

# OBSTRUCTION DATA SHEET

**ODS 522**  
**EDWARD F. KNAPP STATE AIRPORT**  
**BARRE - MONTPELIER, VERMONT**

**DIGITIZED FROM**

**OC 522**  
**SURVEYED AUGUST 1990**  
**8TH EDITION**



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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:

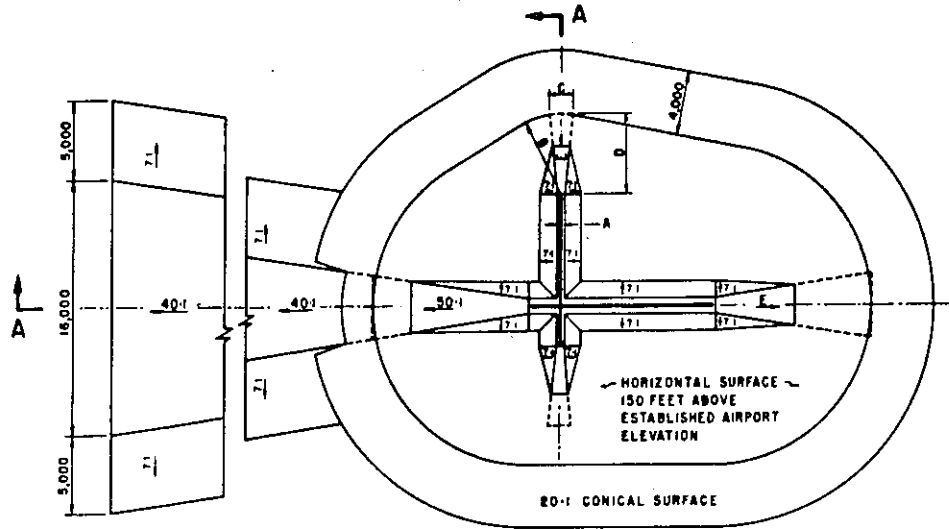
1. Objects located in FAR-77 approach (including supplemental approaches if present) or primary areas are listed with the associated runway (reference runway). For example, all objects in the Runway 9R approach or primary are listed with Runway 9R. Distances to these objects are computed from both the 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)

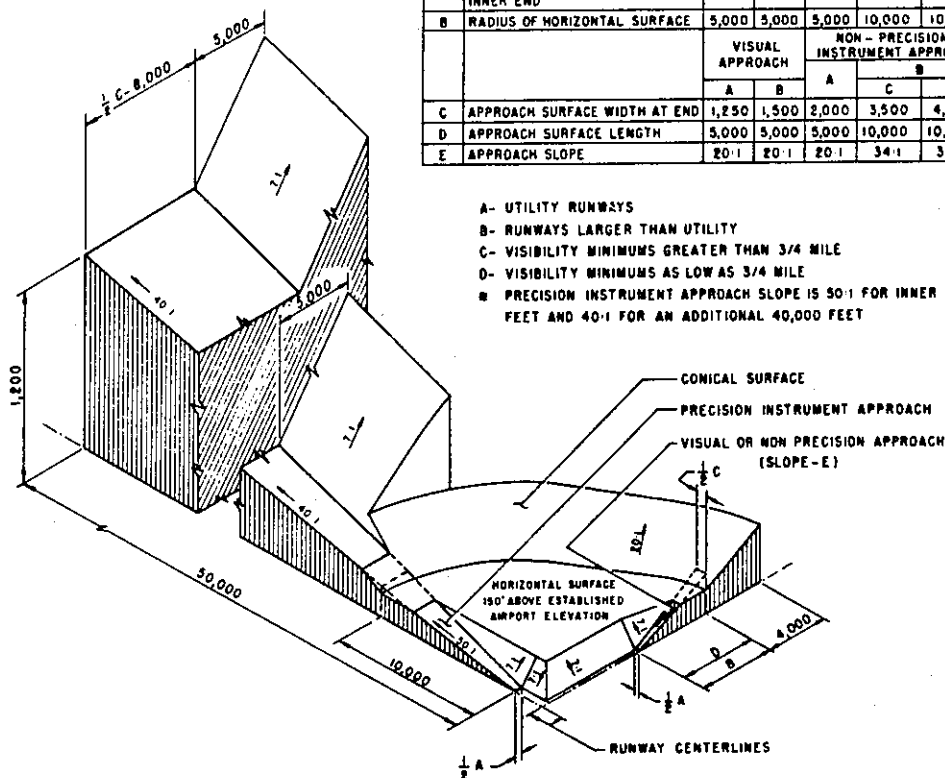
FAR-77 imaginary surface dimensions are defined on page 2 of this report.

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	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	C	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

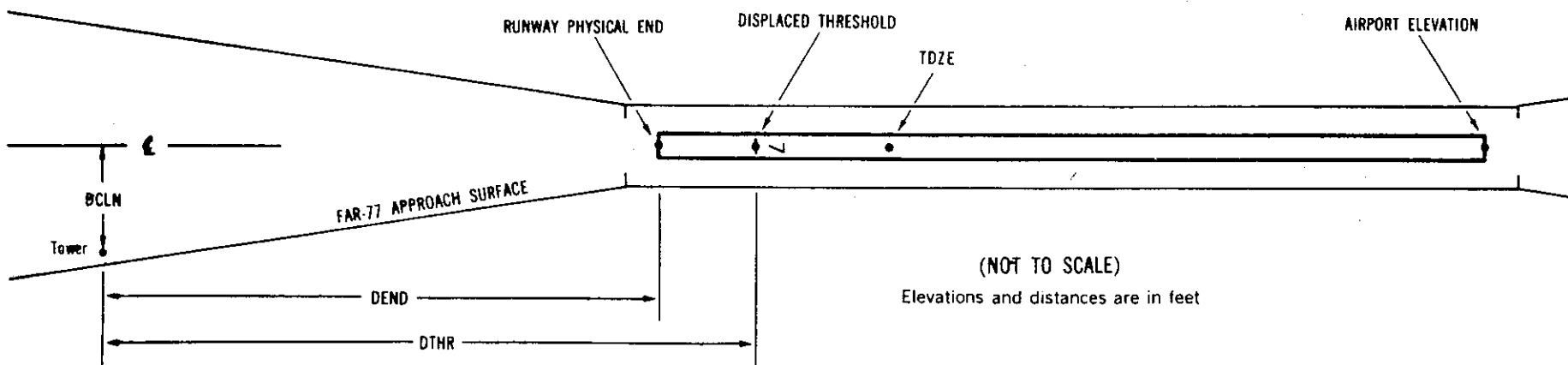
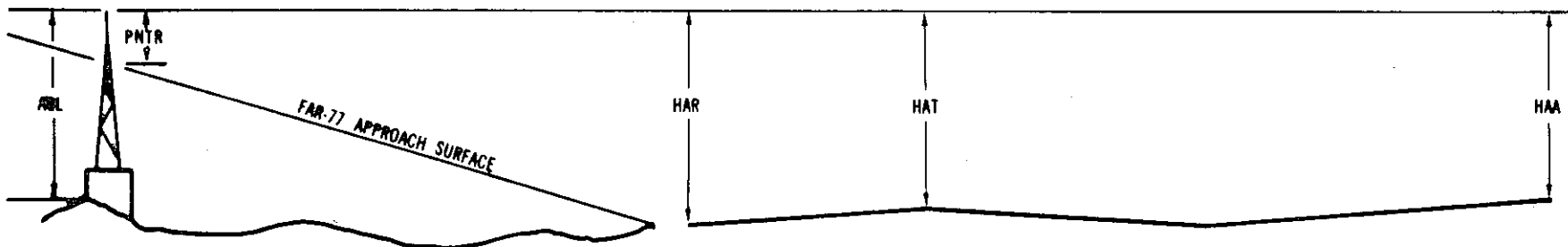
AIRPORT ELEVATION XXXX

X<sup>1</sup> X<sup>2</sup> XXXX/XXXX<sup>3</sup> XXXXXX.XXX<sup>4</sup> XXXXXXXX.XXX<sup>4</sup> XXXXXXXX<sup>5</sup> XXXX/XXXX<sup>6</sup> XXXXXX.XXX<sup>7</sup> XXXXXXXX.XXX<sup>7</sup>

OBJECT LAT LONG A<sup>8</sup> ELEV<sup>9</sup> AGL<sup>10</sup> HAR<sup>11</sup> HAT<sup>11</sup> HAA<sup>11</sup> DEND<sup>12</sup> DTHR<sup>12</sup> DCLN<sup>12</sup> PNTR<sup>13</sup>

XXXXXXXXXXXX XXXXXX.XXX XXXXXXXX.XXX XX XXXX XXXX XXX XXX XXX XXX XXX XXXX XXXXX XXXX XXXX  
 XXXXXXXXXXXX XXXXXX.XXX XXXXXXXX.XXX XX XXXX XXXX XXX XXX XXX XXX XXX XXXX XXXXX XXXX XXXX

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## 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  $\pm 10$  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).

OC0522

AIRPORT ELEVATION 1165

5 SUPLC 1113/ 441208.770N 0723356.718W 2122224 1115/1115 441213.075N 0723352.925W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
GROUND	441245.39	0723328.59	1A	1088		-25	-27	-77	-4230	-3713	255L	3
GROUND	441244.50	0723329.33	1A	1089		-24	-26	-76	-4124	-3608	252L	4
OL POLE	441240.48	0723332.69	1A	1125		12	10	-40	-3649	-3133	242L	38
TREE	441230.02	0723341.94	1A	1127		14	12	-38	-2394	-1878	243L	28
GROUND	441218.35	0723344.08	1A	1113		0	-2	-52	-1312	-796	258R	2
FENCE POST	441207.19	0723358.76	1A	1116		3	1	-49	215	731	40L	3
BUSH	441207.61	0723400.33	1A	1129		16	14	-36	240	756	160L	15
TREE	441207.96	0723401.80	1A	1175		62	60	10	267	783	269L	60
BUSH	441204.18	0723357.14	1A	1128		15	13	-37	409	925	223R	9
TREE	441206.74	0723403.23	1A	1176		63	61	11	428	944	290L	56
TREE	441205.67	0723404.30	1A	1174		61	59	9	561	1077	298L	50
BUSH	441202.47	0723358.70	1A	1134		21	19	-31	616	1132	219R	9
TREE	441204.34	0723405.83	1A	1178		65	63	13	734	1250	321L	49
OL POLE	441154.17	0723412.06	1A	1233		120	118	68	1847	2363	152L	72
TREE	441153.49	0723410.90	1A	1232		119	117	67	1860	2376	44L	70
TREE	441150.77	0723408.17	1A	1243		130	128	78	1986	2502	272R	77
POLE	441154.31	0723416.03	1A	1221		108	106	56	1990	2506	404L	55
TREE	441147.39	0723409.13	1A	1266		153	151	101	2313	2829	395R	91
TREE	441148.79	0723423.75	1A	1250		137	135	85	2763	3279	580L	62
TREE	441143.47	0723416.86	1A	1275		162	160	110	2950	3466	132R	81
TREE	441144.59	0723423.96	1A	1262		149	147	97	3131	3647	365L	63
TREE	441137.13	0723416.33	1A	1313		200	198	148	3471	3987	509R	104
TREE	441136.03	0723414.46	1A	1339		226	224	174	3492	4008	684R	129
TREE	441104.63	0723432.67	1B	1378		265	263	213	6889	7405	1265R	68

OC0522

AIRPORT ELEVATION 1165

23 SUPLC 1085/1113 441242.309N 0723327.157W 0322245

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
FENCE POST	441207.19	0723358.76	1A	1116		31	3	-49	-4237		40R	3
GROUND	441218.35	0723344.08	1A	1113		28	0	-52	-2709		258L	2
TREE	441230.02	0723341.94	1A	1127		42	14	-38	-1627		243R	28
OL POLE	441240.48	0723332.69	1A	1125		40	12	-40	-372		242R	38
GROUND	441244.50	0723329.33	1A	1089		4	-24	-76	103		252R	4
GROUND	441245.39	0723328.59	1A	1088		3	-25	-77	208		255R	3
POLE	441244.85	0723320.92	1A	1086		1	-27	-79	461		245L	-7
TREE	441251.69	0723322.71	1A	1098		13	-15	-67	975		235R	-10



OC0522

AIRPORT ELEVATION 1165

17 PIR 1092/1134 441223.624N 07234 5.638W 3314049

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DIHR	DCLN	PNTR
OL ON LOCALIZER	441138.41	0723331.76	1A	1172		80	38	7	-5202		1L	7
TREE	441140.85	0723325.89	1A	1184		92	50	19	-5187		495L	19
TREE	441137.01	0723337.11	1A	1238		146	104	73	-5141		410R	73
OL POLE	441137.71	0723337.00	1A	1223		131	89	58	-5083		369R	58
TREE	441138.35	0723339.59	1A	1250		158	116	85	-4936		504R	86
GROUND	441140.30	0723341.04	1A	1193		101	59	28	-4712		503R	32
POLE	441145.28	0723329.34	1A	1195		103	61	30	-4673		486L	35
WINDSOCK	441143.31	0723340.87	1A	1180		88	46	15	-4449		348R	23
GROUND	441148.93	0723332.21	1A	1184		92	50	19	-4248		478L	30
OL ON HANGAR	441158.80	0723340.95	1A	1174		82	40	9	-3066		391L	38
BUSH	441158.13	0723354.11	1A	1137		45	3	-28	-2671		486R	8
TREE	441205.59	0723345.57	1A	1192		100	58	27	-2301		421L	68
BUSH	441204.18	0723357.14	1A	1128		36	-6	-37	-2027		389R	8
ROD ON OL AIRPORT BEACON	441209.08	0723347.00	1A	1195		103	61	30	-1941		497L	76
ANTENNA ON OL BUILDING	441209.99	0723348.70	1A	1159		67	25	-6	-1801		431L	42
FENCE POST	441207.19	0723358.76	1A	1116		24	-18	-49	-1703		349R	1
BUSH	441207.61	0723400.33	1A	1129		37	-5	-36	-1611		429R	14
TREE	441207.96	0723401.80	1A	1175		83	41	10	-1528		506R	61
TREE	441208.37	0723402.06	1A	1183		91	49	18	-1483		503R	70
OL ON GLIDE SLOPE	441218.51	0723357.44	1A	1136		44	2	-29	-739		280L	33
BUSH	441216.63	0723405.37	1A	1112		20	-22	-53	-633		319R	11
OL WINDSOCK	441220.70	0723355.62	1A	1132		40	-2	-33	-607		502L	31
BUSH	441220.05	0723407.56	1A	1104		12	-30	-61	-252		295R	8
BUSH	441222.91	0723409.60	1A	1097		5	-37	-68	73		289R	5
BUILDING	441226.61	0723400.26	1A	1094		2	-40	-71	80		488L	2
ROAD (N)	441227.62	0723400.86	1A	1094		2	-40	-71	191		498L	2
BUSH	441228.30	0723401.19	1A	1097		5	-37	-68	263		510L	4
TREE	441225.09	0723413.79	1A	1113		21	-21	-52	412		452R	17
TREE	441229.37	0723404.22	1A	1108		16	-26	-57	463		367L	11
TREE	441227.83	0723413.50	1A	1113		21	-21	-52	647		302R	12
TREE	441236.41	0723410.30	1A	1123		31	-11	-42	1301		316L	9
TREE	441238.29	0723406.81	1A	1132		40	-2	-33	1348		629L	17
TREE	441344.16	0723501.18	1A	1239		147	105	74	9098		309L	-31

OC0522

AIRPORT ELEVATION 1165

35 C 1165/ 441140.148N 0723333.076W 1514112 1158/1158 441144.377N 0723336.243W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
ROAD (N)	441227.62	0723400.86	1A	1094		-71	-64	-71	-5192	-4706	498R	2
BUILDING	441226.61	0723400.26	1A	1094		-71	-64	-71	-5081	-4594	488R	2
BUSH	441222.91	0723409.60	1A	1097		-68	-61	-68	-5074	-4588	289L	5
BUSH	441220.05	0723407.56	1A	1104		-61	-54	-61	-4749	-4263	295L	8
OL WINDSOCK	441220.70	0723355.62	1A	1132		-33	-26	-33	-4394	-3908	502R	31
BUSH	441216.63	0723405.37	1A	1112		-53	-46	-53	-4368	-3881	319L	11
OL ON GLIDE SLOPE	441218.51	0723357.44	1A	1136		-29	-22	-29	-4262	-3775	280R	33
TREE	441208.37	0723402.06	1A	1183		18	25	18	-3518	-3031	503L	70
TREE	441207.96	0723401.80	1A	1175		10	17	10	-3472	-2986	506L	61
BUSH	441207.61	0723400.33	1A	1129		-36	-29	-36	-3390	-2904	429L	14
FENCE POST	441207.19	0723358.76	1A	1116		-49	-42	-49	-3298	-2812	349L	1
ANTENNA ON OL BUILDING	441209.99	0723348.70	1A	1159		-6	1	-6	-3200	-2714	431R	42
ROD ON OL AIRPORT BEACON	441209.08	0723347.00	1A	1195		30	37	30	-3060	-2573	497R	76
BUSH	441204.18	0723357.14	1A	1128		-37	-30	-37	-2974	-2488	389L	8
TREE	441205.59	0723345.57	1A	1192		27	34	27	-2700	-2213	421R	68
BUSH	441158.13	0723354.11	1A	1137		-28	-21	-28	-2330	-1844	486L	8
OL ON HANGAR	441158.80	0723340.95	1A	1174		9	16	9	-1935	-1449	391R	38
GROUND	441148.93	0723332.21	1A	1184		19	26	19	-753	-267	478R	30
WINDSOCK	441143.31	0723340.87	1A	1180		15	22	15	-552	-65	348L	23
POLE	441145.28	0723329.34	1A	1195		30	37	30	-328	159	486R	35
GROUND	441140.30	0723341.04	1A	1193		28	35	28	-289	198	503L	32
TREE	441138.35	0723339.59	1A	1250		85	92	85	-65	421	504L	86
OL POLE	441137.71	0723337.00	1A	1223		58	65	58	82	568	369L	58
TREE	441137.01	0723337.11	1A	1238		73	80	73	140	627	410L	73
TREE	441140.85	0723325.89	1A	1184		19	26	19	186	672	495R	19
OL ON LOCALIZER	441138.41	0723331.76	1A	1172		7	14	7	201	687	1R	7
OL ON DME	441138.68	0723329.39	1A	1179		14	21	14	258	744	166R	12
TREE	441139.97	0723324.91	1A	1193		28	35	28	298	785	515R	25
TREE	441134.92	0723330.36	1A	1190		25	32	25	560	1047	77L	14
TREE	441137.47	0723323.45	1A	1178		13	20	13	571	1058	489R	2
TREE	441132.14	0723334.29	1A	1271		106	113	106	672	1159	463L	92
TREE	441134.36	0723326.51	1A	1197		32	39	32	743	1229	143R	16
TREE	441131.38	0723330.44	1A	1248		83	90	83	872	1359	252L	63

AIRPORT ELEVATION 1165

35 C 1165/ 441140.148N 0723333.076W 1514112 1158/1158 441144.377N 0723336.243W

OBJECT	LAT	LONG	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	441132.42	0723322.69	1A	1223		58	65	58	1048	1534	295R	33
OL ON BUILDING	441129.87	0723321.42	1A	1221		56	63	56	1319	1806	254R	23
TREE	441124.79	0723329.30	1A	1299		134	141	134	1500	1986	495L	96
POLE	441125.14	0723322.49	1A	1243		78	85	78	1703	2190	42L	34
TREE	441120.23	0723329.49	1A	1387		222	229	222	1899	2386	727L	172
OL POLE	441120.48	0723326.77	1A	1334		169	176	169	1971	2458	540L	117
TREE	441119.04	0723327.07	1A	1384		219	226	219	2090	2576	629L	163
TREE	441121.96	0723312.44	1A	1267		102	109	102	2335	2821	450R	39
TREE	441116.57	0723314.81	1A	1297		132	139	132	2733	3220	39R	57
TREE	441052.23	0723258.28	1A	1400		235	242	235	5474	5960	69L	80
TREE	441046.79	0723304.97	1A	1519		354	361	354	5728	6215	759L	191

OC0522

AIRPORT ELEVATION 1165

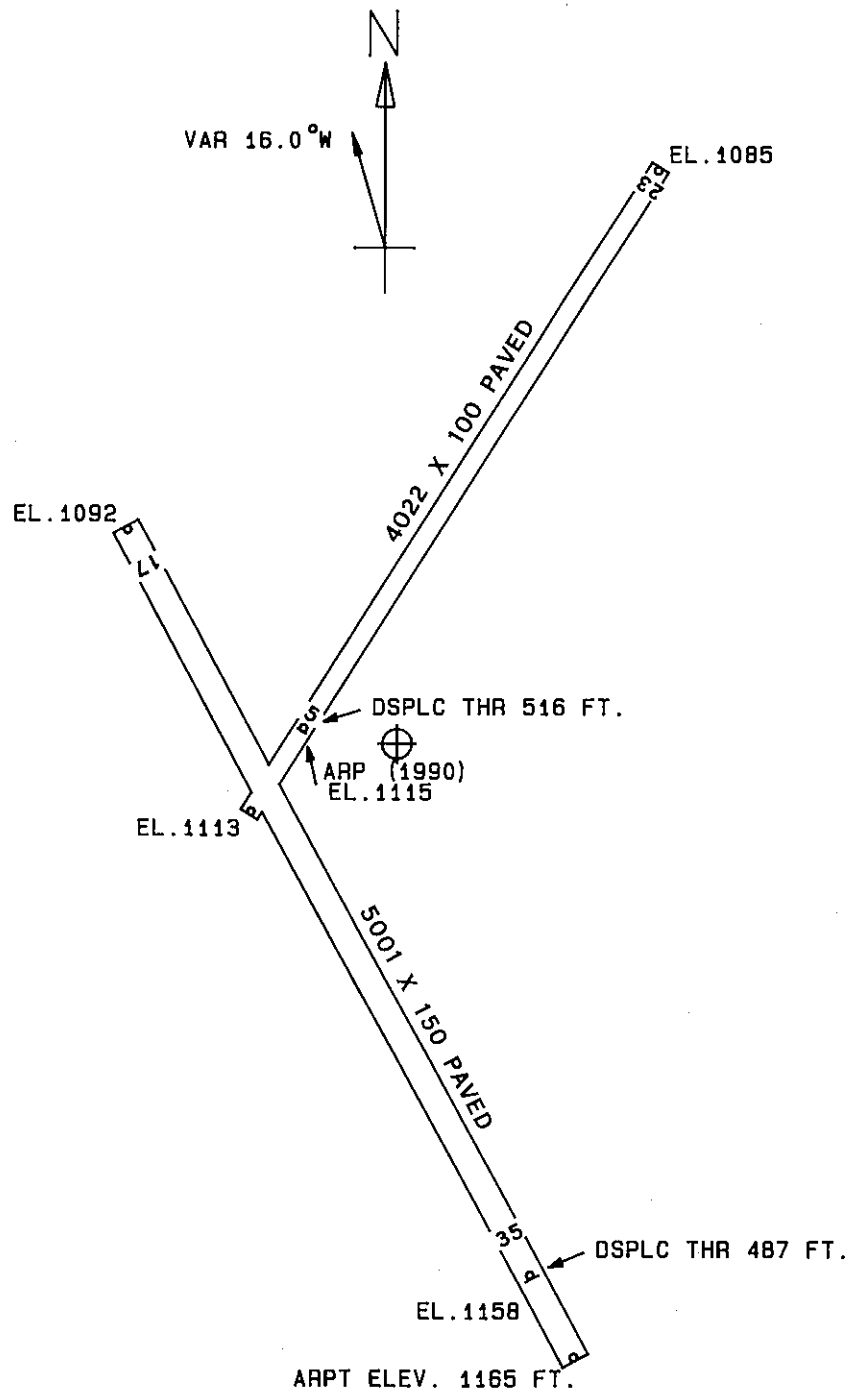
ARP 441212.429N 0723346.050W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG	BEARING	DISTANCE
ANTENNA ON OL DF TOWER	441209.56	0723346.69	1A	1215		50	205	9	294
FENCE	441215.40	0723346.37	1A	1127		-38	11	35	301
ROD ON OL POLE	441217.00	0723342.93	1A	1214		49	42	10	516
TREE	441206.24	0723342.30	1A	1192		27	172	29	684
TREE	441219.72	0723339.80	1A	1184		19	47	41	867
TREE	441224.67	0723349.24	1A	1171		6	5	23	1261
TREE	441212.93	0723406.23	1A	1166		1	287	59	1471
TREE	441225.90	0723354.34	1A	1165		0	352	7	1491
BUILDING	441229.49	0723345.01	1A	1132		-33	18	30	1729
TREE	441156.36	0723354.51	1A	1168		3	216	45	1740
TREE	441230.05	0723400.35	1A	1119		-46	345	44	2066
TREE	441150.92	0723350.66	1A	1183		18	204	46	2203
TREE	441220.74	0723415.95	1A	1156		-9	307	8	2335
TREE	441224.54	0723415.14	1A	1121		-44	316	4	2448
TREE	441150.88	0723329.45	1A	1261		96	167	1	2495
POLE	441150.20	0723401.66	1A	1202		37	222	48	2522
TREE	441210.81	0723420.94	1A	1233		68	282	19	2547
TREE	441145.95	0723345.98	1A	1201		36	195	54	2681
TREE	441148.21	0723330.87	1A	1228		63	171	44	2690
HOPPER	441240.88	0723357.15	1A	1157		-8	0	20	2992
TREE	441241.77	0723333.82	1A	1143		-22	32	41	3102
TREE	441144.40	0723324.83	1A	1219		54	167	25	3232
TREE	441153.72	0723422.15	1A	1259		94	250	14	3241
TREE	441242.95	0723331.48	1A	1124		-41	34	57	3268
ROAD (N)	441245.23	0723329.33	1A	1118		-47	36	8	3538
TREE	441243.08	0723318.79	1A	1109		-56	48	36	3685
TREE	441247.23	0723329.04	1A	1122		-43	35	22	3736
TREE	441132.22	0723409.44	1B	1389		224	218	43	4413
TREE	441126.73	0723345.17	1A	1373		208	195	12	4628
OL ON POLE	441131.81	0723316.41	1A	1208		43	168	18	4646
TREE	441131.10	0723414.29	1B	1385		220	222	11	4663
TREE	441132.15	0723312.56	1A	1257		92	165	7	4753
TREE	441128.39	0723408.94	1B	1423		258	216	31	4761

AIRPORT ELEVATION 1165

ARP 441212.429N 0723346.050W

OBJECT	LAT	LONG	A	ELEV	AGL	HAA	MAG	BEARING	DISTANCE
TREE	441124.29	0723344.91	1B	1392		227	195	1	4876
TREE	441126.33	0723414.18	1B	1394		229	219	42	5099
TREE	441121.20	0723415.39	1B	1395		230	218	24	5611
TREE	441114.45	0723355.19	1B	1469		304	202	28	5909
TREE	441111.89	0723420.34	1B	1365		200	218	11	6620
TREE	441146.05	0723218.47	1B	1343		178	128	43	6917
OL ON TOWER	441056.20	0723402.35	1B	1572		407	204	45	7810
TREE	441115.33	0723231.17	1B	1327		162	152	39	7949
TREE	441254.52	0723529.80	1B	1359		194	315	26	8676
TREE	441044.96	0723339.72	1B	1603		438	193	1	8870
TREE	441312.03	0723516.38	1B	1232		67	328	32	8928
TREE	441200.76	0723557.45	1B	1360		195	278	58	9645
TREE	441236.21	0723555.27	1B	1400		235	300	22	9716
TREE	441134.10	0723600.57	1B	1498		333	264	25	10541
TREE	441027.92	0723353.85	1B	1640		475	199	5	10598
TREE	441214.18	0723646.53	2C	1640		475	286	48	13149
TREE	441132.68	0723650.92	2C	1820		655	269	23	14057
TREE	441104.52	0723644.19	2C	2161		996	258	6	14688
TREE	440952.53	0723439.64	2C	1575		410	211	25	14695



TOUCHDOWN ZONE RUNWAY ELEVATION	
5	1115
23	1113
17	1134
35	1158

EDWARD F. KNAPP STATE AIRPORT  
 BARRE - MONTPELIER, VERMONT  
 (NOT TO SCALE)