

OBSTRUCTION DATA SHEET

**ODS 649
PORTLAND - TROUTDALE AIRPORT
PORTLAND, OREGON**

DIGITIZED FROM

**OC 649
SURVEYED JUNE 1992
7TH EDITION**

**HORIZONTAL DATUM NAD83
VERTICAL DATUM NGVD29**



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

ATTENTION

See SPECIAL NOTICES in "Dates of Latest Editions, Airport Obstruction Charts - Obstruction Data Sheets," for possible corrections. National Oceanic and Atmospheric Administration (NOAA) publications are available through NOAA Distribution Branch (N/CG33), National Ocean Service, Riverdale, MD 20737. Telephone: 301-436-6990

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.

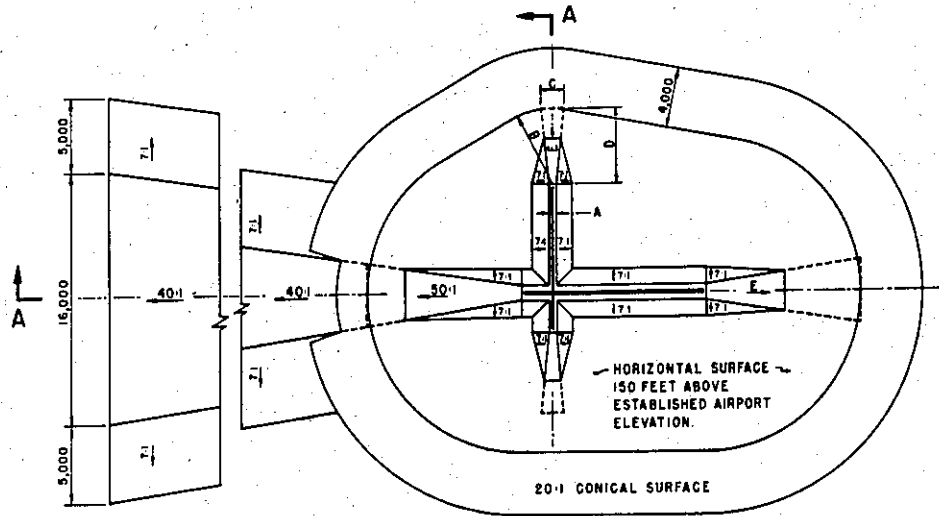
ODS information is arranged as follows:

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:

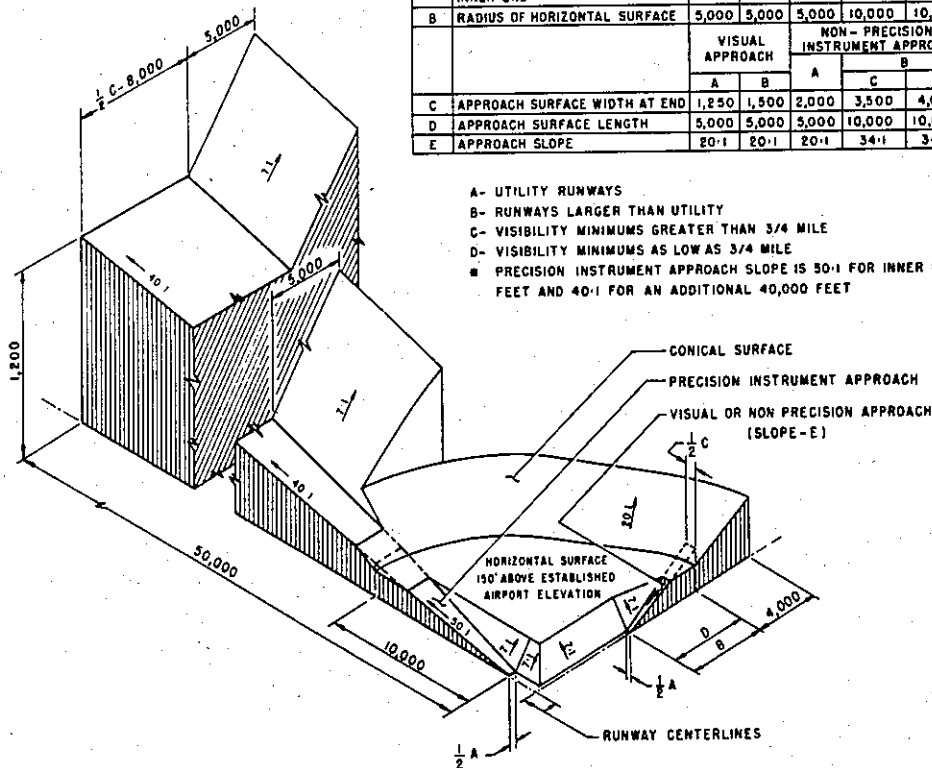
A(V) Utility runway - visual approach only
A(NP) Utility runway - nonprecision instrument approach
B(V) Nonutility runway - visual approach only
C Nonutility runway - nonprecision instrument approach with visibility minimums greater than 3/4 mile
D Nonutility runway- nonprecision instrument approach 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 | 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 |
| | | VISUAL APPROACH | | NON-PRECISION INSTRUMENT APPROACH | | | PRECISION INSTRUMENT APPROACH |
| | | A | B | A | B | | |
| 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

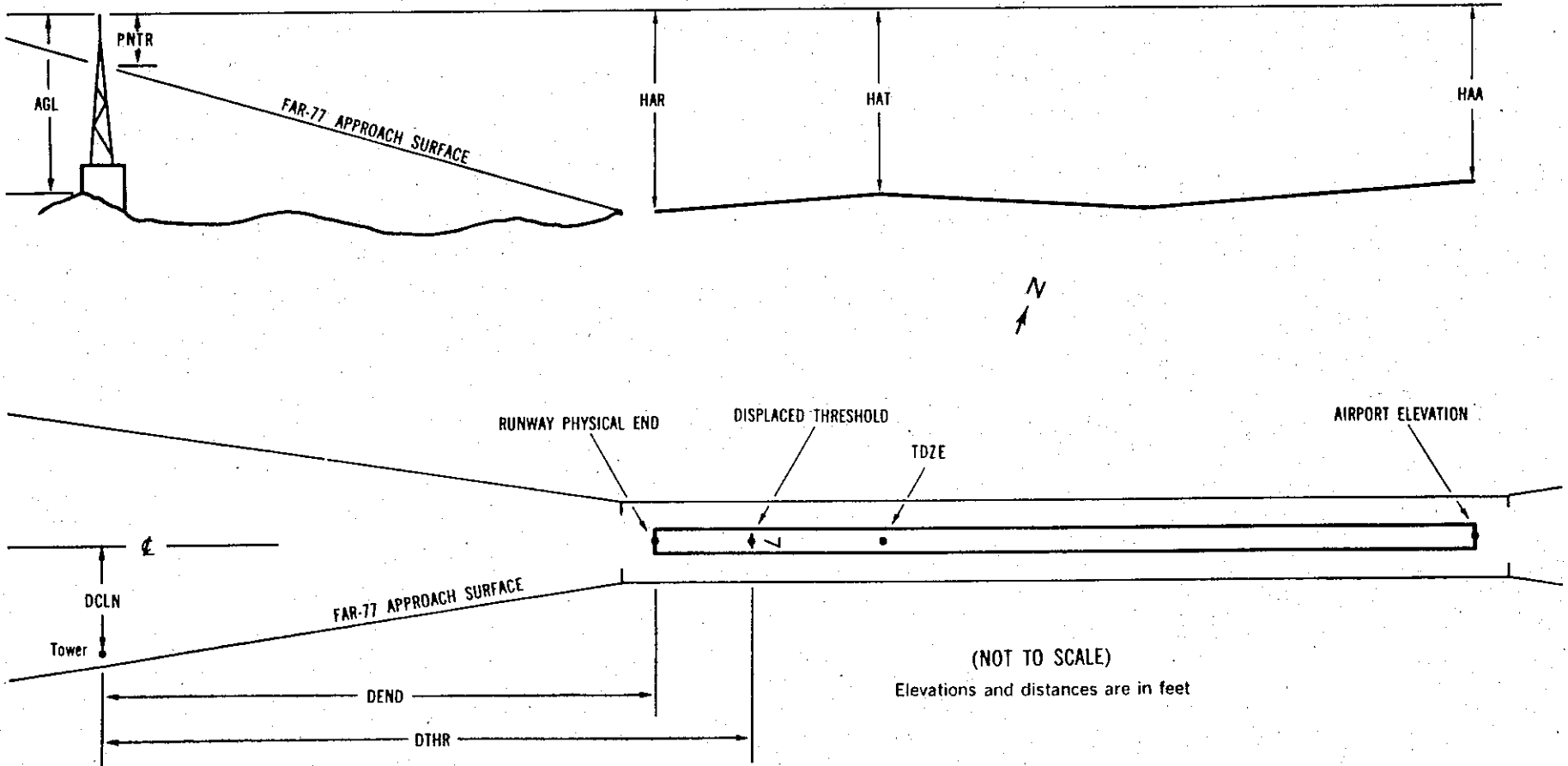
FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES

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 |
| 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 |



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 displace threshold
- 8 Accuracy codes: Horizontal Vertical
 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 displace 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 PTNR - Penetration of indicated FAR-77 approach or primary surface (See footnote 2).

AIRPORT ELEVATION 35

7 SUPLC 24/ 29 453257.111 -1222442.432 884007.

| OBJECT | LAT | LONG | A | EL | AGL | HAR | HAT | HAA | DEND | DTHR | DCLN | PNTR |
|---------------|-----------|-------------|----|-----|-----|-----|-----|-----|-------|------|------|------|
| WINDSOCK | 453256.71 | -1222324.15 | 1A | 45 | | 21 | 16 | 10 | -5568 | | 169R | 10 |
| OL ON LTD WSK | 453259.57 | -1222356.83 | 1A | 57 | | 33 | 28 | 22 | -3250 | | 174L | 28 |
| OL ON AMOM | 453259.43 | -1222358.26 | 1A | 53 | | 29 | 24 | 18 | -3148 | | 162L | 24 |
| ROAD (N) | 453256.72 | -1222503.75 | 1A | 41 | | 17 | 12 | 6 | 1517 | | 4R | -22 |
| TREE | 453258.75 | -1222508.26 | 1A | 58 | | 34 | 29 | 23 | 1833 | | 209L | -14 |
| TREE | 453258.85 | -1222511.34 | 1A | 82 | | 58 | 53 | 47 | 2053 | | 224L | 3 |
| TREE | 453251.50 | -1222512.74 | 1A | 105 | | 81 | 76 | 70 | 2170 | | 518R | 23 |
| TREE | 453259.21 | -1222513.78 | 1A | 89 | | 65 | 60 | 54 | 2225 | | 264L | 5 |
| TREE | 453252.36 | -1222516.52 | 1A | 111 | | 87 | 82 | 76 | 2436 | | 424R | 21 |
| TREE | 453255.77 | -1222525.39 | 1A | 115 | | 91 | 86 | 80 | 3059 | | 64R | 6 |
| TREE | 453254.20 | -1222527.33 | 1A | 130 | | 106 | 101 | 95 | 3201 | | 220R | 17 |
| TREE | 453301.34 | -1222530.95 | 1A | 132 | | 108 | 103 | 97 | 3442 | | 508L | 12 |
| TRMSN TWR | 453302.39 | -1222556.91 | 1A | 151 | | 127 | 122 | 116 | 5286 | | 658L | -23 |

25 SUPLC 35/ 35 453258.342 -1222326.581 2684101.

| OBJECT | LAT | LONG | A | EL | AGL | HAR | HAT | HAA | DEND | DTHR | DCLN | PNTR |
|---------------|-----------|-------------|----|-----|-----|-----|-----|-----|-------|------|------|------|
| OL ON AMOM | 453259.43 | -1222358.26 | 1A | 53 | | 18 | 18 | 18 | -2251 | | 162R | 24 |
| OL ON LTD WSK | 453259.57 | -1222356.83 | 1A | 57 | | 22 | 22 | 22 | -2149 | | 174R | 28 |
| WINDSOCK | 453256.71 | -1222324.15 | 1A | 45 | | 10 | 10 | 10 | 169 | | 169L | 10 |
| SIGN | 453256.98 | -1222320.24 | 1A | 46 | | 11 | 11 | 11 | 448 | | 148L | 3 |
| ROAD (N) | 453258.39 | -1222319.81 | 1A | 53 | | 18 | 18 | 18 | 482 | | 6L | 9 |
| OL ON DIKE | 453300.98 | -1222318.38 | 1A | 49 | | 14 | 14 | 14 | 589 | | 253R | 2 |
| TREE | 453256.43 | -1222313.25 | 1A | 92 | | 57 | 57 | 57 | 944 | | 215L | 35 |
| TREE | 453259.01 | -1222312.47 | 1A | 75 | | 40 | 40 | 40 | 1005 | | 44R | 16 |
| TREE | 453257.40 | -1222300.29 | 1A | 117 | | 82 | 82 | 82 | 1868 | | 139L | 33 |
| TREE | 453302.40 | -1222259.88 | 1A | 121 | | 86 | 86 | 86 | 1909 | | 367R | 35 |
| TREE | 453300.25 | -1222259.22 | 1A | 131 | | 96 | 96 | 96 | 1951 | | 148R | 44 |
| TREE | 453305.62 | -1222240.71 | 1A | 146 | | 111 | 111 | 111 | 3280 | | 662R | 20 |
| TREE | 453253.34 | -1222237.98 | 1A | 141 | | 106 | 106 | 106 | 3446 | | 585L | 10 |
| TREE | 453256.91 | -1222228.80 | 1A | 133 | | 98 | 98 | 98 | 4107 | | 239L | -17 |

AIRPORT ELEVATION 35

ARP 453257.728 -1222404.506

| OBJECT | LAT | LONG | A | EL | AGL | HAA | MAG BEARING | DISTANCE |
|-----------------------|-----------|-------------|----|-----|-----|-----|-------------|----------|
| OL ON HANGAR | 453302.30 | -1222404.69 | 1A | 67 | | 32 | 33945 | 463 |
| OL ON BLDG | 453254.90 | -1222356.63 | 1A | 46 | | 11 | 9827 | 629 |
| ANT & APBN ON OL ATCT | 453302.12 | -1222356.91 | 1A | 106 | | 71 | 3156 | 700 |
| TREE | 453253.16 | -1222414.31 | 1A | 81 | | 46 | 21751 | 837 |
| TREE | 453248.28 | -1222403.91 | 1A | 140 | | 105 | 15852 | 958 |
| ANT ON BLDG | 453252.55 | -1222349.01 | 1A | 75 | | 40 | 9648 | 1221 |
| ANT ON BLDG | 453302.57 | -1222347.26 | 1A | 76 | | 41 | 4937 | 1321 |
| POLE | 453253.09 | -1222428.26 | 1A | 67 | | 32 | 23553 | 1754 |
| OL STACK | 453315.89 | -1222408.41 | 1B | 176 | | 141 | 33249 | 1861 |
| OL ON HANGAR | 453302.91 | -1222335.80 | 1A | 67 | | 32 | 5658 | 2109 |
| TREE | 453304.33 | -1222334.05 | 1A | 114 | | 79 | 5415 | 2268 |
| LIGHT STANDARD | 453255.30 | -1222331.70 | 1A | 65 | | 30 | 7724 | 2348 |
| WINDSOCK | 453300.58 | -1222440.80 | 1A | 32 | | -3 | 25747 | 2599 |
| OL STACK | 453323.57 | -1222356.95 | 1B | 205 | | 170 | 35300 | 2672 |
| HANGAR | 453302.40 | -1222326.36 | 1A | 58 | | 23 | 6130 | 2755 |
| LT STANDARD | 453255.43 | -1222322.29 | 1A | 66 | | 31 | 7550 | 3013 |
| TREE | 453251.95 | -1222447.22 | 1A | 92 | | 57 | 24030 | 3095 |
| TREE | 453254.46 | -1222320.14 | 1A | 80 | | 45 | 7722 | 3175 |
| TREE | 453302.64 | -1222315.72 | 1A | 114 | | 79 | 6314 | 3507 |
| TREE | 453302.71 | -1222310.81 | 1A | 88 | | 53 | 6352 | 3854 |
| TREE | 453250.94 | -1222458.81 | 1A | 111 | | 76 | 24119 | 3925 |
| OL TRMSN TWR | 453336.38 | -1222341.74 | 1B | 193 | | 158 | 352 | 4237 |
| TREE | 453252.15 | -1222504.76 | 1A | 75 | | 40 | 24353 | 4325 |
| TREE | 453248.26 | -1222503.85 | 1A | 151 | | 116 | 23836 | 4330 |
| TREE | 453303.18 | -1222505.62 | 1A | 105 | | 70 | 25838 | 4384 |
| TREE | 453251.49 | -1222505.82 | 1A | 106 | | 71 | 24310 | 4409 |
| TREE | 453250.21 | -1222506.47 | 1A | 130 | | 95 | 24136 | 4475 |
| TRMSN TWR | 453326.36 | -1222316.23 | 1B | 194 | | 159 | 3113 | 4496 |
| FLOODLIGHT | 453231.20 | -1222455.22 | 1B | 182 | | 147 | 21444 | 4499 |
| TREE | 453303.79 | -1222300.86 | 1A | 113 | | 78 | 6340 | 4571 |
| TANK | 453232.38 | -1222306.93 | 1B | 168 | | 133 | 10327 | 4835 |

AIRPORT ELEVATION 35

ARP 453257.728 -1222404.506

| OBJECT | LAT | LONG | A | EL | AGL | HAA | MAG | BEARING | DISTANCE |
|-----------------|-----------|-------------|----|-----|-----|-----|-------|---------|----------|
| TREE | 453302.26 | -1222512.43 | 1A | 94 | | 59 | 25649 | | 4855 |
| TANK | 453211.07 | -1222424.85 | 1B | 248 | | 213 | 17826 | | 4943 |
| TREE | 453209.83 | -1222332.30 | 1B | 386 | | 351 | 13606 | | 5365 |
| TREE | 453214.18 | -1222447.83 | 1B | 232 | | 197 | 19621 | | 5381 |
| OL ON TRMSN TWR | 453342.30 | -1222322.87 | 1B | 195 | | 160 | 1440 | | 5400 |
| TRMSN TWR | 453326.96 | -1222509.48 | 1B | 173 | | 138 | 28402 | | 5490 |
| TREE | 453203.64 | -1222356.10 | 2C | 352 | | 317 | 15509 | | 5511 |
| TRMSN TWR | 453326.90 | -1222256.05 | 1B | 186 | | 151 | 4009 | | 5698 |
| OL ON TRMSN TWR | 453338.79 | -1222303.51 | 1B | 195 | | 160 | 2737 | | 6011 |
| TRMSN TWR | 453352.38 | -1222439.32 | 2A | 282 | 255 | 247 | 31717 | | 6064 |
| OL ON TRMSN TWR | 453350.09 | -1222449.74 | 2A | 283 | 247 | 248 | 31008 | | 6203 |
| TREE | 453304.95 | -1222533.60 | 1B | 174 | | 139 | 25759 | | 6382 |
| TREE | 453156.42 | -1222334.64 | 2C | 398 | | 363 | 14229 | | 6563 |
| TREE | 453151.54 | -1222410.13 | 2C | 444 | | 409 | 16449 | | 6715 |
| OL ON TRMSN TWR | 453335.57 | -1222245.86 | 1B | 203 | | 168 | 3659 | | 6783 |
| OL TRMSN TWR | 453405.70 | -1222435.57 | 2A | 281 | 265 | 246 | 32336 | | 7230 |
| TREE | 453213.40 | -1222527.09 | 2C | 252 | | 217 | 21401 | | 7396 |
| TREE | 453204.92 | -1222518.70 | 2C | 241 | | 206 | 20602 | | 7515 |
| TREE | 453147.69 | -1222450.43 | 2C | 429 | | 394 | 18608 | | 7811 |
| TREE | 453142.67 | -1222335.04 | 2C | 400 | | 365 | 14558 | | 7886 |
| TREE | 453140.37 | -1222425.82 | 2C | 471 | | 436 | 17221 | | 7980 |
| TRMSN TWR | 453416.32 | -1222435.56 | 2C | 202 | | 167 | 32553 | | 8261 |
| TREE | 453227.18 | -1222216.80 | 2C | 572 | | 537 | 9322 | | 8266 |
| TREE | 453218.58 | -1222220.08 | 2C | 524 | | 489 | 9928 | | 8423 |
| TREE | 453226.39 | -1222206.43 | 2C | 594 | | 559 | 9204 | | 8982 |
| OL ON TRMSN TWR | 453318.55 | -1222157.12 | 2A | 236 | 210 | 201 | 5817 | | 9307 |
| OL ON POLE | 453218.70 | -1222205.02 | 2C | 594 | | 559 | 9619 | | 9377 |
| TREE | 453140.43 | -1222518.61 | 2C | 427 | | 392 | 19522 | | 9439 |
| TREE | 453203.74 | -1222202.20 | 2C | 565 | | 530 | 10331 | | 10279 |
| TREE | 453222.12 | -1222148.21 | 2C | 687 | | 652 | 9146 | | 10348 |
| TREE | 453217.89 | -1222144.58 | 2C | 704 | | 669 | 9326 | | 10745 |

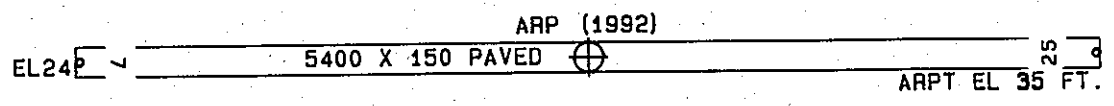
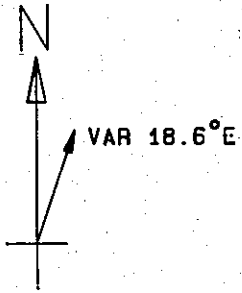
OC0649

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AIRPORT ELEVATION 35

ARP 453257.728 -1222404.506

| OBJECT | LAT | LONG | A | EL | AGL | HAA | MAG BEARING | DISTANCE |
|--------|-----------|-------------|----|-----|-----|-----|-------------|----------|
| TREE | 453151.42 | -1222201.72 | 20 | 547 | | 512 | 10855 | 11022 |
| TREE | 453226.81 | -1222132.99 | 20 | 375 | | 340 | 8734 | 11228 |



| TOUCHDOWN ZONE RUNWAY ELEVATION | |
|------------------------------------|----|
| 7 | 29 |
| 25 | 35 |

PORTLAND-TROUTDALE AIRPORT
PORTLAND, OREGON
(NOT TO SCALE)