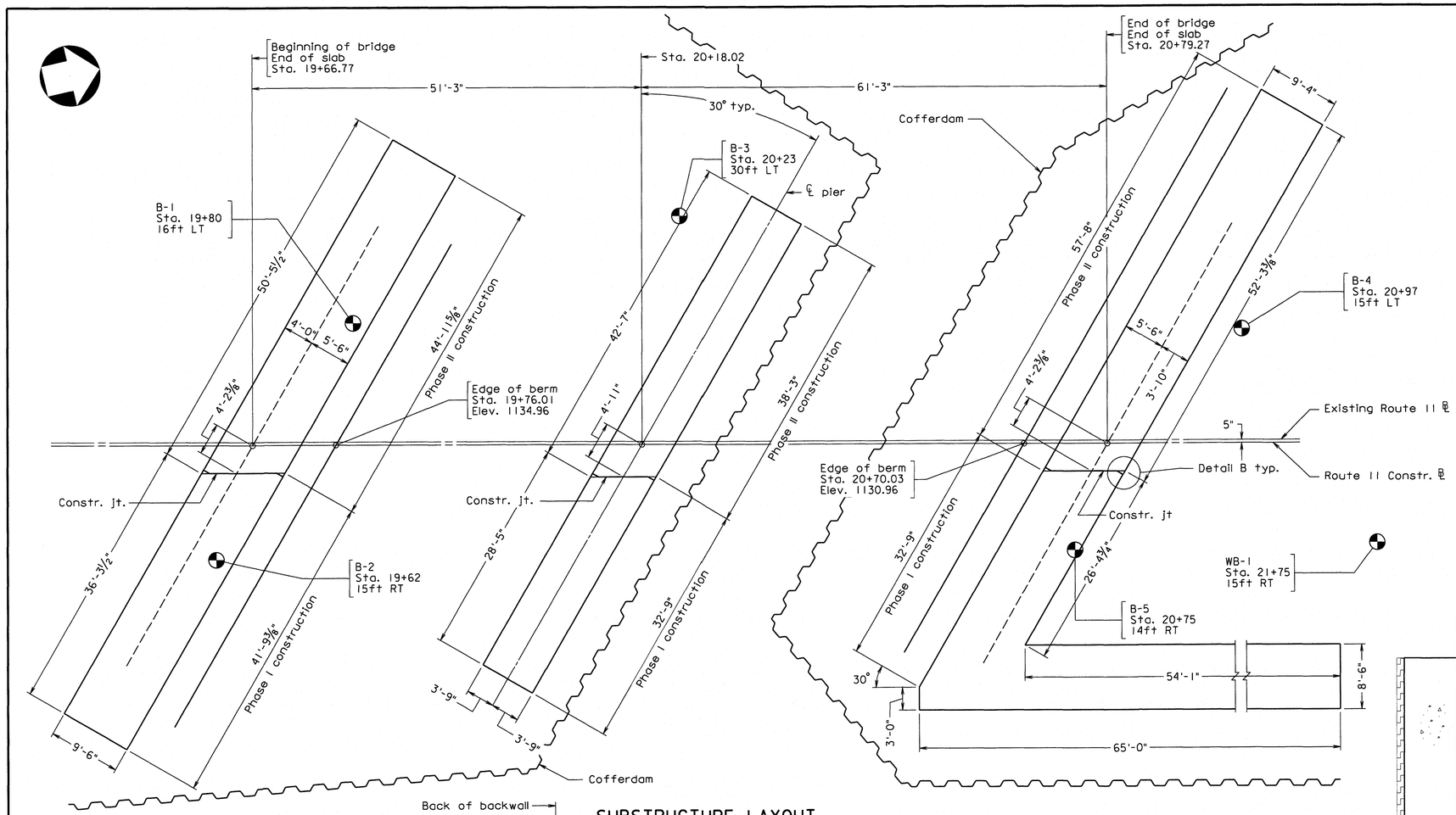
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—		11	0011-011-109, B605	3



SUBSTRUCTURE LAYOUT

Notes:

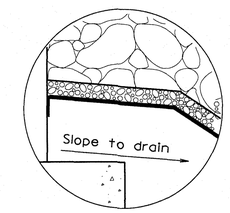
The substructure layout is for the purpose of locating fill slopes and footings of abutments and pier. For details of neatwork, see Abutment and Pier sheets.

Material in the abutment select backfill zone shall be Select Material Type I, minimum CBR 30, and shall be compacted in accordance with Sections 303 and 305 of the VDOT Road and Bridge Specifications. 21A or 21B may be substituted for Select Material Type I, minimum CBR 30, at no additional cost to the department.

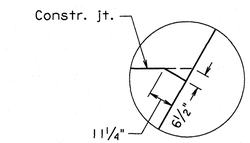
In cut situations, material with strength characteristics greater than the select backfill may be left in place.

The final depth A of the embankment side slopes shall be regular embankment material placed and finished as required.

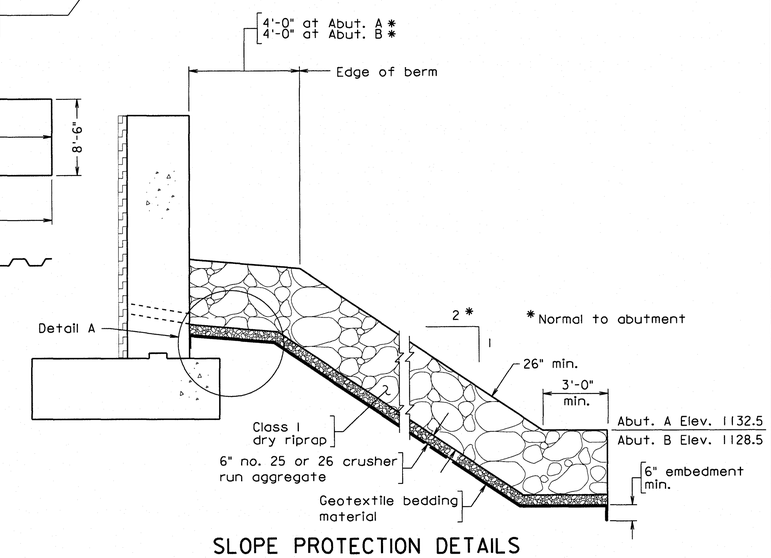
For boring logs, see sheets 40, 41, and 42.



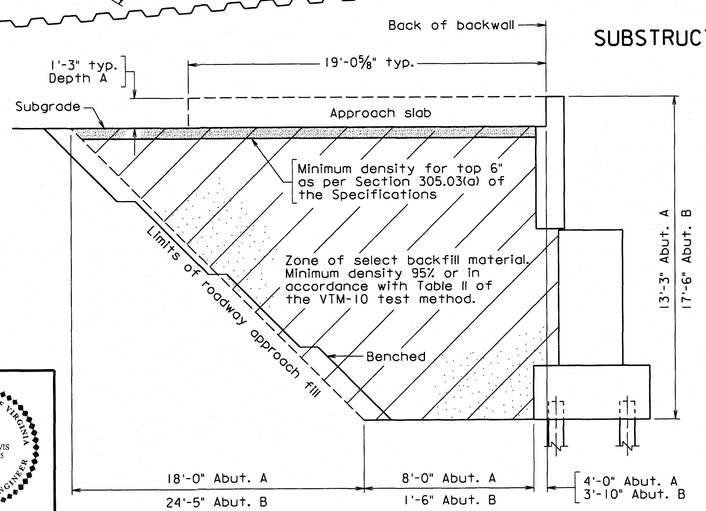
DETAIL A



DETAIL B
FOOTING CHAMFER



SLOPE PROTECTION DETAILS
Not to scale



SECTION THROUGH ABUTMENT - CUT SECTION
Abutment drainage not shown
Not to scale

PILE DATA TABLE			
Substructure unit	Nominal Axial Resistance (Tons/pile)	Factored Axial Resistance (Tons/pile)	Minimum Tip Elevation
Abutment A	176	88	1119.0

The Strength Limit State controls the pile design.

SPREAD FOOTING DATA TABLE			
	SERVICE		STRENGTH
Substructure unit	Nominal Bearing Resistance (Tons/sf)	Tolerable Settlement (inches)	Factored Bearing Resistance ϕ_b = 0.45 (Tons/sf)
Pier/ Abutment B	17.5	NA	8.0

The Strength Limit State controls the footing design.

To be paid for as structural excavation

Scale: ⅛" = 1'-0" unless otherwise noted

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COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

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RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

SUBSTRUCTURE LAYOUT
SLOPE PROTECTION DETAILS

Designed: C.K.W.	Date	Plan No.	Sheet No.
Drawn: D.W.H.	Mar. 2017	295-21	3 of 44
Checked: A.L.K.			

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