

Orientation of Views for Engineering Drawings

Plan Views

Plan views are drawn so the direction of stream flow is from left to right or towards the top of the sheet.

Cross Sections - Parallel to Stream

These are drawn so the upstream end of sections are on the left-hand side of the sheet (flow left to right).

Cross Sections Normal to Stream

These are drawn so they are viewed from upstream (looking downstream). When this is not practical, the orientation may be changed to give the true perspective and the position of the viewer stated in the title of the view (e .g. "looking upstream").

Channel - Profiles

These are drawn so the stations increase from left to right.

Channel - Cross Sections

These are drawn as though viewed in the direction of increasing stations.

MAP SCALES AND EQUIVALENTS

FRACTIONAL SCALE	FEET PER INCH	IN. PER 1000 FT	INCHES PER MILE	MILES PER IN.	METERS PER IN.	ACRES PER SQ. INCH	SQ. IN. PER ACRE	SQ. MI. PER SQ. INCH
1" = 500'	41.667	24.00	126.72	0.008	12.700	0.0399	25.091	0.0006
1" = 600'	50.00	20.00	105.60	0.009	15.240	0.0574	17.424	0.0009
1" = 1000'	83.333	12.00	63.36	0.016	25.400	0.1594	6.273	0.0025
1" = 1200'	100.00	10.00	52.80	0.019	30.480	0.2296	4.356	0.0036
1" = 1500'	125.00	8.00	42.24	0.024	38.100	0.3587	2.788	0.0056
1" = 2000'	166.667	6.00	31.68	0.032	50.800	0.6377	1.568	0.0100
1" = 2400'	200.00	5.00	26.40	0.038	60.960	0.9183	1.089	0.014
1" = 2500'	208.333	4.80	25.344	0.039	63.500	0.9964	1.004	0.016
1" = 3000'	250.00	4.00	21.12	0.047	76.200	1.4348	0.697	0.022
1" = 3600'	300.00	3.333	17.60	0.057	91.440	2.0661	0.484	0.032
1" = 4000'	333.333	3.00	15.84	0.063	101.600	2.5508	0.392	0.040
1" = 4800'	400.00	2.50	13.20	0.076	121.920	3.6731	0.272	0.057
1" = 5000'	416.667	2.40	12.672	0.079	127.000	3.9856	0.251	0.062
1" = 6000'	500.00	2.00	10.56	0.095	152.400	5.7382	0.174	0.090
1" = 7000'	583.333	1.714	9.051	0.110	177.800	7.8117	0.128	0.122
1" = 7200'	600.00	1.667	8.80	0.114	182.880	8.2645	0.121	0.129
1" = 7920'	660.00	1.515	8.00	0.125	201.168	10.00	0.100	0.156
1" = 8000'	666.667	1.500	7.92	0.126	203.200	10.203	0.098	0.159
1" = 8400'	700.00	1.429	7.543	0.133	213.360	11.249	0.089	0.176
1" = 9000'	750.00	1.333	7.041	0.142	228.600	12.913	0.077	0.202
1" = 9600'	800.00	1.250	6.60	0.152	243.840	14.692	0.068	0.230
1" = 10000'	833.333	1.200	6.336	0.158	254.000	15.942	0.063	0.249
1" = 10800'	900.00	1.111	5.867	0.170	274.320	18.595	0.054	0.291
1" = 12000'	1000.00	1.0	5.280	0.189	304.800	22.957	0.044	0.359
1" = 13200'	1100.00	0.909	4.800	0.208	335.280	27.778	0.036	0.434
1" = 14400'	1200.00	0.833	4.400	0.227	365.760	33.058	0.030	0.517
1" = 15000'	1250.00	0.80	4.224	0.237	381.000	35.870	0.028	0.580
1" = 15600'	1300.00	0.769	4.062	0.246	396.240	38.797	0.026	0.606
1" = 15840'	1320.00	0.758	4.00	0.250	402.337	40.000	0.025	0.625
1" = 16000'	1333.333	0.750	3.96	0.253	406.400	40.812	0.024	0.638
1" = 16800'	1400.00	0.714	3.771	0.265	426.720	44.995	0.022	0.703
1" = 18000'	1500.00	0.667	3.52	0.284	457.200	51.653	0.019	0.807
1" = 19200'	1600.00	0.625	3.30	0.303	487.680	58.770	0.017	0.918
1" = 20000'	1666.667	0.60	3.168	0.316	508.000	63.769	0.016	0.996
1" = 20400'	1700.00	0.588	3.106	0.322	518.160	66.345	0.015	1.037
1" = 21120'	1760.00	0.568	3.00	0.333	536.448	71.111	0.014	1.111
1" = 21600'	1800.00	0.556	2.933	0.341	548.640	74.380	0.013	1.152
1" = 22800'	1900.00	0.526	2.779	0.360	579.120	82.874	0.012	1.295
1" = 24000'	2000.00	0.50	2.640	0.379	609.600	91.827	0.011	1.435
1" = 25000'	2083.333	0.480	2.534	0.395	635.000	99.639	0.010	1.557
1" = 31680'	2640.00	0.379	2.000	0.500	804.674	160.000	0.006	0.2500
1" = 48000'	4000.00	0.250	1.320	0.758	1219.202	367.309	0.003	0.5739
1" = 62500'	5208.333	0.192	1.014	0.986	1587.503	622.744	0.0016	0.9730
1" = 63360'	5280.00	0.189	1.000	1.000	1609.347	640.00	0.0016	1.0000
1" = 96000'	8000.00	0.125	0.660	1.515	2438.405	1469.24	0.0007	2.2957
1" = 125000'	10416.667	0.096	0.507	1.973	3175.006	2490.98	0.0004	3.8922
1" = 126720'	10560.00	0.095	0.500	2.00	3218.694	2560.00	0.0004	4.00
1" = 250000'	20833.333	0.048	0.253	3.946	6350.012	9963.907	0.0001	95.5686
1" = 253440'	21120.00	0.047	0.250	4.00	6437.389	10244.202	0.0001	16.00
1" = 500000'	41666.667	0.024	0.127	7.891	12700.025	39855.627	0.0001	62.2744
1" = 1000000'	83333.333	0.012	0.063	15.783	25400.050	159422.507	0.0001	249.0377
FORMULAS	SCALE 1"	1000 SCALE	83380 SCALE	83360 SCALE	FT. PER IN. X 0.3048006	(SCALE) ² 43560 x 1.44	43560 x 1.44 (SCALE) ²	(SCALE) ² 152801

Exhibit 5-1

REFERENCE

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

RTSC-NE-ENG.

510

SHEET 1 OF 1