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VEGETATIVE STREAMBANK STABILIZATION (STD & SPEC 3.22)

GENERAL REQUIREMENTS:

USE NEWLY PLANTED VEGETATION TO ESTABLISH / RE-ESTABLISH VEGETATION ALONG STREAMBANKS THAT ARE DISTURBED BY THE WORK OF THE PROJECT. VEGETATIVE STREAMBANK STABILIZATION MEASURES WILL BE APPLIED TO THE REED-BANK AND SHRUB AQUATIC PLANT ZONES.

DEFINITIONS:

REED-BANK ZONE - THE LOWER PART OF THIS ZONE IS NORMALLY SUBMERGED FOR ONLY ABOUT HALF THE YEAR. THIS ZONE IS TYPICALLY INHABITED BY RUSHES, REED GRASSES, CATTAILS, AND OTHER PLANTS WHICH BIND THE SOIL WITH THEIR ROOTS, RHIZOMES AND SHOOTS AND SLOW THE WATER'S FLOW RATE BY FRICTION.

SHRUB ZONE - THIS ZONE IS FLOODED ONLY DURING PERIODS OF AVERAGE HIGH WATER. IN VIRGINIA, THE SHRUB ZONE IS INHABITED BY TREES AND SHRUBS--SUCH AS WILLOW, ALDER, DOGWOOD AND VIBURNUM - WITH A HIGH REGENERATIVE CAPACITY. THESE PLANTS HOLD THE SOIL WITH THEIR ROOT SYSTEMS AND SLOW WATER SPEED BY FRICTION. THEY ALSO PROTECT TREE TRUNKS FROM DAMAGE CAUSED BY BREAKING ICE AND HELP TO PREVENT THE FORMATION OF STRONG EDDIES AROUND LARGE TREES DURING FLOOD FLOWS.

ESTABLISHMENT OF VEGETATIVE STREAMBANK STABILIZATION:

ESTABLISHING REED-BANK VEGETATION: SHALL BE COMMON REED (PLFRAGMITES COMMUNIS). PLANTING SHALL BE IN THE CLUMPS FORMATION (SEE PLATE 3.22-2 (A)). THE STEMS OF THE REED COLONY ARE SCYTHED. THEN SQUARE CLUMPS ARE CUT OUT OF THE GROUND AND PLACED IN PITS PREPARED IN ADVANCE ON THE SITE. THE CLUMPS ARE PLANTED AT APPROXIMATELY 18-INCHES ON-CENTER AND AT A DEPTH WHERE THEY WILL BE GENERALLY SUBMERGED TO A MAXIMUM OF TWO-THIRDS OF THEIR HEIGHT.

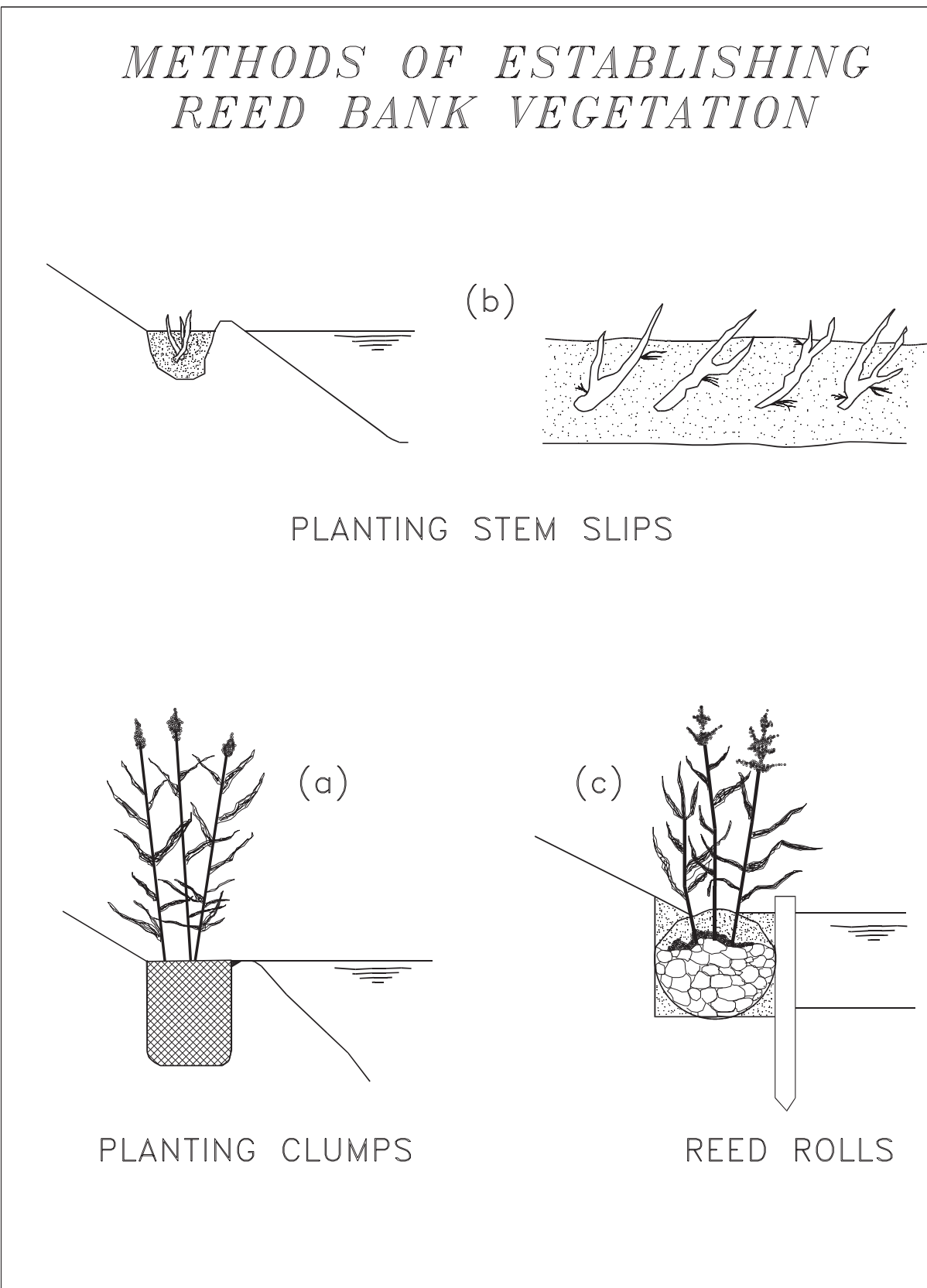
ESTABLISHING SHRUB ZONE VEGETATION: SHALL BE INSTALLED BY PLANTING CUTTINGS AND SEEDLINGS METHOD USING A MIXTURE OF SHRUB WILLOWS, SHRUB DOGWOODS AND ALDERS. THE FIRST STEP IN THE PLANTING PROCESS IS TO GRADE CHANNEL SIDE SLOPES TO A MAXIMUM SLOPE OF 2:1 (3:1 PREFERRED), REMOVING OVERHANGING BANK EDGES.

WILLOWS MAY BE PLANTED AS 1-YEAR OLD, NURSERY-GROWN, ROOTED CUTTINGS OR AS FRESH HARDWOOD CUTTINGS GATHERED FROM LOCAL MOTHER-STOCK PLANTINGS. SILKY DOGWOOD AND THE ALDERS SHOULD BE NURSERY-GROWN SEEDLINGS 1 OR 2 YEARS OLD.

FRESH CUTTINGS SHOULD BE 3/8- TO 1/2-INCH THICK AND 12 TO 18 INCHES LONG AND SHOULD BE KEPT MOIST. IF NOT USED AT ONCE, THEY SHOULD BE STORED IN COOL MOIST SAND. USE A DIBBLE BAR TO MAKE A HOLE FOR THE PLANT.

ROOTED CUTTINGS SHOULD BE PLANTED VERTICALLY IN THE BANK WITH 1 OR 2 INCHES OF WOOD PROTRUDING ABOVE THE GROUND SURFACE. THEY SHOULD BE STUCK IN A HOLE LARGE ENOUGH TO ACCOMMODATE THE ROOT SYSTEM WHEN WELL SPREAD. THE PLANT ROOTS MUST BE MANEUVERED INTO THE BOTTOM OF THE HOLE SO THEY WILL GROW DOWN INSTEAD OF UP. THE ROOTS SHOULD NOT BE TWISTED, NOR SHOULD THEY BE EXPOSED ABOVE THE GROUND SURFACE. AFTER THE PLANT IS PLACED, THE DIBBLE BAR CAN BE INSTALLED A FEW INCHES AWAY FROM THE PLANT TO CLOSE THE HOLE. SLOW-RELEASE FERTILIZER SHOULD BE APPLIED ON THE SURFACE, NOT IN THE HOLE. THE SOIL SHOULD BE TAMPED ADEQUATELY TO PROVIDE COMPLETE CONTACT BETWEEN THE SOIL AND THE CUTTING. CUTTINGS SHOULD BE PLANTED 1 FOOT ON-CENTER IN AT LEAST 3 ROWS LOCATED AT THE TOP, MIDDLE AND BOTTOM OF THE SHRUB ZONE.

PLANT SEEDLINGS OF THE RIVER ALDERS VERTICALLY IN THE BANK TO THE DEPTH THEY WERE GROWING IN THE NURSERY. USE THE SAME PROCEDURE DESCRIBED PREVIOUSLY. PLANT ONE ROW OF ALDERS AT 2-FOOT INTERVALS AT THE BASE OF THE SHRUB ZONE, NOT MORE THAN 1.5 TO 3 FEET FROM THE AVERAGE SUMMER WATER LEVEL OR FROM THE REEDS. A GREATER DISTANCE IS OF NO USE UNLESS A BELT OF TALL PERENNIAL HERB COLONIES IS ESTABLISHED BETWEEN THE REEDS AND THE ALDERS.



SOURCE: IMPORTANCE OF NATURAL VEGETATION FOR THE PROTECTION OF THE BANKS OF STREAMS, RIVERS AND CANALS, SEIBERT

1992

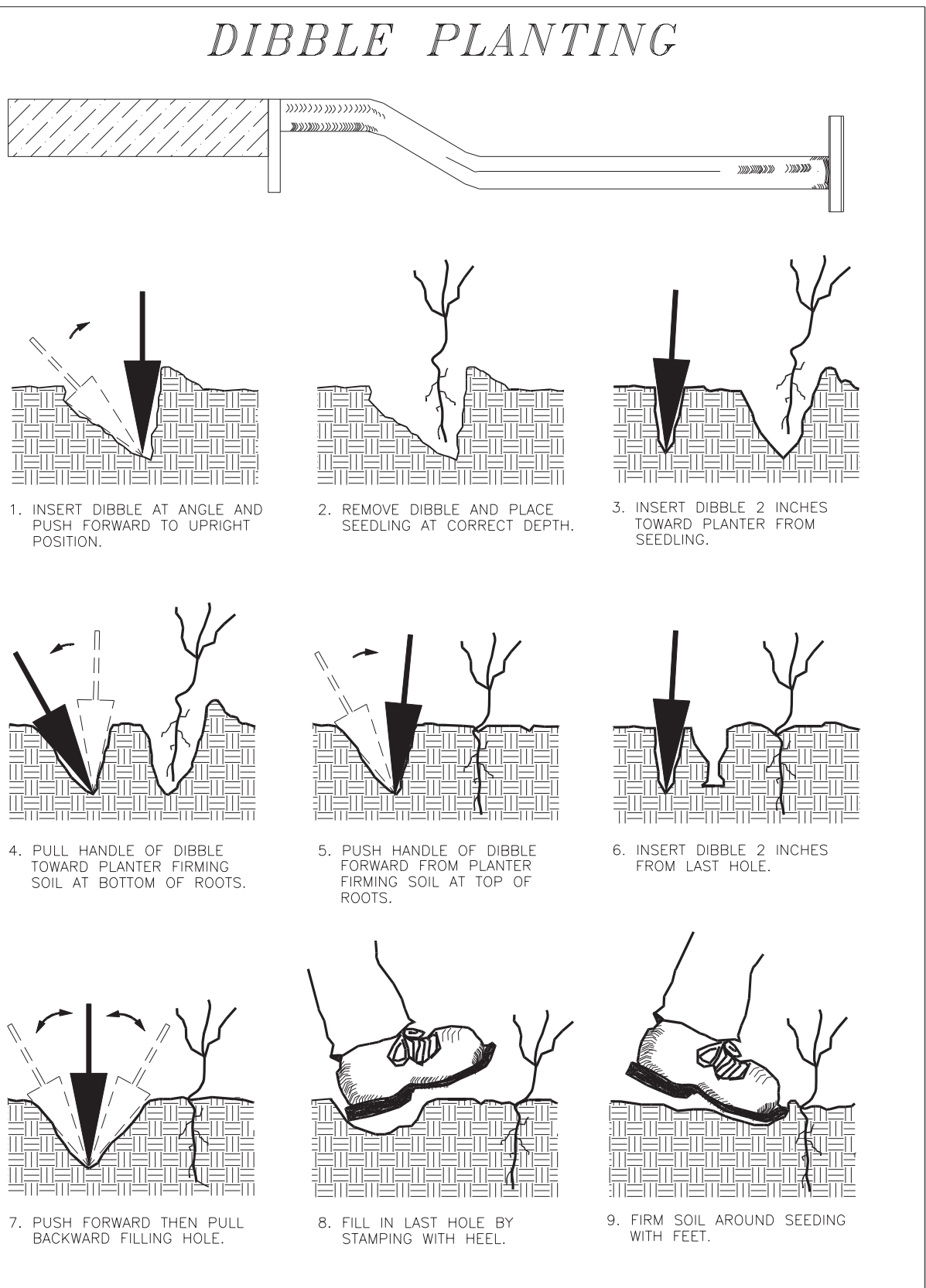


PLATE. 3.22-2-SOURCE: A GUIDE FOR VEGETATION SURFACE-MINED LANDS FOR WILDLIFE IN EASTERN KENTUCKY AND WEST VIRGINIA, USDI-FISH & WILDLIFE SERVICE

3.22

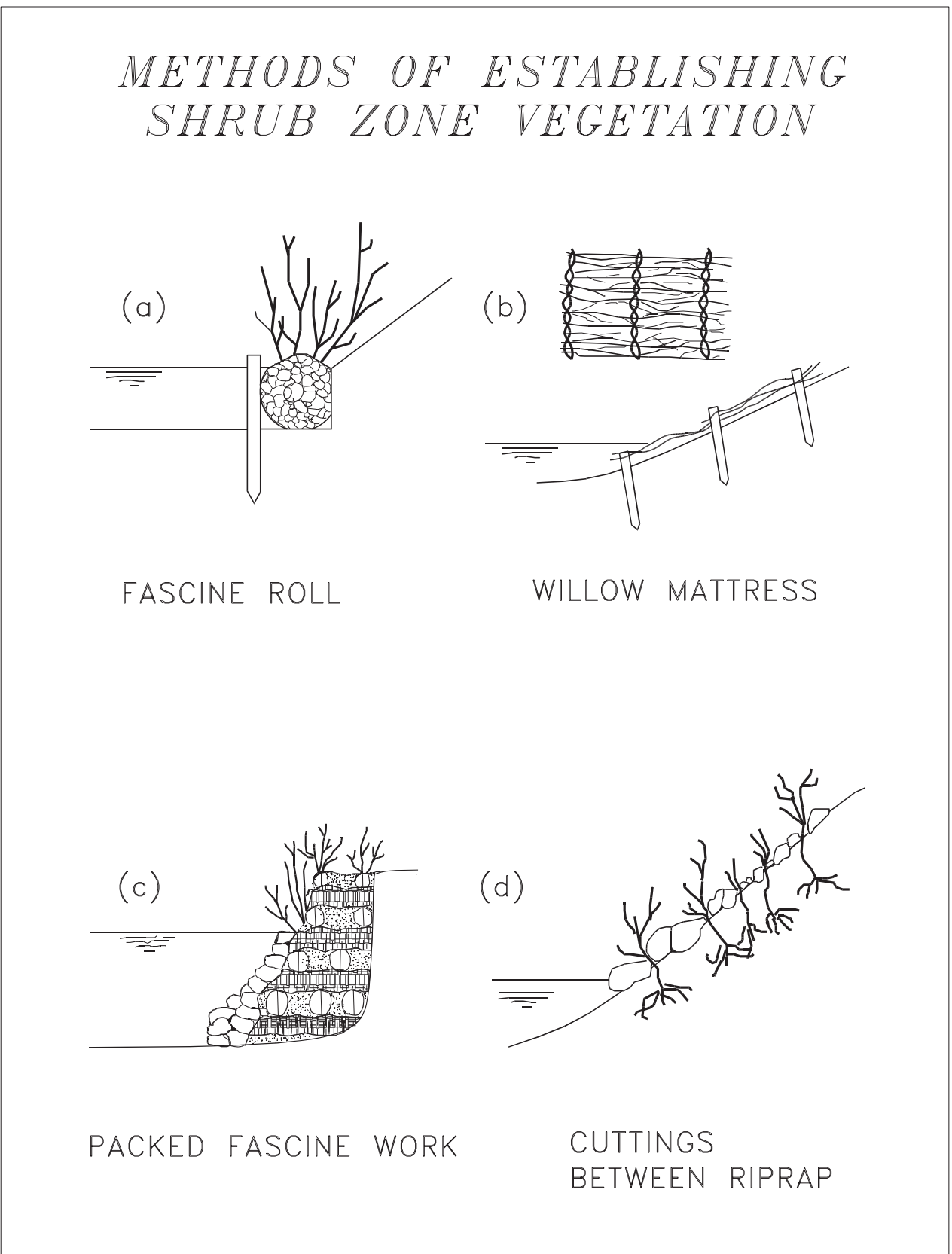
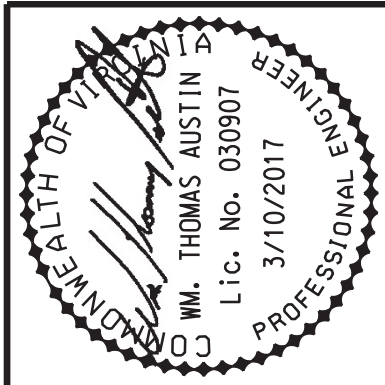
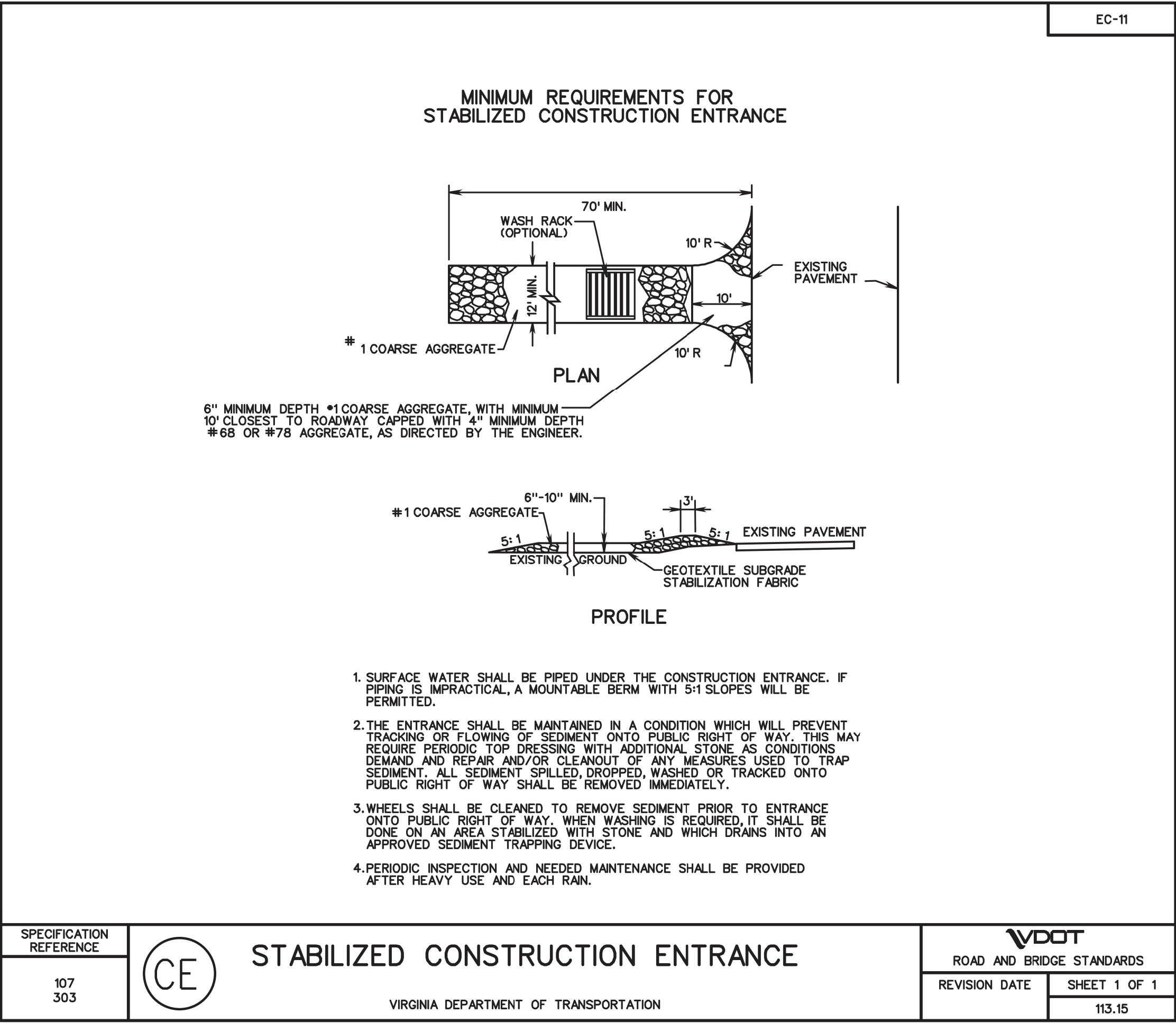


PLATE. 3.22-3-SOURCE: IMPORTANCE OF NATURAL VEGETATION FOR THE PROTECTION OF THE BANKS OF STREAMS, RIVERS AND CANALS, SEIBERT

PLATE. 3.22-4



Date									
Revisions									

Issue Date:	3/10/2017
Drawn By:	DJS
Designed By:	DJS
Checked By:	MSA
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City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Adrian Gilbert 03/15/2018

BERKLEY ROAD OVER GLADE CREEK TRIBUTARY A
EROSION AND SEDIMENT
CONTROL DETAILS
CITY OF ROANOKE, VIRGINIA

Vertical Scale:
N/A

Horizontal Scale:
N/A

Commission Number:
34301

Sheet No.:

ES-9