

| SD-5 | | WHEN S>L: $S = \frac{1400}{A} + \frac{L}{2}$ | | | | | | | | | | | | | | | | | | | WHEN S<L: $S = 52.915 \sqrt{\frac{L}{A}}$ | | | | | | | | | | | | | | | | | | | S = SIGHT DISTANCE IN FEET | | | | | | | | | | | | | | | | | | | A = ALGEBRAIC DIFFERENCE OF GRADES IN PERCENT |
|---|--------------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| A = ALGEBRAIC DIFFERENCE OF GRADES IN PERCENT | L = LENGTH OF VERTICAL CURVE IN FEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.0 | 725 | 750 | 775 | 800 | 825 | 850 | 875 | 900 | 925 | 950 | 975 | 1000 | 1025 | 1050 | 1075 | 1100 | 1125 | 1150 | 1175 | 1200 | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.5 | 585 | 610 | 635 | 660 | 685 | 710 | 735 | 760 | 785 | 810 | 835 | 860 | 885 | 910 | 935 | 960 | 985 | 1010 | 1035 | 1060 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.0 | 492 | 517 | 542 | 567 | 592 | 617 | 642 | 667 | 692 | 717 | 742 | 767 | 792 | 817 | 842 | 867 | 892 | 917 | 942 | 966 | 3.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.5 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 600 | 625 | 650 | 675 | 700 | 725 | 750 | 775 | 800 | 825 | 849 | 872 | 894 | 3.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.0 | 375 | 400 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 600 | 625 | 650 | 675 | 700 | 725 | 748 | 771 | 794 | 815 | 837 | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.5 | 336 | 361 | 386 | 411 | 436 | 461 | 486 | 511 | 536 | 561 | 586 | 611 | 636 | 660 | 683 | 706 | 727 | 748 | 769 | 789 | 4.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.0 | 305 | 330 | 355 | 380 | 405 | 430 | 455 | 480 | 505 | 530 | 555 | 580 | 603 | 626 | 648 | 669 | 690 | 710 | 729 | 748 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.5 | 280 | 305 | 330 | 355 | 380 | 405 | 430 | 455 | 480 | 505 | 529 | 553 | 575 | 597 | 618 | 638 | 658 | 677 | 695 | 714 | 5.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.0 | 258 | 283 | 308 | 333 | 358 | 383 | 408 | 433 | 458 | 483 | 507 | 529 | 551 | 572 | 592 | 611 | 630 | 648 | 666 | 683 | 6.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.5 | 240 | 265 | 290 | 315 | 340 | 365 | 390 | 415 | 440 | 464 | 487 | 508 | 529 | 549 | 568 | 587 | 605 | 623 | 640 | 656 | 6.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.0 | 225 | 250 | 275 | 300 | 325 | 350 | 375 | 400 | 424 | 447 | 469 | 490 | 510 | 529 | 548 | 566 | 583 | 600 | 616 | 632 | 7.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5 | 212 | 237 | 262 | 287 | 312 | 337 | 362 | 386 | 410 | 432 | 453 | 473 | 493 | 511 | 529 | 547 | 563 | 580 | 596 | 611 | 7.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.0 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 374 | 397 | 418 | 439 | 458 | 477 | 495 | 512 | 529 | 545 | 561 | 577 | 592 | 8.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.5 | 190 | 215 | 240 | 265 | 290 | 315 | 340 | 363 | 385 | 406 | 426 | 445 | 463 | 480 | 497 | 513 | 529 | 544 | 559 | 574 | 8.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9.0 | 181 | 206 | 231 | 256 | 281 | 306 | 330 | 353 | 374 | 394 | 414 | 432 | 450 | 467 | 483 | 499 | 514 | 529 | 544 | 558 | 9.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9.5 | 172 | 197 | 222 | 247 | 272 | 297 | 321 | 343 | 364 | 384 | 403 | 421 | 438 | 454 | 470 | 486 | 501 | 515 | 529 | 543 | 9.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 | 165 | 190 | 215 | 240 | 265 | 290 | 313 | 335 | 355 | 374 | 392 | 410 | 427 | 443 | 458 | 473 | 488 | 502 | 516 | 529 | 10.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.5 | 158 | 183 | 208 | 233 | 258 | 283 | 306 | 327 | 346 | 365 | 383 | 400 | 416 | 432 | 447 | 462 | 476 | 490 | 503 | 516 | 10.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.0 | 152 | 177 | 202 | 227 | 252 | 276 | 298 | 319 | 338 | 357 | 374 | 391 | 407 | 422 | 437 | 451 | 465 | 479 | 492 | 505 | 11.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.5 | 147 | 172 | 197 | 222 | 247 | 270 | 292 | 312 | 331 | 349 | 366 | 382 | 398 | 413 | 427 | 441 | 455 | 468 | 481 | 493 | 11.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.0 | 142 | 167 | 192 | 217 | 242 | 265 | 286 | 306 | 324 | 342 | 358 | 374 | 389 | 404 | 418 | 432 | 445 | 458 | 471 | 483 | 12.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.5 | 137 | 162 | 187 | 212 | 237 | 259 | 280 | 299 | 317 | 335 | 351 | 367 | 382 | 396 | 410 | 423 | 436 | 449 | 461 | 473 | 12.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13.0 | 133 | 158 | 183 | 208 | 232 | 254 | 275 | 294 | 311 | 328 | 344 | 359 | 374 | 388 | 402 | 415 | 428 | 440 | 452 | 464 | 13.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13.5 | 129 | 154 | 179 | 204 | 228 | 249 | 269 | 288 | 306 | 322 | 338 | 353 | 367 | 381 | 394 | 407 | 420 | 432 | 444 | 455 | 13.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14.0 | 125 | 150 | 175 | 200 | 224 | 245 | 265 | 283 | 300 | 316 | 332 | 346 | 361 | 374 | 387 | 400 | 412 | 424 | 436 | 447 | 14.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14.5 | 122 | 147 | 172 | 197 | 220 | 241 | 260 | 278 | 295 | 311 | 326 | 340 | 354 | 368 | 381 | 393 | 405 | 417 | 428 | 439 | 14.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.0 | 118 | 143 | 168 | 193 | 216 | 237 | 256 | 273 | 290 | 306 | 320 | 335 | 348 | 361 | 374 | 386 | 398 | 410 | 421 | 432 | 15.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16.0 | 113 | 138 | 163 | 187 | 209 | 229 | 247 | 265 | 281 | 296 | 310 | 324 | 337 | 350 | 362 | 374 | 386 | 397 | 408 | 418 | 16.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17.0 | 107 | 132 | 157 | 181 | 203 | 222 | 240 | 257 | 272 | 287 | 301 | 314 | 327 | 340 | 351 | 363 | 374 | 385 | 396 | 406 | 17.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18.0 | 103 | 128 | 153 | 176 | 197 | 216 | 233 | 249 | 265 | 279 | 292 | 306 | 318 | 330 | 342 | 353 | 364 | 374 | 384 | 394 | 18.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19.0 | 99 | 124 | 149 | 172 | 192 | 210 | 227 | 243 | 258 | 271 | 285 | 297 | 309 | 321 | 332 | 343 | 354 | 364 | 374 | 384 | 19.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.0 | 95 | 120 | 145 | 167 | 187 | 205 | 221 | 237 | 251 | 265 | 277 | 290 | 302 | 313 | 324 | 335 | 345 | 355 | 365 | 374 | 20.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

VDOT
ROAD AND BRIDGE STANDARDS

SHEET 1 OF 2 REVISION DATE

608.08

PASSING SIGHT DISTANCE ON CREST VERTICAL CURVES

HEIGHT OF EYE = 3.5 FEET HEIGHT OF OBJECT = 3.5 FEET

VIRGINIA DEPARTMENT OF TRANSPORTATION