport development
AIP_APPROACH_PROTECTION	Land acquired using AIP funds for approach protection
AIP_NOISE	Land acquired using AIP funds for noise
DONATION	Land acquired by donation
PFC_DEVELOPMENT	Land acquired using PFC funds for airport development
PFC_APPROACH_PROTECTION	Land acquired using PFC funds for approach protection
PFC_NOISE	Land acquired using PFC funds for noise
SURPLUS_PROPERTY	Land acquired as surplus property

5.15.23.CodeLandmarkType

Value	Description
AERIAL CABLEWAY	
AGRICULTURE AREA	
AIRPORT	
ATHLETIC FIELD	
BOAT RAMP	
BREAKWATER	
CANAL	
CEMETERY	
CREEK	

Value	Description
DAM	
FENCE	
GOLF COURSE	
LEVEE	
MILITARY AREA	
MOUNTAIN PASS	
OTHER	
PIER	
POWERPLANT	
QUARRY	
QUAY	
RACECOURSE OR TRACK	
RAILROAD	
RIVER	
ROAD	
SHORELINE	
STADIUM	
STREAM	
TANK TRAP	
TRENCH	
URBAN AREA	
UTILITY LINE	
WALL	
WHARF	

5.15.24.CodeLandUseType

Value	Description
1000	Residential activities (Source: APA LBCS)
1100	Household activities (Source: APA LBCS)
1200	Transient living (Source: APA LBCS)
1300	Institutional living (Source: APA LBCS)
2000	Shopping, business, or trade activities (Source: APA LBCS)
2100	Shopping (Source: APA LBCS)
2110	Goods-oriented shopping (Source: APA LBCS)
2120	Service-oriented shopping (Source: APA LBCS)
2200	Restaurant-type activity (Source: APA LBCS)
2210	Restaurant-type activity with drive-through (Source: APA LBCS)
2300	Office activities (Source: APA LBCS)
2310	Office activities with high turnover of people (Source: APA LBCS)
2320	Office activities with high turnover of automobiles (Source: APA LBCS)
3000	Industrial, manufacturing, and waste-related activities (Source: APA LBCS)
3100	Plant, factory, or heavy goods storage or handling activities (Source: APA LBCS)
3110	Primarily plant or factory-type activities (Source: APA LBCS)
3120	Primarily goods storage or handling activities (Source: APA LBCS)
3200	Solid waste management activities (Source: APA LBCS)
3210	Solid waste collection and storage (Source: APA LBCS)
3220	Landfilling or dumping (Source: APA LBCS)
3230	Waste processing or recycling (Source: APA LBCS)

Value	Description
3300	Construction activities (grading, digging, etc.) (Source: APA LBCS)
4000	Social, institutional, or infrastructure-related activities (Source: APA LBCS)
4100	School or library activities (Source: APA LBCS)
4110	Classroom-type activities (Source: APA LBCS)
4120	Training or instructional activities outside classrooms (Source: APA LBCS)
	Other instructional activities including those that occur in libraries (Source: APA
4130	LBCS)
4200	Emergency response or public-safety-related activities (Source: APA LBCS)
4210	Fire and rescue-related activities (Source: APA LBCS)
4220	Police, security, and protection-related activities (Source: APA LBCS)
4230	Emergency or disaster-response-related activities (Source: APA LBCS)
4300	Activities associated with utilities (water, sewer, power, etc.) (Source: APA LBCS)
4310	Water-supply-related activities (Source: APA LBCS)
4311	Water storing, pumping, or piping (Source: APA LBCS)
4312	Water purification and filtration activities (Source: APA LBCS)
4313	Irrigation water storage and distribution activities (Source: APA LBCS)
4314	Flood control, dams, and other large irrigation activities (Source: APA LBCS)
4320	Sewer-related control, monitor, or distribution activities (Source: APA LBCS)
4321	Sewage storing, pumping, or piping (Source: APA LBCS)
4322	Sewage storing, pumping, or piping (Source: AFA LBCS)
4330	Power generation, control, monitor, or distribution activities (Source: APA LBCS)
4331	Power transmission lines or control activities (Source: APA LBCS)
4332	Power generation, storage, or processing activities (Source: APA LBCS)
4340	Telecommunications-related control, monitor, or distribution activities (Source: APA
4340	LBCS)
4350	Natural gas or fuels-related control, monitor, or distribution Activities (Source: APA
4550	LBCS)
4400	Mass storage, inactive (Source: APA LBCS)
4410	Water storage (Source: APA LBCS)
4420	Storage of natural gas, fuels, etc. (Source: APA LBCS)
4430	Storage of chemical, nuclear, or other materials (Source: APA LBCS)
4500	Health care, medical, or treatment activities (Source: APA LBCS)
4600	Interment, cremation, or grave digging activities (Source: AFA LBCS)
4700	Military base activities (Source: APA LBCS)
4710	Ordnance storage (Source: APA LBCS)
4720	Range and test activities (Source: APA LBCS)
5000	
	Travel or movement activities (Source: APA LBCS)
5100	Pedestrian movement (Source: APA LBCS)
5200	Vehicular movement (Source: APA LBCS)
5210	Vehicular parking, storage, etc. (Source: APA LBCS)
5220	Drive-in, drive through, stop-n-go, etc. (Source: APA LBCS)
5400	Trains or other rail movement (Source: APA LBCS)
5410	Rail maintenance, storage, or related activities (Source: APA LBCS)
5500	Sailing, boating, and other port, marine and water-based Activities (Source: APA LBCS)
5510	Boat mooring, docking, or servicing (Source: APA LBCS)
5520	Port, ship-building, and related activities (Source: APA LBCS)
	Aircraft takeoff, landing, taxiing, and parking (Source: APA LBCS)

Value	Description
5700	Spacecraft launching and related activities (Source: APA LBCS)
6000	Mass assembly of people (Source: APA LBCS)
6100	Passenger assembly (Source: APA LBCS)
6200	Spectator sports assembly (Source: APA LBCS)
6300	Movies, concerts, or entertainment shows (Source: APA LBCS)
6400	Gatherings at fairs and exhibitions (Source: APA LBCS)
6500	Mass training, drills, etc. (Source: APA LBCS)
6600	Social, cultural, or religious assembly (Source: APA LBCS)
6700	Gatherings at galleries, museums, aquariums, zoological parks, etc. (Source: APA LBCS)
6800	Historical or cultural celebrations, parades, reenactments, etc. (Source: APA LBCS)
7000	Leisure activities (Source: APA LBCS)
7100	Active leisure sports and related activities (Source: APA LBCS)
7110	Running, jogging, bicycling, aerobics, exercising, etc. (Source: APA
7120	Equestrian sporting activities (Source: APA LBCS)
7130	Hockey, ice skating, etc. (Source: APA LBCS)
7140	Skiing, snowboarding, etc. (Source: APA LBCS)
7150	Automobile and motorbike racing (Source: APA LBCS)
7160	Golf (Source: APA LBCS)
7180	Tennis (Source: APA LBCS)
7190	Track and field, team sports (baseball, basketball, etc.), or other sports (Source: APA LBCS)
7200	Passive leisure activity (Source: APA LBCS)
7210	Camping (Source: APA LBCS)
7220	Gambling (Source: APA LBCS)
7230	Hunting (Source: APA LBCS)
7240	Promenading and other activities in parks (Source: APA LBCS)
7250	Shooting (Source: APA LBCS)
7260	Trapping (Source: APA LBCS)
7300	Flying or air-related sports (Source: APA LBCS)
7400	Water sports and related leisure activities (Source: APA LBCS)
7410	Boating, sailing, etc. (Source: APA LBCS)
7420	Canoeing, kayaking, etc. (Source: APA LBCS)
7430	Swimming, diving, etc. (Source: APA LBCS)
7440	Fishing, angling, etc. (Source: APA LBCS)
7450	Scuba diving, snorkeling, etc. (Source: APA LBCS)
7460	Water-skiing (Source: APA LBCS)
8000	Natural resources-related activities (Source: APA LBCS)
8100	Farming, tilling, plowing, harvesting, or related activities (Source: APA)
8200	Livestock related activities (Source: APA LBCS)
8300	Pasturing, grazing, etc. (Source: APA LBCS)
8400	Logging (Source: APA LBCS)

5.15.25. CodeLightingConfigurationType

Value	Description
ALSF-1	High Intensity Approach Lighting System - Configuration 1
ALSF-2	High Intensity Approach Lighting System - Configuration 2
APAP	Alignment of Element Systems

Value	Description
APBN	Airport Rotating Beacon
CLRBAR	Taxiway Clearance Bar Lights
CODEBEACON	Code Beacon
COURSE	Course Lights
F	Fixed
FL	Flashing (Sea Plane Navigation Buoy use only)
FL (2)	Group Flashing (Sea Plane Navigation Buoy use only)
FL (2+1)	Composite Group-Flashing (Sea Plane Navigation Buoy use only)
HLL	Hover Lane Light
HLLL	Hover Lane Limit Light
HPIL	Helipad Perimeter Inset Light
HPPEL	Helipad Perimeter Light (Elevated)
HPPLSF	Helipad Perimeter Light (Semiflush)
ISO	Isophase (Sea Plane Navigation Buoy use only)
L-804	Unidirectional elevated runway guard lights
L-804 L-850A	Bi directional or unidirectional runway in pavement light used for
L-030A	runway centerline, Land and Hold Short Operations (LAHSO).
L-850B	Unidirectional runway in pavement light used for runway touchdown
L-050D	zone and medium intensity approach light system applications.
L-850C	Bi directional runway in pavement light used for runway edge lights and
L-050C	displaced threshold applications.
L-850D	Bi directional or unidirectional runway in pavement lights used for
L-030D	runway threshold or runway end light applications.
L-850E	Unidirectional runway in pavement light used for runway threshold light
L-030L	and Medium Intensity Approach Light System applications
L-850F	Unidirectional runway in pavement lights white flashing lights used for
L-0501	LAHSO
L-852A	Bi directional or unidirectional taxiway centerline in pavement lights
1 05211	used for the straight sections of taxiways where operations are permitted
	when the Runway Visual Range (RVR) is greater than or equal to 1200
	feet.
L-852B	Bi directional or unidirectional taxiway centerline in pavement lights for
2 00 22	curved sections of taxiways where operations are permitted when the
	Runway Visual Range (RVR) is greater than or equal to 1200 feet.
L-852C	bi directional or unidirectional taxiway centerline in pavement lights for
	straight portions of taxiways where operations are permitted when the
	Runway Visual Range (RVR) is less than 1200 feet.
L-852D	Bi directional or unidirectional taxiway centerline in pavement lights
	used for curved portions of taxiways where operations are permitted
	when the Runway Visual Range is less than 1200 feet.
L-852E	Omni directional taxiway intersection in pavement lights where
	operations are permitted when the Runway Visual Range is greater than
	or equal to 1200 feet.
L-852E/F	Runway Guard Light in-pavement
L-852F	Omni directional taxiway intersection in pavement lights where
	operations are permitted when the Runway Visual Range is less than
	1200 feet.
L-852G	Unidirectional Runway Guard in pavement lights
	· · · ·

Value	Description
L-852G/S	Combination Runway Guard/Stop bar light in-pavement
L-852J	Bi directional taxiway centerline in pavement lights for the curved
	portions of taxiways where operations are permitted when the Runway
	Visual Range is greater than or equal to 1200 feet.
L-852K	Bi directional taxiway centerline in pavement lights for the curved
	portions of taxiway where operation are permitted when the Runway
	Visual Ranger is less than 1200 feet.
L-852S	Unidirectional in pavement Stop Bar lights
L-852T	Omni directional in pavement taxiway edge and Apron edge lights
L-853	Reflective Marker
L-854	Radio Controller (Pilot Controlled Lights)
L-860	Omni directional elevated runway edge lights for Visual Flight Rules
	(VFR) operations.
L-860E	Bi directional or unidirectional elevated runway threshold or runway end
	lights for Visual Flight Rules operations.
L-861	Omni directional or bi directional elevated runway edge or displaced
	threshold lights for non-precision Instrument Flight Rules (IFR)
	operations.
L-861E	Bi directional or unidirectional elevated runway threshold or runway end
	lights for non-precision Instrument Flight Rule operations.
L-861SE	Bi directional and unidirectional elevated runway threshold, runway
	end, and displaced threshold lights for non-precision Instrument Flight
	Rule operations
L-861T	Omni directional elevated taxiway and apron edge lights.
L-862	Bi directional elevated runway edge, threshold, and displaced threshold
	lights for precision Instrument Flight Rule operations.
L-862E	Bi directional or unidirectional elevated runway threshold, runway end,
	and displaced threshold lights for precision Instrument Flight Rule
	operations.
L-862S	Unidirectional elevated stop bar lights
L-880/L881	Precision Approach Path Indicator
LDIN	Lead In Lighting System
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Intensity Approach Lighting System with Sequenced Flashing
	Lights
MALSR	Medium Intensity Approach Lighting System with Runway Alignment
	Indicator Lights (RAIL)
MO (A)	Morse Code (Sea Plane Navigation Buoy use only)
NONE	No lights
OBSCAT	Catenary Lighting
OBSDUAL	A combination of OBSRED and OBSWHT
OBSRED	Aviation red Obstruction Lights
OBSWHITE	Flashing White Obstruction Lights
OBSWHITE OC	Occulting (Sea Plane Navigation Buoy use only)
ODALS OTHER	Omnidirectional Approach Lighting System
OTHER DADIO	Other Description Approach Dath Indianter with 2 lights
PAPI2	Precision Approach Path Indicator with 2 lights
PAPI4	Precision Approach Path Indicator with 4 lights

Value	Description
PORTABLE	Portable Lights
PVASI	Pulsating visual Approach Slope Indicator
Q	Quick (Flashing) (Sea Plane Navigation Buoy use only)
RAIL	Runway Alignment Indicator Lights
REIL	Runway End Identifier Lights
RWSL	Runway Status Lights
SALS	Short Approach lighting System
SMGCS	Surface Movement Guidance Control System
SSALF	Short Simplified Approach Light System with Sequenced Flashing
	Lights
SSALR	Simplified Short Approach Lighting System with Runway Alignment
	Indicator
TRCV	TriColor VASI
T-VASI	"T" Visual Approach Slope Indicator
TWYON_OFFLGT	Taxiway Lead on/off lights
VASI-12	Visual Approach Slope Indicator with 2 bars and 12 boxes
VASI-16	Visual Approach Slope Indicator with 3 bars and 16 boxes
VASI-2	Visual Approach Slope Indicator with 2 bars
VASI-2-2	Visual Approach Slope Indicator with 2 bars and 2 boxes
VASI-3	Visual Approach Slope Indicator with 3 bars

5.15.26.CodeLoadingBridgeType

Value	Description
ARM	Moveable Arm
PORTABLE_RAMP	Portable Ramp
PORTABLE_STAIRS	Portable Stairs
OTHER	Other

5.15.27.CodeLowVisibilityCategory

Value	Description
0	No low visibility operation supported
1	Supports ILS CAT I low visibility operations
2	Supports ILS CAT II III low visibility operations

5.15.28.CodeMarkingFeatureType

Value	Description
AIMING_POINT	Runway Aiming Point (Geometry Type: Polygon) [Source: AC
	150/5340-1]
ALTBAND	Iternating bands of aviation orange and white [Source AC
	70/7640-1]
APRON_SIGN	Surface painted apron position/entrance sign (Geometry Type:
	Polygon) [Source: AC 150/5340-1]
ARROW	Arrows identify the displaced threshold area to provide centerline
	guidance for takeoffs and rollouts (Geometry Type: Line) [Source:
	AC 150/5340-1]
ARROW_HEAD	Arrow heads are used in conjunction with a threshold bar to
	further highlight the beginning of a runway (Geometry Type:
	Line) [Source: AC 150/5340-1]

Value	Description	
CHECKERBOARD	Checkerboard obstruction marking pattern [Source AC 70/7640-1]	
CHEVRON	A marking used to designate blast pads and other areas that are not	
	suitable for aircraft (Geometry Type: Line) [Source: AC	
	150/5340-1]	
DEMARCATION	Demarcation Bar (Geometry Type: Line) [Source: AC 150/5340-	
	1]	
DIR_SIGN	Surface painted taxiway direction signs (Geometry Type: Polygon)	
_	[Source: AC 150/5340-1]	
GATE LINE	All painted taxilines covering a parking stand area are regarded as	
_	stand guidance lines and will be individual objects in the database.	
	There may be several stand guidance taxilines leading to an	
	aircraft stand to accommodate different aircraft types.	
GATE_SIGN	Surface painted gate position signs (Geometry Type: Polygon)	
	[Source: AC 150/5340-1]	
HOLD_SIGN	Surface painted holding position signs (Geometry Type: AC	
	150/5340-1]	
ILS_HOLD	Holding position markings for Instrument Landing Systems	
	(Geometry Type: Polygon) [Source: AC 150/5340-1]	
INTERSECTION_HOLD	Holding position marking for taxiway/taxiway intersections	
	(Geometry Type: Line) [Source: AC 150/5340-1]	
LAHSO	Marking associated with a Land And Hold Short Operations	
	(LAHSO)	
LOCATION_SIGN	Surface painted taxiway location signs (Geometry Type: Polygon)	
	[Source: AC 150/5340-1]	
NON_MOVE_AREA	Non-movement area marking (Geometry Type: Line) [Source: AG	
	150/5340-1]	
NONE	No marking(s)	
OTHER	Other markings not listed	
OTHER_LINE	Other markings suitable for representation as a line	
OTHER_POLYGON	Other markings suitable for representation as a polygon	
PERM_CLOSED	Markings for permanently closed runways and taxiways	
	(Geometry Type: Polygon) [Source: AC 150/5340-1]	
POS_SIGN	Geographic position markings (Geometry Type: Polygon) [Source:	
	AC 150/5340-1]	
RWY_CL	Runway Centerline (Geometry Type: Line) [Source: AC150/5340-	
	1]	
RWY_HOLD	Runway holding position markings on Runways (Geometry Type:	
	Polygon) [Source: AC 150/5340-1]	
RWY_ID	Runway Designation Marking (Geometry Type: Polygon) [Source:	
	AC 150/5340-1]	
RWY_SHD	Runway shoulder markings (Geometry Type: Line) [Source: AC	
	150/5340-1]	
RWY_THRSH		
	AC 150/5340-1]	
SIDE_STRP	Runway Side Stripe Marking (Geometry Type: Line) [Source: AC	
	150/5340-1]	
SOLID	Solid pattern obstruction marking [Source AC 70/7640-1]	
TDZ_MARK	Runway Touchdown Zone Marking (Geometry Type: Polygon)	
	[Source: AC 150/5340-1]	

Value	Description
TEMP_CLOSED	Markings for temporarily closed runways and taxiways (Geometry
	Type: Line) [Source: AC 150/5340-1]
THRSH_BAR	Runway Threshold Bar (Geometry Type: Polygon) [Source: AC
	150/5340-1]
TIEDOWN	Aircraft tiedown
TWY_CL	Taxiway Centerline (Geometry Type: Line) [Source: AC
	150/5340-1]
TWY_EDGE	Taxiway edge marking (Geometry Type: Line) [Source: AC
	150/5340-1]
TWY_HOLD	Runway hold position markings on taxiways (Geometry Type:
	Polygon) [Source: AC 150/5340-1]
TWY_SHD	Taxiway shoulder marking (Geometry Type: Line) [Source: AC
	150/5340-1]
VEHICLE	Vehicle roadway markings (Geometry Type: Line) [Source: AC
	150/5340-1]

5.15.29.CodeMonumentType

Value	Description
1ST_ORDER_CLASS_I	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
1ST_ORDER_CLASS_II	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
2ND_ORDER_CLASS_I	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
2ND_ORDER_CLASS_II	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
3RD_ORDER_NO_TABLET	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
3RD_ORDER_WITH_TABLET	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [NGS]
A_Order	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [FGCS]
B_Order	Meets the standards and specifications for geodetic control
	network accuracy according to the Federal Geodetic
	Control Subcommittee [FGCS]
BM	Benchmark is a location whose elevation and horizontal
	position has been surveyed as accurately as possible.
	Benchmarks are designed for use as reference points, and
	are usually marked by small brass plates

Value	Description
FOUND_CLOSING_CORNER	A found corner is a corner whose original or restored
	monument or mark is recovered, or whose position is
	definitely established by one or more witness corners or
	monuments
FOUND_SECTION_CORNER	A found corner is a corner whose original or restored
	monument or mark is recovered, or whose position is
	definitely established by one or more witness corners or
	monuments
MEANDER_CORNER	A corner established where a township line, section line, or
	other survey intersects the bank of a navigable stream or
	other meanderable body of water [USGS, 1996, Part 5:
	Public Land Survey System]
SPOT	A point with a measured vertical position of less than third
	order accuracy, measured relative to a reference datum
	[USGS, 2001, Part 7: Hypsography]
UNMONUMENTED	Indicates that no permanent marker has been placed
WEAK_CORNER	Corners established by the USDA Forest Service that have
	been found but their location has not been tied to their true
	ground position [USGS, 2003]
WITNESS_CORNER	A monumented station on a line of the survey that is used to
	perpetuate an important location more or less remote from
	and without special relation to any regular corner [USGS,
	1996, Part 5: Public Land Survey System]

5.15.30.CodeNavaidEquipmentType

Value	Description	
ARSR	Air Route Surveillance Radar	
ASR	Airport Surveillance Radar	
DF	Direction Finding Equipment	
DME	Distance Measuring Equipment	
FM	Fan Marker	
FMH	Fan Marker located with a radio beacon	
GS CE	Glide Slope Capture Effect	
GS EF	Glide Slope End Fire	
GS NR	Glide Slope Null Reference	
GS SB	Glide Slope Side Band	
LOC	Localizer	
MLSAZ	Microwave Landing System Azimuth Antenna	
MLSDME	Microwave Landing System DME	
MLSEL	Microwave Landing System Elevation Antenna	
MSBLS-AZ	Microwave Scan Beam Landing System Azimuth	
MSBLS-DME	Microwave Scan Beam Landing System Distance Measuring	
	Equipment	
MSBLS-EL	Microwave Scan Beam Landing System Elevation	
MTI	Moving Target Indicator Reflector	
NDB/C	Nondirectional Radio Beacon Compass Locator	
NDB/H	Nondirectional Radio Beacon High Frequency	
NDB/M	Nondirectional Radio Beacons/Medium HF	

Value	Description	
NDB/U	Nondirectional Radio Beacons/Ultra HF	
PAR	Precision Approach Radar	
SDF	Simplified Direction Finding Equipment	
SECRA	Secondary Radar Antenna	
TACAN	Tactical Air Navigation	
TDR	Touchdown Reflector	
TLS-APGS	Transponder Landing System Approach Glideslope	
TLS-LOC	Transponder Landing System – Localizer	
VISUAL	Used to identify the navaid as a visual system	
VOR	VHF Omnidirectional Range	
VORTAC	VOR and collocated TACAN	
VOT	VOR Test Facility	

5.15.31.CodeNavaidSystemType

Value	Description
DF	Direction Finder
ILS	Instrument Landing System
MLS	Microwave Landing System
MSBLS	Microwave Scan Beam Landing System
NDB/C	Nondirectional Radio Beacon Compas Locator
NDB/H	Nondirectional Radio Beacon High Frequency
NDB/M	Nondirectional Radio Beacons/Medium HF
NDB/U	Nondirectional Radio Beacons/Ultra HF
PAR	Precision Approach Radar
TLS	Transponder Landing System

5.15.32.CodeObstacleSource

Value	Description
AD	Airport Design and Planning
AF	FAA Tech Ops Field Survey
AO	Airports Field Office
DD	Digital Terrain Elevation Data
DI	U.S. Department of Interior Maps
DM	USGS Digital Elevation Model
EO	Estimated by Airport Owner
F77	Part 77 Analysis
FI	Flight Inspection
NV	Non-Vertically Guided Airport Airspace Analysis
OF	Digital Obstacle File (FAA)
OR	Other Source not named
RS	Remote Sensed
SE	Spot Elevations
SR	Shuttle Radar Terrain Model
ST	State Coded
SV	Field Survey
TE	TERPS Analysis
VG	Vertically Guided Airport Airspace Analysis
WW	Worldwide DoD

5.15.33.CodeObstacleType

3.CodeObstacleType	
Value	Description
AERIAL CABLEWAY	
AERIAL CABLEWAY PYLON	
AGRICULTURE EQUIPMENT	Generic for any agricultural equipment
AIRCRAFT	Generic for a parked or moving aircraft
AMUSEMENT PARK STRUCTURE	
ANTENNA	
AQUEDUCT	
ARCH	
ATHLETIC FIELD	Generic for any type of athletic field or stadium
BILLBOARD	
BLAST FURNACE	
BLEACHERS	
BRIDGE SUPERSTRUCTURE	Generic for larger bridges such as cable stayed
	bridges etc.
BRIDGE TOWER	
BRIDGE/OVERPASS/VIADUCT	Generic for any type of bridge
BUILDING	Generic for any type of building
BUSH	Generic for bushes and other low growing vegetation
CABLE CAR/RAILWAY	
CATALYTIC CRACKER	An oil refinery unit in which the cracking of
	petroleum takes place in the presence of a catalyst
CATENARY	The curve formed by a perfectly flexible, uniformly
	dense, and inextensible cable suspended from its
	endpoints.
CHIMMNEY/SMOKESTACK	
CHURCH	Generic for houses of worship
COMMUNICATION BUILDING	
COMMUNICATION TOWER	
CONTROL TOWER	
CONVEYOR	
COOLING TOWER	A large tower or similar structure typically attached
COOLING TO WER	to a power plant through which water is circulated to
	lower its temperature by partial evaporation
CRANE	is not us temperature of partial evaporation
DAM	
DEBRIS/RUINS	
DIRT PILE	
DOME	
DREDGE/POWERSHOVEL /DRAG	
ELEVATOR	
FLAGPOLE	
FLARE PIPE	
FORTIFICATION OR FORT	
GRAIN BIN/SILO	
GRAIN ELEVATOR	
HOPPER	
HORIZONTAL POINT	Point of known horizontal position

Value	Description
INTERSTATE	Interstate highways with 17 foot vehicle allowance
	added to the features elevation
LAUNCHPAD	
LIGHT RAILWAY	Generic for people mover systems serving airports
LIGHT SUPPORT STRUCTURE	
LIGHT VESSEL/LIGHTSHIP	
LIGHTHOUSE	
MONUMENT	Generic for historical or cultural monuments
NATURAL HIGH POINT	Generic for high terrain features
NAVAID	Used when defined as an obstacle
NUCLEAR REACTOR	
OFF-SHORE PLATFORM	
PARKING LOT	
PLANT	Generic for manufacturing facilities
POLE	Generic for utility or light poles providing local
	service
POWER PLANT	
POWER TRANSMISSION LINE	Larger Tower high power Utility lines
POWER TRANSMISSION PYLON	Larger tower high power utility structures
PRIMARY ROAD	Non-Interstate roads with 15 foot vehicle allowance
	added to the features elevation
PROCESING/TREATMENT PLANT	
RAILROAD	Railroad track with 23 foot vehicle allowance added
	to the features elevation.
REFINERY	
RIG/SUPERSTRUCTURE	
ROAD SIGN	Interstate highway overhead signs
SCRUB	
SECONDARY ROAD	Local city, county state roads with 10 foot vehicle
	allowance added to the features elevation
SHIP	Ship underway
SHIP STORAGE	Ship manufacturing or storage facilities
SIGN	Generic for any type of sign other than interstate or
	street signs
SKI JUMP	
SKI LIFT	
SKI PYLON	
SKYSCRAPER	
SPIRE	
STACK	
STADIUM	
STEEPLE	
STORAGE DEPOT	
STREET SIGN	Signs used to control traffic or provide direction
	information other than interstate signs
SUBSTATION/TRANSFORMER	
TANK	Generic for other types of tanks
TELEPHONE LINE	
	ļ

Value	Description
TELEPHONE PYLON/POLE	
TETHERED BALLOON	
TOWER (NON-COMMUNICATON	
TOWERS)	
TRAFFIC LIGHT/SIGNAL	
TRAMWAY	
TREE	Generic for a single or small group of trees
TREE OUTLINE	Dense area of trees
UTILITY LINE	Generic for local utility service
VEGETATION	
VEHICLE	Generic for any type of vehicle
VERTICAL POINT	Point of known elevation
VERTICAL STRUCTURE	Generic for items not classified otherwise in this list
WALL	
WATER TOWER	Generic for water towers
WIND MOTOR	
WINDMILL	Single windmill
WINDMILL FARMS	Multiple Windmills located close together

5.15.34.CodeObstructionAreaType

Value	Description
AG_EQUIP	Agricultural equipment
BUILDING	
GROUND	
MOBILE_CRANE	
OTHER	
TREE	
URBAN	
VESSEL	

5.15.35.CodeOffsetDirection

Value	Description
CL	On centerline
L	Offset to the left
R	Offset to the right

5.15.36.CodeOisSurfaceCondition

Value	Description
PRIMARY	Identifies an obstructing area solely within a single surface.
SUPPLEMENTARY	Used to identify when an obstructing area covers more than a single OIS.

5.15.37.CodeOisSurfaceType

Value	Description
AAAA	Approach Surfaces
AAAC	Conical Surface
AAAH	Horizontal Surface

Value	Description
AAAP	Primary Surfaces
AAAT	Transitional Surfaces
AAAV	Vertical Guidance Protection Surface
APRC77	14 CFR Part 77 Approach Surfaces
CONL77	14 CFR Part 77 Conical Surface
DEPT	Departure Analysis
HORZ 77	14 CFR Part 77 Horizontal Surface
OEIA	One Engine Inoperative Analysis
PRIM77	14 CFR Part 77 Primary Surface
TERP	TERPS Surfaces
TRNS77	14 CFR Part 77 Transitional Surfaces

5.15.38.CodeOisZoneType

Value	Description
APPROACH	
CONICAL	
HORIZONTAL	
PRIMARY	
TRANSITION	

5.15.39.CodeOperationsType

Value	Description
CIVIL	Civil operations only
JOINT	Joint military and civil operations
MIL	Military operations only

5.15.40.CodeOwner

Value	Description
А	Air Force
В	Public
С	Coast Guard
Е	FAA F&E Projects
F	FAA (Other Than F&E)
Н	International Public
Ι	International
J	International Private
Κ	International Military
L	International (U.S. Aid Funds)
Ν	Navy
0	Other (Specify In Metadata)
Р	Private
R	Army
S	State
Х	Special

5.15.41.CodePointType

Value	Description
AIRPORT_ELEVATION	Indicates the point of highest elevation on the landing
	surface of the airport.
ARP	Point identified is computed as the Airport reference
	point for the airport
ASOS	Location of the Automated Surface Observing System
AWOS	Location of the Aviation Weather Observing System
CENTERLINE_POINT	A point collected along the runway centerline whose
	location is variable based on collection method etc.
	Typically this point is used for runway profile points.
DISPLACED_THRESHOLD	Point provides the location of the displaced threshold for a runway
HELIPAD_REFERENCE_POINT	The point defined as the HelipadReferencePoint
IMAGERY	Imagery Control Point
OTHER	
PACS	Point referenced is the airport's Primary Airport Control
	Station
RUNWAY_CONTROL_POINT	Point provides the location and elevation of a specific
	point on the runway such as the point abeam an offset
	navaid or the intersection point of two runways defined
	in this standard as required information.
SACS	Point referenced is the airport's Secondary Airport
	Control Station
SAWS	Location of the Stand Alone Weather System
SEGMENTED_CIRCLE	Location of the airport segmented circle
SPOT_ELEVATION	Spot Elevation Point
STOPWAY_END	Point provides the end point for the stopway
TDZE	Touchdown Zone Elevation (TDZE) - Indicates the
	highest point along the runway centerline within the first
	3000 feet from the threshold.
TEMPORARY_SURVEY_MARK	Temporary Survey Mark
VERTICAL_OBJECT	Point reference is a VerticalPointObject not classified by
	another feature but of possible significance
WIND_CONE	Location of the wind cone

5.15.42.CodeProjectStatus

Value	Description
IN_PROGRESS	In progress
PLAN_ON_FILE	Indicates a project that is part of a long term (11 + years) plan
PLANNED	Indicates a project that is a part of a short term (0 - 5 year) plan
PROPOSED	Indicates a project that is part of a midterm (6 - 10 year) plan

5.15.43.CodeRecoveredCondition

Value	Description
Disturbed but not	Surface mark destroyed (do not classify a mark as destroyed unless
missing	the actual disk is found and returned to the setting agency).
Good	Mark recovered in good condition
Other	

Value	Description
Poor	Mark recovered in poor condition and should be considered for
	replacement
Set now (for a first time	
description)	To identify a condition not available in the list.
Surface mark destroyed	Underground mark destroyed (do not classify a mark as destroyed
	unless the actual disk is found and returned to the setting agency).
Underground mark	
destroyed	Newly established mark

5.15.44.CodeRouteType

Value	Description
ALLEY	Hard-surface or loose-surface narrow street or passageway primarily found between or behind buildings
CITY	City or subdivision streets
COUNTY	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. These roads are under the jurisdiction and maintained by county authorities
FIFTHCLASS	Fifth Class Unimproved roads passable only with 4-wheel-drive vehicles [USGS, 2001, Part 3: Transportation]
FIRSTCLASS	
FOURTHCLASS	Unimproved roads which are generally passable only in fair weather and used mostly for local traffic. Also included are driveways, regardless of construction [USGS, 2001, Part 3: Transportation]
INTERSTATE	First Class - Hard-surface highways including Interstate and U.S. numbered highways (including alternates), primary State routes, and all controlled access highways [USGS, 2001, Part 3: Transportation]
JEEPTRAIL	Unimproved roads passable only with 4-wheel-drive vehicles
LOCAL	Local jurisdiction roads
NATIONAL	First Class - Hard-surface highways including Interstate and U.S. numbered highways (including alternates), primary State routes, and all controlled access highways [USGS, 2001, Part 3: Transportation]. E.g. U.S. 66
OTHER	Other class of road
SECONDCLASS	Second Class Hard-surface highways including secondary State routes, primary county routes, and other highways that connect principal cities and towns, and link these places with primary highway system [USGS, 2001, Part 3: Transportation]
STATE	Hard-surface State routes under the control and jurisdiction of State authorities
THIRDCLASS	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 [USGS, 2001, Part 3: Transportation]
TRAIL	Unimproved roads passable only with 4-wheel-drive vehicles, snowmobiles, motocross bikes, and so forth

Value	Description
CWY	Clearway
ILS	ILS protection area. Protects ILS signal distortion by forbidding large objects in
	the area.
LIGHT	Light Plane Surface
OTHER	Other
SNOW	Area protected from snow accumulation
STOPWAY	A defined rectangular area on the ground at the end of take-off run available
	prepared as a suitable area in which an aircraft can be stopped in the case of an
	abandoned take-off.
VGSI	Visual Glide Slope Indicator (VGSI) protection area. Protects VGSI signal
	coverage by forbidding objects in the area.

5.15.45.CodeRunwayProtectionAreaType

5.15.46.CodeSamplePointLocation

Value	Description
AS	Air sample
BH	Borehole
BIO	Biological sample
GWS	Ground water sample
OTHER	Other
SEDS	Sediment sample
SOIL	Soil sample
SOLM	Solid material sample
SURF	Surface water sample
WAS	Waste water sample
WL	Well

5.15.47.CodeSegmentType

Value	Description	
BEGIN	Beginning section of the segment	
CONNECTING	Intermediate segments connecting beginning and ending, beginning and	
	intersection, or intersection and end.	
END	Ending section of the segment	
INTERSECTION	Defined intersection of multiple segments	

5.15.48.CodeShorelineType

Value	Description	
APPARENT	Apparent edge of vegetation. Representation of the vegetative	
	border is considered approximate because this line cannot be	
	accurately identified on the ground, due to intricate growth patterns	
	and change over time	
INDEFINITE	Conditions prevent the feature from being confidently positioned.	
	Horizontal data are confidently positioned within 0.02", at map	
	scale, of the true ground position. Vertical data are confidently	
	positioned within one-half contour interval of true ground position	
MEAN_HIGH_LEVEL	The average limit of dry land during periods of highest water level	
	(for example, high tide	
MEAN_LOW_LEVEL	The average limit of dry land during periods of lowest water level	
	(for example, low tide	

Value	Description
MEAN_SEA_LEVEL	The arithmetic mean of hourly heights observed over some specified
	time

5.15.49.CodeShoulderType

Value	Description
0	Other airfield pavement with a shoulder
R	Runway
Т	Taxiway

5.15.50.CodeSignTypeCode

Value	Description
CARGO	Inbound Destination Sign - areas set aside
	for cargo handling
FBO	Inbound Destination Sign - fixed base
	operator
FUEL	Inbound Destination Sign - areas where
	aircraft are fueled or serviced
HOLD_INSTRUMENT_LANDING_SYSTEM	Holding Position Sign for ILS Critical Areas
HOLD_RUNWAY_APPROACH	Holding Position Sign for Runway Approach
	Areas
HOLD_RUNWAY_INTERSECTION	Holding Position Sign for Runway/Runway
	Intersections
INFO	Signs installed on the airside of an airport,
	other than taxiway guidance signs or runway
	distance remaining signs.
MIL	Inbound Destination Sign - areas set aside
	for military aircraft
NO_ENTRY	No Entry Sign
OUTBOUND_DESTINATION	Outbound Destination Sign
PAX	Inbound Destination Sign - areas set aside
	for passenger handling
ROAD_STOP	Stop sign in areas where vehicle roadways
	intersect runways or taxiways
ROAD_YIELD	Yield sign in areas where vehicle roadways
	intersect runways or taxiways
RSA_RUNWAY_APPROACH	Runway Safety Area/OFZ and Runway
	Approach Boundary Sign
RUNWAY_DISTANCE_REMAINING	Sign that designates the remaining runway
	distance to pilots during takeoff and landing
	operations
RUNWAY_EXIT	Runway Exit Sign
RUNWAY_LOCATION	Runway Location Sign
TAXIWAY_DIRECTION	Taxiway Direction Sign
TAXIWAY_END	Taxiway Ending Marker
TAXIWAY_LOCATION	Taxiway Location Sign
TERMINAL	Inbound Destination Sign - gate positions at
	which aircraft are loaded and unloaded

5.15.51.CodeStatus

Value	Description
ABANDONED	Abandoned
ACTIVE	Active surface
AIRSPACED	A favorable airspace determination has been issued
AS_BUILT	
BROKEN	Broken or rough surface
CLOSED	Closed surface
CONDEMNED	
DEMOLISHED	
ENV_CLEARED	All required environmental actions and documentation described in FAAO 5050.4 "National Environmental Policy Act (NEPA) have been satisfied
FAILED_AID	Failure or irregular operation of visual aides
INACTIVE	
LIMITED	Limited operations]
LONG_TERM	Indicates the feature is part of a long term (11 + years) plan
MEDIUM_TERM	Indicates the feature is part of a midterm (6 - 10 year) plan
NON_OPERATIONAL	Non-operational
OCCUPIED	
OPERATIONAL	Operational (fully)
OTHER	
PARKED	Parked or disabled aircraft
PERMANENT	
PORTABLE	
RELEASED	Used to track land released by the airport
S_POWER	Secondary power supply in operation
SEMI_PERMANENT	
SHORT_TERM	Indicates the feature is part of a short term (0 - 5 year) plan
TBD	To be determined
TEMPORARY	
TERMINATED	Terminated no longer used
UNDER_CONSTRUCTION	Planned or under construction
UNKNOWN	
UNOCCUPIED	
WORK_IN_PROGRESS	Construction or work in progress

5.15.52.CodeStructureType

Value	Description
APARTMENT	Apartment building
APM_STATION	Automated People Mover station
APM_TRACK	Automated People Mover tracks
ARENA	Sports Arena or facility
ARFF_STATION	Aircraft Rescue and Firefighting station
ATC_FACILITY	Combined or Single (other than the airport control tower)
	Air Traffic Control Facility
ATC_TOWER	Air Traffic Control Tower
BANK	Bank
BARN	barn

Value	Description	
CAPITOL	Capitol	
CHURCH	church/temple	
CITY HALL	City Hall	
COMMUNITY_CENTER	Community Center	
CONCERT HALL	Concert Hall	
CONDO	condominium	
COURT HOUSE	Court House	
DRY_STORAGE_DOCK	Dry Storage Dock	
DUPLEX	house, duplex	
DWELLING	dwelling	
EARTHWORKS	Earthworks	
FBO	Fixed Base operator	
GARAGE	A structure used for the maintenance, storage, and display of	
0.110.22	motor vehicles	
GRAIN_ELEVATOR	Grain Elevator	
HANGAR	A structure used for the maintenance, storage, and display of	
	aircraft	
HIGHRISE	A multi-story structure with at least 12 floors or 35 meters	
	(115 feet) in height	
HOSPITAL	Hospital	
HOUSE	house, single family	
JAIL_OR_PRISON	Jail or Prison	
MEDICAL_CENTER	Medical Center	
MEMORIAL	Memorial	
MOBILE HOME	Mobile home or trailer	
MUSEUM	Museum.	
OFFICE	office building	
OFFSHORE PLATFORM	Offshore Platform	
OTHER	Other	
PARKING_GARAGE	Parking garage or facility	
POLICE	Police Station	
POST_OFFICE	Post Office	
POWER PLANT	A facility used in the production and distribution of	
	electrical power	
PUBLIC_TRANSPORTATION		
RADIO FACILITY	Radio Facility	
RAILROAD_STATION	Railroad Station	
RAIN_SHED	Rain Shed	
RENTAL_FACILITY	Rental Car facility	
SCHOOL	Any building or structure whose primary purpose is	
	education	
SECURITY	Security Office	
SKYSCRAPER	Office or housing where the building clearly stands out	
	above its surrounding built environment and significantly	
	changes the overall skyline of that particular city	
SNOW_SHED	A structure used for the storage, maintenance of Snow	
_	removal equipment	
STORAGE_FACILTIY	A structure used for any type of storage	

Value	Description	
TBD	to be determined	
TERMINAL	Airport Terminal building	
THEATER	Theater (any type)	
TOWER	Tower	
TOWN_HALL	Town Hall	
TOWNHOUSE	townhouse	
WATER_TANK	Water Tank	

5.15.53.CodeSurfaceCondition

Value	Description
FAIR	Fair condition
GOOD	Good condition
POOR	Poor condition
UNSAFE	Surface is deemed unsafe for operations
OTHER	

5.15.54.CodeSurfaceMaterial

Value	Description
AG	Asphalt grooved
Ags	Asphalt and turf
ANG	Asphalt ungrooved
BE	Bare earth
CA	Concrete and asphalt
CG	Concrete grooved
CGS	Concrete and turf
CNG	Concrete ungrooved
DS	Desert/Sand
DT	Dirt
EMAS	Engineered Material Arresting System
FW	Fresh Water
GR	Gravel
GS	Turf
SI	Snow/Ice
SW	Salt Water
W	Water

5.15.55.CodeSurfaceType

Value	Description
Р	Specially prepared hard surface—Paved
S	Specially prepared hard surface—Unpaved
U	Not a specially prepared hard surface

5.15.56.CodeTaxiwayType

Value	Description
AIR_TAXIWAY	Air taxiway
AIR_TLANE	Air taxilane
APRON	Apron taxiway
BYPASS	Bypass holding bay

Value	Description
CROSS_OVER	Crossover taxiway
EAT	End Around Taxiway
ENTER_EXIT_TAXIWAY	Entrance and Exit taxiway
EXIT	Exit/turnoff taxiway
FASTEXIT	Rapid exit/turnoff taxiway
GATE_TLANE	Gate/stand taxilane
GND	Ground taxiway
HOLDING	Holding bay
INLINE	Inline taxiway
OTHER	Those not listed here
PARALLEL	Parallel taxiway
STUB	Stub taxiway
TLANE	Taxilane
TURN_AROUND	Turn around taxiway

5.15.57.CodeThresholdType

Value	Description	
Displaced	An indication that the landing threshold is located at a point other than the runway	
	end	
Normal	An indication that the landing threshold corresponds to the end of the runway	

5.15.58.CodeUseCode

Value	Description
С	Compass Locator
Н	High Altitude for VOR/VORTAC/TACAN; All Altitudes for NDB at 50–90 watts
HH	All Altitudes for NDB; 2000 watts or more
L	Low Altitude
MH	All Altitudes for NDB; Under 50 watts
Т	Terminal

5.15.59.CodeUtilityType

Value	Description
COMMUNICATION_SYSTEM	Telephone, telegraph, cable, video and voice
	transmission lines
COMPRESSED_AIR_SYSTEM	The components of a compressed air system.
CONTROL_MONITORING_SYSTEM	The components of an electronic monitoring and
	control system (EMCS) including cables, devices,
	etc.
ELECTRICAL_EXT_LIGHT	The components of an electrical exterior lighting
	system including cables, switches, devices,
	transformers, etc. Does not include airfield,
	NAVAID or approach lighting.
ELECTRICAL_SYSTEM	The components of an electrical distribution system
	including cables, switches, devices, motors,
	transformers, etc.
FUEL_SYSTEM	The components of a fuel distribution system
	consisting of pipes, fittings, fixtures, pumps, tanks,
	etc.

Value	Description	
GENERAL_UTILITY	The components of utility system which are	
	universal in use and purpose and do not belong to a	
	specific utility.	
HEAT_COOL_SYSTEM	The components of a heating and cooling	
	distribution system consisting of pipes, fittings,	
	fixtures, etc.	
INDUSTRIAL_SYSTEM	The components of an industrial waste collection	
	system including pipes, fittings, fixtures, tanks,	
	lagoons, etc.	
NATURAL_GAS_SYSTEM	The components of a natural gas distribution system	
	consisting of pipes, fittings, fixtures, etc.	
NUCLEAR_REACTOR	The components of a nuclear system such as nuclear	
	fuel, Nuclear research, nuclear waste, and nuclear	
	weapons.	
POWER_SYSTEM	Power transmission lines	
SALTWATER_SYSTEM	The components of a salt water collection system.	
STORM_SYSTEM	The components of a storm drainage collection	
	system including pipes, fittings, fixtures, etc.	
TRANSMISSION_LINE	Objects related to the long distance transmission of	
	gas, oil, or hazardous liquid.	
WASTEWATER_SYSTEM	The components of a wastewater collection system	
	including pipes, fittings, fixtures, treatment plants,	
	collection locations, etc.	
WATER_SYSTEM	The components of a water system including pipes,	
	fittings, fixtures, treatment plants, etc.	

5.15.60.CodeVerticalStructureMaterial

Value	Description
COMPOSITION	Composition
CONCRETE	Concrete
METAL	Metal
ROCK	Rock
STONE_BRICK	Stone/brick
WOOD	Wood

5.15.61.CodeZoneType

Value	Description
5_YEAR	Areas subject to 5 year flooding.
10_YEAR	Areas subject to 10 year flooding.
15_YEAR	Areas subject to 15 year flooding.
25_YEAR	Areas subject to 25 year flooding.
50_YEAR	Areas subject to 50 year flooding.
100_YEAR	Areas subject to 100 year flooding.
500_YEAR	Areas subject to 500 year flooding.
GENERAL	Areas prone to flooding in general.
PROJECTED	Areas expected to be subject to flooding in the future.
OTHER	Other

2. Courtoning Class	
Value	Description
COMMERCIAL	Areas which are zoned for merchandising, shopping, or other commercial
	development. (Source SDSFIE)
INDUSTRIAL	Areas which are zoned for factory, manufacturing, or other industrial
	development. (Source SDSFIE)
QUASI_PUBLIC	Areas which are zoned public although under private ownership or control.
	(Source SDSFIE)
RESIDENTIAL	Areas which are zoned for housing or residential development. (Source
	SDSFIE)
OTHER	Other Zoning

5.15.62.CodeZoningClass

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