

| A = ALGEBRAIC DIFFERENCE OF GRADES IN PERCENT | WHEN S > L: $S = \frac{1079.15}{A} + \frac{L}{2}$ | | | | | | | | | | | | | | | | | | | WHEN S < L: $S = 46.454 \sqrt{\frac{L}{A}}$ | | | | | | | | | | | | | | | | | | | SD-4 | |
|---|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|--|
| | S = SIGHT DISTANCE IN FEET | | | | | | | | | | | | | | | | | | | | A = ALGEBRAIC DIFFERENCE OF GRADES IN PERCENT | | | | | | | | | | | | | | | | | | | |
| | L = LENGTH OF VERTICAL CURVE IN FEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 | 1550 | 1600 | 1650 | 1700 | 1750 | 1800 | 1850 | 1900 | 1950 | 2000 | | | | | | | | | | | | | | | | | | | | |
| 2.0 | 1065 | 1089 | 1114 | 1138 | 1161 | 1184 | 1207 | 1229 | 1251 | 1272 | 1293 | 1314 | 1334 | 1354 | 1374 | 1394 | 1413 | 1432 | 1451 | 1469 | 2.0 | | | | | | | | | | | | | | | | | | | |
| 2.5 | 952 | 974 | 996 | 1018 | 1039 | 1059 | 1079 | 1099 | 1119 | 1138 | 1157 | 1175 | 1193 | 1211 | 1229 | 1246 | 1264 | 1281 | 1297 | 1314 | 2.5 | | | | | | | | | | | | | | | | | | | |
| 3.0 | 869 | 890 | 910 | 929 | 948 | 967 | 985 | 1004 | 1021 | 1039 | 1056 | 1073 | 1089 | 1106 | 1122 | 1138 | 1154 | 1169 | 1184 | 1199 | 3.0 | | | | | | | | | | | | | | | | | | | |
| 3.5 | 805 | 824 | 842 | 860 | 878 | 895 | 912 | 929 | 946 | 962 | 978 | 993 | 1009 | 1024 | 1039 | 1053 | 1068 | 1082 | 1096 | 1110 | 3.5 | | | | | | | | | | | | | | | | | | | |
| 4.0 | 753 | 770 | 788 | 805 | 821 | 837 | 853 | 869 | 884 | 900 | 914 | 929 | 943 | 958 | 972 | 985 | 999 | 1012 | 1026 | 1039 | 4.0 | | | | | | | | | | | | | | | | | | | |
| 4.5 | 710 | 726 | 743 | 759 | 774 | 790 | 805 | 819 | 834 | 848 | 862 | 876 | 890 | 903 | 916 | 929 | 942 | 955 | 967 | 979 | 4.5 | | | | | | | | | | | | | | | | | | | |
| 5.0 | 673 | 689 | 705 | 720 | 735 | 749 | 763 | 777 | 791 | 805 | 818 | 831 | 844 | 857 | 869 | 881 | 894 | 906 | 917 | 929 | 5.0 | | | | | | | | | | | | | | | | | | | |
| 5.5 | 642 | 657 | 672 | 686 | 700 | 714 | 728 | 741 | 754 | 767 | 780 | 792 | 805 | 817 | 829 | 840 | 852 | 863 | 875 | 886 | 5.5 | | | | | | | | | | | | | | | | | | | |
| 6.0 | 615 | 629 | 643 | 657 | 671 | 684 | 697 | 710 | 722 | 735 | 747 | 759 | 770 | 782 | 793 | 805 | 816 | 827 | 837 | 848 | 6.0 | | | | | | | | | | | | | | | | | | | |
| 6.5 | 590 | 604 | 618 | 631 | 644 | 657 | 669 | 682 | 694 | 706 | 717 | 729 | 740 | 751 | 762 | 773 | 784 | 794 | 805 | 815 | 6.5 | | | | | | | | | | | | | | | | | | | |
| 7.0 | 569 | 582 | 595 | 608 | 621 | 633 | 645 | 657 | 669 | 680 | 691 | 702 | 713 | 724 | 735 | 745 | 755 | 765 | 775 | 785 | 7.0 | | | | | | | | | | | | | | | | | | | |
| 7.5 | 550 | 563 | 575 | 588 | 600 | 612 | 623 | 635 | 646 | 657 | 668 | 679 | 689 | 699 | 710 | 720 | 730 | 739 | 749 | 759 | 7.5 | | | | | | | | | | | | | | | | | | | |
| 8.0 | 532 | 545 | 557 | 569 | 581 | 592 | 603 | 615 | 625 | 636 | 647 | 657 | 667 | 677 | 687 | 697 | 706 | 716 | 725 | 735 | 8.0 | | | | | | | | | | | | | | | | | | | |
| 8.5 | 516 | 528 | 540 | 552 | 563 | 574 | 585 | 596 | 607 | 617 | 627 | 637 | 647 | 657 | 667 | 676 | 685 | 695 | 704 | 713 | 8.5 | | | | | | | | | | | | | | | | | | | |
| 9.0 | 502 | 514 | 525 | 536 | 547 | 558 | 569 | 579 | 590 | 600 | 610 | 619 | 629 | 638 | 648 | 657 | 666 | 675 | 684 | 692 | 9.0 | | | | | | | | | | | | | | | | | | | |
| 9.5 | 488 | 500 | 511 | 522 | 533 | 543 | 554 | 564 | 574 | 584 | 593 | 603 | 612 | 621 | 630 | 639 | 648 | 657 | 666 | 674 | 9.5 | | | | | | | | | | | | | | | | | | | |
| 10.0 | 476 | 487 | 498 | 509 | 519 | 530 | 540 | 550 | 559 | 569 | 578 | 588 | 597 | 606 | 615 | 623 | 632 | 640 | 649 | 657 | 10.0 | | | | | | | | | | | | | | | | | | | |
| 10.5 | 465 | 475 | 486 | 497 | 507 | 517 | 527 | 536 | 546 | 555 | 564 | 573 | 582 | 591 | 600 | 608 | 617 | 625 | 633 | 641 | 10.5 | | | | | | | | | | | | | | | | | | | |
| 11.0 | 454 | 465 | 475 | 485 | 495 | 505 | 515 | 524 | 533 | 542 | 551 | 560 | 569 | 577 | 586 | 594 | 602 | 611 | 619 | 626 | 11.0 | | | | | | | | | | | | | | | | | | | |
| 11.5 | 444 | 454 | 465 | 475 | 484 | 494 | 503 | 513 | 522 | 531 | 539 | 548 | 556 | 565 | 573 | 581 | 589 | 597 | 605 | 613 | 11.5 | | | | | | | | | | | | | | | | | | | |
| 12.0 | 435 | 445 | 455 | 465 | 474 | 484 | 493 | 502 | 511 | 519 | 528 | 536 | 545 | 553 | 561 | 569 | 577 | 585 | 592 | 600 | 12.0 | | | | | | | | | | | | | | | | | | | |
| 12.5 | 426 | 436 | 446 | 455 | 465 | 474 | 483 | 492 | 500 | 509 | 517 | 526 | 534 | 542 | 550 | 557 | 565 | 573 | 580 | 588 | 12.5 | | | | | | | | | | | | | | | | | | | |
| 13.0 | 417 | 427 | 437 | 446 | 456 | 465 | 473 | 482 | 491 | 499 | 507 | 515 | 523 | 531 | 539 | 547 | 554 | 562 | 569 | 576 | 13.0 | | | | | | | | | | | | | | | | | | | |
| 13.5 | 410 | 419 | 429 | 438 | 447 | 456 | 465 | 473 | 481 | 490 | 498 | 506 | 514 | 521 | 529 | 536 | 544 | 551 | 558 | 565 | 13.5 | | | | | | | | | | | | | | | | | | | |
| 14.0 | 402 | 412 | 421 | 430 | 439 | 448 | 456 | 465 | 473 | 481 | 489 | 497 | 504 | 512 | 519 | 527 | 534 | 541 | 548 | 555 | 14.0 | | | | | | | | | | | | | | | | | | | |
| 14.5 | 395 | 405 | 414 | 423 | 431 | 440 | 448 | 456 | 465 | 472 | 480 | 488 | 496 | 503 | 510 | 518 | 525 | 532 | 539 | 546 | 14.5 | | | | | | | | | | | | | | | | | | | |
| 15.0 | 389 | 398 | 407 | 415 | 424 | 432 | 441 | 449 | 457 | 465 | 472 | 480 | 487 | 495 | 502 | 509 | 516 | 523 | 530 | 536 | 15.0 | | | | | | | | | | | | | | | | | | | |
| 16.0 | 376 | 385 | 394 | 402 | 411 | 419 | 427 | 435 | 442 | 450 | 457 | 465 | 472 | 479 | 486 | 493 | 500 | 506 | 513 | 519 | 16.0 | | | | | | | | | | | | | | | | | | | |
| 17.0 | 365 | 374 | 382 | 390 | 398 | 406 | 414 | 422 | 429 | 436 | 444 | 451 | 458 | 465 | 471 | 478 | 485 | 491 | 498 | 504 | 17.0 | | | | | | | | | | | | | | | | | | | |
| 18.0 | 355 | 363 | 371 | 379 | 387 | 395 | 402 | 410 | 417 | 424 | 431 | 438 | 445 | 451 | 458 | 465 | 471 | 477 | 484 | 490 | 18.0 | | | | | | | | | | | | | | | | | | | |
| 19.0 | 345 | 353 | 361 | 369 | 377 | 384 | 392 | 399 | 406 | 413 | 420 | 426 | 433 | 439 | 446 | 452 | 458 | 465 | 471 | 477 | 19.0 | | | | | | | | | | | | | | | | | | | |
| 20.0 | 337 | 345 | 352 | 360 | 367 | 375 | 382 | 389 | 396 | 402 | 409 | 415 | 422 | 428 | 435 | 441 | 447 | 453 | 459 | 465 | 20.0 | | | | | | | | | | | | | | | | | | | |

STOPPING SIGHT DISTANCE ON CREST VERTICAL CURVES

HEIGHT OF EYE = 3.5 FEET

HEIGHT OF OBJECT = 2.00 FEET

VIRGINIA DEPARTMENT OF TRANSPORTATION



ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 2 OF 2

608.07