

OBSTRUCTION DATA SHEET

ODS 189
HARTFORD-BRAINARD AIRPORT
HARTFORD, CONNECTICUT

DIGITIZED FROM

OC 189
SURVEYED AUGUST 1993
8TH EDITION

HORIZONTAL DATUM NAD 83
VERTICAL DATUM NGVD 29



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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 No. 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 the OC depict a representation of objects that existed at the time of the OC field survey.

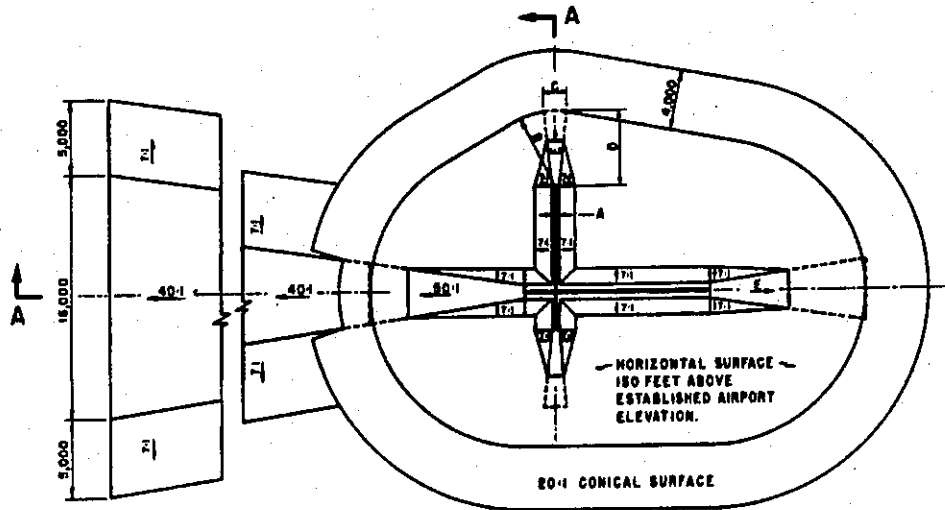
ODS information is arranged as follows:

1. Objects located in an FAR-77 approach or primary and listed with the associated runway (reference runway).
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.

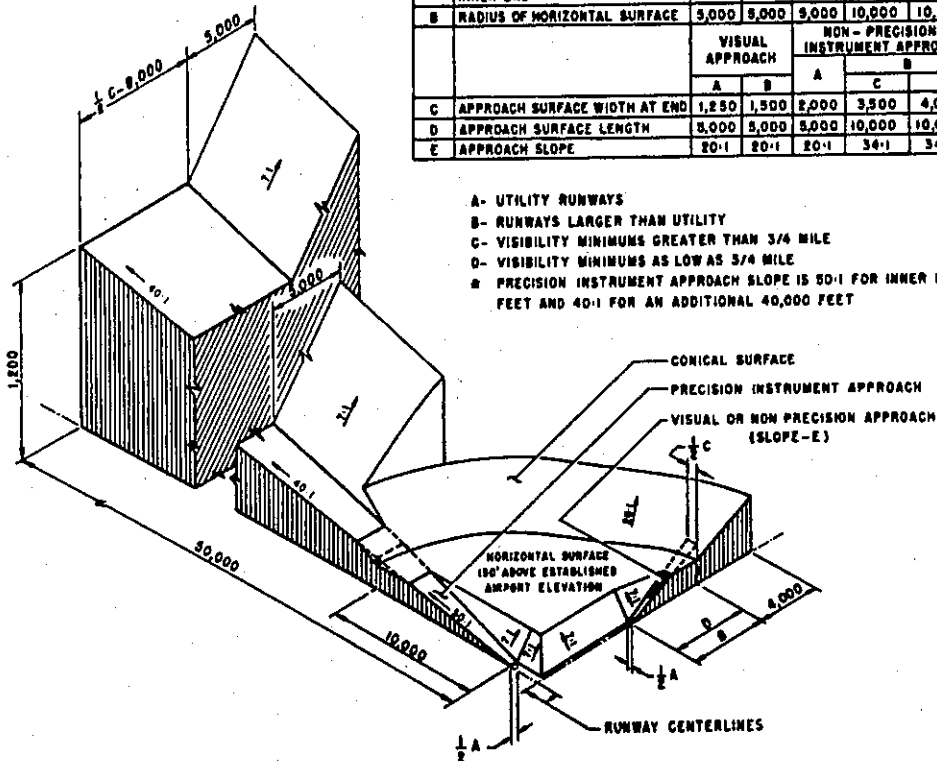
The FAR-77 imaginary approach surfaces for which the obstruction surveys were performed are coded in the ODS as follows:

- 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.



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	C	D	
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	C	D		
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

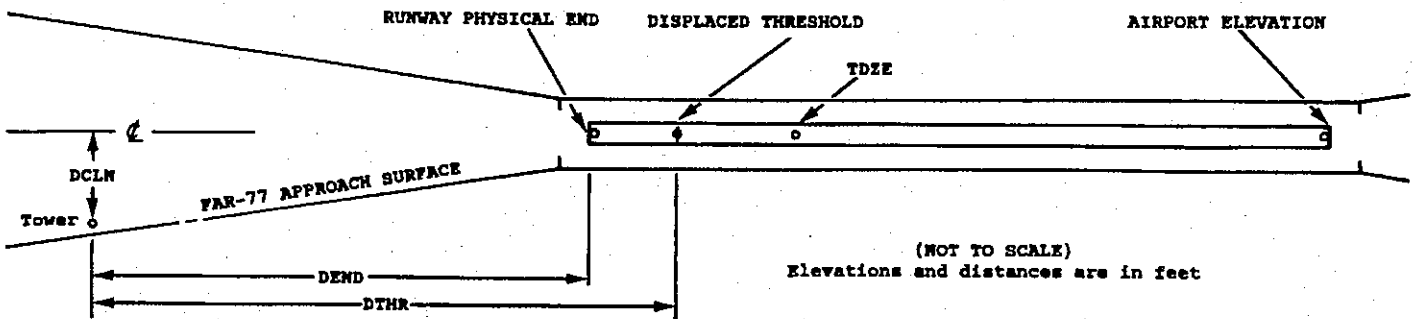
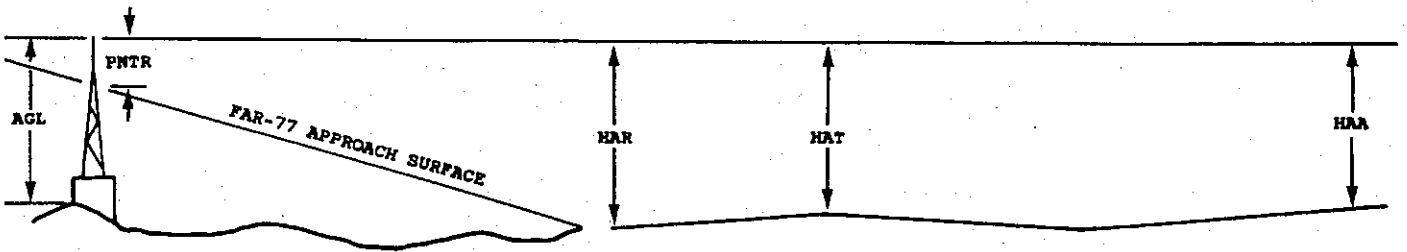
FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES

ANNOTATION OF ODS DATA FORMAT

OC XXXX

AIRPORT ELEVATION XXXX

1 X	2 X	3 XXXX/XXXX	4 XXXXXX.XXX	4 XXXXXX.XXX	5 XXXXXXX	6 XXXX/XXXX	7 XXXXXX.XXX	7 XXXXXX.XXX	8 A	9 ELEV	10 AGL	11 HAR	11 HAT	11 HAA	12 DEND	12 DTHR	12 DCLN	13 PNTR
XXXXXXXXXX			XXXXXX.XXX	XXXXXX.XXX	XXXXXXX	XXXX/XXXX	XXXXXX.XXX	XXXXXX.XXX		XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXX			XXXXXX.XXX	XXXXXX.XXX	XXXXXXX	XXXX/XXXX	XXXXXX.XXX	XXXXXX.XXX		XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX



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 areas 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 Elevation at approach end of reference runway/touchdown zone elevation
- 4 Latitude and longitude at approach end of reference runway
- 5 Geodetic azimuth of reference runway reckoned from north
- 6 Elevation at reference runway displaced threshold/touchdown zone elevation
- 7 Latitude and longitude at reference runway displaced threshold
- 8 Accuracy codes: Horizontal (Ft.) Vertical (Ft.)
 1 = 20 A = 2
 2 = 40 B = 5
 C = 20
- 9 Elevation above mean sea level (MSL) 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). AGL's are provided only for manmade objects appearing on the OC and equal to or greater than 200 feet AGL. AGL accuracy is 10 feet.
- 11 HAA - Height above airport
HAR - Height above approach end of reference runway
HAT - Height above reference runway touchdown zone elevation
- 12 DEND - Distance along reference runway centerline from point nearest to object (perpendicular) to approach end of runway
DTHR - Distance along reference runway centerline from point nearest to object (perpendicular) to displaced 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 that object is in primary on roll-out side of zero distance point.
- 13 PNTR - Penetration of indicated FAR-77 approach or primary surface (See footnote 2).

OC0189

AIRPORT ELEVATION 19

11 AV 15/ 0 414403.072 -723927.286 985740.

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ANT ON BLDG	414403.45	-723938.86	1A	46		31	46	27	873		99R	-2
TREE	414404.96	-723941.29	1A	59		44	59	40	1079		23L	0
OL ON TRMSN TWR	414407.33	-723945.07	1A	72		57	72	53	1399		216L	-3

29 AV 13/ 414359.508 -723857.120 2785800. 13/ 0 414359.904 -723900.468

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
BUSH	414357.69	-723852.32	1A	28		15	28	9	388	645	125L	6
OL ON DIKE	414357.83	-723849.76	1A	46		33	46	27	578	835	80L	15
BUSH	414359.69	-723848.17	1A	51		38	51	32	668	925	124R	15
TREE	414356.36	-723846.18	1A	84		71	84	65	869	1126	186L	38
TREE	414356.43	-723827.94	1A	132		119	132	113	2234	2491	37R	18

2 C 12/ 414353.870 -723859.292 85444. 13/ 18 414357.871 -723858.454

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
OL ON DIKE	414438.61	-723847.86	1A	45		33	27	26	-4609	-4199	155R	26
OL ON WSK	414427.34	-723854.97	1A	27		15	9	8	-3397	-2987	201L	9
OL AMOM	414410.78	-723858.34	1A	39		27	21	20	-1702	-1292	194L	23
BUSH	414351.96	-723856.44	1A	20		8	2	1	157	567	244R	8
BUSH	414351.51	-723857.32	1A	24		12	6	5	212	622	185R	12
OL ON DIKE	414348.66	-723856.72	1A	45		33	27	26	491	901	274R	25
OL ON DIKE	414345.17	-723900.45	1A	45		33	27	26	884	1294	50R	13
TREE	414335.71	-723900.84	1A	97		85	79	78	1834	2244	169R	37
TREE	414333.62	-723906.35	1A	113		101	95	94	2108	2518	211L	45
TREE	414329.49	-723904.83	1A	138		126	120	119	2503	2913	33L	58
SPIRE	414246.60	-723907.70	1A	195		183	177	176	6826	7236	425R	-12

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AIRPORT ELEVATION 19

20 SUPLC 19/ 414436.988 -723850.264 1885450. 19/ 19 414431.531 -723851.406

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
BUSH	414351.96	-723856.44	1A	20		1	1	1	-4575	-4016	244L	8
OL AMOM	414410.78	-723858.34	1A	39		20	20	20	-2715	-2156	194R	23
OL ON WSK	414427.34	-723854.97	1A	27		8	8	8	-1020	-461	201R	9
OL ON DIKE	414438.61	-723847.86	1A	45		26	26	26	191	750	155L	26
OL ON DIKE	414441.42	-723849.33	1A	45		26	26	26	454	1013	OR	18
BUSH	414443.02	-723851.48	1A	40		21	21	21	589	1148	186R	9
TREE	414447.42	-723850.23	1A	84		65	65	65	1044	1603	161R	40
TREE	414456.25	-723839.85	1A	119		100	100	100	2049	2608	478L	45
TREE	414502.13	-723847.56	1A	134		115	115	115	2546	3105	192R	46

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AIRPORT ELEVATION 19

ARP 414410.567 -723900.770

OBJECT	LAT	LONG	A	EL	AGL	HAA	MAG BEARING	DISTANCE
ROD & APBN ON OL ATCT	414405.76	-723905.15	1A	75		56	22855	589
OL ON LOC	414357.81	-723905.12	1A	20		1	20856	1332
TREE	414404.44	-723843.05	1A	130		111	12921	1480
LIGHT	414357.84	-723910.65	1A	44		25	22446	1490
BLDG	414405.60	-723919.35	1A	41		22	26457	1495
TREE	414402.24	-723842.05	1A	127		108	13518	1651
BUSH	414355.03	-723853.68	1A	27		8	17543	1662
TREE	414416.60	-723838.90	1A	135		116	8422	1767
DIKE	414352.65	-723853.53	1A	43		24	17745	1894
LIGHT	414359.12	-723920.57	1A	44		25	24657	1896
TREE	414355.02	-723846.10	1A	108		89	15921	1927
LIGHT	414350.84	-723905.38	1A	42		23	20431	2027
TREE	414350.73	-723850.32	1A	94		75	17303	2158
BLDG	414359.56	-723927.42	1A	48		29	25542	2307
OL STACK ON BLDG	414353.29	-723920.89	1A	118		99	23541	2320
TREE	414347.59	-723856.11	1A	61		42	18557	2352
TREE	414428.66	-723841.16	1A	95		76	5340	2359
LIGHT	414406.12	-723934.96	1A	44		25	27445	2631
FLGPL	414401.99	-723934.34	1A	39		20	26545	2689
TREE	414342.04	-723908.41	1A	103		84	20556	2945
SIGN ON BLDG	414402.13	-723938.21	1A	49		30	26751	2964
TREE	414352.62	-723829.73	1A	130		111	14215	2973
TREE	414438.21	-723846.25	1A	74		55	3604	3006
OL ON SIGN	414408.61	-723940.86	1A	82		63	28051	3046
PIPE ON OL BLDG	414441.59	-723857.22	1A	57		38	1929	3152
OL ON TRMSN TWR	414412.29	-723943.86	1A	128		109	28740	3271
OL ON TRMSN TWR	414402.34	-723945.31	1A	73		54	27044	3478
TREE	414452.39	-723854.97	1A	124		105	2031	4257
ROD ON OL STACK	414457.06	-723910.04	1A	245	217	226	606	4758
AMOM ON OL BLDG	414459.04	-723901.88	1A	144		125	1337	4907
OL STACK	414500.63	-723909.33	1A	243	213	224	718	5109
TRMSN TWR	414503.54	-723913.40	1A	205		186	428	5447
ROD ON STACK	414454.05	-723812.72	1A	175		156	5412	5713
OL ON TRMSN TWR	414508.61	-723928.64	1A	273	244	254	35449	6244
TRMSN TWR	414514.87	-723906.05	1A	192		173	1104	6521
OL ON TRMSN TWR	414519.13	-723912.37	1A	262	248	243	722	6995
TREE	414454.60	-724052.57	1C	185		166	31220	9576
ANT ON BLDG	414535.25	-724014.36	1A	236	214	217	34133	10227
TREE	414243.17	-724011.66	1C	199		180	22553	10352
OL ON BLDG	414551.41	-723940.64	1A	265	254	246	35806	10646
SPIRE	414552.05	-724021.84	1A	582	531	563	34343	11970

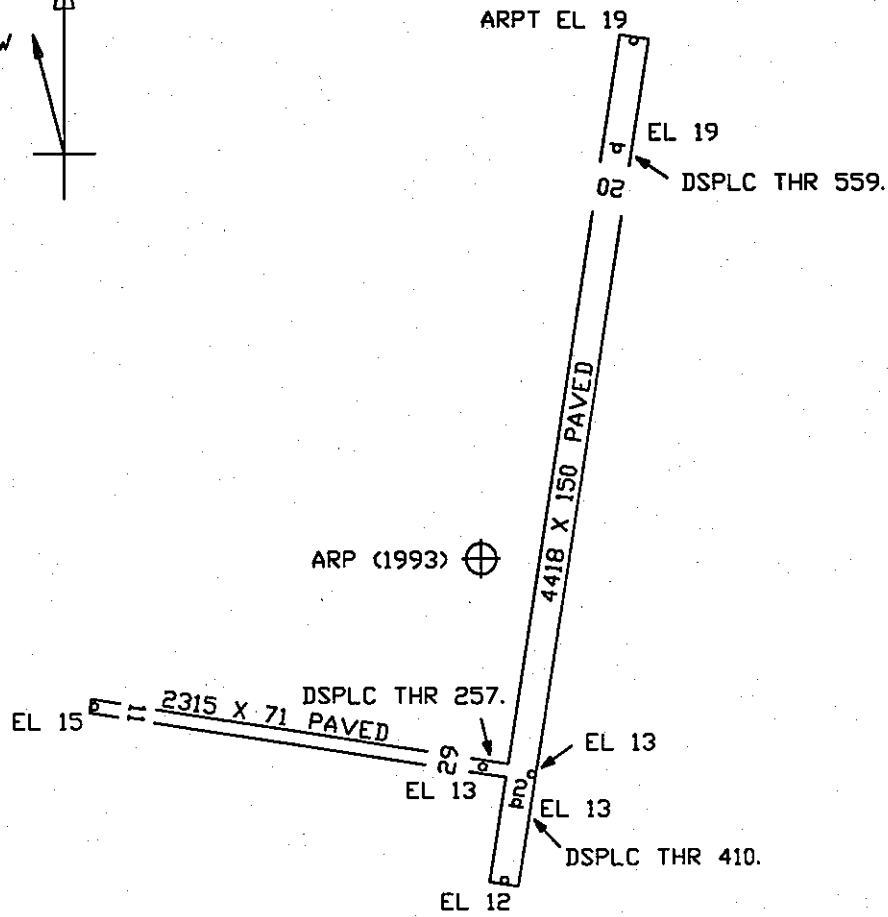
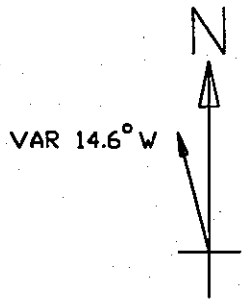
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AIRPORT ELEVATION 19

ARP 414410.567 -723900.770

OBJECT	LAT	LONG	A	EL	AGL	HAA	MAG BEARING	DISTANCE
BLDG	414600.25	-724036.37	1A	594	559	575	34128	13258
SPIRE	414550.93	-724056.20	1A	331	253	312	33352	13407
SPIRE	414600.87	-724039.48	1A	552	520	533	34046	13440



TOUCHDOWN ZONE RUNWAY ELEVATION	
20	18
	19

HARTFORD-BRAINARD AIRPORT
 HARTFORD, CONNECTICUT
 (NOT TO SCALE)
 (ELEVATIONS AND DISTANCES IN FEET)