OBSTRUCTION DATA SHEET

ODS 446
BARNES MUNICIPAL AIRPORT
WESTFIELD, MASSACHUSETTS

DIGITIZED FROM

OC 446
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10TH EDITION

PREPARED AND DISTRIBUTED BY
THE NATIONAL OCEAN SERVICE
U.S. DEPARTMENT OF COMMERCE
FOR THE FEDERAL AVIATION ADMINISTRATION

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).

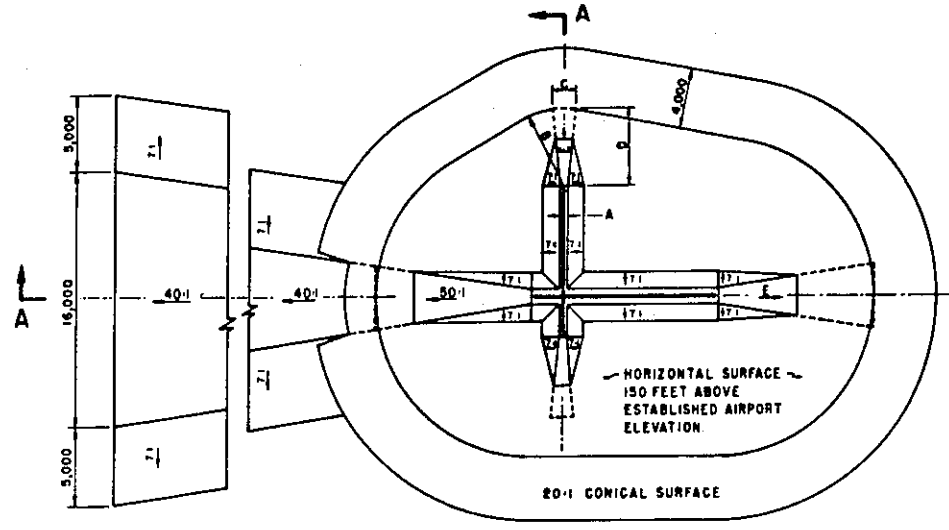
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

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)

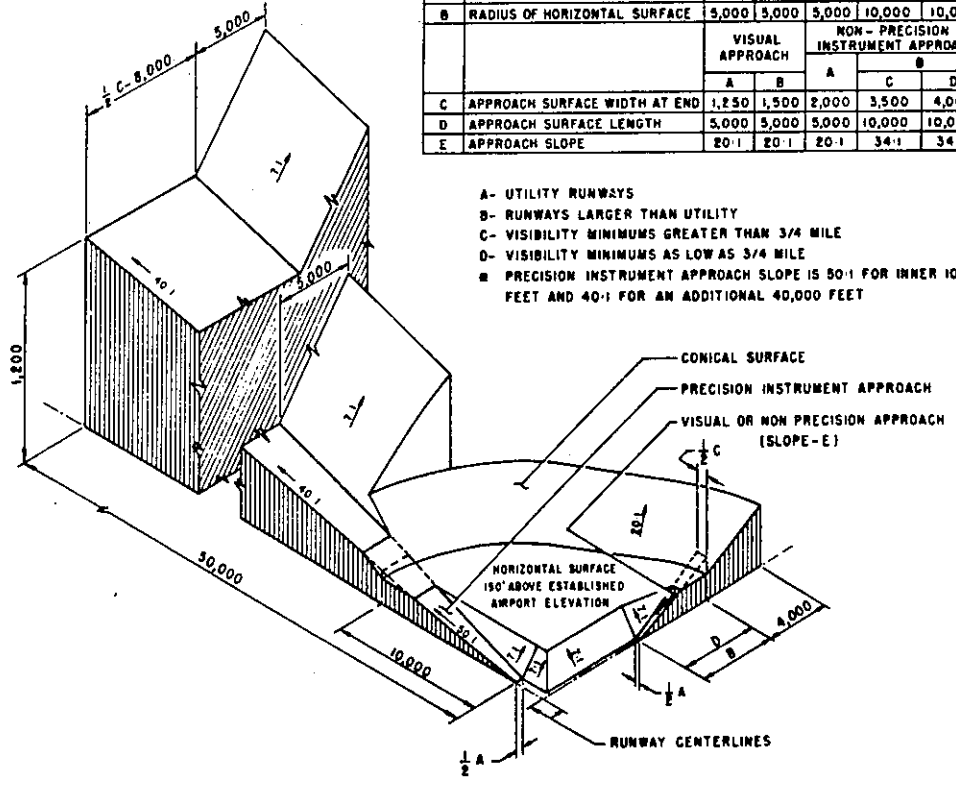
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

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 C	B 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
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B C	B D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
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}	XXXXXXX.XXX^{4}	XXXXXXX^{5}	XXXX/XXXX^{6}	XXXXXX.XXX^{7}	XXXXXXX.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}
XXXXXXXXXX	XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX
XXXXXXXXXX	XXXXXX.XXX	XXXXXXX.XXX	XX	XXXX	XXXX	XXX	XXX	XXX	XXXXX	XXXXX	XXXX	XXXX

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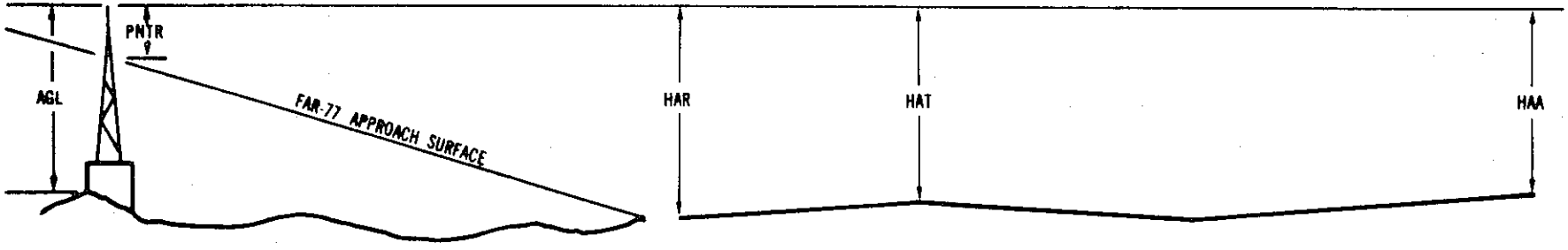
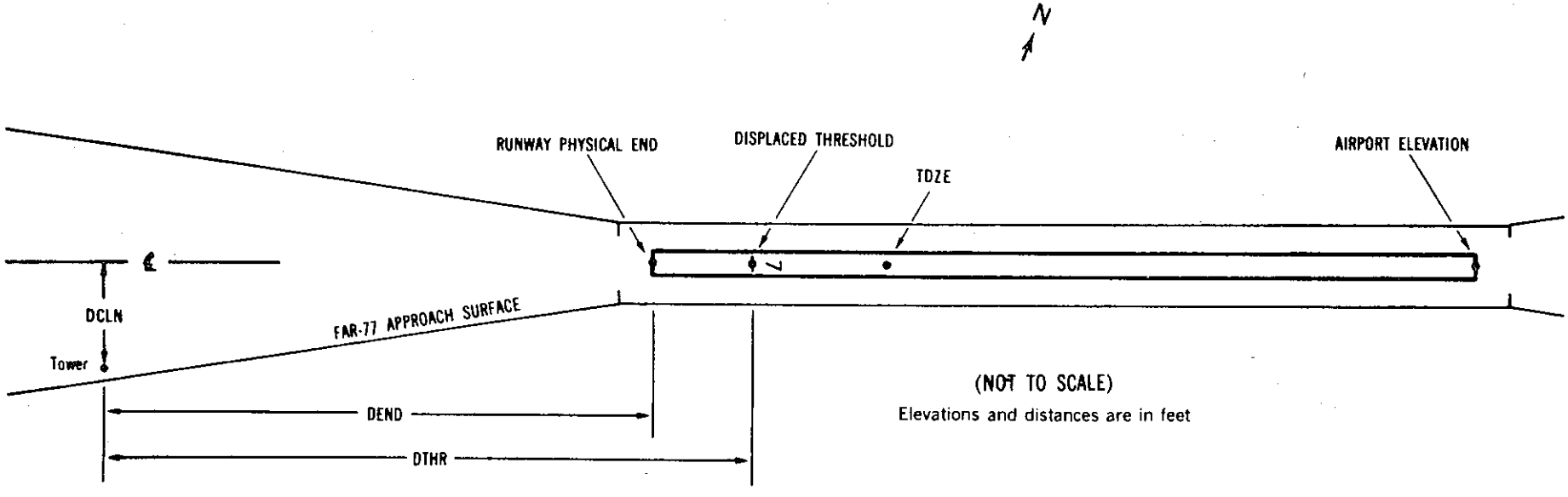




(NOT TO SCALE)

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).

OC0446

AIRPORT ELEVATION 271

2 C 261/265 420842.750N 07243 9.414W 1901254

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	421011.55	0724242.95	1A	269		8	4	-2	-9200		367R	2
GROUND	421013.07	0724254.28	1A	268		7	3	-3	-9200		500L	1
GROUND	421010.84	0724254.70	1A	272		11	7	1	-8972		491L	5
OL ON GLIDE SLOPE	421001.47	0724253.72	1A	293		32	28	22	-8052		250L	26
OL VORTAC	420942.72	0724259.98	1A	305		44	40	34	-6101		377L	36
OL ON WINDSOCK	420935.14	0724249.74	1A	295		34	30	24	-5482		518R	29
TREE	420845.02	0724302.71	1A	286		25	21	15	-316		457R	24
TREE	420841.74	0724303.29	1A	278		17	13	7	19		472R	17
TREE	420839.69	0724303.27	1A	262		1	-3	-9	223		510R	0
TREE	420838.36	0724303.74	1A	268		7	3	-3	362		499R	2
TREE	420834.05	0724304.85	1A	282		21	17	11	805		495R	3
TREE	420832.95	0724311.68	1A	280		19	15	9	1007		8R	-5
TREE	420833.35	0724315.39	1A	283		22	18	12	1016		275L	-2
TREE	420831.37	0724306.36	1A	306		45	41	35	1093		431R	19
TREE	420830.66	0724317.55	1A	309		48	44	38	1313		386L	15
TREE	420828.71	0724310.52	1A	305		44	40	34	1414		170R	8
TREE	420829.16	0724318.52	1A	312		51	47	41	1476		431L	13
TREE	420828.46	0724314.32	1A	317		56	52	46	1489		107L	18
TREE	420821.98	0724308.68	1A	313		52	48	42	2059		427R	-3

OC0446

AIRPORT ELEVATION 271

20 PIR 267/271 421010.248N 0724248.220W 0101308

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	420841.74	0724303.29	1A	278		11	7	7	-9019		472L	17
TREE	420845.02	0724302.71	1A	286		19	15	15	-8684		457L	24
OL ON WINDSOCK	420935.14	0724249.74	1A	295		28	24	24	-3518		518L	29
OL VORTAC	420942.72	0724259.98	1A	305		38	34	34	-2899		377R	36
OL ON GLIDE SLOPE	421001.47	0724253.72	1A	293		26	22	22	-947		250R	26
GROUND	421010.84	0724254.70	1A	272		5	1	1	-28		491R	5
GROUND	421011.55	0724242.95	1A	269		2	-2	-2	200		367L	2
GROUND	421013.07	0724254.28	1A	268		1	-3	-3	200		500R	1
TREE	421020.17	0724240.00	1A	298		31	27	27	1098		431L	13
TREE	421029.30	0724241.95	1A	309		42	38	38	1981		123L	6
TREE	421031.05	0724252.13	1A	319		52	48	48	2020		663R	16
TREE	421036.69	0724251.14	1A	335		68	64	64	2595		691R	20
TREE	421039.62	0724242.13	1A	325		58	54	54	3008		76R	2
TREE	421041.29	0724249.59	1A	352		85	81	81	3075		659R	28
TREE	421040.35	0724230.84	1A	350		83	79	79	3231		747L	22
TREE	421044.60	0724251.61	1A	354		87	83	83	3377		868R	23
TREE	421044.25	0724228.98	1A	356		89	85	85	3644		815L	20
TREE	421053.10	0724239.79	1A	385		118	114	114	4382		145R	34
TREE	421052.52	0724228.93	1A	360		93	89	89	4469		670L	8
TREE	421055.15	0724245.09	1A	380		113	109	109	4515		575R	27
TRANSMISSION TR	421113.87	0724235.83	1A	401		134	130	130	6504		224R	8
TRANSMISSION TR	421117.96	0724223.33	1A	407		140	136	136	7078		628L	2
TRANSMISSION TR	421119.38	0724218.58	1A	409		142	138	138	7283		955L	0
TREE	421123.27	0724219.22	1A	455		188	184	184	7662		837L	39
TREE	421143.45	0724222.93	1A	481		214	210	210	9622		200L	26
TREE	421142.85	0724217.32	1A	490		223	219	219	9638		626L	34
TREE	421145.16	0724211.14	1A	505		238	234	234	9951		1042L	43
TREE	421144.03	0724159.98	1A	460		193	189	189	9987		1890L	-3
TREE	421204.90	0724202.70	1A	535		268	264	264	12030		1313L	22

0C0446

AIRPORT ELEVATION 271

15 A(V) 262/267 420948.191N 0724317.460W 3201245

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	420909.10	0724232.44	1A	261		-1	-6	-10	-5211		74L	15
BUSH	420949.34	0724320.77	1A	269		7	2	-2	249		117R	5
BUSH	420950.58	0724322.98	1A	276		14	9	5	452		165R	1
TREE	420955.32	0724327.86	1A	304		42	37	33	1056		140R	-1
TREE	420959.09	0724325.58	1A	313		51	46	42	1239		236L	-1
TREE	420958.75	0724328.70	1A	315		53	48	44	1363		34L	-5

33 A(V) 246/ 420910.234N 0724234.982W 1401313 247/266 420911.941N 0724236.892W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	420909.10	0724232.44	1A	261		15	-5	-10	211	436	74R	15
TREE	420908.10	0724233.75	1A	266		20	0	-5	225	450	67L	19
TREE	420907.34	0724232.46	1A	264		18	-2	-7	346	571	41L	11
TREE	420901.75	0724223.93	1A	294		48	28	23	1193	1418	90R	-2
TREE	420833.74	0724147.99	1A	423		177	157	152	5104	5329	357R	-68

0C0446

AIRPORT ELEVATION 271

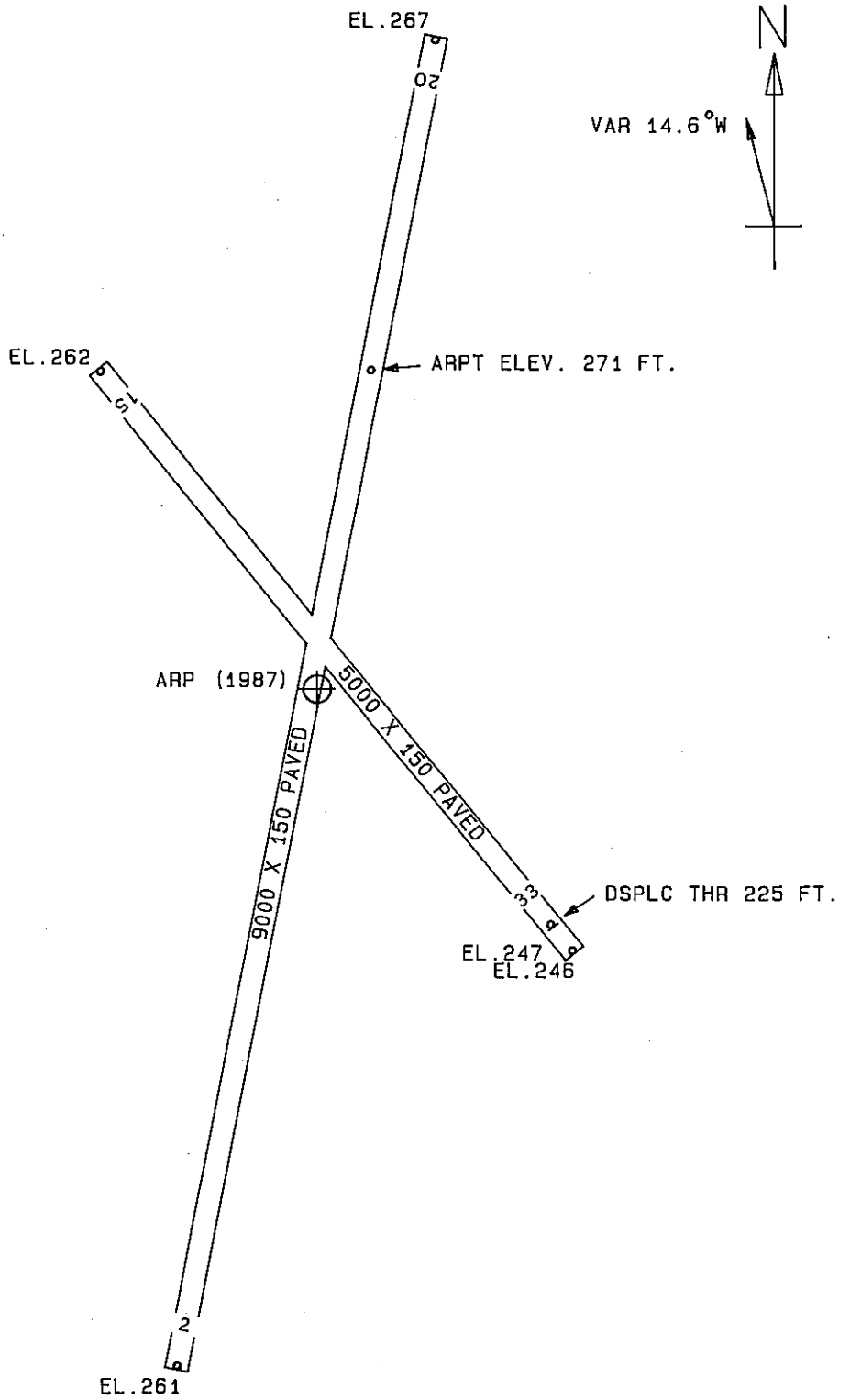
ARP 420927.468N 0724257.891W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
TREE	420929.80	0724249.91	1A	296		25	83 10	645
ANT AND APT BCN ON OL C T	420930.54	0724307.18	1A	348		77	308 36	766
TREE	420917.01	0724249.78	1A	293		22	164 36	1222
WINDSOCK ON HANGAR	420936.70	0724312.55	1A	296		25	324 50	1446
TREE	420912.06	0724244.33	1A	294		23	161 22	1864
TREE	420909.88	0724313.18	1A	314		43	227 30	2120
TREE	420914.86	0724234.71	1A	291		20	140 46	2163
TREE	420905.06	0724253.78	1A	313		42	186 50	2289
BUSH	420912.45	0724232.54	1A	265		-6	143 7	2441
TREE	420949.07	0724313.06	1A	291		20	347 1	2467
TREE	420908.85	0724235.97	1A	266		-5	153 23	2506
TREE	420906.80	0724238.43	1A	280		9	159 35	2555
HANGAR	420945.24	0724322.42	1A	286		15	328 51	2579
TREE	420949.81	0724314.73	1A	282		11	345 19	2593
TREE	420903.72	0724315.63	1A	315		44	223 40	2751
TREE	420909.92	0724227.37	1A	289		18	142 18	2905
TREE	420955.05	0724319.08	1A	318		47	344 51	3215
TREE	420910.20	0724217.54	1A	342		71	134 30	3506
TREE	420858.44	0724229.98	1A	324		53	159 1	3613
TREE	420955.33	0724332.01	1A	340		69	332 16	3815
TREE	421001.95	0724236.58	1A	321		50	39 18	3842
TREE	421009.33	0724255.70	1A	316		45	16 50	4241
OL BUILDING	421011.63	0724301.74	1A	332		61	10 53	4480
HOPPER	420841.34	0724320.75	1A	295		24	214 51	4977
TREE	421023.17	0724255.79	1A	303		32	16 12	5641
TREE	420921.04	0724138.32	1B	494		223	110 47	6029
OL ON TANK	420844.60	0724143.56	1B	440		169	142 22	7084
TREE	420840.87	0724145.74	1B	446		175	145 33	7196
TREE	420945.60	0724120.58	1B	509		238	90 32	7555
TREE	420856.49	0724118.50	1B	670		399	127 19	8117
TREE	420851.44	0724120.43	1B	664		393	131 0	8197
TOWER	420915.00	0724110.16	1B	750		479	113 26	8212
ROD ON OL BEACON	420846.03	0724122.56	1B	677		406	134 53	8316

AIRPORT ELEVATION 271

ARP 420927.468N 0724257.891W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG BEARING	DISTANCE
ANTENNA ON OL MICROWAVE T	420916.16	0724106.27	2A	791		520	112 21	8486
TREE	421005.16	0724050.73	1B	697		426	82 52	10309
TREE	421018.49	0724042.41	1B	733		462	77 44	11436
TREE	420804.74	0724113.21	1B	562		291	151 19	11503
TREE	421115.88	0724401.33	1B	529		258	351 5	11968
OL RADIO TOWER	421043.41	0724504.98	2A	544	304	273	323 23	12276
TREE	420737.55	0724130.99	1B	462		191	164 7	12910
TREE	421046.60	0724033.08	2C	689		418	68 17	13531
OL RADIO TOWER	421133.69	0724058.01	2A	535	255	264	49 50	15645
OL RADIO TOWER	421136.92	0724101.97	2A	540	254	269	48 15	15745
OL RADIO TOWER	421139.90	0724106.02	2A	538	253	267	46 44	15832



TOUCHDOWN ZONE RUNWAY	ELEVATION
2	265
20	271
15	267
33	266

BARNES MUNICIPAL AIRPORT

WESTFIELD, MASSACHUSETTS

(NOT TO SCALE)