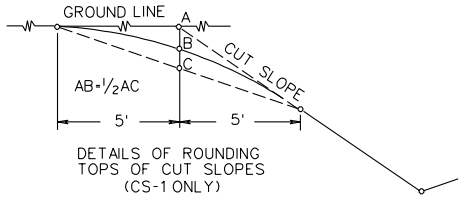
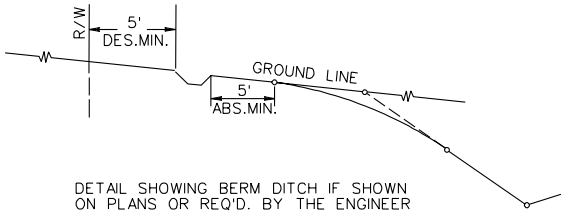
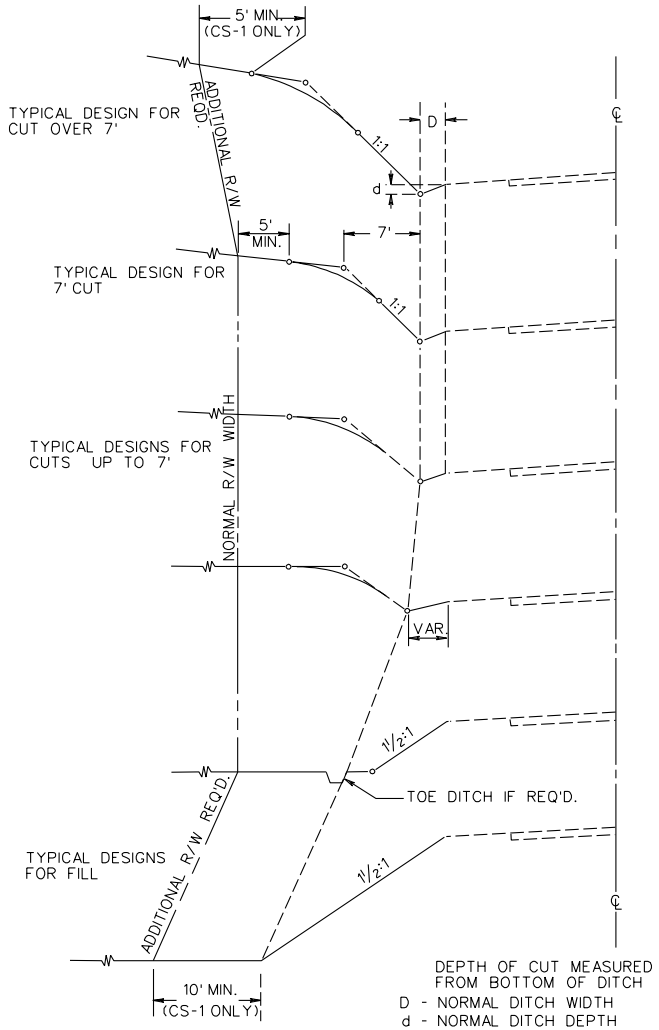
CS-1,1A



DETAILS OF ROUNDING
TOPS OF CUT SLOPES
(CS-1 ONLY)



DETAIL SHOWING BERM DITCH IF SHOWN
ON PLANS OR REQ'D. BY THE ENGINEER



NOTES:

SLOPE ROUNDING (STD. CS-1)TO BE AS DETAILED ABOVE, UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC.,AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED: THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE, AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

ST'D. CS-1: AS DETAILED HEREON WITH CUT SLOPE ROUNDING.
ST'D. CS1A: AS DETAILED HEREON EXCEPT THAT CUT SLOPE ROUNDING IS TO BE ELIMINATED.

TYPICAL METHOD OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

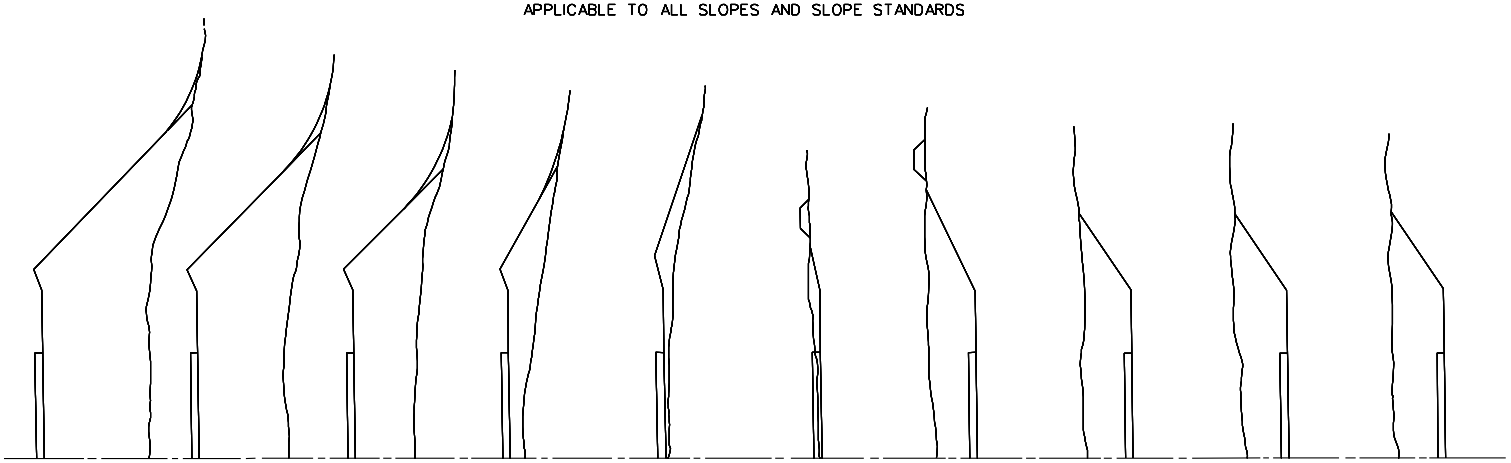
SPECIFICATION REFERENCE

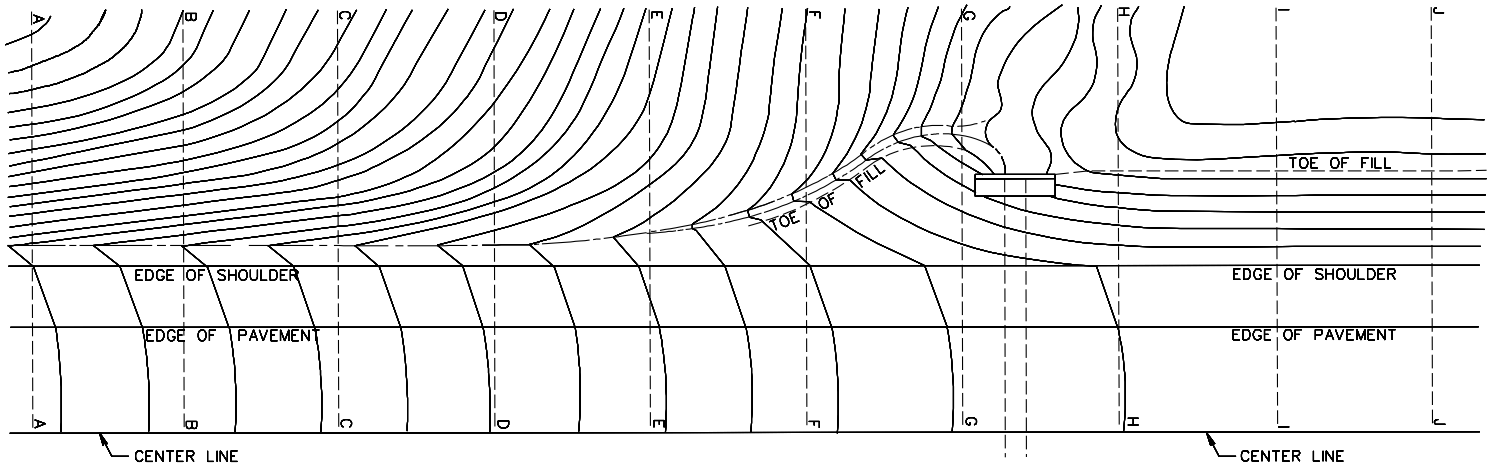
303

701.00

SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS





SPECIFICATION REFERENCE
303

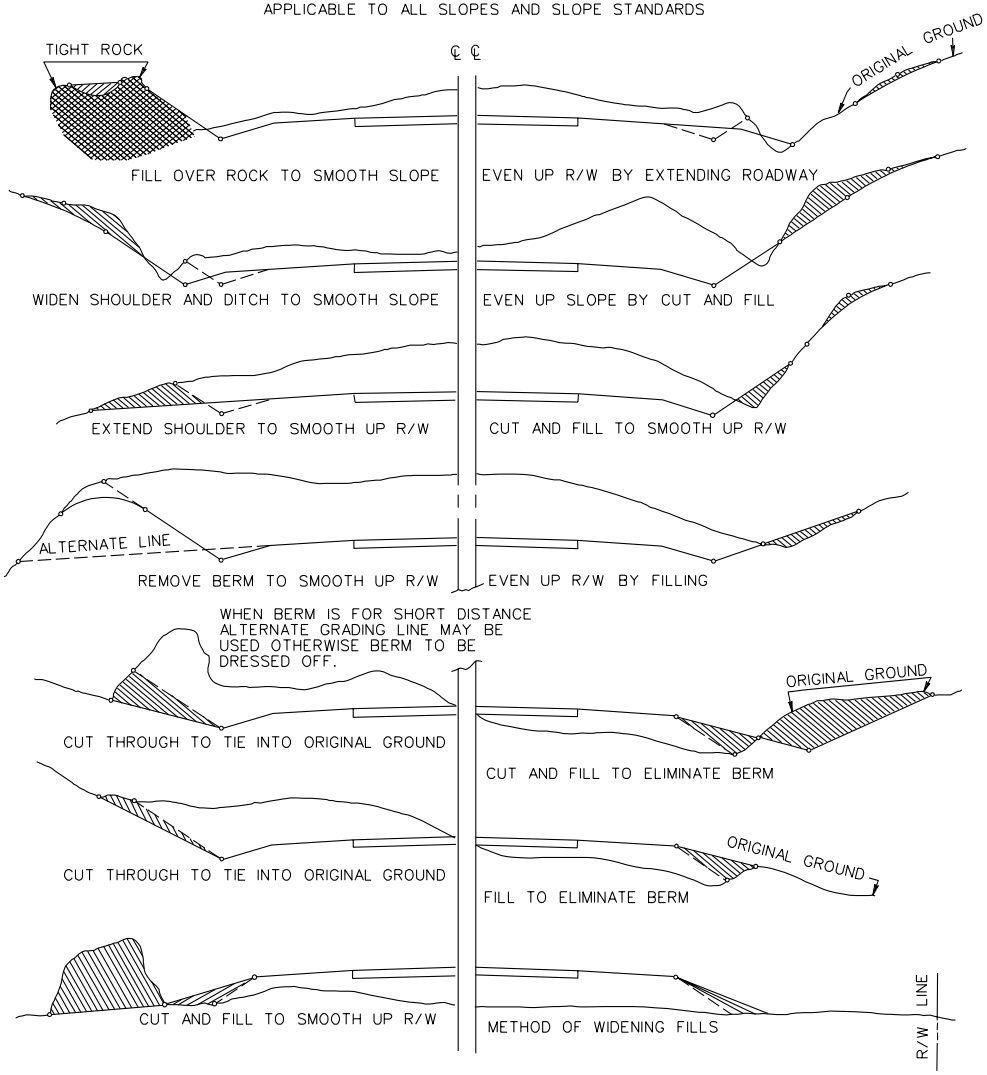
SUGGESTED DRAINAGE TREATMENT AT BEGINNING OF FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

CS-2A

SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS



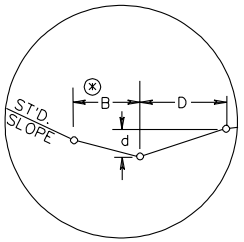
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

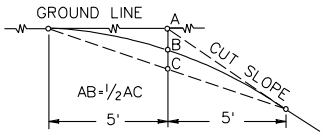
SPECIFICATION REFERENCE

303

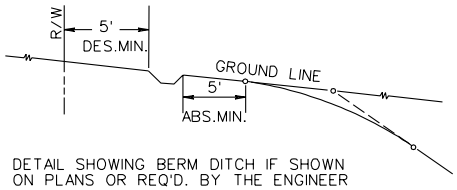
701.02



DETAIL A



DETAILS OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER

NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1½:1 SLOPES AND VICE VERSA, PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

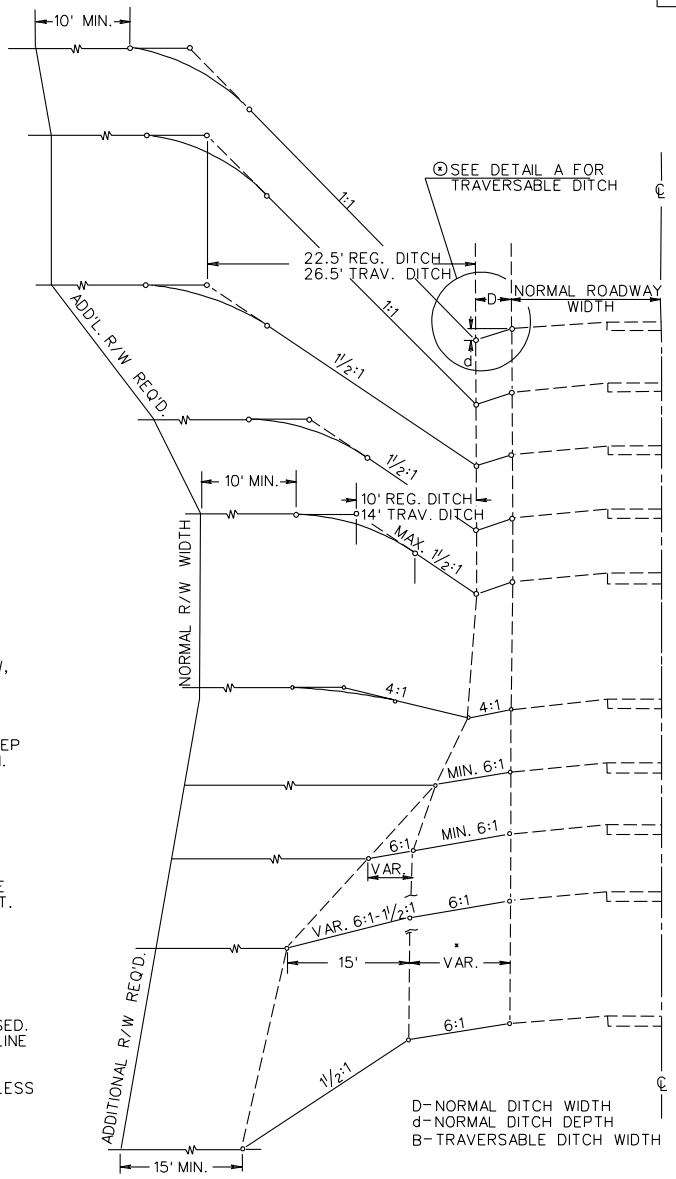
WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊛ SEE TYPICAL SECTION FOR DITCH WIDTH.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED. THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM OF RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN CUTS UP 400' IN LENGTH 1½:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

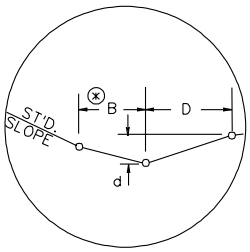


SPECIFICATION REFERENCE
303

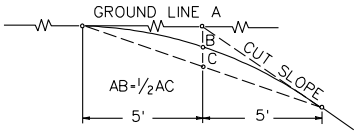
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

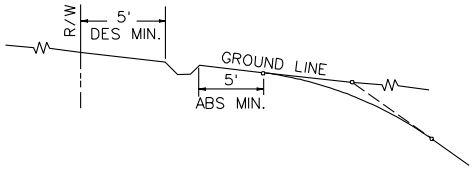
CS-3A



DETAIL A



DETAILS OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D BY THE ENGINEER

NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

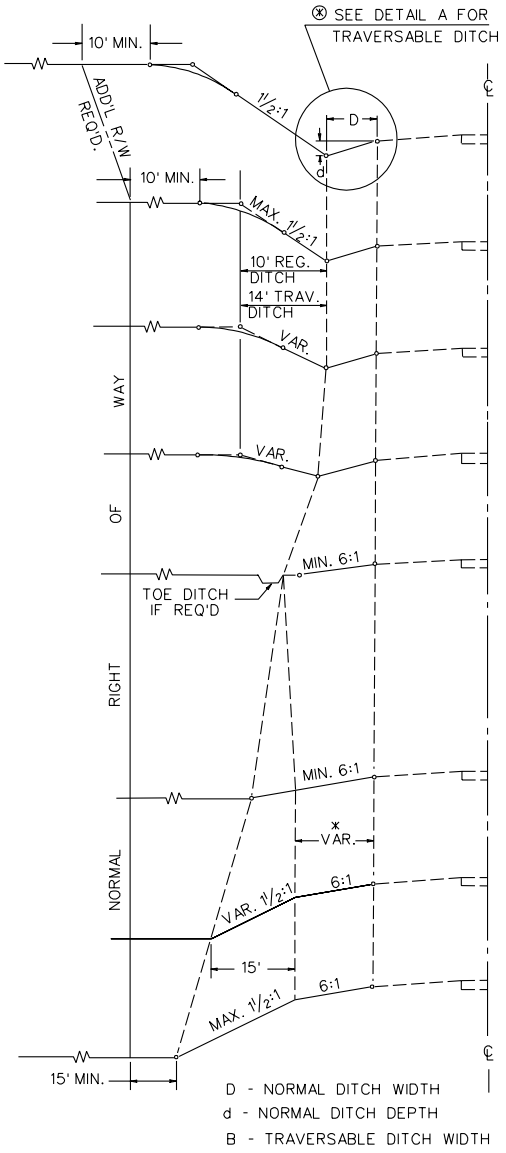
WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊛ SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.



D - NORMAL DITCH WIDTH
d - NORMAL DITCH DEPTH
B - TRAVERSABLE DITCH WIDTH

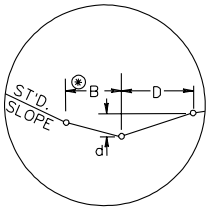
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

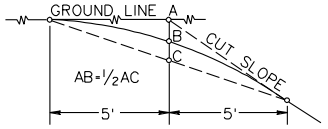
SPECIFICATION REFERENCE

303

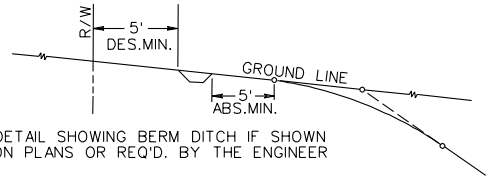
701.04



DETAIL A



DETAILS OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER

NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED: THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

IN CUTS UP TO 400' IN LENGTH 1½:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

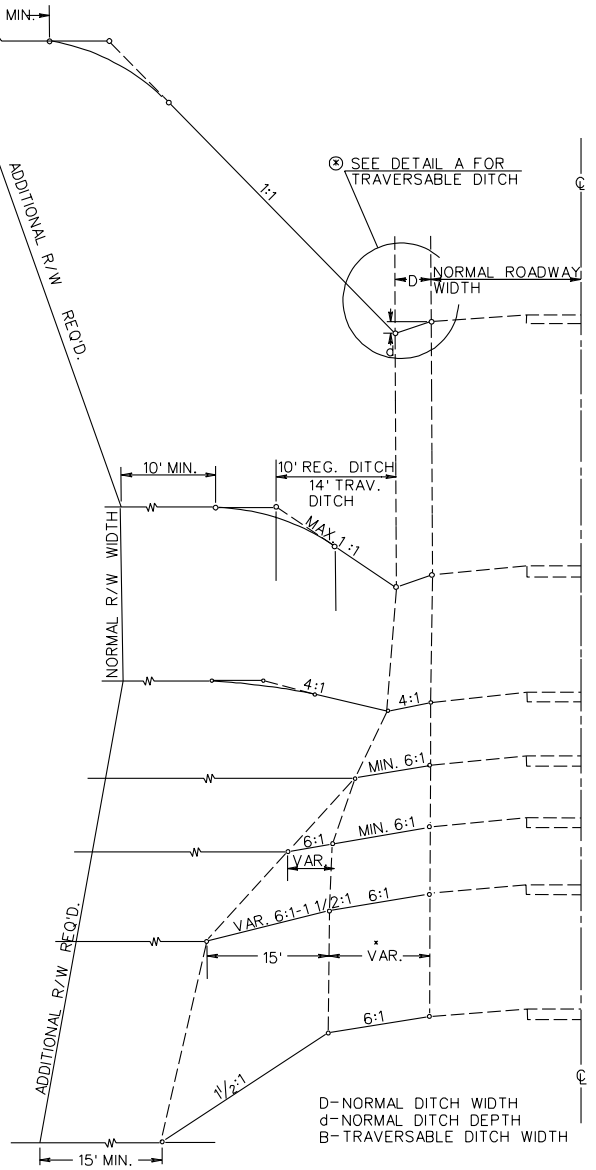
MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1½:1 TO 1:1 SLOPES AND VICE VERSA PRODUCES TRANSITONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊗ SEE TYPICAL SECTION FOR DITCH WIDTH

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH

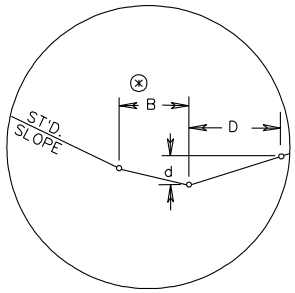


SPECIFICATION REFERENCE
303

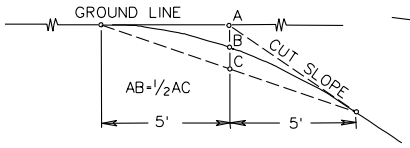
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

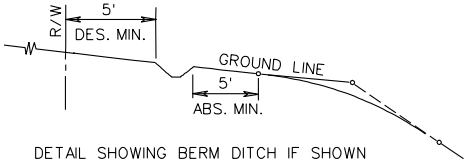
CS-4



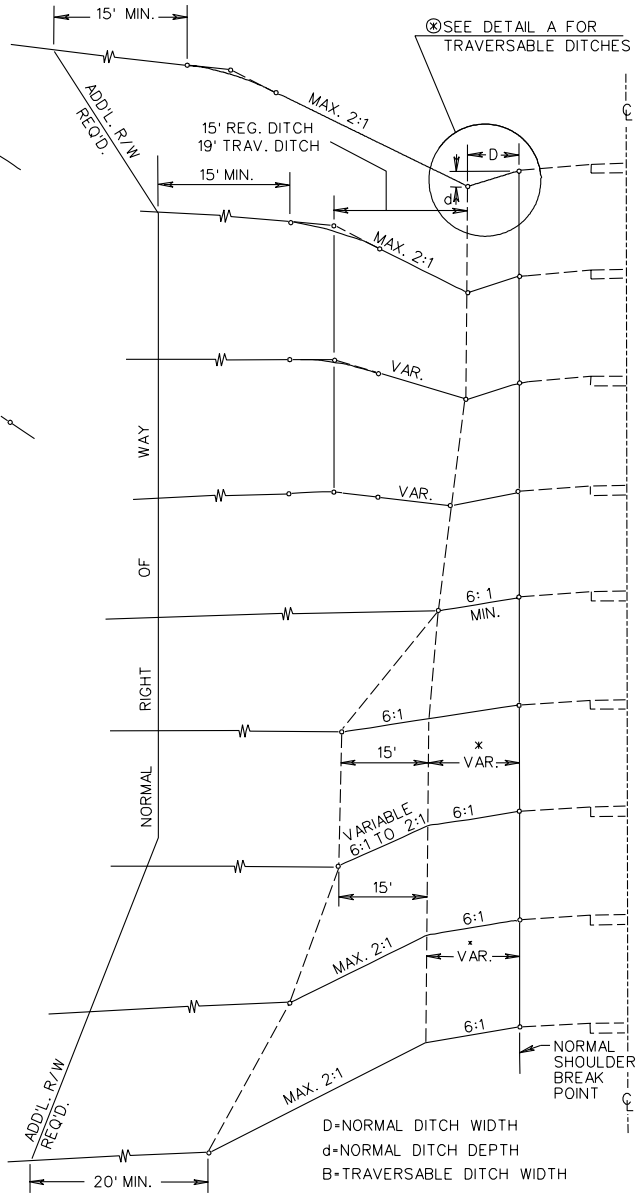
DETAIL A



DETAILS OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER



NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC,. AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO NORMAL SHOULDER WIDTH BREAK POINT.

ⓧ SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

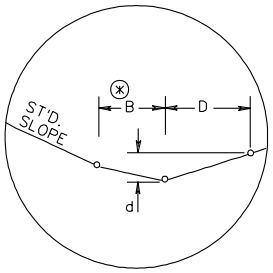
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

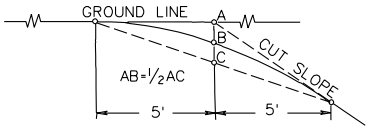
SPECIFICATION REFERENCE

303

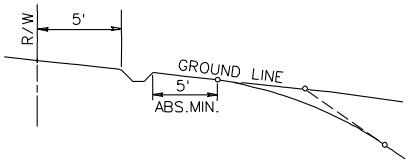
701.06



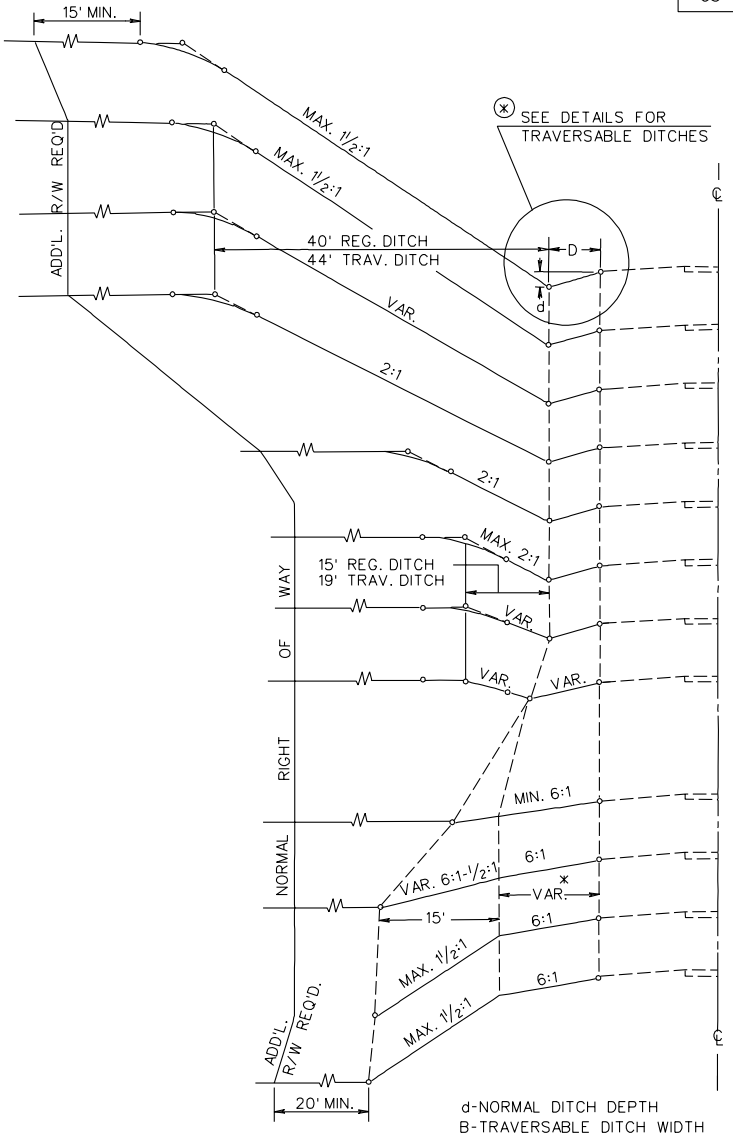
DETAIL A



DETAILS OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER



d-NORMAL DITCH DEPTH
B-TRAVERSABLE DITCH WIDTH
D-NORMAL DITCH WIDTH

NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHODS OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC,.AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIH THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED: THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

IN CUTS UP TO 400' IN LENGTH 1½:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT. IF METHOD SHOWN FOR TRANSITIONING FROM 2:1 TO 1½:1 SLOPES AND VICE VERSA PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

* SEE TYPICAL SECTIONS FOR RECOVERABLE AREA WIDTH WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

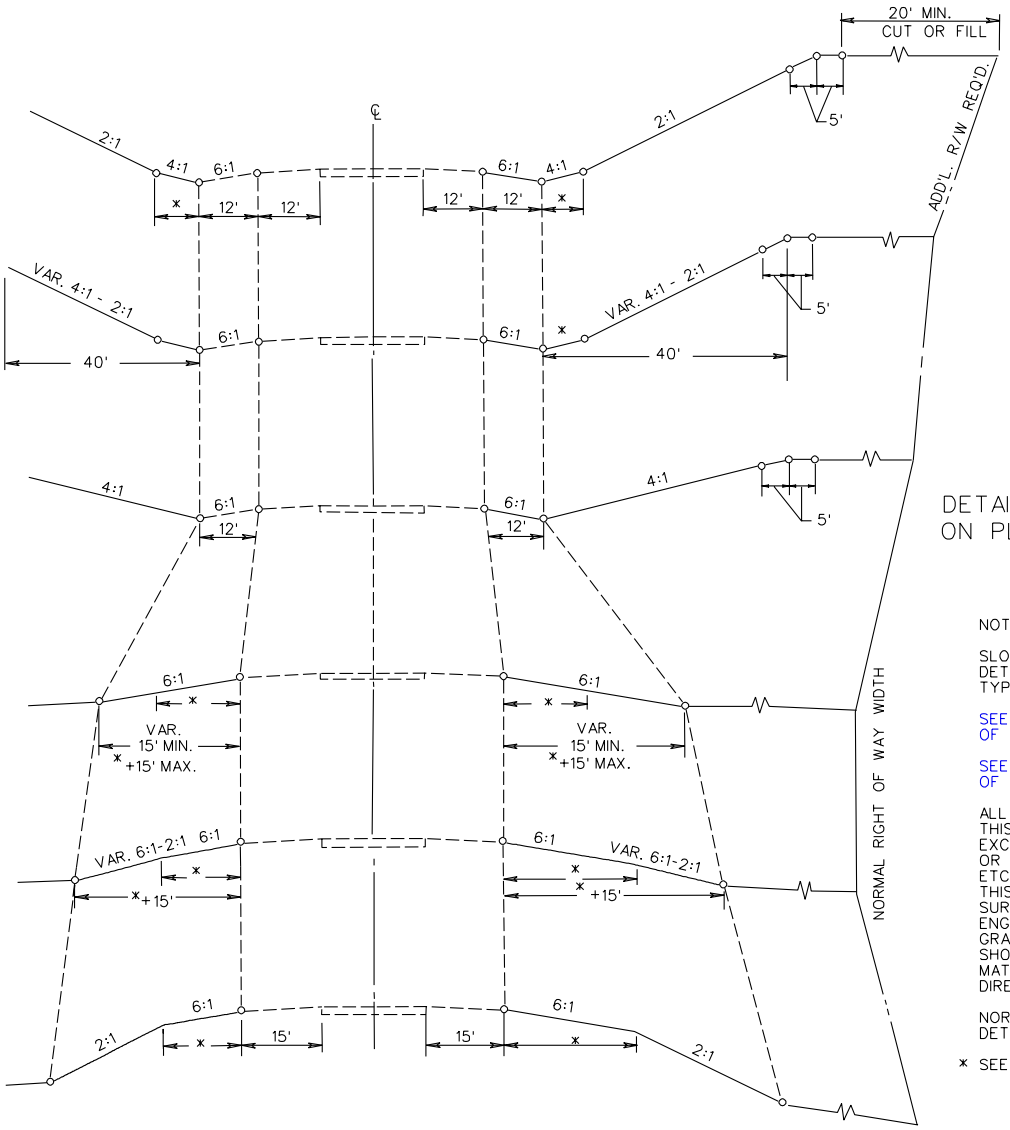
⊛ SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

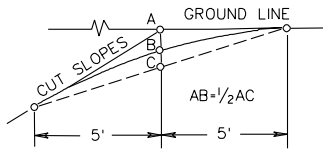
SPECIFICATION REFERENCE
303

TYPICAL METHODS OF GRADING SIDE SLOPES

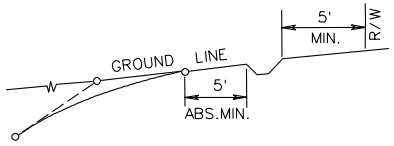
VIRGINIA DEPARTMENT OF TRANSPORTATION

CS-4B





DETAIL OF ROUNDING TOPS OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER

NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON.
EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC,. AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LEIU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY.
SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

NORMAL GUARDRAIL OFFSET TO BE AS SHOWN FOR DETAILS OF TRANSITIONING SEE ST'D. GR-INS.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH.

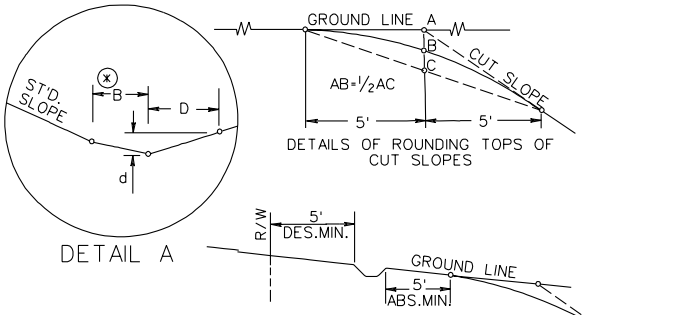
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

303

701.08



NOTES:

SLOPE ROUNDING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

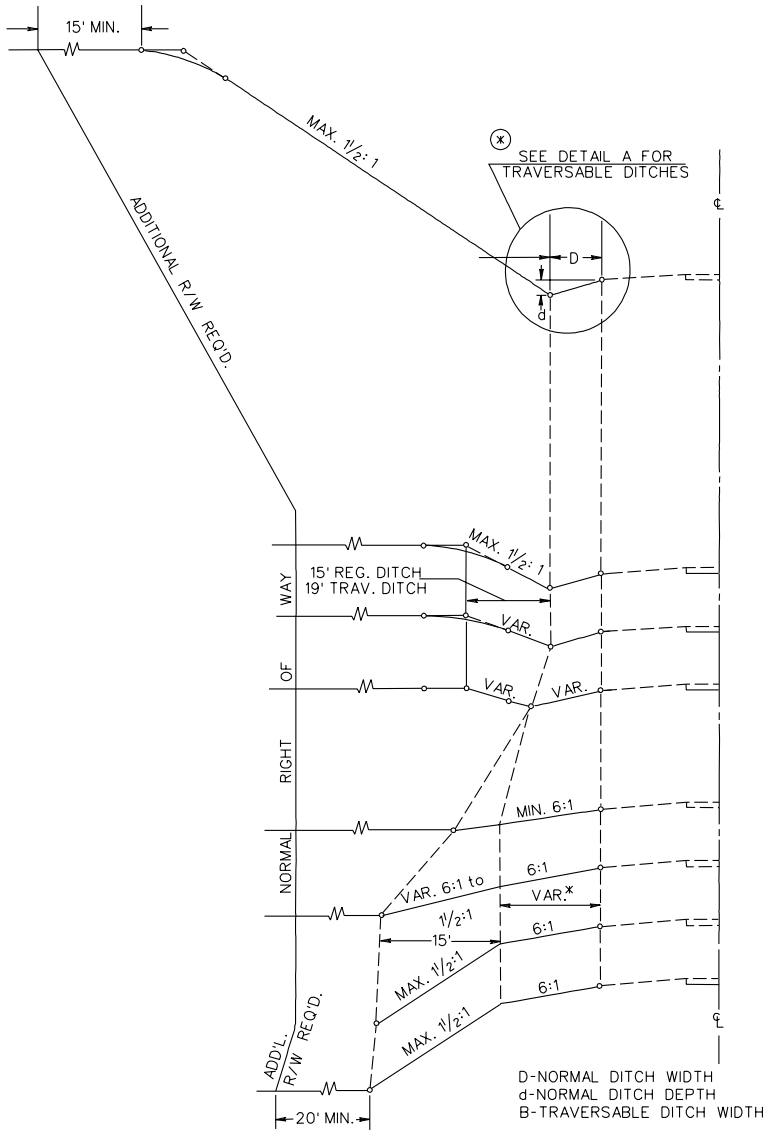
IN CUTS UP TO 400' IN LENGTH 1½:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1½:1 TO 1:1 SLOPES AND VICE VERSA PRODUCES TRANSITONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊛ SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

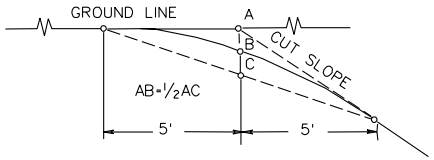


SPECIFICATION REFERENCE
303

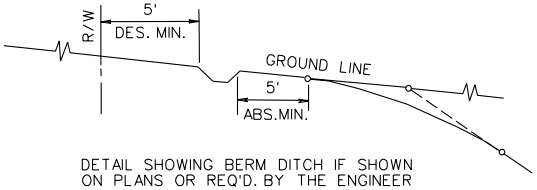
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

CS-4E



DETAILS OF ROUNDING TOPS
OF CUT SLOPES



DETAIL SHOWING BERM DITCH IF SHOWN
ON PLANS OR REQ'D. BY THE ENGINEER

NOTES:

SLOPE ROUNDING TO BE AS DETAILED ABOVE, UNLESS SPECIFIALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

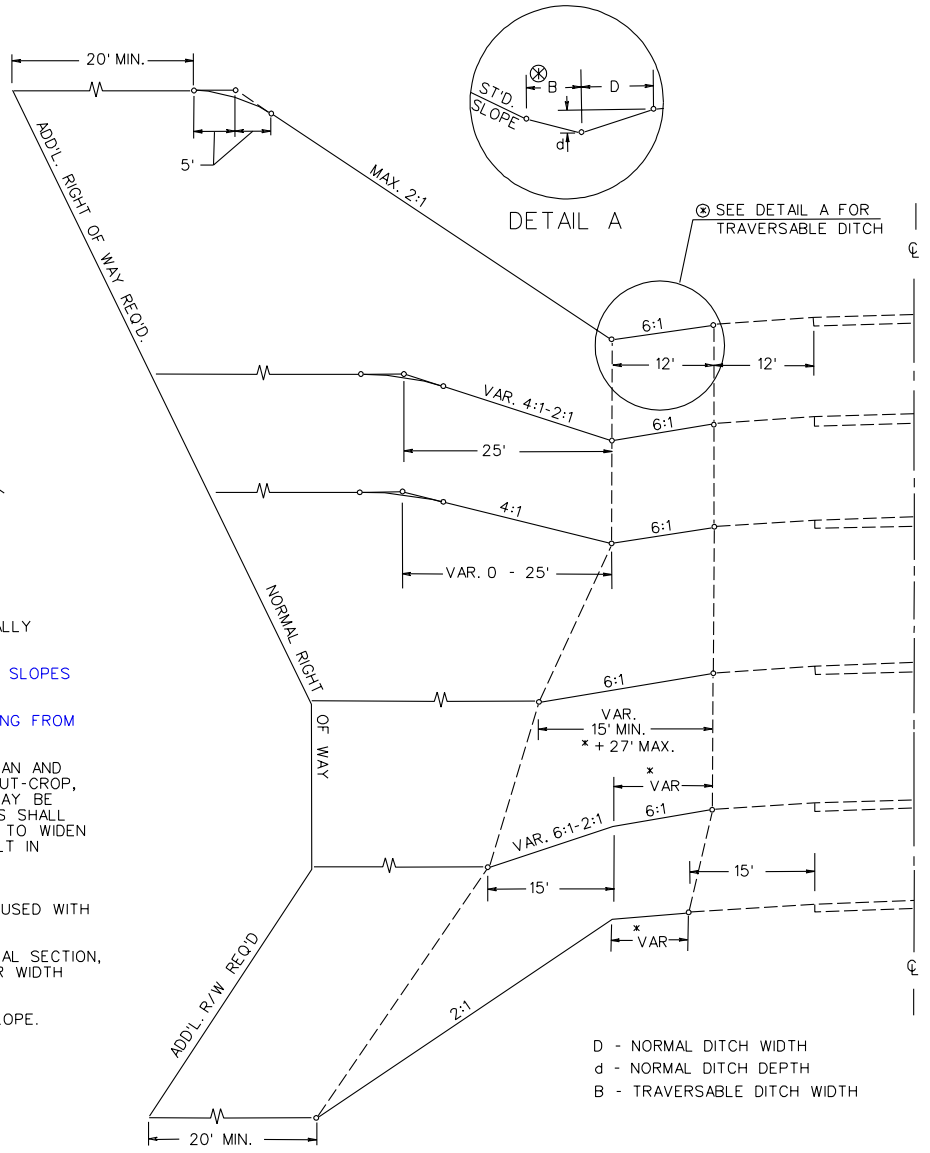
ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC,. AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

✳ SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊛ SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

SEE STANDARD PLAN GS-13 FOR GRADED MEDIAN.



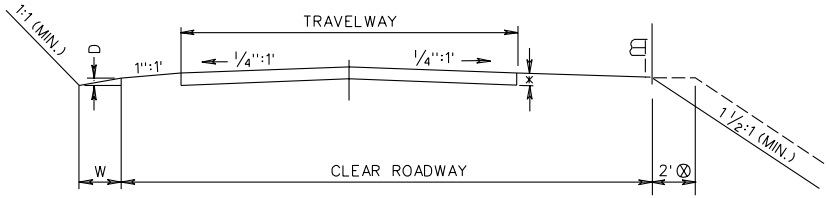
TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

303

701.10



* SEE PLANS FOR BASE DEPTH AND TYPE AND PAVED SURFACE TREATMENT WHERE REQUIRED.

TYPICAL SECTION

⊗ FOR GUARDRAIL:
ADD 2' TO 4' SHOULDERS
ADD 3' TO ALL OTHER SHOULDERS

BRIDGE WIDTH= APPROACH ROADWAY WIDTH (CLEAR ROADWAY).

WIDTHS FOR TWO WAY TRAFFIC
(LESSER WIDTH MAY BE USED FOR ONE-WAY)

TYPE	CURRENT ADT	* TRAVELWAY WIDTH	SURFACE		MIN. ⊗ ROADWAY SHOULDER TO SHOULDER	DITCH WIDTH (W)	DITCH DEPTH (D)	PAY ITEM
			UNPAVED	PAVED				
A	0-250	18'	✓		22'	4'	16"	LF.
B	251-750	20'	✓		24' ABS. 28' DES.	4'	16"	LF.
C	751-2000	20'		✓	28' ABS. 32' DES.	4'	16"	* *
D	2001-5500	22'		✓	38'	4'	16"	* *
E	5501-15,000	24'		✓	40'	4'	16"	* *
F	15,000-ABOVE	24'		✓	40'	6'	18"	* *

* CURVES TO BE WIDENED IN ACCORDANCE WITH ST'D. TC-5R.

** PAID FOR BY INDIVIDUAL QUANTITIES.

GEOMETRICS

DESIGN SPEED M.P.H.		20	30	40	50	60	70
MIN. RADII		110' R	250' R	475' R	760' R	1200' R	1815' R
MAX. % GRADE	DES.	9%	9%	9%	7%	6%	5%
	ABS.	14%	12%	12%	10%	9%	7%
STOPPING SIGHT DISTANCE	DES.	125'	200'	325'	475'	650'	850'
	MIN.			275'	400'	525'	625'
(MAX.) ELEVATION (FT./FT.)		.08	.08	.08	.08	.08	.08

IF GEOMETRICS AND WIDTHS SHOWN IN THESE CHARTS ARE GREATER THAN THE FINISHED CONTRACT DESIGN, APPROVAL MAY BE GRANTED BY THE DEPARTMENT FOR LESSER VALUES.

SPECIFICATION REFERENCE

510

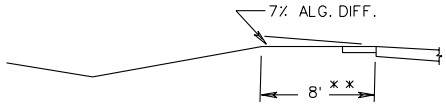
MINIMUM DESIGN CRITERIA FOR TEMPORARY DETOURS (MAINTENANCE OF TRAFFIC)

VIRGINIA DEPARTMENT OF TRANSPORTATION

REVISED 7/01

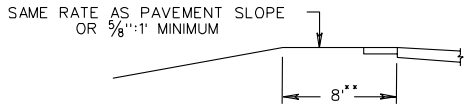
GS-11

GRADED MEDIAN SHOULDERS



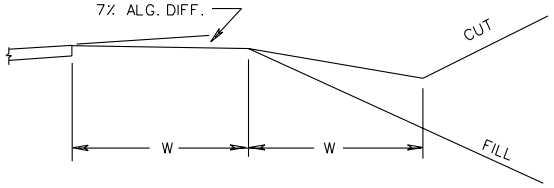
* * WHERE MAINLINE IS 6 OR MORE LANES GRADED SHOULDER WIDTH IS TO BE THE SAME AS THAT SHOWN FOR FILL SHOULDER FOR INDEPENDENT GRADING.

HIGH SIDE - SUPERELEVATED

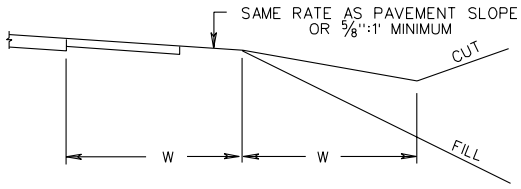


LOW SIDE - SUPERELEVATED

OUTSIDE SHOULDERS



HIGH SIDE - SUPERELEVATED



LOW SIDE - SUPERELEVATED

NOTE: FOR WIDTH OF SHOULDERS AND DITCHES (W) SEE GEOMETRIC DESIGN STANDARDS.

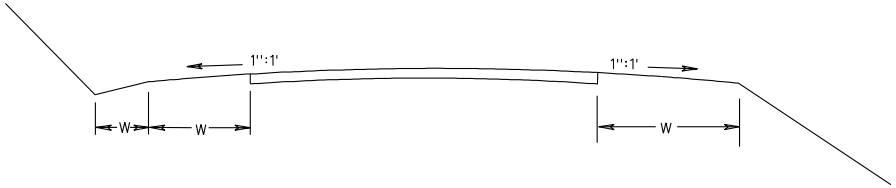
STANDARD SHOULDER DESIGN FOR ALL SYSTEMS EXCEPT LOCAL ROADS AND STREETS

VIRGINIA DEPARTMENT OF TRANSPORTATION

702.01

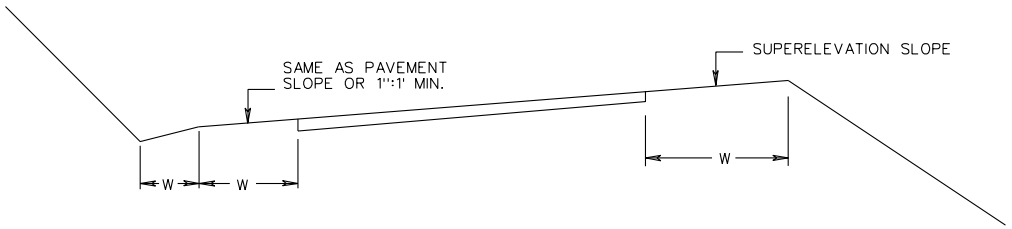
GS-12

TANGENT SECTION



FOR WIDTHS OF SHOULDERS AND DITCHES (W)
SEE STANDARDS..

SUPERELEVATED SECTION



FOR WIDTHS OF SHOULDERS AND DITCHES (W)
SEE STANDARDS.

STANDARD SHOULDER DESIGNS FOR LOCAL ROADS & STREETS

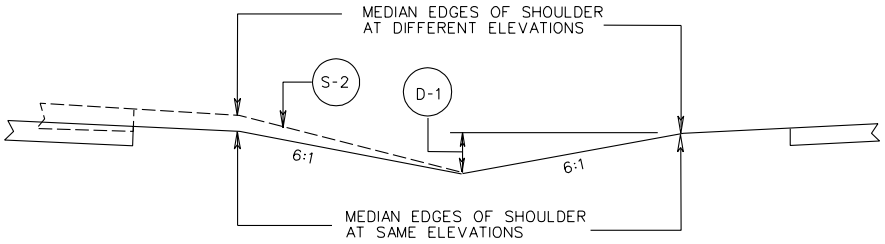
VIRGINIA DEPARTMENT OF TRANSPORTATION

702.02

GS-13

MEDIAN EDGES OF SHOULDER AT SAME OR APPROXIMATELY SAME ELEVATION

(GRADING TO CENTER OF MEDIAN)



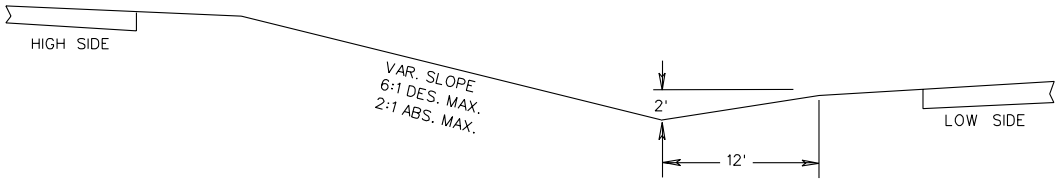
D-1 VARIABLE DEPTH (2' MIN.)

S-2 VARIABLE SLOPE

HOLD A 6:1 SLOPE FROM THE EDGES OF MEDIAN SHOULDERS (FROM THE LOWER MEDIAN SHOULDER IF AT DIFFERENT ELEVATIONS) TO THE CENTER OF MEDIAN. .

MEDIAN EDGES OF SHOULDER AT DIFFERENT ELEVATIONS

(GRADING FROM HIGH SHOULDER TO DITCH ADJACENT TO LOWER ROADWAY)



HOLD A 2' DITCH DEPTH, 12' WIDE, ADJACENT TO LOWER SHOULDER.

STANDARD GRADED MEDIAN DESIGNS

VIRGINIA DEPARTMENT OF TRANSPORTATION

702.03