

SECTION 700

GEOMETRIC DESIGNS

STANDARD

THIS PAGE INTENTIONALLY LEFT BLANK



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

TITLE

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE

2016 ROAD & BRIDGE STANDARDS

STANDARD	TITLE	PAGE
CS-1, 1A	TYPICAL METHODS OF GRADING SIDE SLOPES	701.01
CS-2	SUGGESTED DRAINAGE TREATMENT AT BEGINNING OF FILLS	701.02
CS-2A	TYPICAL METHODS OF GRADING SIDE SLOPES	701.03
CS-3	TYPICAL METHODS OF GRADING SIDE SLOPES	701.04
CS-3A	TYPICAL METHODS OF GRADING SIDE SLOPES	701.05
CS-3B	TYPICAL METHODS OF GRADING SIDE SLOPES	701.06
CS-4	TYPICAL METHODS OF GRADING SIDE SLOPES	701.07
CS-4A	TYPICAL METHODS OF GRADING SIDE SLOPES	701.08
CS-4B	TYPICAL METHODS OF GRADING SIDE SLOPES	701.09
CS-4C	TYPICAL METHODS OF GRADING SIDE SLOPES	701.10
CS-4E	TYPICAL METHODS OF GRADING SIDE SLOPES	701.11

INDEX OF SHEETS
SECTION 700-GEOMETRIC DESIGN

VIRGINIA DEPARTMENT OF TRANSPORTATION



ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 1 OF 1

07/16

700.01

THIS PAGE INTENTIONALLY LEFT BLANK



ROAD AND BRIDGE STANDARDS

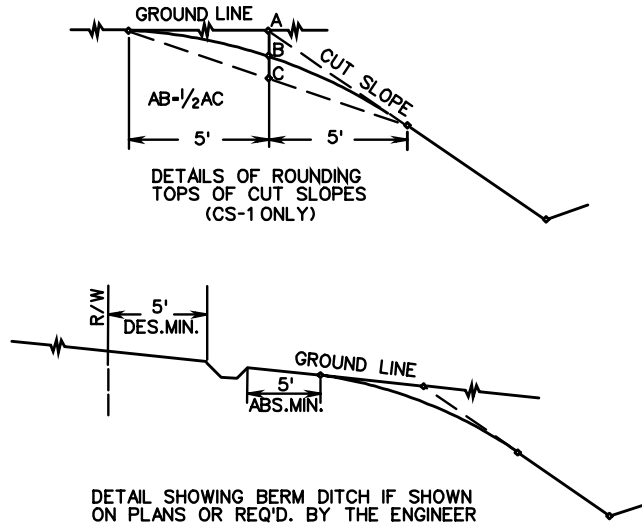
SHEET 1 OF 1

REVISION DATE

700.02

SPECIFICATION
REFERENCE

VIRGINIA DEPARTMENT OF TRANSPORTATION



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.

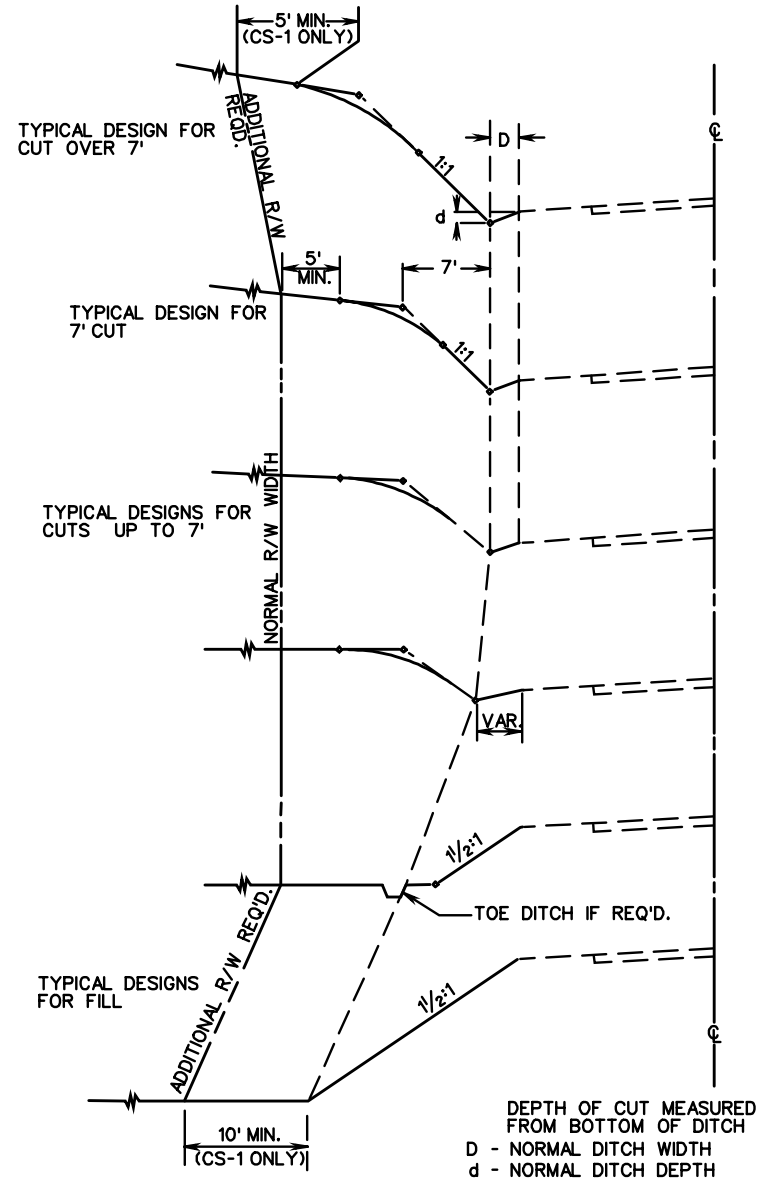
SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

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. CS-1A: AS DETAILED HEREON EXCEPT THAT CUT SLOPE ROUNDING IS TO BE ELIMINATED.

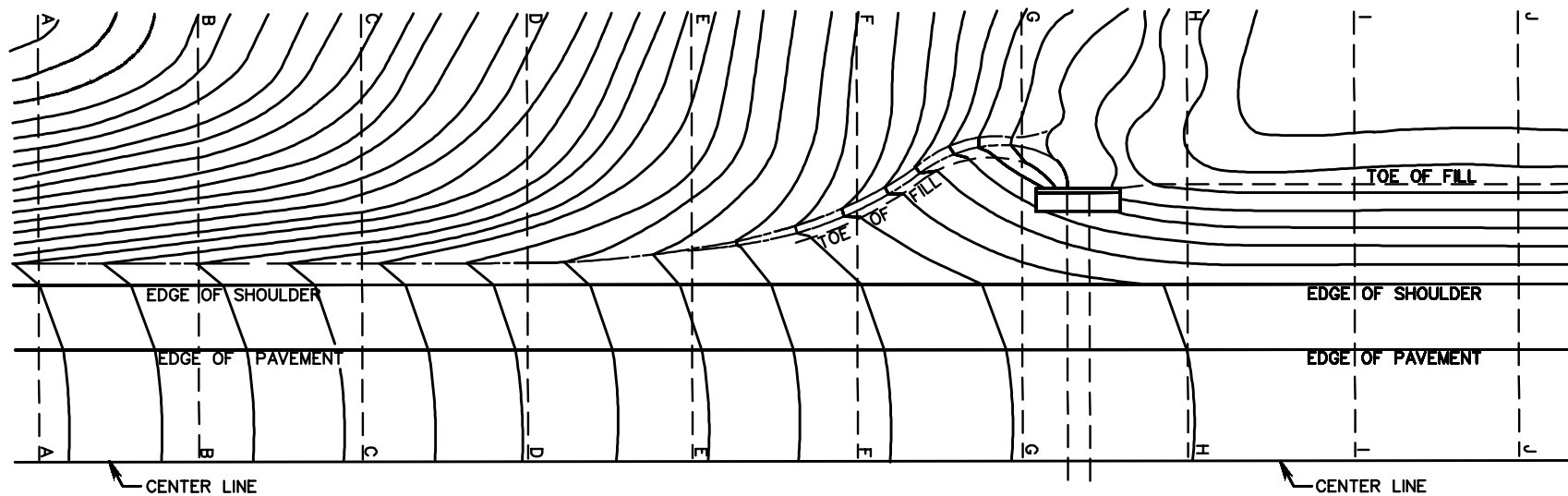
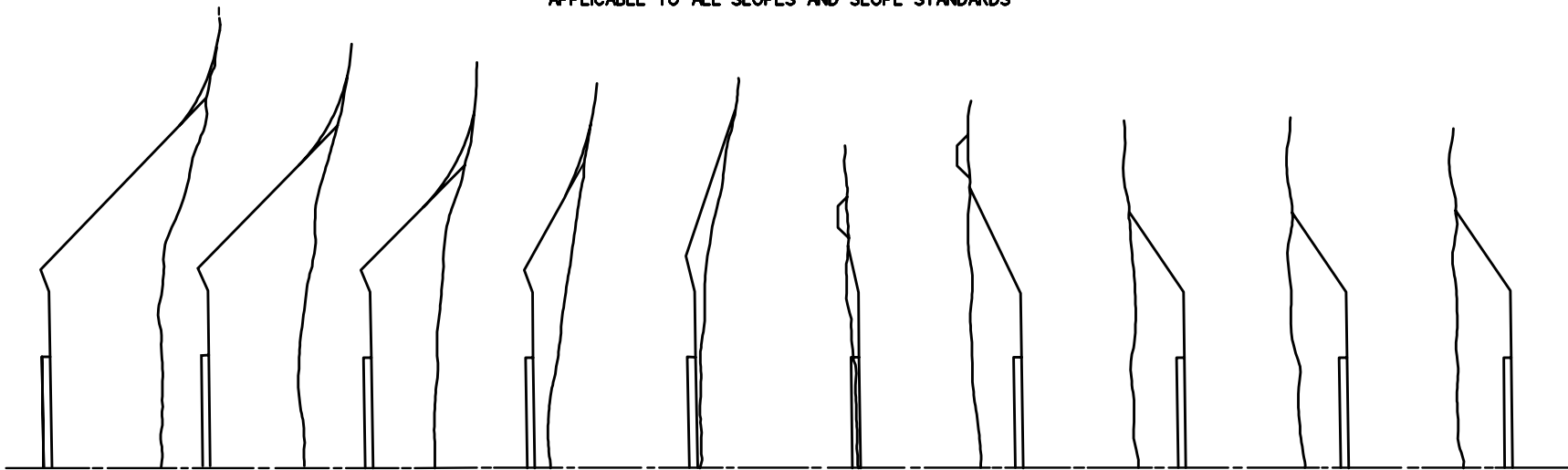


SPECIFICATION REFERENCE	<h1>TYPICAL METHODS OF GRADING SIDE SLOPES</h1>	VDOT ROAD AND BRIDGE STANDARDS	
		REVISION DATE	SHEET 1 OF 1
303	VIRGINIA DEPARTMENT OF TRANSPORTATION	701.01	

CS-2

SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

701.02

SUGGESTED DRAINAGE TREATMENT

(AT BEGINNING OF FILLS)

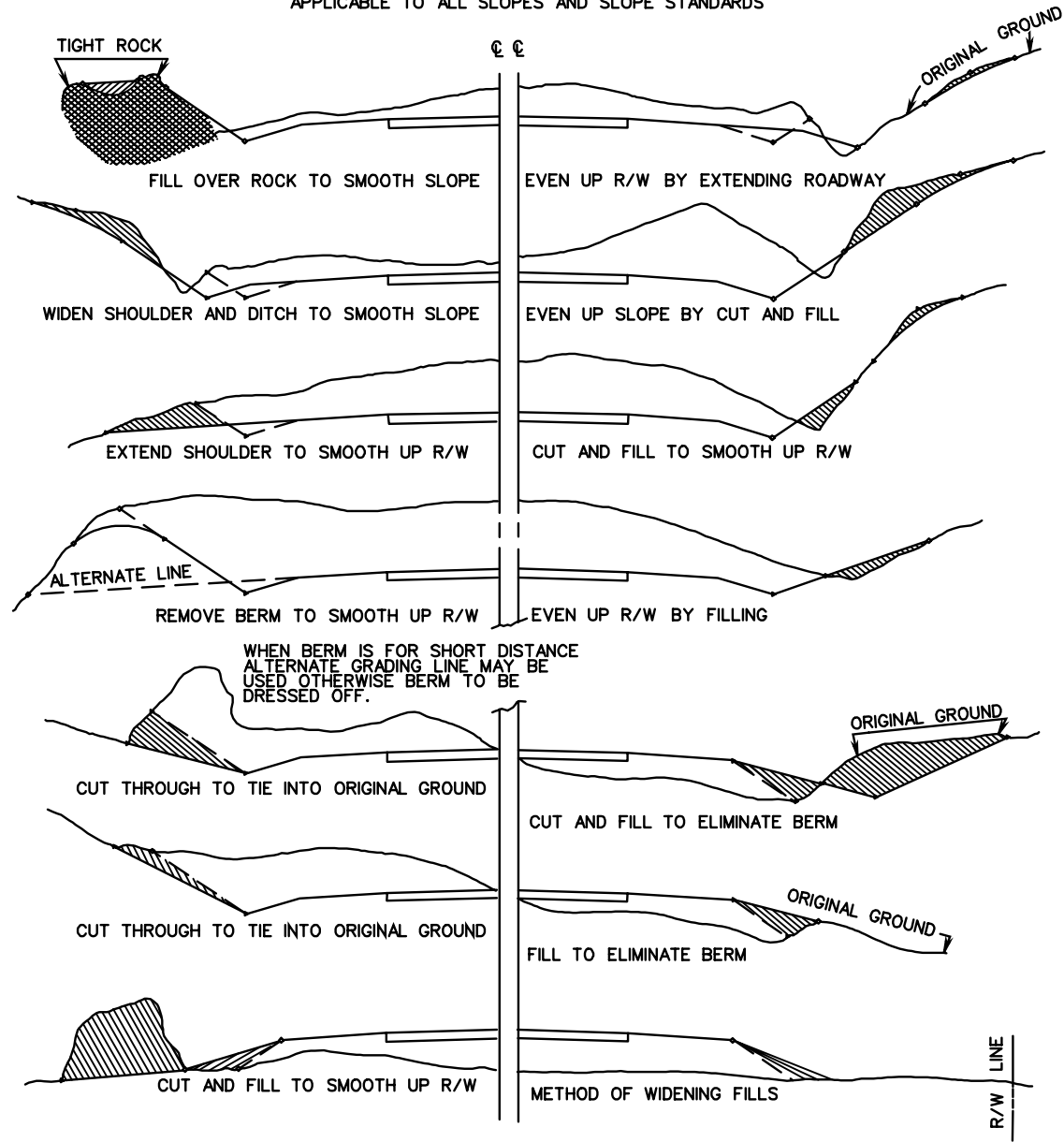
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

303

SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS



SPECIFICATION REFERENCE

303

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

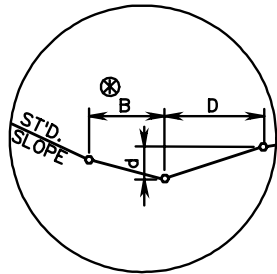
ROAD AND BRIDGE STANDARDS

REVISION DATE

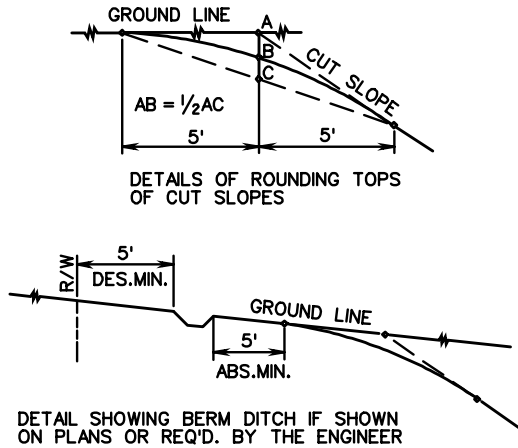
SHEET 1 OF 1

701.03

CS-3



DETAIL A



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 1/2:1 SLOPES AND VICE VERSA, PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

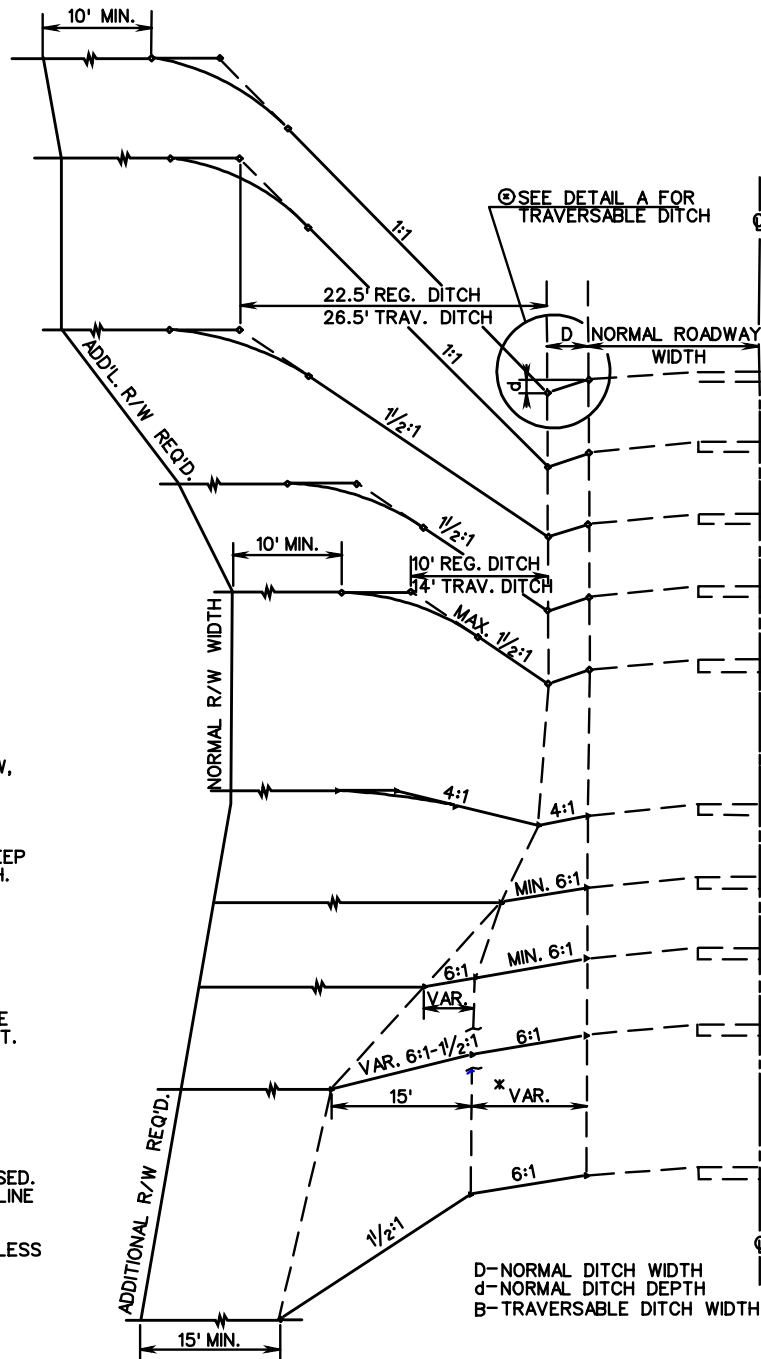
WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

⊗ 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 1/2:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

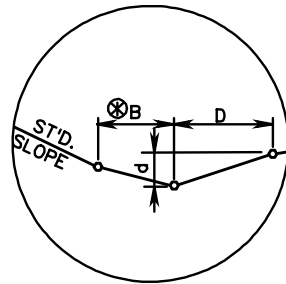
701.04

TYPICAL METHODS OF GRADING SIDE SLOPES

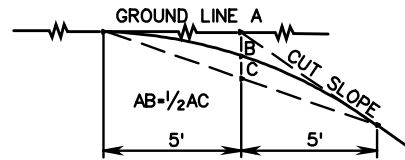
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

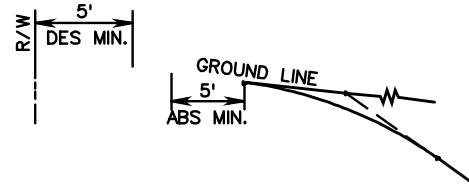
303



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.

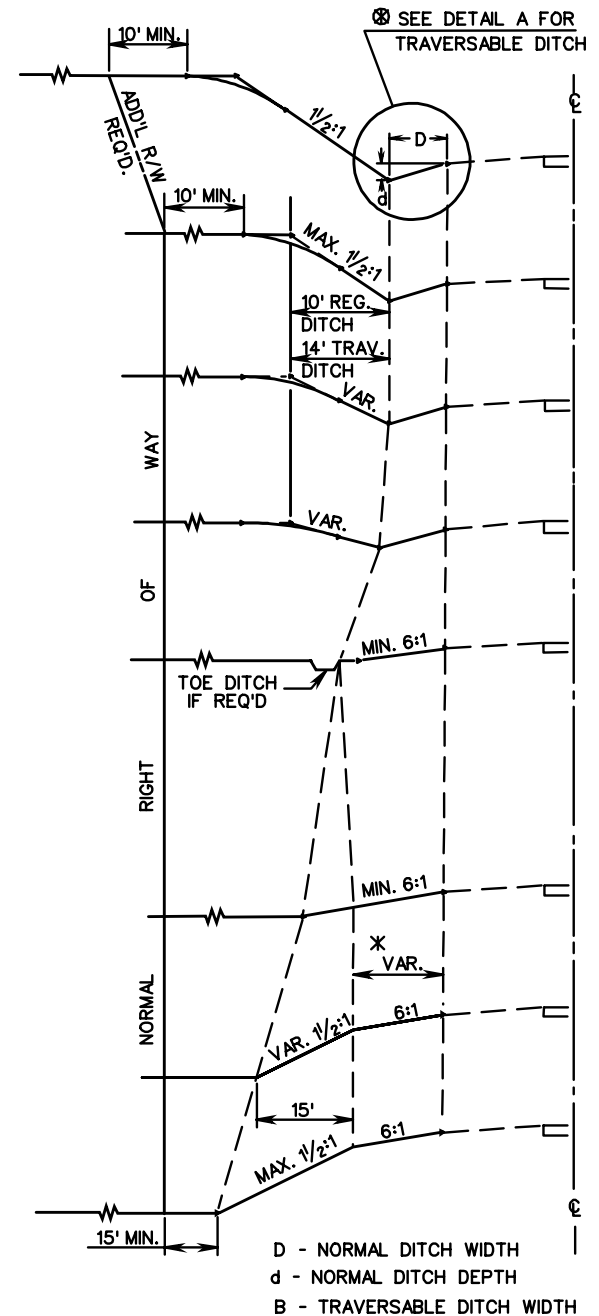
WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

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.



SPECIFICATION REFERENCE

303

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

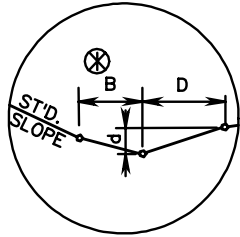
ROAD AND BRIDGE STANDARDS

REVISION DATE

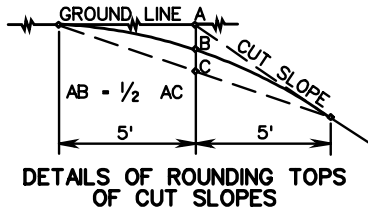
SHEET 1 OF 1

701.05

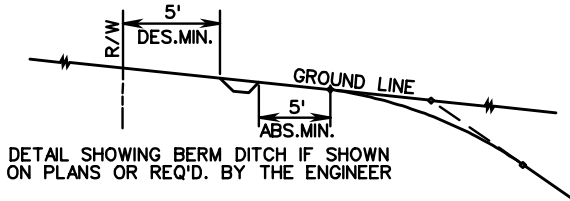
CS-3B



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 1 1/2:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

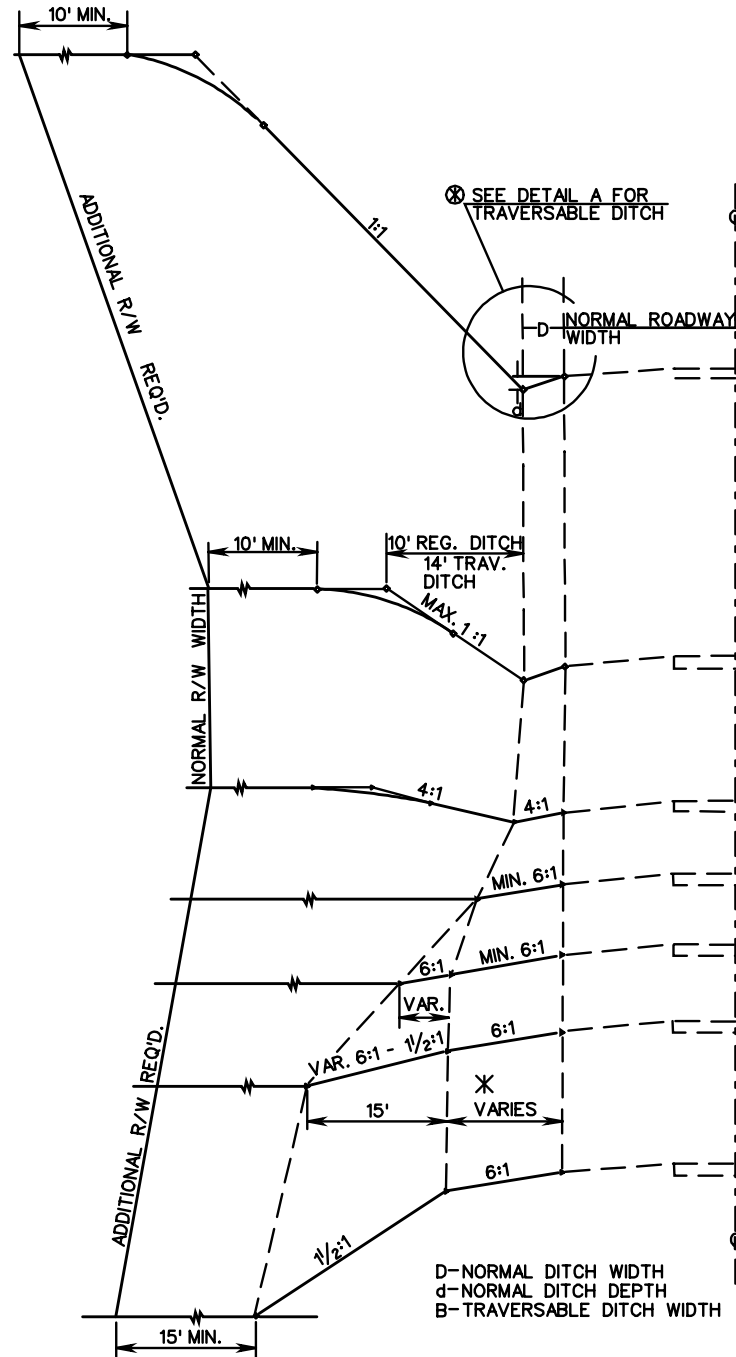
MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1 1/2:1 TO 1:1 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



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

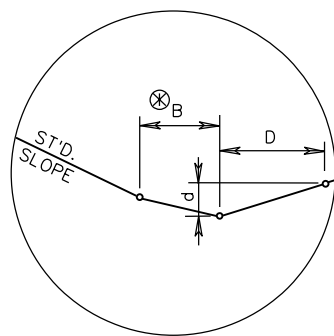
701.06

TYPICAL METHODS OF GRADING SIDE SLOPES

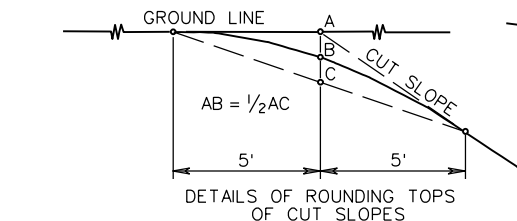
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

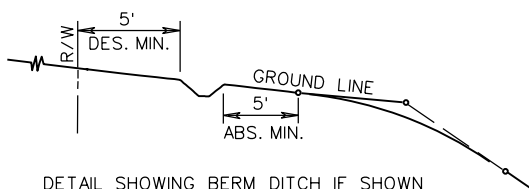
303



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 TRASITIONING 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.

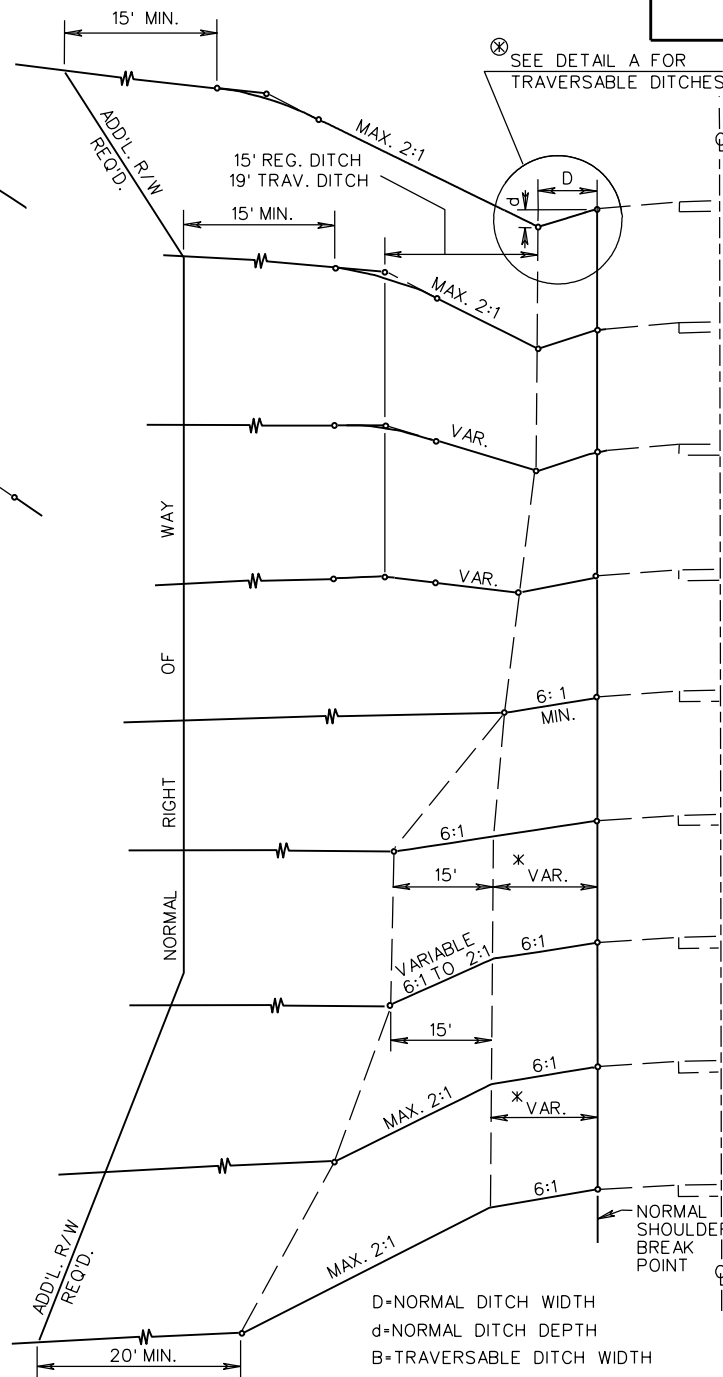
WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

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 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

SPECIFICATION REFERENCE

303

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

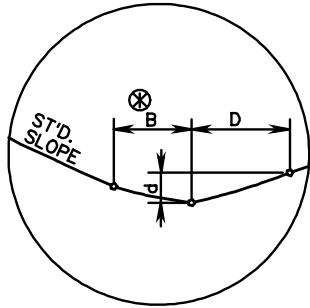
ROAD AND BRIDGE STANDARDS

REVISION DATE

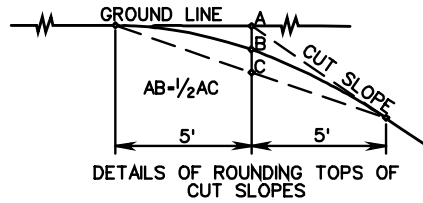
SHEET 1 OF 1

701.07

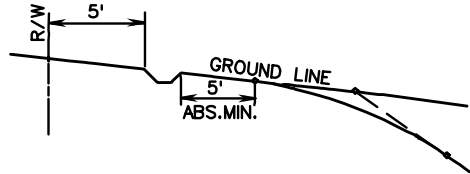
CS-4A



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 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 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.

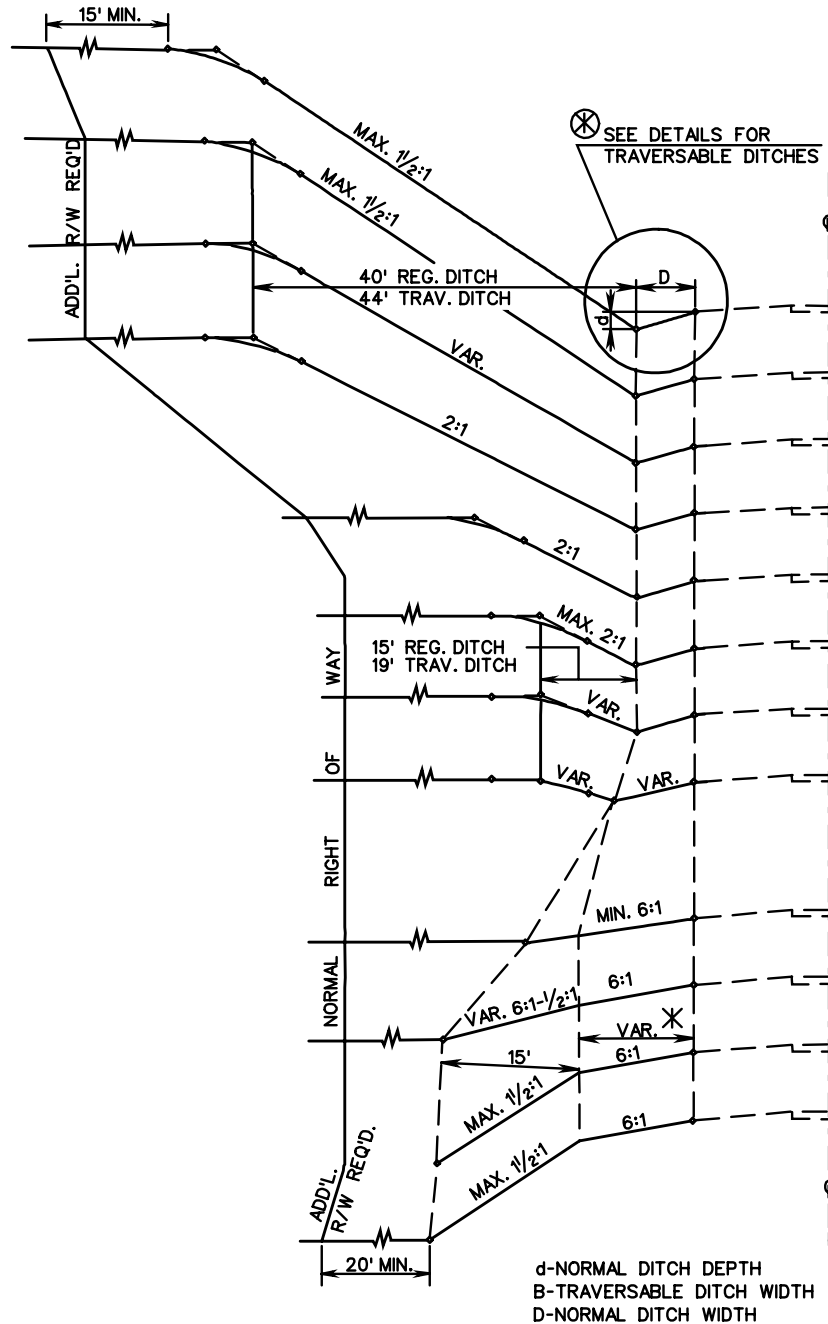
IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

IN CUTS UP TO 400' IN LENGTH 1/2:1 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 1/2:1 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.



⊗ SEE DETAILS FOR TRAVERSABLE DITCHES

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



ROAD AND BRIDGE STANDARDS

TYPICAL METHODS OF GRADING SIDE SLOPES

SPECIFICATION REFERENCE

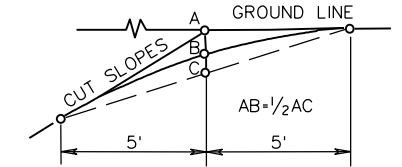
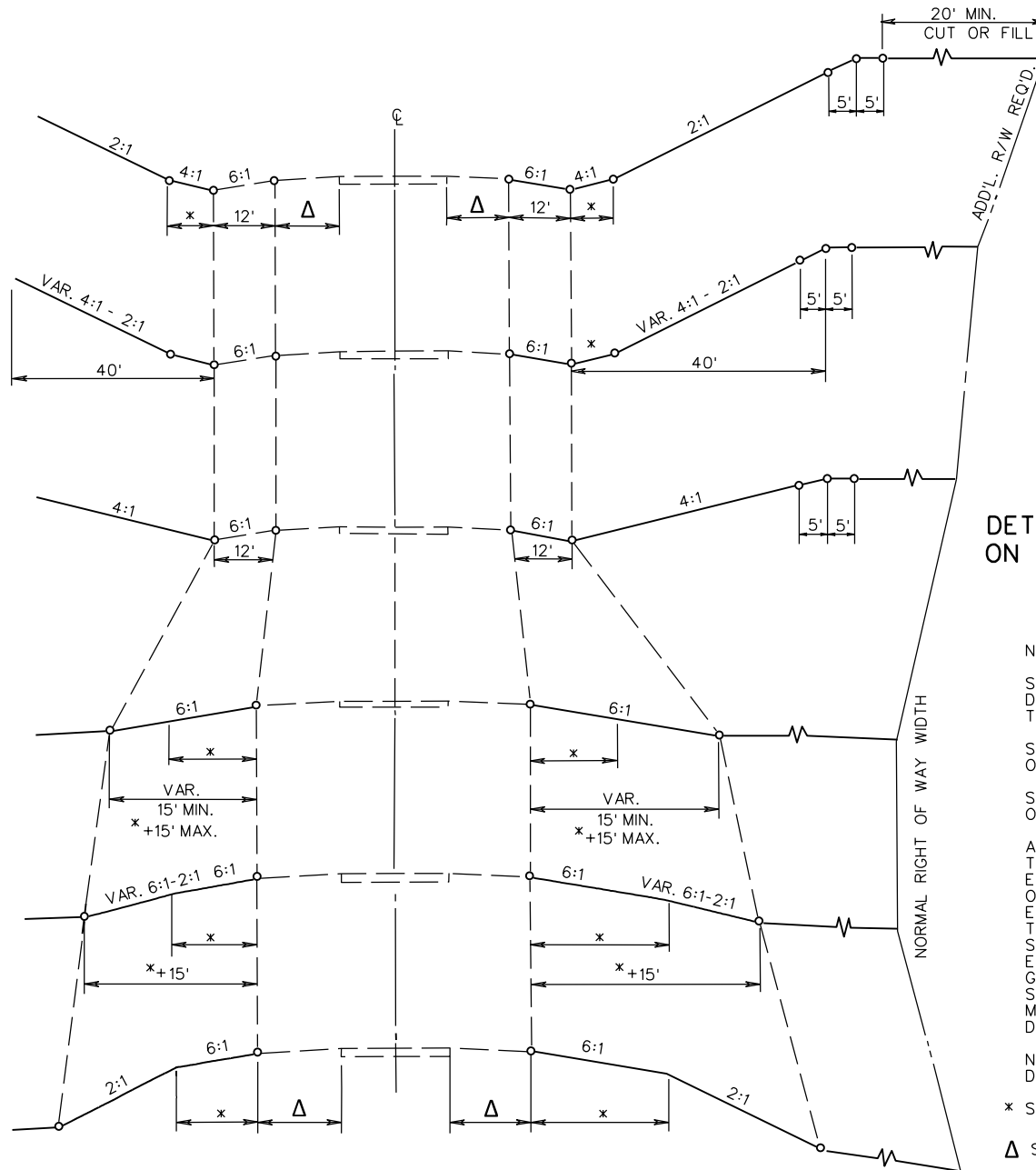
SHEET 1 OF 1

REVISION DATE

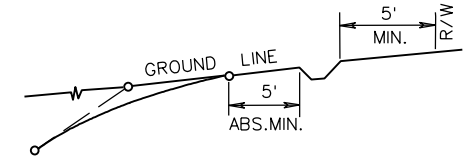
VIRGINIA DEPARTMENT OF TRANSPORTATION

303

701.08



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.

Δ SEE PLAN TYPICAL SECTIONS FOR SHOULDER WIDTHS

SPECIFICATION REFERENCE
303

TYPICAL METHODS OF GRADING SIDE SLOPES

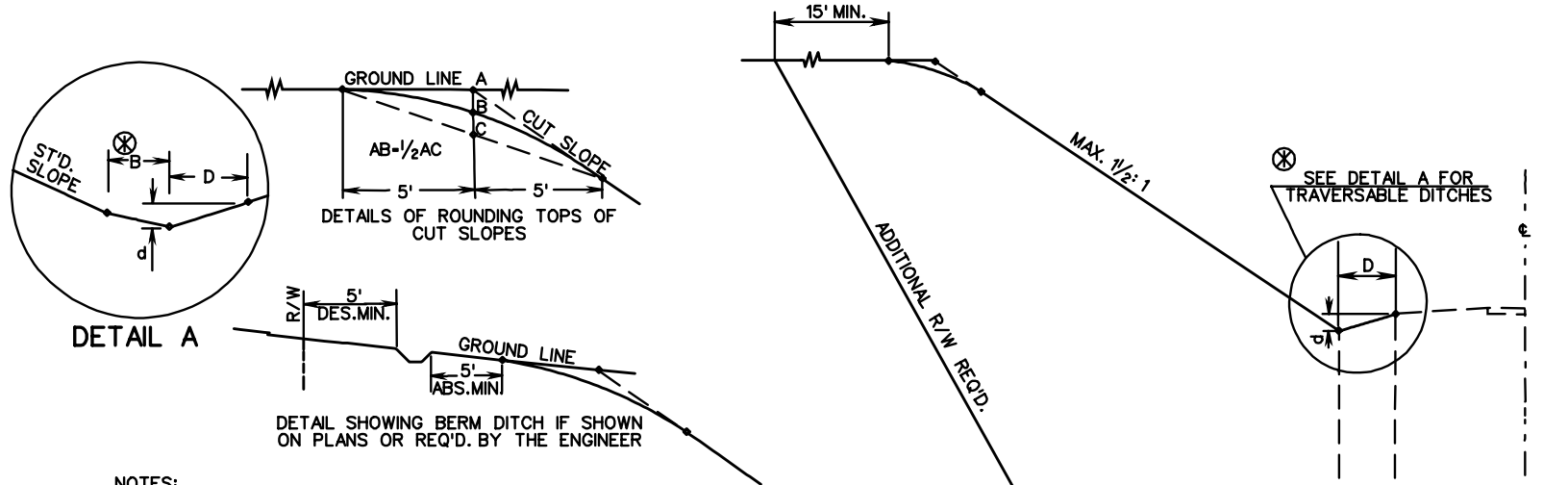
VIRGINIA DEPARTMENT OF TRANSPORTATION



ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 1 OF 1
7/16	701.09

CS-4C



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.

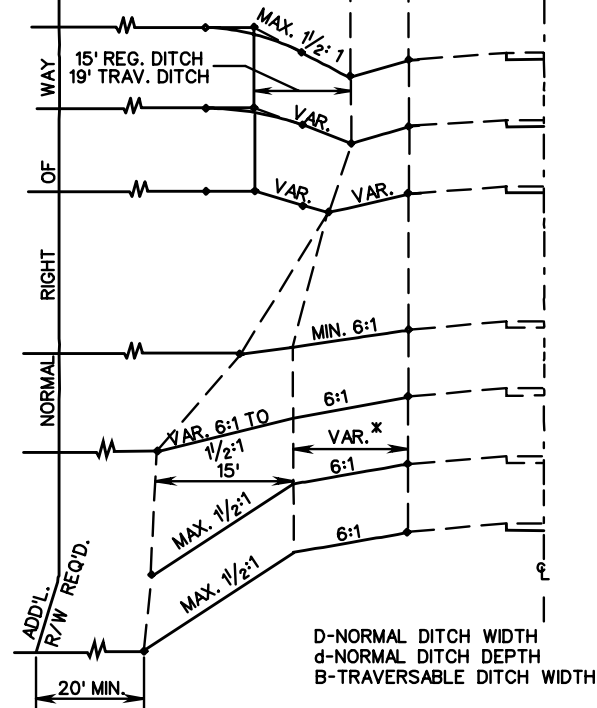
IN CUTS UP TO 400' IN LENGTH 1/2:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

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

IF METHOD SHOWN FOR TRANSITIONING FROM 1/2:1 TO 1:1 SLOPES AND VICE VERSA PRODUCES TRANSITIONS 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.



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

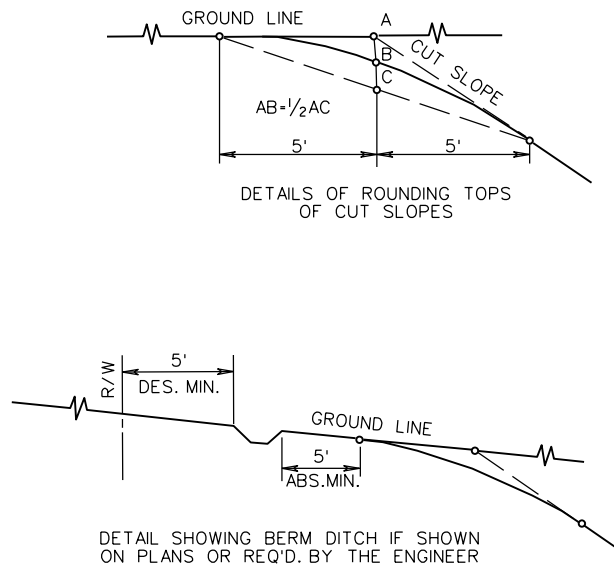
701.10

TYPICAL METHODS OF GRADING SIDE SLOPES

SPECIFICATION REFERENCE

303

VIRGINIA DEPARTMENT OF TRANSPORTATION



NOTES:

SLOPE ROUNDING 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 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.

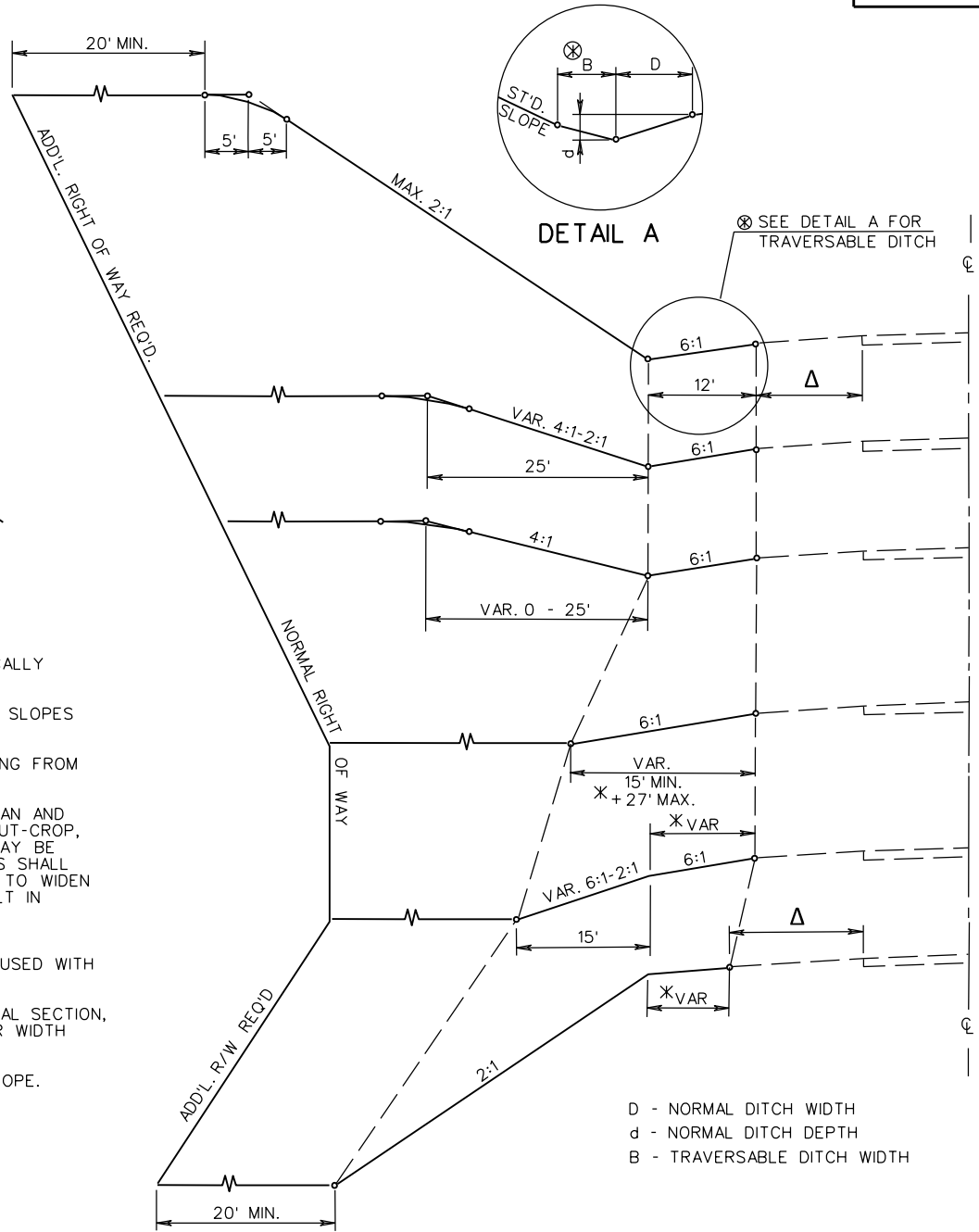
* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

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.

Δ SEE PLAN TYPICAL SECTIONS FOR SHOULDER WIDTHS



SPECIFICATION REFERENCE
303

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS	
REVISION DATE 7/16	SHEET 1 OF 1 701.11

STANDARD

THIS PAGE INTENTIONALLY LEFT BLANK



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

TITLE

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE