Exchange File Format

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1. Exchange File Overview

The Exchange File Format is a users guide for preparing and submitting data for storage in the National Geodetic Survey Obstruction Chart Database (OCDB). It provides in detail the format and structure of every field allowable by the OCDB. Also included are dependencies, field widths, record order requirements and field choice lists.

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2. Record Format

The following sections describe all the possible records found in an Exchange File. These sections are broken down by record and then by field. Each field is further broken down by: description, position, range, format, and example. All records have the same basic structure. All records contain at most 112 characters. They consist of a variable number of fields. Each field has a corresponding existence code. The existence flags and their positions are defined in Appendix A. The field format contains a special symbol defined below.

A	Alphabetic capital or lowercase characters only (A-Z)
9	Numeric and sign only (0-9, +, -, .)
X	Alphanumeric, sign and decimal point

Note: All numeric values are in feet unless otherwise specified.

2.1 Identification Code

Each record begins with a four character identification code. This code is broken down into two parts, the single alpha character General Data Category and the three digit numeric General Data Record Type.

2.1.1 General Data Category

The first character in column 1 is the general data category. All records for a given data category must be provided before the next category begins. There are four valid data category codes:

A	Airport Data
R	Runway Data
F	Feature Data
C	Chart Information

Explanations of these categories will be given in further detail under the appropriate section for each category.

2.1.2 General Data Record Type

Characters 2-4 represent an integer value representing the data record for each category. If the first digit is a 3 through 9, the record is a standard series record. Otherwise it is a special format record. The following list contains the integer value range and the corresponding contents of the record:

000-299	Various Contents
300	Reference System Definition Codes
400	3D Positions With Date And Source
500	Distance And Elevation With Date And Source
600	Length And Width With Date And Source
700	2D Positions Without Date And Source
800	Value (Distance, Width, etc.) With Date And Source
900	Orthometric and Ellipsoidal Elevation With Date And Source

These data records are broken down into specific fields in sections 2.1.2.1 through 2.1.2.8.

2.1.2.1 Various Contents (000-299)

2.1.2.2 Reference System Definition Codes (300)

Field 1: **Reference System Code**
Description: Reference system in which the positions are expressed
Position: Columns 5-9
Range: None, value is always 0 (zero)
Format: 99999
Example: 0

Field 2: **Zone Code**
Description: Zone for the reference system
Position: Columns 10-14
Range: None, value is always 0 (zero)
Format: 99999
Example: 0

Field 3: **Horizontal Unit Code**
Description: Units in which positions are expressed.
Position: Columns 15-19
Range: Currently only:
5 DMS (degrees, minutes, seconds)
Note: Additional codes will be added in the future only if modifications to the OC Database allow for positions in units other than DMS.
Format: 99999
Example: 5

Field 4: **Horizontal Datum Code**
Description: Year of datum in which positions are expressed
Position: Columns 20-24
Range: Year of Datum, 27 or 83
Format: 99999
Example: 27

Field 5: **Vertical Unit Code**
Description: Units in which elevations and distances are expressed
Position: Columns 25-29
Range: Currently only:
1 feet
Note: Additional unit codes will be added at some point in the future only if modifications to the OC Database allow for elevations and distances in units other than feet
Format: 99999
Example: 1

Field 6: **Vertical Datum Code**
Description: Year of datum in which elevations are expressed
Position: Columns 30-34
Range: Year of Datum, 29 or 88
Format: 99999
Example: 29

2.1.2.3 3D Positions (400)

Field 1: **Longitude**

Description: Longitude where sign represents hemisphere
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Example: -1235832.1281

Field 2: **Latitude**

Description: Latitude where sign represents hemisphere
Position: Columns 20-34
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

Field 3: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 4: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 5: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 6: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 7: **Source Code, Position**

Description: Specifies the source of position
Position: Column 90
Range: F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

Field 8: **Source Code, Elevation**

Description: Specifies the source of elevation
Position: Column 92
Range: F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

2.1.2.4 Distance and Elevation (500)

Field 1: **Distance**

Description: Distance (real) from an endpoint
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 72149.968

Field 2: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 12138.325

Field 3: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 9999999999.9999
Example: 14325.424

Field 4: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Source Code, Distance**

Description: Specifies the source of distance
Position: Column 90
Range:

- F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: D

Field 7: **Source Code, Elevation**

Description: Specifies the source of elevation
Position: Column 92
Range:

- F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

2.1.2.5 Length and Width (600)

Field 1: **Distance**
Description: Distance (real) from runway endpoint
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 1244.945

Field 2: **Width**
Description: Width (real) of runway
Position: Columns 20-34
Range: None
Format: 99999999999.999
Example: 324.376

Field 3: **Determined Date**
Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 4: **Verified Date**
Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 5: **Source Code, Distance**
Description: Specifies the source of distance
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

Field 6: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.1.2.6 2D Positions (700)

Field 1: **Longitude**

Description: Longitude where sign represents hemisphere
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1751119.1281

Field 2: **Latitude**

Description: Latitude where sign represents hemisphere
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

2.1.2.7 Value (Distance, Width, etc.) (800)

Field 1: **Value (Distance, etc.)**

Description: Distance, width or other miscellaneous real value
Position: Columns 5-19
Range: None
Format: 9999999999.9999
Example: 1231.4433

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 3: **Source Code, Value**

Description: Specifies the source of value
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.1.2.8 Orthometric and Ellipsoidal Elevation (900)

Field 1: **Elevation, Orthometric**
Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 13245.786

Field 2: **Elevation, Ellipsoidal**
Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 14456.556

Field 3: **Verified Date**
Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 4: **Source Code, Elevation**
Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: D

2.2 Specific Data Records

These records are specific to the three general data categories: Airport, Runway, and Feature. The first character represents which general category the record falls under. A - Airport, R - Runway, and F - Feature. Like the General Data Record Type, characters 2-4 represent an integer value representing the data record for each category. If the second character is a 3 through 9, the record is a standard series record.

2.2.1 Airport Specific Records

The following records contain information about the airport.

2.2.1.1 Airport Identification (A000)

Note: This is the only record which is absolutely required for the exchange file.

Field 1: **OC Number**
Description: National Geodetic Survey tracking number
Position: Columns 5-10
Range: 1 to 99999
Format: 999999
Example: 4367
Dependancy: This record or the Airport ID is required

Field 2: **OC Edition**
Description: Most current
Position: Columns 11-16
Range: 1 to 99999
Format: 999999
Example: 6

Field 3: **Airport ID**
Description: Airport Identifier (refer to FAA ORDER 7350.**, AS AMENDED)
Position: Columns 18-21
Range: None
Format: AAAA
Example: TWS
Dependancy: This record or the OC Number is required

Field 4: **Site ID**
Description: FAA Identification number
Position: Columns 23-32
Range: None
Format: XXXXXXXXXX
Example: 045O8.A

Field 5: **Previous Airport ID**
Description: The previous Airport Identifier (if applicable)
Position: Columns 34-37
Range: None
Format: AAAA
Example: CNW

2.2.1.2 Airport Name (A010)

Field 1: **Name**

Description: Name of Airport on Survey Date
Position: Columns 6-75
Range: None
Format: (70)A
Example: Baltimore Washington International Airport

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Example: 18-DEC-1996

2.2.1.3 Airport Jurisdiction (A020)

Field 1: **City**

Description: Associated City
Position: Columns 6-45
Range: None
Format: (40)A
Example: BALTIMORE

Field 2: **State**

Description: Name or 2 character abbreviation of state in which airport is located
Position: Columns 47-66
Range: Valid state name as defined in "Input Formats and Specifications of the National Geodetic Survey"
Format: (20)A
Example: MD

2.2.1.4 Airport Magnetic Declination (A030)

Field 1: **Magnetic Declination**

Description: East Declination is indicated by negative
Position: Columns 5-12
Range: -180.0 to +180.0
Format: 999999.9
Example: -100.0

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 14-24
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

2.2.1.5 Airport Status (A040)

Field 1: **Vessel Code**

Description: Specifies existence of possible obstructing vessel OIS surfaces (refer FAA NO. 405)
Position: Column 6
Range: Y or N - Y, vessel note present, N, no vessel note present
Format: A
Example: Y

Field 2: **Vessel Code Verified Date**

Description: Most recent Survey Date that Vessel Code was verified
Position: Columns 8-18
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 3: **Survey Date**

Description: Date the field Survey was concluded
Position: Columns 20-30
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 4: **Published Date**

Description: Publication date of Airport Obstruction Chart
Position: Columns 32-42
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Date of ALP**

Description: Date of original ARP position
Position: Columns 44-54
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Date of ARP**

Description: Most recent runway end Survey Date used in the ARP computation
Position: Columns 56-66
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 7: **Airport Mode**

Description: Designates the functionality of the airport in relation to the production of various reports
Position: Columns 68-71
Range:
- 0 Open
- 1 Closed
- 3 Testing
- 5 No Obstructions
- 7 Discontinued

Format: 9
Example: 1

Field 8: **Airport Survey Type**

Description: Specifies the type of survey conducted for the airport
Position: Columns 73-76
Range:
- 1 AOC (FAR-77) - a conventional AOC (FAR 77) survey
- 2 ANA - an ANA survey
- 3 AOC & ANA - a complete survey for AOC and ANA

Format: 9 (right justified)
Example: 1

2.2.1.6 Datum Tie (A050)

Field 1: **Horizontal Datum Tie Code**

Description: Specifies the accuracy of the Horizontal Datum Tie relative to the National Spatial Reference System (NSRS)
Position: Columns 6-7
Range: See Appendix A
Format: AA
Example: B

Field 2: **Ellipsoidal Datum Tie Code**

Description: Specifies the accuracy of the Ellipsoidal Datum Tie relative to the National Spatial Reference System (NSRS)
Position: Columns 9-10
Range: See Appendix A
Format: AA
Example: B

Field 3: **Orthometric Datum Tie Code**

Description: Specifies the accuracy of the Orthometric Datum Tie relative to the National Spatial Reference System (NSRS)
Position: Columns 12-13
Range: See Appendix A
Format: AA
Example: D

Field 4: **Date of Horizontal Datum Tie**

Description: Most recent Survey Date the Horizontal Datum Tie was verified
Position: Columns 15-25
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Date of Ellipsoidal Datum Tie**

Description: Most recent Survey Date the Ellipsoidal Datum Tie was verified
Position: Columns 27-37
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Date of Orthometric Datum Tie**

Description: Most recent Survey Date the Orthometric Datum Tie was verified
Position: Columns 39-49
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

2.2.1.7 Airport Elevation (A060)

Field 1: **Airport Elevation, Orthometric**
Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 213.887

Field 2: **Geoid Height (at ALP)**
Description: The difference between the Ellipsoid and Orthometric elevation at the approximate center of the runway. Intended for output to assist in field surveys. Ignored upon input.
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 134.578

2.2.1.8 Reported Elements Record (A070)

Field 1: **Runways Reported Flag**
Description: Denotes whether or not the runway is to be reported, and if so, if it has been reported
Position: Column 6
Range: 2 runways are not to be reported
1 runways are to be reported
3 runways have been reported
Format: 9
Example: 2

Field 2: **Navaids Reported Flag**
Description: Denotes whether or not the runway is to be reported, and if so, if it has been reported
Position: Column 8
Range: 2 runways are not to be reported
1 runways are to be reported
3 runways have been reported
Format: 9
Example: 2

Field 3: **ASOS Reported Flag**
Description: Denotes whether or not the runway is to be reported, and if so, if it has been reported
Position: Column 10
Range: 2 runways are not to be reported
1 runways are to be reported
3 runways have been reported
Format: 9
Example: 2

Field 4: **Obstructions Reported Flag**

Description: Denotes whether or not the runway is to be reported, and if so, if it has been reported
Position: Column 10
Range: 2 runways are not to be reported
1 runways are to be reported
3 runways have been reported
Format: 9
Example: 2

Field 5: **Additional Flag**

Description: Units in which positions are expressed
Position: Column 14
Range: Reserved for future use
Format: NA
Example: NA

Field 6: **Additional Flag - Reserved for future use**

Description: Year of datum in which positions are expressed
Position: Column 16
Range: Reserved for future use
Format: NA
Example: NA

Field 7: **Additional Flag - Reserved for future use**

Description: Units in which elevations are expressed
Position: Column 18
Range: Reserved for future use
Format: NA
Example: NA

Field 8: **Additional Flag - Reserved for future use**

Description: Year of datum in which elevations are expressed
Position: Column 20
Range: Reserved for future use
Format: NA
Example: NA

2.2.1.9 Airport Reference System (A310)

Field 1: **Reference System Code**

Description: Reference system in which positions are expressed
Position: Columns 5-9
Range: None, value is always 0 (zero)
Format: 99999
Example: 0

Field 2: **Zone Code**

Description: Zone for the reference system
Position: Columns 10-14
Range: None, value is always 0
Format: 99999

Example: 0

Field 3: **Horizontal Unit Code**

Description: Units in which positions are expressed
Position: Columns 15-19
Range: None, value is always 5
Format: 99999
Example: 5

Field 4: **Horizontal Datum Code**

Description: Year of datum in which positions are expressed
Position: Columns 20-24
Range: Year of Datum, 27 or 83
Format: 99999
Example: 27

Field 5: **Vertical Unit Code**

Description: Units in which elevations are expressed
Position: Columns 25-29
Range: None, value is always 1
Format: 99999
Example: 1

Field 6: **Vertical Datum Code**

Description: Year of datum in which elevations are expressed
Position: Columns 30-34
Range: Year of Datum:

29	NGVD 29
88	NAVD 88
9001	Mean Sea Level

Format: 99999
Example: 29

2.2.1.10 Airport Location Point (A710)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1751119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

2.2.1.11 Air Traffic Control Tower (A910)

Field 1: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 13434.977

Field 2: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 123.333

Field 3: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Example: 18-DEC-1996

Field 4: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2 Runway Specific Records

The following records contain information about a specific runway at the airport. Note that each record following the R000 record refers to that specific R000 record. If no R000 record is present, all runway records are invalid. Also any runway records preceding the R000 record are invalid. When the fourth character of the identification code is designated by an asterisk '*' the valid values specify the end of the runway. The low numbered end of the runway is designated by a one '1' and the high numbered end of the runway is designated by a two '2'.

2.2.2.1 Runway Identification (R000)

Field 1: **Low End Identification Number**

Description: Identifies the low end of the runway, measured from 10 degrees to 180 degrees. Note that the 0 is dropped from the degree reading.
Position: Columns 6-8
Range: 1-18 followed by:
blank - only runway with this azimuth
L - left runway
R - right runway
C - center runway
Format: 99A
Example: 16R

Field 2: **High End Identification Number**

Description: Identifies the high end of the runway, measured from 190 degrees to 360 degrees. Note that the 0 is dropped from the degree reading.
Position: Columns 9-11
Range: 19-36 followed by:
blank - only runway with this azimuth
L - left runway
R - right runway
C - center runway
Format: 99A
Example: 34L

2.2.2.2 Runway Width (R810)

Field 1: **Width**

Description: Width (real) of runway
Position: Columns 5-19
Range: None
Format: 9999999999.9999
Example: 156.4565

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 3: **Source Code, Value**

Description: Specifies the source of value
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2.3 Runway Type (R010)

Field 1: **Runway Type (Surface) Code**

Description: Material used in finish of runway
Position: Column 6
Range: P - Paved
S - Specially prepared, unpaved
U - Unpaved (not a specially prepared hard surface)
Format: A
Example: P

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 8-18
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

2.2.2.4 Runway Flags (R02*)

Field 1: **Primary Condition**
Description: Primary Obstruction Identification Surface (OIS) (refer to FAA NO. 405)
Position: Columns 6-8
Range: NUL
PIR
ANP
C
D
AV
BV
Format: AAA
Example: ANP

Field 2: **Supplementary Condition**
Description: Secondary Obstruction Identification Surface (OIS) (refer to FAA NO. 405)
Position: Columns 10-12
Range: NUL
SUP
Format: AAA
Example: SUP

Field 3: **Runway Vessel Code**
Description: Specifies the existence of possible obstructing vessel OIS surfaces (refer to FAA NO. 405)
Position: Columns 14
Range: - - None
A - Approach
D - Departure
B - Both
Format: A
Example: D

Field 4: **Runway Vessel Verified Date**

Description: Most recent Survey Date the Runway Vessel Code was verified
Position: Columns 16-26
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **ANA Flag Code**

Description: Specifies whether or not a runway end has an ANA approach and, if so, the type of ANA approach
Position: Column 28
Range: 0 - Not an ANA approach
1 - ANA category I approach
3 - ANA category II/III approach
Format: 9
Example: 1

Field 6: **EOD Flag Code**

Description: Specifies whether or not a runway end has an EOD approach
Position: Column 30
Range: 0 - Not an EOD approach
1 - EOD approach
Format: 9
Example: 1

Field 7: **AOC (FAR77) Flag Code**

Description: Specifies whether or not a runway end has an AOC (FAR77) approach
Position: Column 32
Range: 0 - Not an AOC (FAR77) approach
1 - AOC (FAR77) approach
Format: 9
Example: 1

Field 8: **Profile Method Flag Code**

Description: Specifies the method used to collect runway profile information
Position: Columns 34
Range: 0 - Conventional profiling
1 - Kinematic GPS profiling
Format: 9
Example: 1

2.2.2.5 Runway End Position (R40*)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1751119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

Field 3: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 4: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 5: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 6: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 7: **Source Code, Horizontal Position**

Description: Specifies the source of Horizontal Position
Position: Column 90
Range: F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: F

Field 8: **Source Code, Vertical Position**

Description: Specifies the source of Vertical Elevation
Position: Column 92
Range: F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: F

2.2.2.6 Displaced Threshold - by position (R41*)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
- -180 < DD < +180
- 0 <= MM <= 59
- 0 <= SS <= 59

Example: -761119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
- -90 < DD < +90
- 0 <= MM <= 59
- 0 <= SS <= 59

Example: 245328.7315

Field 3: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 4: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 5: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where

dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Example: 18-DEC-1996

Field 7: **Source Code, Horizontal Position**

Description: Specifies the source of Horizontal Position
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: F

Field 8: **Source Code, Vertical Position**

Description: Specifies the source of Vertical Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: F

2.2.2.7 Displaced Threshold - by distance (R51*)

Field 1: **Distance**

Description: Distance (real) from endpoint
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 133.324

Field 2: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 3: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 356.765

Field 4: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Source Code, Distance**

Description: Specifies the source of distance
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

Field 7: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2.8 Stopway - by position (R72*)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1751119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

2.2.2.9 Stopway - by length (R62*)

Field 1: **Distance**

Description: Distance (real) from endpoint
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 455.331

Field 2: **Width**

Description: Width (real) of runway
Position: Columns 20-34
Range: None
Format: 99999999999.999
Example: 74.332

Field 3: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 4: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Source Code, Distance**

Description: Specifies the source of Distance
Position: Column 90
Range:
- F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

Field 6: **Source Code, Width**

Description: Specifies the source of Width
Position: Column 92
Range:
- F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

2.2.2.10 Blastpad - by position (R73*)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1751119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

2.2.2.11 Blastpad - by distance (R63*)

Field 1: **Distance**

Description: Distance (real) from end of runway
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 455.331

Field 2: **Width**

Description: Width (real) of runway
Position: Columns 20-34
Range: None
Format: 99999999999.999
Example: 74.332

Field 3: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 4: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 5: **Source Code, Distance**

Description: Specifies the source of Distance
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

Field 6: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2.12 Distance To Boundary - by position (R74*)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1761119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

2.2.2.13 Distance To Boundary - by distance (R84*)

Field 1: **Value (Distance, etc.)**

Description: Distance (real) to boundary from endpoint
Position: Columns 5-19
Range: None
Format: 9999999999.9999
Example: 325.3443

Field 2: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Example: 18-DEC-1996

Field 3: **Source Code, Value**

Description: Specifies the source of value
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2.14 TDZE - output only (R92*)

2.2.2.15 Profile Point Status (R090)

Field 1: **Runway Identification Number From Which Distance Is Measured**

Description: Runway azimuth varies from 10 to 360 degrees. Note that the trailing zero (0) is dropped from the identification number
Position: Columns 6-8
Range: 1-36 followed by:
blank - only runway with this azimuth
L - left runway
R - right runway
C - center runway
Note: Must match field 1 or field 2 of R000 record
Format: 99A
Example: 18

Field 2: **Profile Point Type Code**

Description: Software generated type code (can be left blank)
Position: Column 10
Range: Software Generated (can be left blank)
Format: A
Example: X

2.2.2.16 Profile Point - by position (R490)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1761119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

Field 3: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 4: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 5: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 6: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 7: **Source Code, Horizontal Position**

Description: Specifies the source of Horizontal Position
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

Field 8: **Source Code, Vertical Position**

Description: Specifies the source of Vertical Position
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.2.17 Profile Point - by distance (R590)

Field 1: **Distance**

Description: Distance (real) from endpoint
Position: Columns 5-19
Range: None
Format: 99999999999.999
Example: 121.332

Field 2: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 485.332

Field 3: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 384.322

Field 4: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 5: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where

- dd - 2 character integer day
- mmm - First 3 alpha characters of the month
- yyyy - 4 character integer year

Example: 18-DEC-1996

Field 6: **Source Code, Distance**

Description: Specifies the source of Distance
Position: Column 90
Range:

- F - field
- O - office
- D - digitizer
- A - analytical plotter

Format: A
Example: F

Field 7: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.3 Feature Specific Records

The following records are special feature records.

2.2.3.1 Feature Identification (F000)

Field 1: **Sequential Point Number**

Description: Number indicating the alphabetical order if the features were listed
Position: Columns 6-9
Range: 1 to X where X is the total number of features
Format: 9999
Example: 1

Field 2: **Feature Description**

Description: Description of feature (refer to FAA NO. 405 for allowed abbreviations)
Position: Columns 11-50
Range: None
Format: (40)X
Example: TREE

2.2.3.2 Feature Status Record (F010)

Field 1: **Feature Status Flag**

Description: Specifies whether or not a feature is to be considered as a possible obstruction
Position: Columns 6
Range: 0 - Active - point is completely active and to be considered for all surfaces
1 - Disabled (Completely) - the point still exists but should not be considered for any surfaces due to clutter or other reasons; will be deleted from the database when the next edition is created
2 - Inactive - the point still exists but only for historical or informational purposes; is not considered for any surfaces
3 - Deleted - the point no longer physically exists and will not be considered for any surfaces; will be deleted from the database when the next edition is created
4 - Disabled for AOC only - the point should be considered for all surfaces except for AOC surfaces
6 - Disabled for ANA only - the point should be considered for all surfaces except for ANA surfaces
Format: 9
Example: 1

Field 2: **Accuracy Code**

Description: Specifies the accuracy standard (refer to FAA NO. 405)
Position: Columns 8-10
Range: None
Format: 99X
Example: 1A

Field 3: **Attribute Code 1**

Description: Not currently used. However to conform to previous usage, the field should be filled with the value 'S'
Position: Columns 12
Range: See appendix A
Format: A
Example: S

Field 4: **Attribute Code 2**

Description: Designates special points for plotting purposes
Position: Columns 14
Range: See appendix A
Format: A
Example: T

Field 5: **Attribute Code 3**

Description: Specifies whether or not the feature is a navigational aids and, if so, what kind
Position: Columns 16
Range: See appendix A
Format: A and some special characters, see appendix A
Example: W

Field 6: **Attribute Code 4**

Description: Not currently used
Position: Columns 18
Range: This code is not currently used
Format: blank
Example: blank

Field 7: **Feature Survey Type**

Description: Specifies the type of survey for which the feature was surveyed
Position: Columns 20-23
Range: 1 - AOC - a conventional AOC (FAR 77) survey
2 - ANA - an ANA survey
3 - AOC & ANA - a complete survey for AOC and ANA
4 - NONE - surveyed previously for survey of current type but not re-surveyed in most recent survey
Format: 9 (right justified, blank padded)
Example: 1

2.2.3.3 Feature Position (F410)

Field 1: **Longitude**

Description: Longitude with hemisphere represented by sign
Position: Columns 5-19
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DD < +180
0 <= MM <= 59
0 <= SS <= 59
Example: -1761119.1281

Field 2: **Latitude**

Description: Latitude with hemisphere represented by sign
Position: Columns 20-34
Range: -900000 to +900000 values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Example: 245328.7315

Field 3: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 4: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 5: **Determined Date**

Description: Survey Date that data in this record was determined
Position: Columns 66-76
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 6: **Verified Date**

Description: Most recent Survey Date that data in this record was verified
Position: Columns 78-88
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

Field 7: **Source Code, Horizontal Position**

Description: Specifies the source of Horizontal Position
Position: Column 90
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

Field 8: **Source Code, Vertical Position**

Description: Specifies the source of Vertical Position
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.3.4 Base Elevation (F020)

Field 1: **Elevation, Orthometric**

Description: Refer to the FAA NO. 405
Position: Columns 35-49
Range: None
Format: 99999999999.999
Example: 469.845

Field 2: **Elevation, Ellipsoidal**

Description: Refer to the FAA NO. 405
Position: Columns 50-64
Range: None
Format: 99999999999.999
Example: 382.289

Field 3: **Source Code, Elevation**

Description: Specifies the source of Elevation
Position: Column 92
Range: F - field
O - office
D - digitizer
A - analytical plotter
Format: A
Example: F

2.2.3.5 Auxiliary Date (F030)

Field 1: **Auxiliary Date**

Description: Extra date field left over from previous definition of dates. Only used internally.
Position: Columns 6-16
Range: None
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Example: 18-DEC-1996

2.2.4 Miscellaneous Records

The following records contain miscellaneous information..

2.2.4.1 Chart Reference System (C310)

Field 1: **Reference System Code**

Description: Reference system in which positions are expressed
Position: Columns 5-9
Range: 1 - UTM
2 - State Plane
Format: 9 (right justified, blank padded)
Example: 1

Field 2: **Zone Code**

Description: Zone for the reference system
Position: Columns 10-14
Range: UTM or State Plane zone code
Format: XXXXX
Example:

Field 3: **Horizontal Unit Code**

Description: Units in which positions are expressed
Position: Columns 15-19
Range: None, value is always 1
Format: 9 (right justified, blank padded)
Example: 1

Field 4: **Horizontal Datum Code**

Description: Specifies year of Datum
Position: Columns 20-24
Range: Year of Datum, 27 or 83
Format: 99 (right justified, blank padded)
Example: 83

Field 5: **Vertical Unit Code**

Description: Units in which positions are expressed
Position: Columns 25-29
Range: None, value is always 1
Format: 9 (right justified, blank padded)
Example: 1

Field 6: **Vertical Datum Code**

Description: Specifies year of Datum
Position: Columns 30-34
Range: Year of Datum:

29	NGVD 29
88	NAVD 88
9001	Mean Sea Level

Format: 99999
Example: 88

2.2.4.2 NGVD29 to NAVD88 Conversion Adjustment (C010)

Field 1: **Conversion Adjustment**

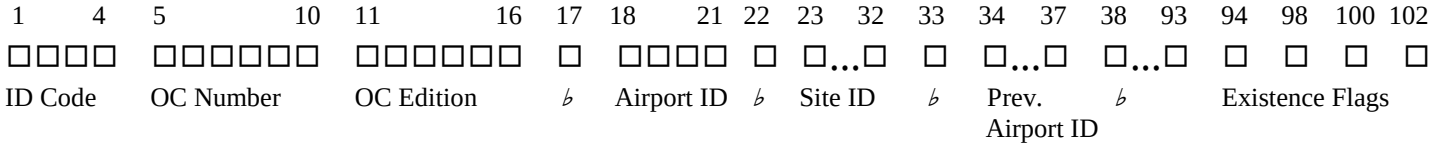
Description: Added to NGVD29 data to convert to NAVD88 data
Position: Columns 6-12
Range: None
Format: 9999.99
Example: 469.84

3. Quick Reference Record Charts

The following charts show each specific record broken down by character. The top line indicates the character position. The middle line shows a box ☐ for each character. The third line gives the field name. Note that blank spaces are designated by a ♭. Large fields will be designated in the second and third lines with '...' to show many characters. For example, a field with from column 20 to column 45 will be represented in line 1 as 20 ... 45 and in line 2 the boxes will be represented by ☐ ... ☐. For the ease of the diagram, blank spaces between the Existence Flags are implied.

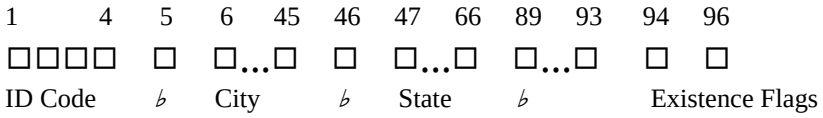
Airport Records

A000 - Airport Identification Record



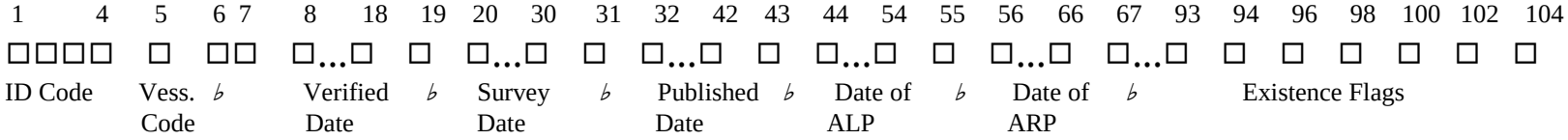
A010 - Airport Name

A020 - Airport Jurisdiction

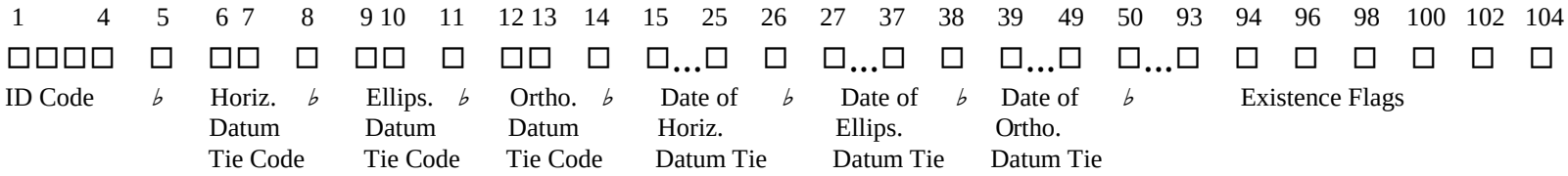


A030 - Airport Magnetic Declination

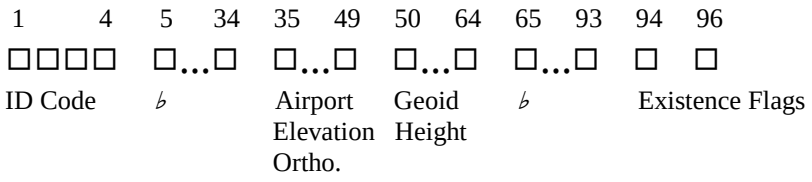
A040 - Airport Status



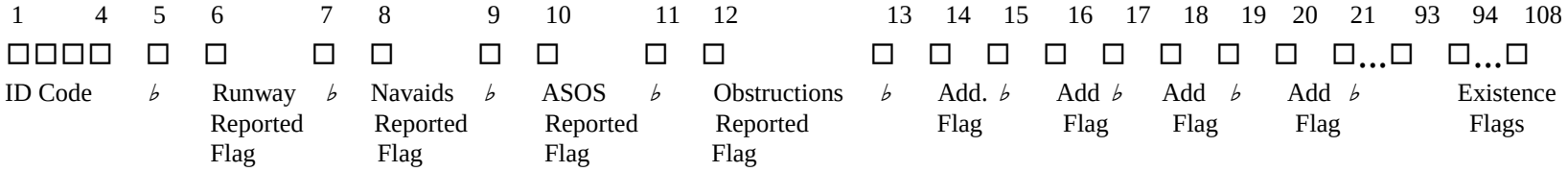
A050 - Datum Tie



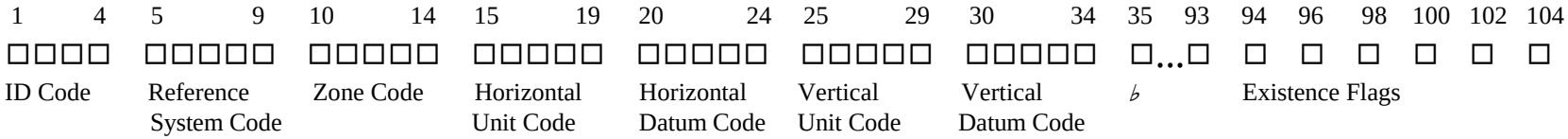
A060 - Airport Elevation



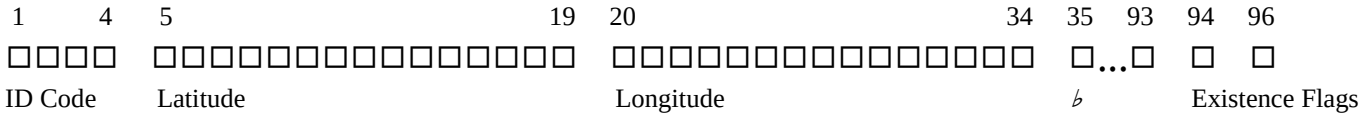
A070 - Reported Elements Record



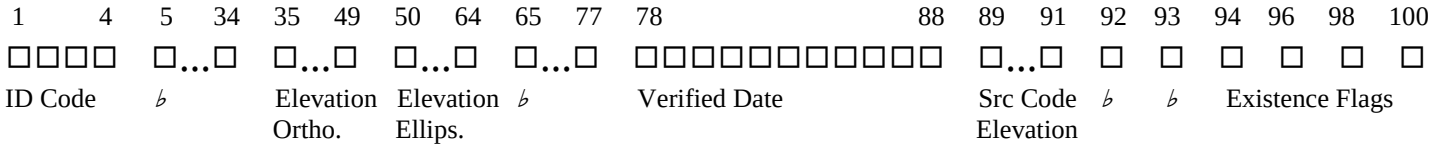
A310 - Airport Reference System



A710 - Airport Location Point

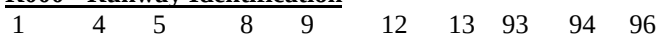


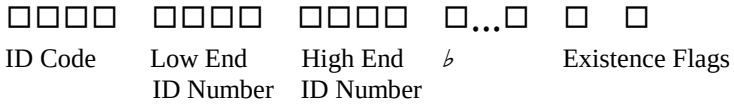
A910 - Air Traffic Control Tower



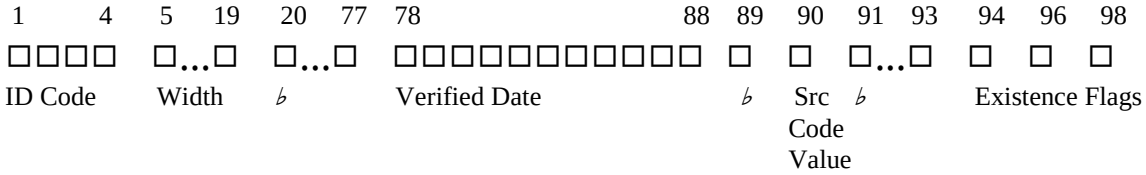
Runway Records

R000 - Runway Identification

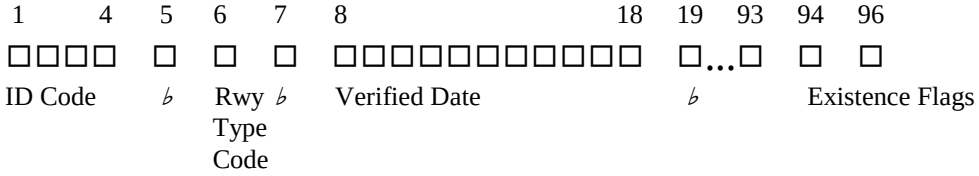



ID Code
Low End ID Number
High End ID Number
Existence Flags

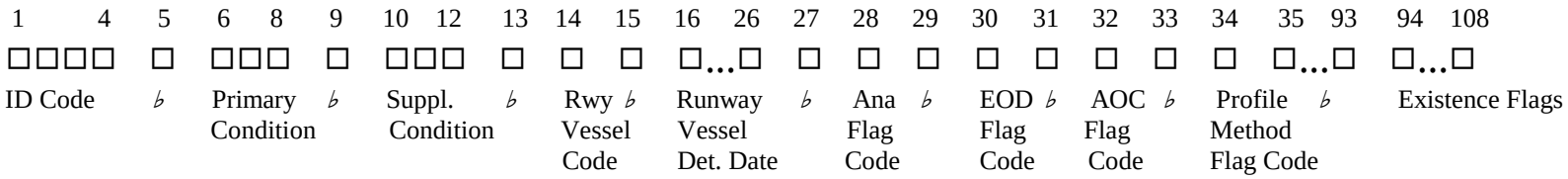
R810 - Runway Width



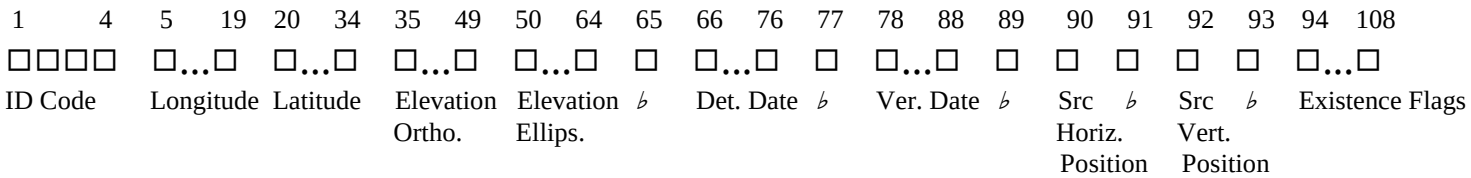
R010 - Runway Type



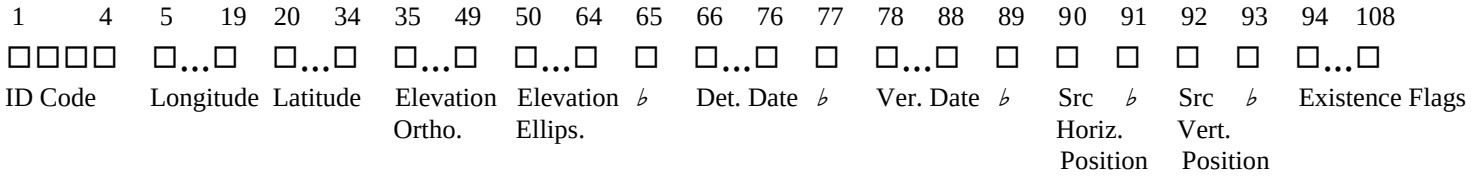
R02* - Runway Flags



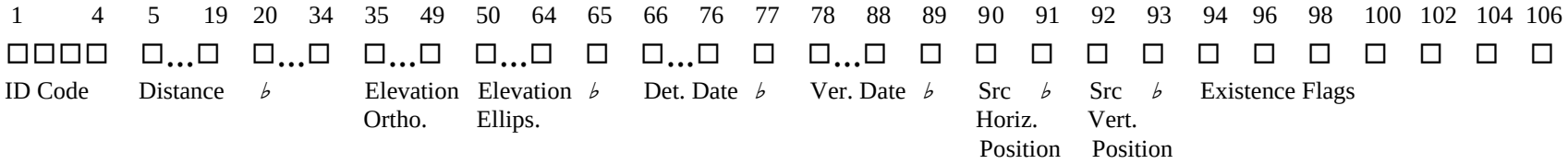
R40* - Runway End Position



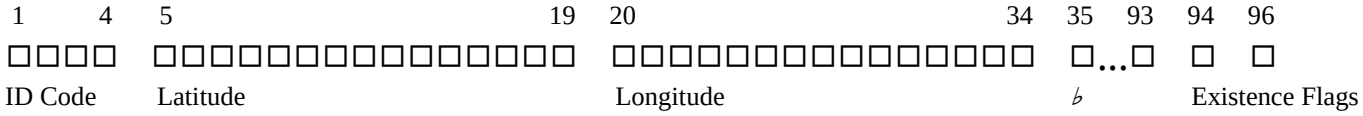
R41* - Displaced Threshold - by position



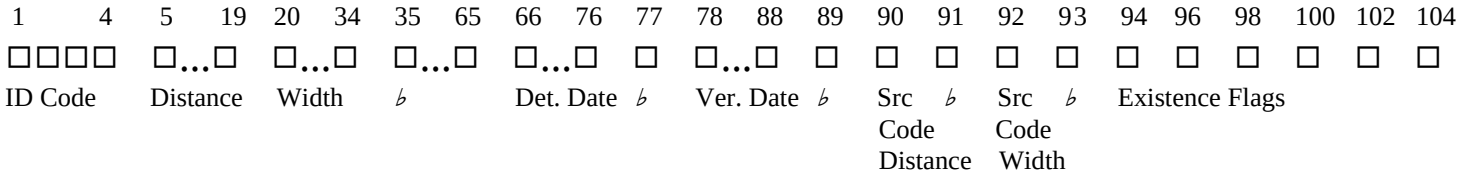
R51* - Displaced Threshold - by distance



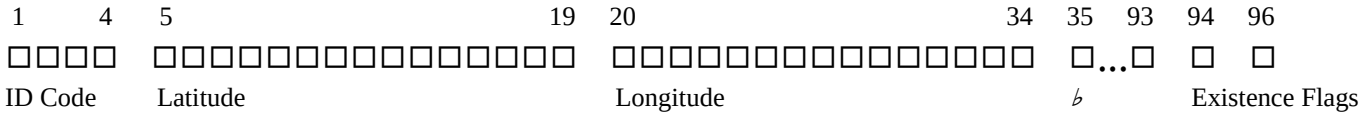
R72* - Stopway - by position



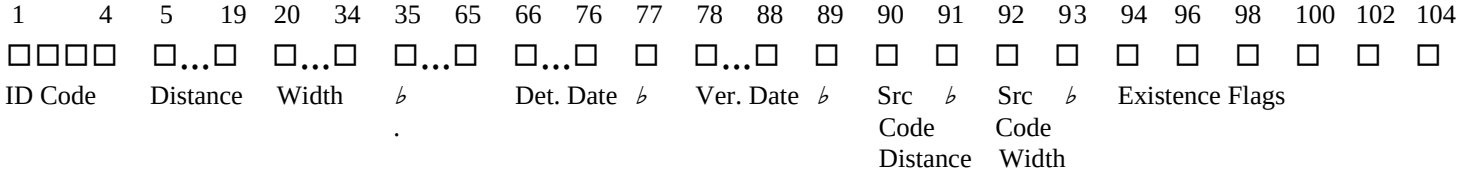
R62* - Stopway - by length



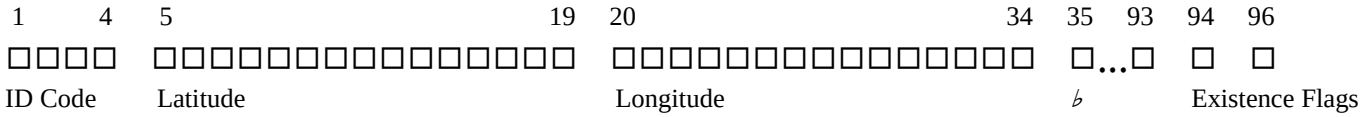
R73* - Blastpad - by position



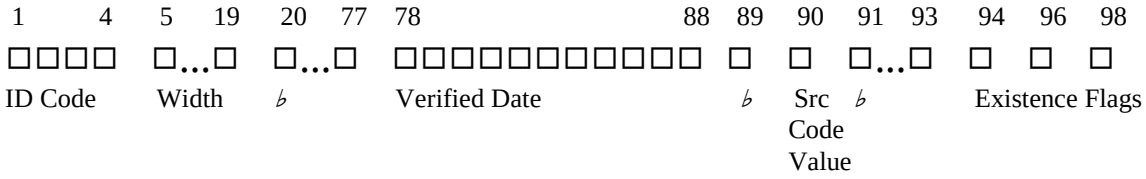
R63* - Blastpad - by Distance



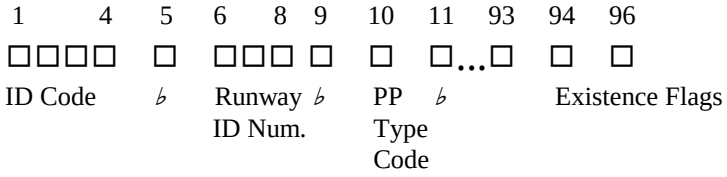
R74* - Distance to Boundary - by position



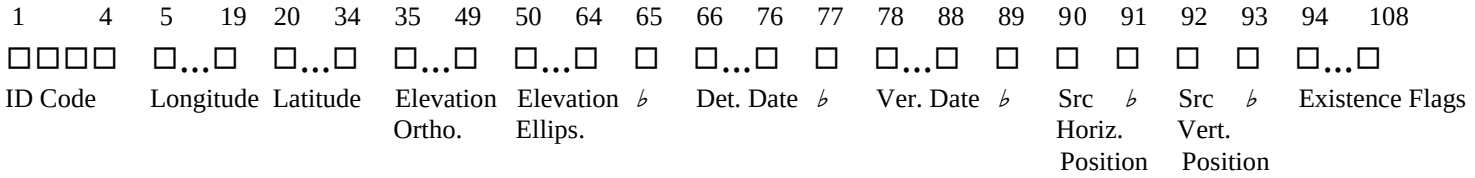
R84* - Distance to Boundary - by distance



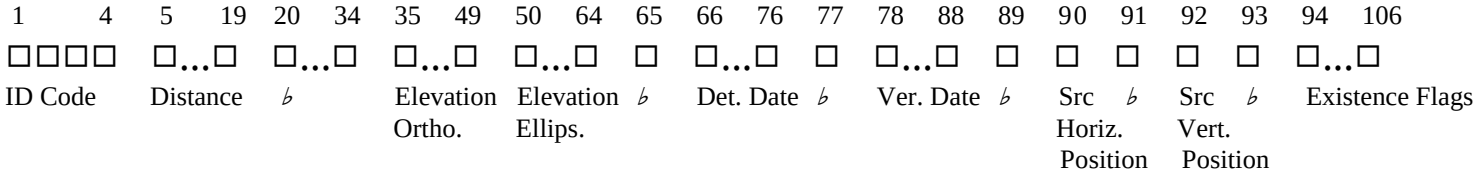
R090 - Profile Point Status



R490 - Profile Point - by position

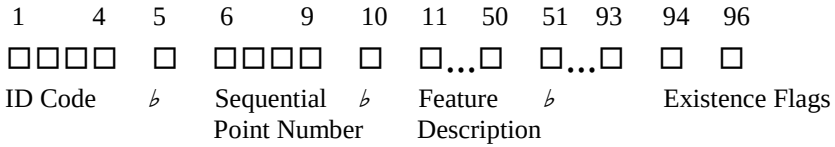


R590 - Profile Point - by distance

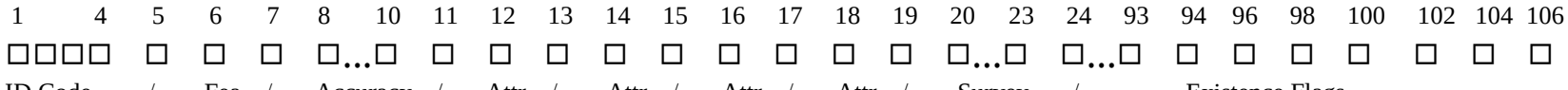


Feature Records

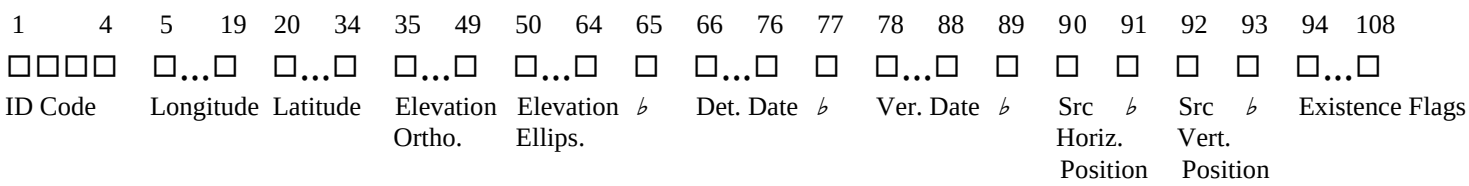
F000 - Feature Identification



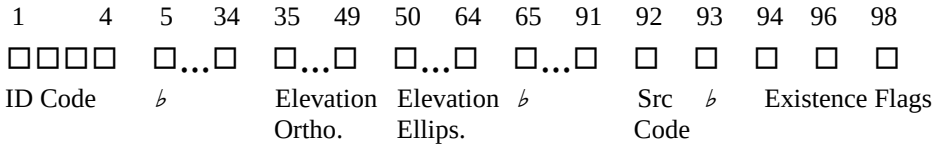
F010 - Feature Status



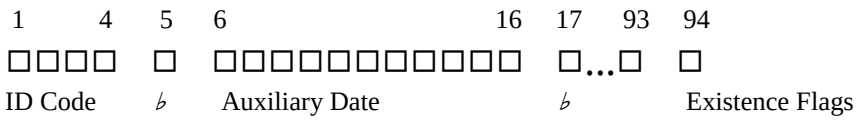
F410 - Feature Position



F020 - Base Elevation



F030 - Auxiliary Date



Miscellaneous Records

C310 - Airport Reference System

1 4	5 9	10 14	15 19	20 24	25 29	30 34	35 93	94 96	98	100	102	104
□□□□	□□□□□	□□□□□	□□□□□	□□□□□	□□□□□	□□□□□	□…□	□ □	□	□	□	□
ID Code	Reference System Code	Zone Code	Horizontal Unit Code	Horizontal Datum Code	Vertical Unit Code	Vertical Datum Code	♭	Existence Flags				

C010 - NGVD29 to NAVD88 Conversion Factor

1 4	5	6 12	13 93	94
□□□□	□	□□□□□□	□…□	□
ID Code	♭	Conversion Factor	♭	Existence Flags

Appendix A. Special Codes

Some fields have ranges defined by special codes. The following tables define these codes.

Existence Flags

Each data field has a corresponding existence code. The following are the positions for each existence code:

Column 94:	Known flag for field 1
Column 96:	Known flag for field 2
Column 98:	Known flag for field 3
Column 100:	Known flag for field 4
Column 102:	Known flag for field 5
Column 104:	Known flag for field 6
Column 106:	Known flag for field 7
Column 108:	Known flag for field 8
Column 110:	Known flag for field 9
Column 112:	Known flag for field 10

The following are valid values for Existence Flags:

0	Known, but could be unknown
1	Unknown
2	Known, and must be known (for output only)
3	Unknown, but must be known (for output only)
9	Ignore (corresponding field is not available and the value from the database should be used)

Accuracy Codes

	horizontal accuracy	vertical accuracy
1A	20 feet	02 feet
1B	20 feet	05 feet
1C	20 feet	20 feet
2A	50 feet	02 feet
2C	50 feet	20 feet
1*	20 feet	-- (none: no elevation known)
2*	50 feet	-- (none: no elevation known)
1M	20 feet	?? (elevation is estimated maximum elevation for mobile object)
2M	50 feet	?? (elevation is estimated maximum elevation for mobile object)
3D	100 feet	50 feet

Horizontal Datum Tie Codes

A	BLANK (undefined)	
B	5 CM	GPS ANA
C	50 CM	GPS ADAM
D	1:100,000	CLASSICAL 1ST ORDER
E	1:50,000	CLASSICAL 2ND ORDER CLASS I
F	1:20,000	CLASSICAL 2ND ORDER CLASS II
G	1:10,000	CLASSICAL 3RD ORDER CLASS I
H	1:5,000	CLASSICAL 3RD ORDER CLASS II

I	15 FT	PHOTOGRAMMETRIC
J	> 15 FT	OTHER

Ellipsoidal Datum Tie Codes

A	BLANK (undefined)	
B	15 CM	GPS ANA
C	50 CM	GPS ADAM
D	1 M	ORTHO HEIGHT + GEOID HEIGHT, GEOID '93 MODEL
E	> 1 M	OTHER

Orthometric Datum Tie Code

A	1.0 MM * SQRT(K)	CLASSICAL 1ST ORDER CLASS I
B	1.4 MM * SQRT(K)	CLASSICAL 1ST ORDER CLASS II
C	2.0 MM * SQRT(K)	CLASSICAL 2ND ORDER CLASS I
D	2.6 MM * SQRT(K)	CLASSICAL 2ND ORDER CLASS II
E	4.0 MM * SQRT(K)	CLASSICAL 3RD ORDER
F	25 CM	GPS ANA
G	10 FT	PHOTOGRAMMETRIC
H	> 10 FT	OTHER
J	BLANK (undefined)	

Attribute Code 1

Note: This code currently has just 1 possible value.

S	None

Attribute Code 2 (Control/Plotting Symbology)

blank	Unknown
T	Triangulation Station
L	Local Control
S	Sub Point

Attribute Code 3 (Navigational Aids)

Code	Abbreviation	Full Name
blank		Unknown/Undefined
+	APBN	Airport Beacon
=	ALS	Approach Lights
W	ARSR	Air Route Surveillance Radar
A	ASR	Airport Surveillance Radar
U	ASR/PAR	
J	BCM	Back Course Marker
D	DME	Distance Measuring Equipment
Y	FM	Fan Marker
F	GS	Glide Slope
G	IM	Inner Marker
K	LDA	Localizer Type Directional Aid
R	LMM	Locator Middle Marker

E	LOC	Localizer
S	LOM	Locator Outer Marker
L	MLSAZ	MLS Azimuth Guidance
N	MLSEL	MLS Elevation Guidance
H	MM	Middle Marker
X	NDB	Nondirectional Beacon
#	NDB/DME	
I	OM	Outer Marker
&	PAPI	
B	PAR	Precision Approach Radar
*	PVASI	
$	REIL	
O	SDF	Simplified Directional Facility
M	TACAN	Tactical Air Navigation
C	TDR	GCA Touchdown Reflectors
(	TRCV	
)	TVASI	
-	VASI	
P	VOR	VHF Omni Directional Range
T	VOR/DME	
Q	VORTAC	VOR + TACAN

Attribute Code 4 (Not currently used)

blank	Unknown
?	not used

Primary Condition Codes (refer to the '405' for specifics)

NUL	None or unknown
PIR	
ANP	
C	
D	
AV	
BV	

Secondary Condition Codes (refer to the '405' for specifics)

NUL	None or unknown
SUP	