

OBSTRUCTION DATA SHEET

**ODS 59
GALLATIN FIELD
BOZEMAN, MONTANA**

DIGITIZED FROM

**OC 59
SURVEYED MAY 1990
9TH EDITION**



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THE NATIONAL OCEAN SERVICE
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FOR THE FEDERAL AVIATION ADMINISTRATION

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OBSTRUCTION DATA SHEET

The Obstruction Data Sheet (ODS) provides digital obstruction and runway data for use in aircraft arrival and departure planning. This information has been obtained using field survey and photogrammetric methods by the Photogrammetry Branch of the National Ocean Service in accordance with Federal Aviation Regulations Part 77 (FAR-77), "Objects Affecting Navigable Airspace" and FAA Nr. 405, "Specifications - Airport Obstruction Chart and Related Products."

The ODS is a derivative of the Airport Obstruction Chart (OC). The source OC is indicated on the ODS cover. All objects, both obstructing and nonobstructing, that carry an elevation on the OC are listed in the ODS. The ODS (and OC) depict a representation of objects that existed at the time of the OC field survey.

ODS information is arranged as follows:

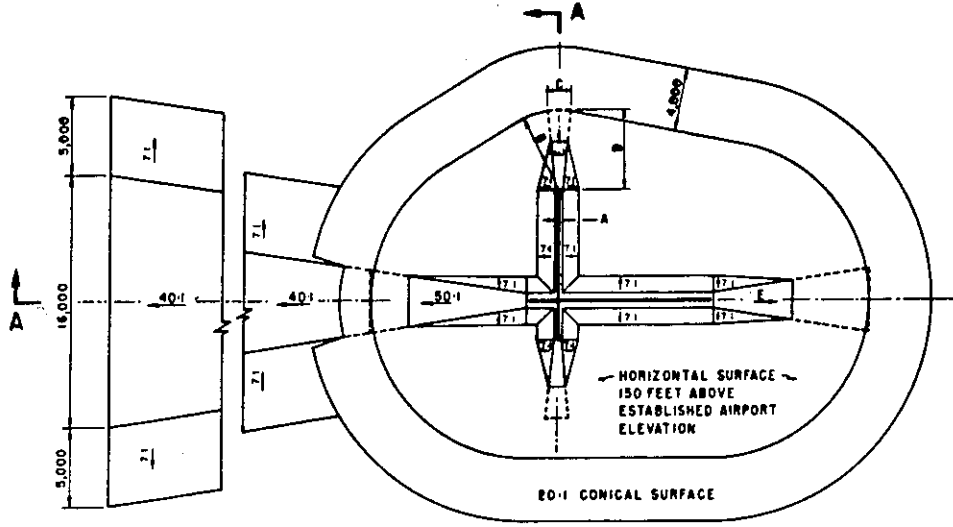
1. Objects located in FAR-77 approach (including supplemental approaches if present) or primary areas are listed with the associated runway (reference runway). For example, all objects in the Runway 9R approach or primary are listed with Runway 9R. Distances to these objects are computed from both the physical end and threshold of Runway 9R. Objects in the Runway 27L approach or primary are listed with Runway 27L. (Objects in the common 9R/27L primary area are listed with both runways.)
2. All objects not included in "1" above are listed with the Airport Reference Point (ARP).
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

The FAR-77 imaginary approach surfaces for which the obstruction surveys were performed are coded in the ODS as follows (see footnote 2 on page 3):

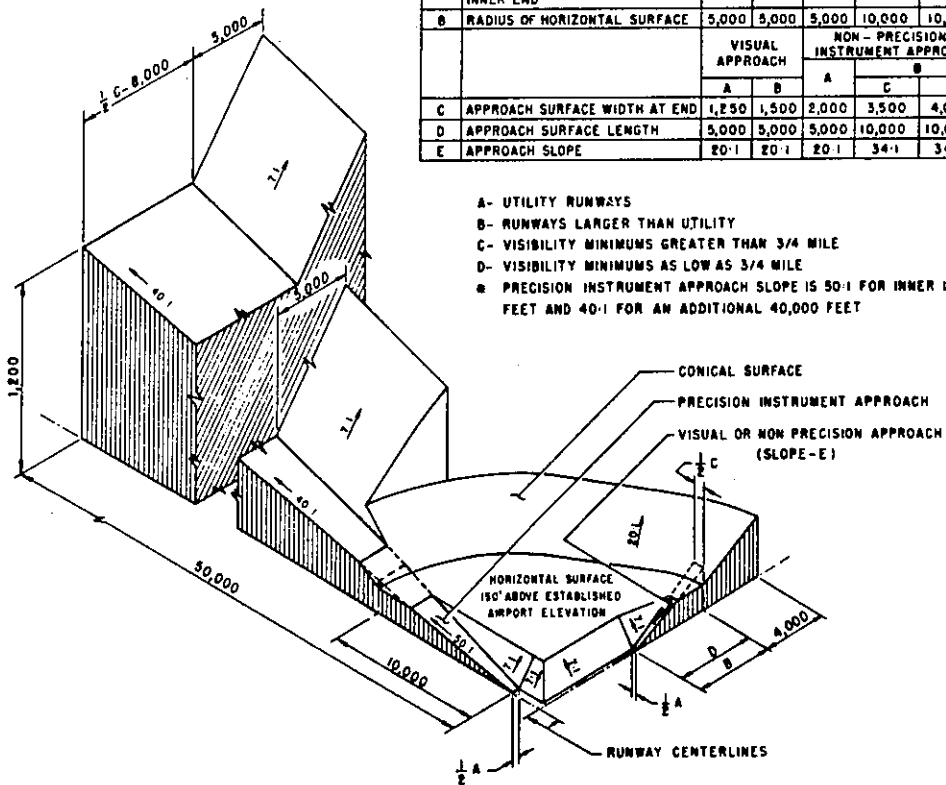
A(V) Utility runway - visual approach only
 A(NP) Utility runway - nonprecision instrument approach
 B(V) Nonutility runway - visual approach only
 C Nonutility runway - nonprecision instrument approach with
 visibility minimums greater than 3/4 mile
 D Nonutility runway - nonprecision instrument approach with
 visibility minimums as low as 3/4 mile
 PIR Precision instrument runway
 SUPLC ... Supplemental C underlying a B(V)

FAR-77 imaginary surface dimensions are defined on page 2 of this report.

Primary surface width is determined by the widest approach at the two approach/primary interfaces for that runway.



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B		
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
C	APPROACH SURFACE WIDTH AT END	VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B		
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*



- A- UTILITY RUNWAYS
- B- RUNWAYS LARGER THAN UTILITY
- C- VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D- VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- * PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

ISOMETRIC VIEW OF SECTION A-A

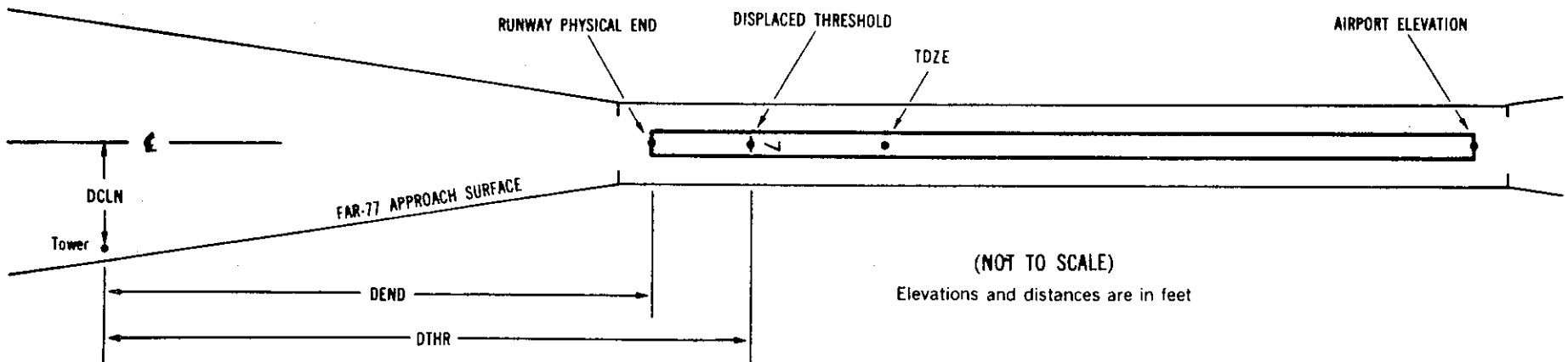
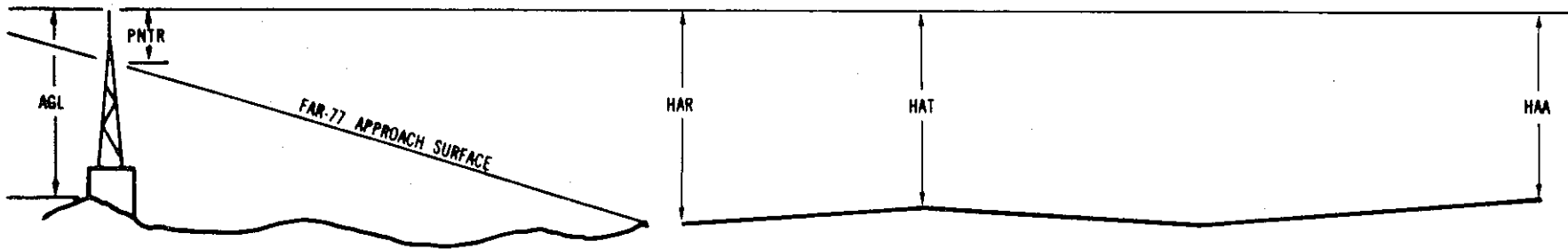
FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES

ANNOTATION OF ODS DATA FORMAT

OC XXXX

AIRPORT ELEVATION XXXX

X ¹	X ²	XXXX/XXXX ³	XXXXXX.XXX ⁴	XXXXXXXX.XXX ⁴	XXXXXXXX ⁵	XXXX/XXXX ⁶	XXXXXX.XXX ⁷	XXXXXXXX.XXX ⁷						
OBJECT	LAT	LONG	A ⁸	ELEV ⁹	AGL ¹⁰	HAR ¹¹	HAT ¹¹	HAA ¹¹	DEND ¹²	DTHR ¹²	DCLN ¹²	PNTR ¹³		
XXXXXXXXXXXXX	XXXXXX.XXX	XXXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX		
XXXXXXXXXXXXX	XXXXXX.XXX	XXXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX		



(NOT TO SCALE)
Elevations and distances are in feet

EXPLANATION OF FOOTNOTES

- ¹ Data block identifier. If a runway number is entered (reference runway), this data block will contain data pertinent to the reference runway and to objects in the FAR-77 approach and primary area of the reference runway. If ARP is entered, this data block will contain the ARP position and data relative to all objects not in an FAR-77 approach or primary area.
- ² For the reference runway, the lowest FAR-77 approach surface for which an obstruction survey was performed. (More than one surface may be surveyed.)
- ³ Reference runway approach physical end elevation/touchdown zone elevation
- ⁴ Latitude and longitude of reference runway approach physical end
- ⁵ Reference runway geodetic azimuth reckoned clockwise from south
- ⁶ Reference runway displaced threshold elevation/touchdown zone elevation
- ⁷ Latitude and longitude of reference runway displaced threshold
- ⁸ Accuracy Code: Horizontal Vertical
 1 = 20 A = 2
 2 = 40 B = 5
 C = 20
- ⁹ Mean Sea Level (MSL) elevation at top of object. This value includes 15 feet added to noninterstate roads, 17 feet added to interstate roads, and 23 feet added to railroad tracks.
- ¹⁰ Height above ground level (AGL). AGLs are provided only for those objects appearing on the OC that are equal to, or greater than, 200 feet AGL. AGL accuracy is ± 10 feet.
- ¹¹ HAA - Height above airport
 HAR - Height above reference runway approach physical end
 HAT - Height above reference runway touchdown zone elevation
- ¹² DEND - Distance along reference runway centerline from point perpendicular to object to reference runway approach physical end
 DTHR - Distance along reference runway centerline from point perpendicular to object to reference runway threshold
 DCLN - Distance left (L) or right (R) of reference runway centerline as observed facing forward in a landing aircraft.
- A negative value for DEND or DTHR indicates object is in primary area on roll-out side of zero distance point.
- ¹³ PNTR - Penetration of indicated FAR-77 approach or primary surface (see footnote 2).

OC0059

AIRPORT ELEVATION 4474

3 SUPLC 4474/4474 454602.909N 1110914.159W 2254516

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
WINDSOCK	454610.67	1110906.21	1A	4486		12	12	12	-953		170L	18
RAILROAD	454553.74	1110921.03	1A	4508		34	34	34	997		326R	11
POLE	454553.44	1110925.15	1A	4507		33	33	33	1227		144R	3
POLE	454555.08	1110928.35	1A	4507		33	33	33	1274		134L	1
POLE	454538.85	1110942.25	1A	4545		71	71	71	3127		356R	-15

21 SUPLC 4451/4472 454626.393N 1110839.702W 0454541

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
WINDSOCK	454610.67	1110906.21	1A	4486		35	14	12	-2457		170R	18
CHIMNEY ON HOUSE	454636.08	1110826.42	1A	4472		21	0	-2	1359		47R	-13

12 PIR 4421/4439 454717.389N 1110956.554W 3154513

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
BUSH	454629.67	1110843.44	1A	4457		36	18	-17	-7078		340L	4
ANTENNA ON OL GLIDE SLOPE	454713.70	1110943.54	1A	4456		35	17	-18	-911		400L	30
FENCE	454725.16	1111007.15	1A	4421		0	-18	-53	1087		11L	-18
APPROACH LIGHT	454726.61	1111009.21	1A	4436		15	-3	-38	1295		9L	-7

OC0059

AIRPORT ELEVATION 4474

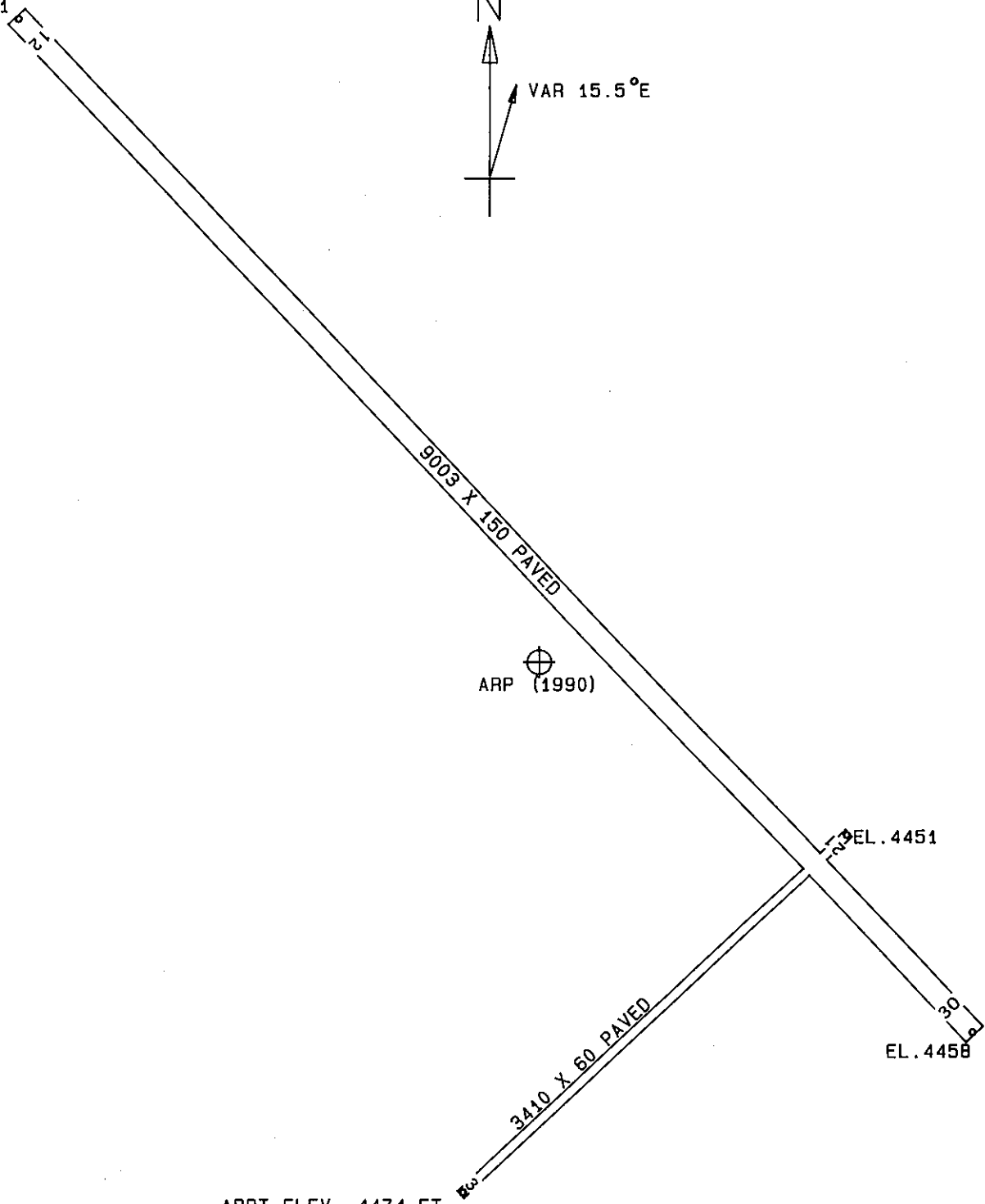
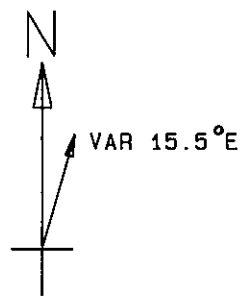
30 SUPLC 4458/4458 454613.727N 1110827.963W 1354616

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ANTENNA ON OL GLIDE SLOPE	454713.70	1110943.54	1A	4456		-2	-2	-18	-8089		400R	30
BUSH	454629.67	1110843.44	1A	4457		-1	-1	-17	-1922		340R	4
POLE	454556.54	1110810.64	1A	4496		38	38	22	2104		335L	-18

ARP 454637.068N 1110908.042W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG	BEARING	DISTANCE
ANTENNA ON RTR TOWER	454633.31	1110914.07	1A	4516		42	212	48	572
ROD ON OL AIRPORT BEACON	454623.16	1110915.20	1A	4517		43	184	18	1497
LIGHT STANDARD	454641.37	1110934.04	1A	4522		48	267	49	1893
OL ANEMOMETER	454655.83	1110913.76	1A	4459		-15	332	28	1943
OL ON WINDSOCK	454656.47	1110912.77	1A	4462		-12	334	49	1994
OL ON VOR/DME	454702.28	1110916.81	1A	4459		-15	330	49	2628
VENT ON OL WATER TANK	454624.44	1111004.39	1B	4609		135	236	45	4194
ANTENNA ON OL GRAIN ELEV	454625.81	1111017.13	1B	4583		109	241	24	5028
ANTENNA ON OL MAST	454544.74	1110850.95	1B	4627		153	151	37	5437
POLE	454715.30	1111007.60	1A	4455		-19	297	2	5728
POLE	454717.61	1111009.11	1A	4452		-22	298	0	5966

EL. 4421



TOUCHDOWN ZONE RUNWAY ELEVATION	
3	4474
21	4472
12	4439
30	4458

GALLATIN FIELD
 BOZEMAN, MONTANA
 (NOT TO SCALE)