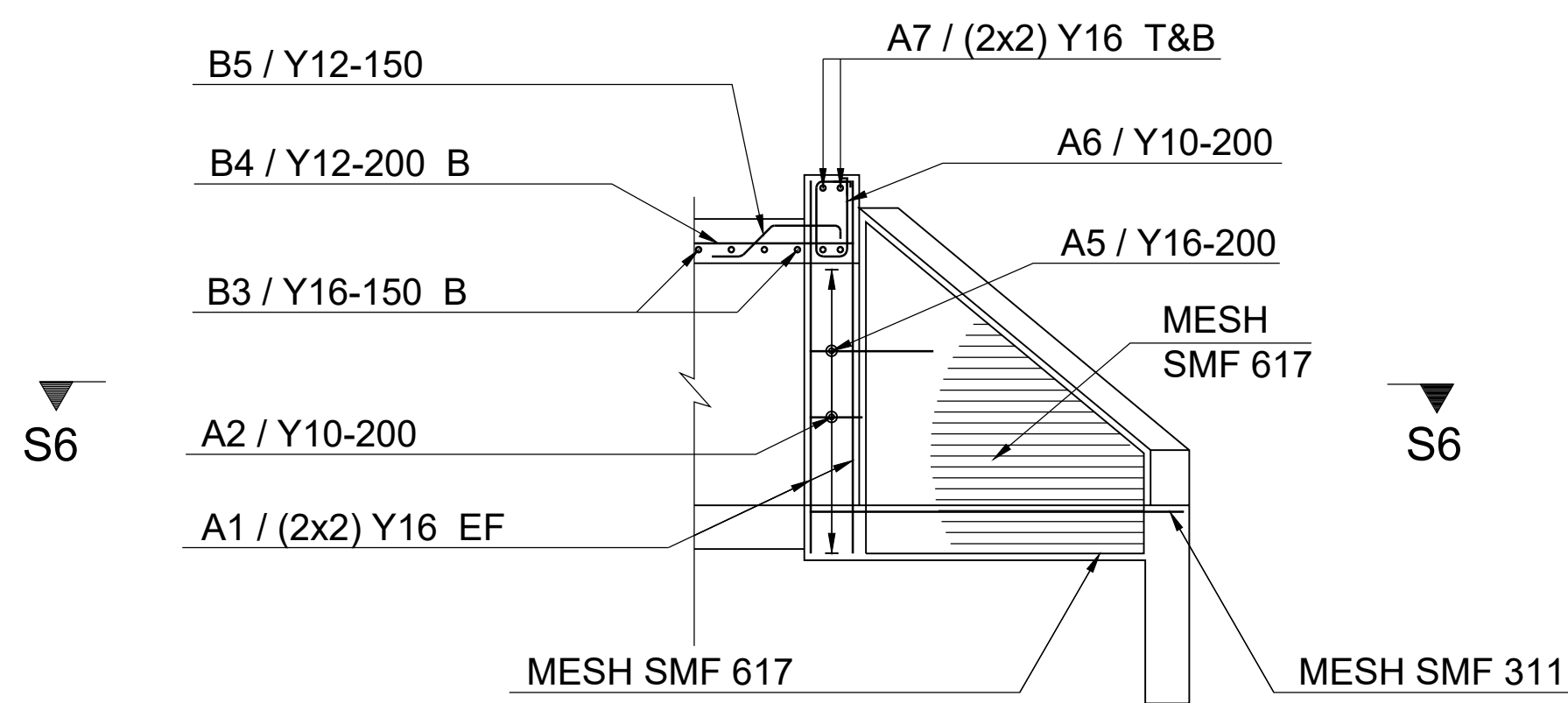
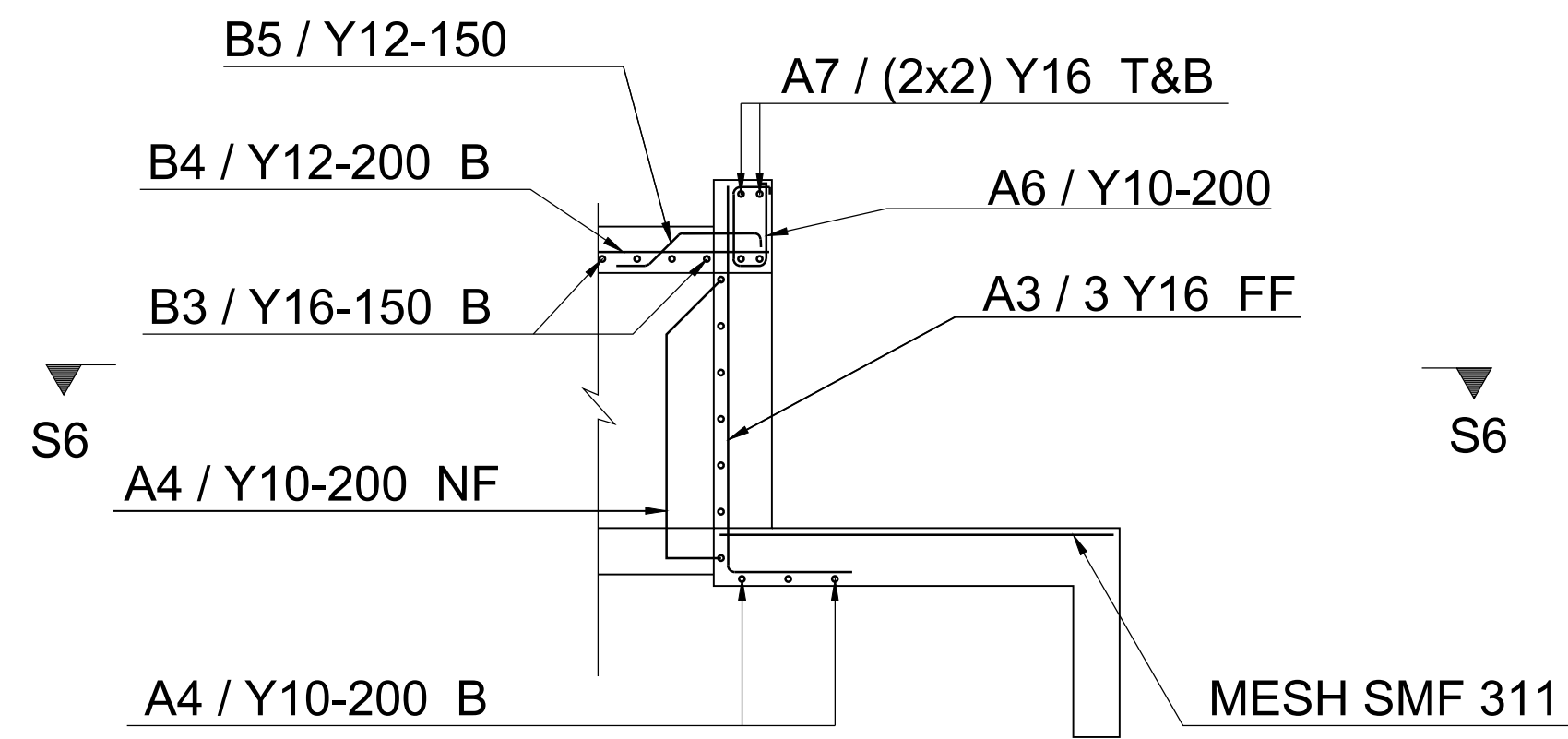


SECTION S1-S1 - INLET / OUTLET WING WALLS
HEADWALL & COLUMNS - REINFORCEMENT
N.T.S

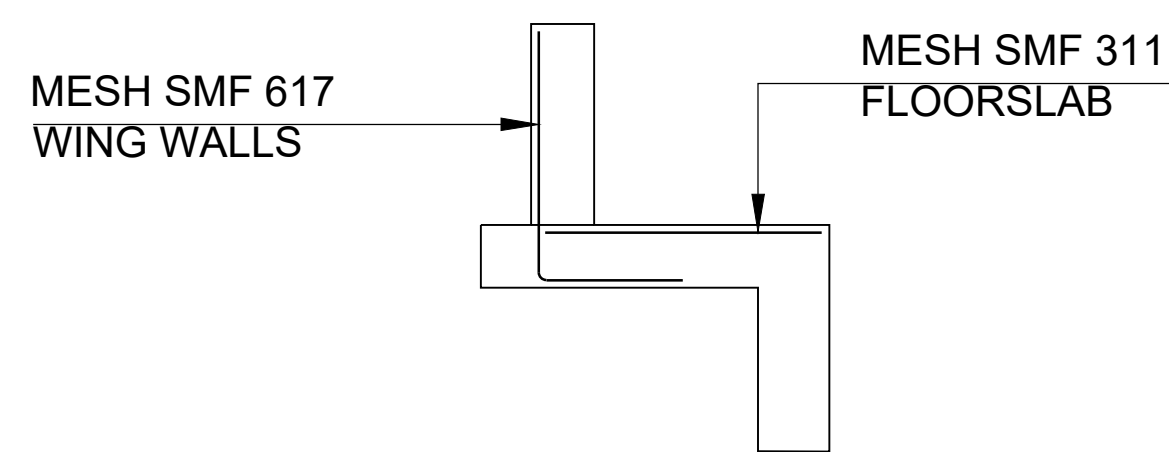


SECTION S2-S2 - INLET / OUTLET WING WALLS
HEADWALL & WING WALLS - REINFORCEMENT
N.T.S

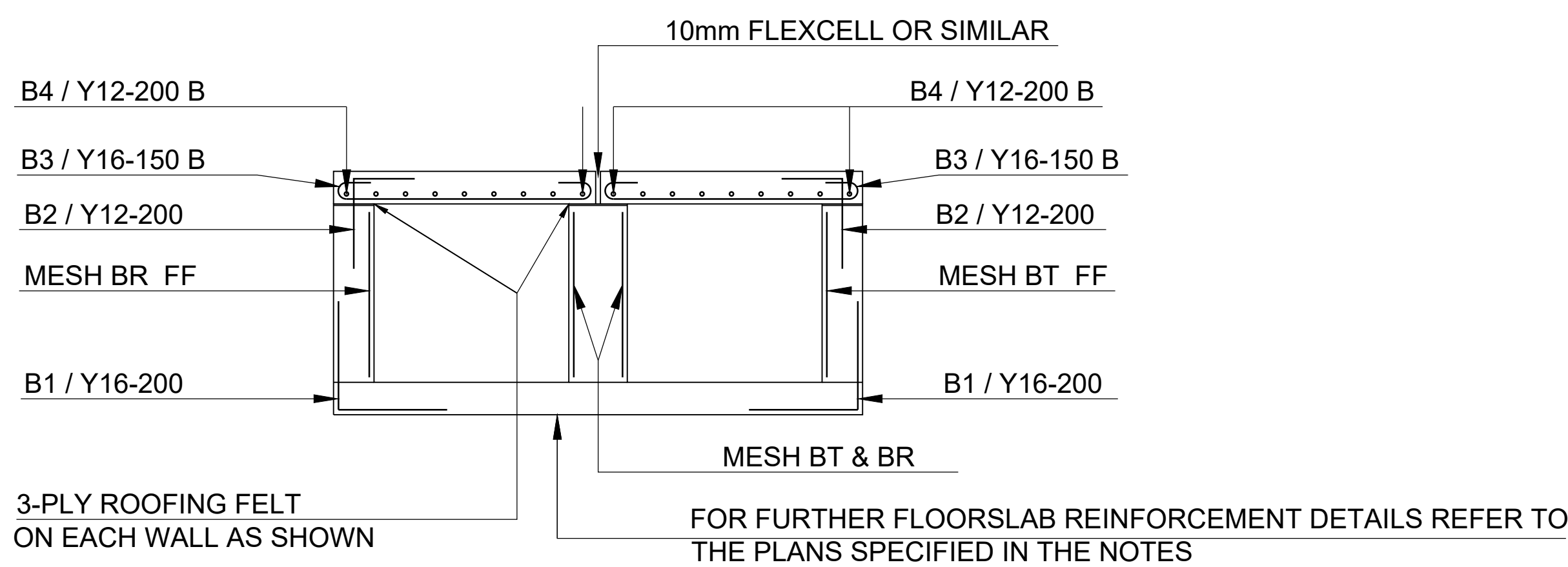


SECTION S3-S3 - INLET / OUTLET WING WALLS
HEADWALL & COLUMNS - REINFORCEMENT
N.T.S

NOTE:
MESH REINFORCEMENT ONLY FOR CULVERTS WHERE
VERTICAL OPENING, JA > 900



SECTION S4-S4 - INLET / OUTLET WING WALLS
WING WALLS & FLOORSLAB - REINFORCEMENT
N.T.S

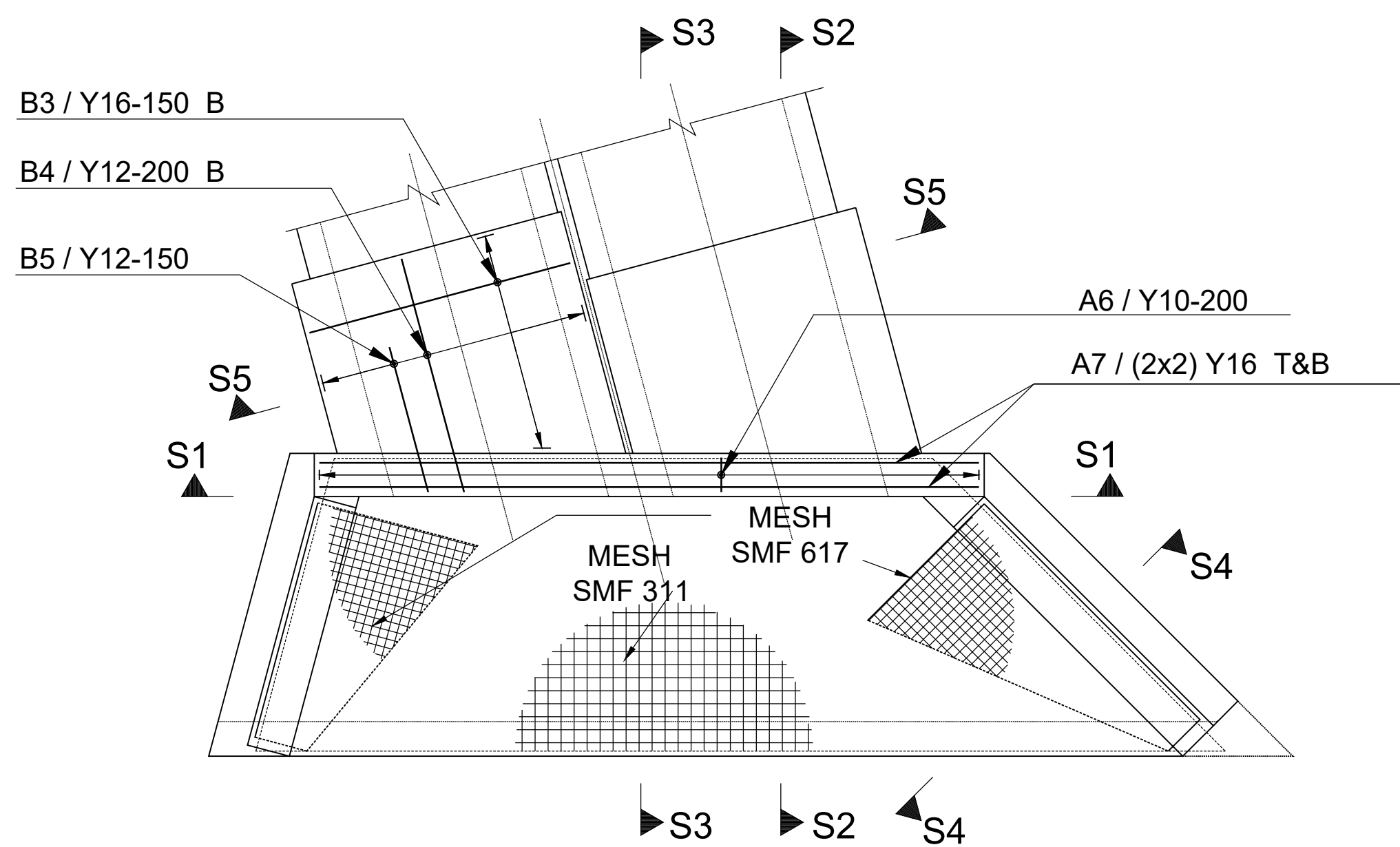


SECTION S5-S5 - INLET / OUTLET WING WALLS
INSITU BARREL (BOX CULVERTS ONLY) - REINFORCEMENT
N.T.S

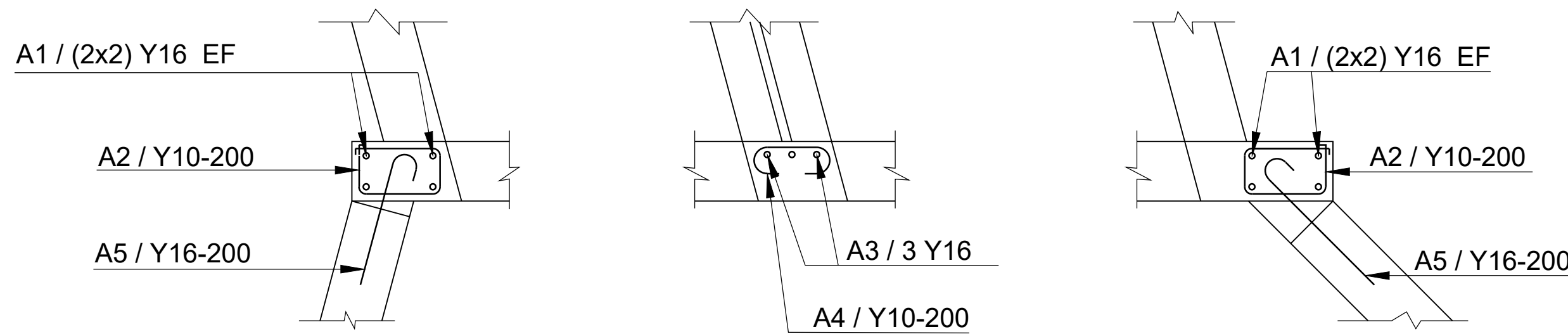
NOTES FOR INLET / OUTLET WING WALLS:

- DESIGN CRITERIA
 - THE WING WALLS ARE DESIGNED AS CANTILEVERS FIXED TO THE BASE AND SUPPORTED BY THE HEADWALL.
 - THE WING WALLS ARE DESIGNED FOR A SURCHARGE OF 750mm AND A MAXIMUM SLOPE OF 1:1.5 FOR ANY FILL HEIGHT.
 - THE DENSITY OF SOIL = 20 kN/m.
 - SOIL PRESSURES DETERMINED USING RANKINE'S THEORY.
 - CONCRETE:

	WING WALL	INSITU BARREL
CHARACTERISTIC STRENGTH (MPa)	30	30
CLASS CONCRETE	C25/30-20	C25/30-20
 - REINFORCEMENT ACCORDING TO SABS 920 - LATEST REVISION. CHARACTERISTIC STRENGTH OF HIGH TENSILE STEEL MESH = 450 MPa.
 - A LINEAR SOIL PRESSURE DISTRIBUTION IS ASSUMED.
 - THE INSITU BARREL IS DESIGNED FOR SNABC TRAFFIC LOADING IN
 - ACCORDANCE WITH TMH 7 PARTS 1,2&3 (AS AMENDED 1988) "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN SOUTH AFRICA".
- GENERAL
 - THE REQUIRED CLASS OF SURFACE FINISH IS F2 FOR ALL VISIBLE SURFACES.
 - ALL VISIBLE CORNERS MUST HAVE A 25 x 25 mm CHAMFER.
 - TWO 150 mm LAYERS OF APPROVED MATERIAL, COMPACTED TO 93% MDD AS PER THE LATEST COTO STANDARDS, ARE REQUIRED UNDER THE INLETS AND OUTLETS.
 - MINIMUM CONCRETE COVER TO REINFORCEMENT IS 40mm.
 - FURTHER INFORMATION REGARDING SPECIFIC CULVERTS APPEAR ON THE DRAINAGE LAYOUT DRAWINGS.
 - THE INLET AND OUTLET UNITS ARE DESIGNED TO ACT AS INDEPENDENT UNITS WHEN USED TOGETHER WITH PIPES, PRECAST BARRELS, AS WELL AS INSITU BARREL UNITS.
 - REINFORCEMENT DETAILS OF THE FLOOR SLAB SUPPORTING THE CULVERT BARRELS APPEAR ON THE TYPICAL PLAN FOR PRECAST PORTAL CULVERTS BASE SLABS.
 - THE HEADWALLS MUST BE ALIGNED PARALLEL TO THE ROAD SHOULDER.



TYPICAL REINFORCEMENT PLAN OF
INLET / OUTLET WING WALLS - MAX Ø = 30°
N.T.S



SECTION S6-S6 - INLET/OUTLET WING WALLS
HEADWALL COLUMNS - REINFORCEMENT
N.T.S

CONSTRUCTION RECORD (AS-BUILT)				DESIGNED BY				CONSULTANT APPROVAL				HEAD OFFICE				EASTERN REGION				ACCEPTANCE				PROJECT DESCRIPTION				PROJECT NUMBER			
WORKS CONTRACT ENGINEER				NAME				Name				48 Tambotie Avenue Val de Grace Pretoria 0184				58 Van Eck Place Mkondeni Pietermaritzburg 3201				THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING				THE CONSTRUCTION OF PAVEMENT AND SETTLEMENT REPAIRS ON NATIONAL ROUTE 2, SECTION 30 FROM BUSHVELD RETREAT FARM (km47.0) TO HLUHLWE INTERCHANGE (km 55.0)				N.002-300-2020/1			
Name				Prof. Reg. No.				Prof. Reg. No.				Date				PO Box 100410 Scottsville 3209				Date				DRAINAGE - PRECAST WING WALLS REINFORCEMENT (SHEET 2 OF 2)				START			
SANRAL PROJECT MANAGER				NAME				Name				Date				Tel: (012) 844 8000				for the SA NATIONAL ROADS AGENCY SOC LTD.				ROUTE				END			
Name				Prof. Reg. No.				Prof. Reg. No.				Date				Tel: (033) 392 8100				Date				SECTION 30				SECTION 30			
Date				NAME				Name				Date				Tel: (033) 392 8100				Date				km 47.0				km 55.0			
1				NAME				Name				Date				Tel: (033) 392 8100				Date				DRAINAGE TYPE				ROADWORKS: DRAINAGE			
23/10/12				NAME				Name				Date				Tel: (033) 392 8100				Date				BRIDGE/STRUCTURE No.				N/A			
ORIGINAL				NAME				Name				Date				Tel: (033) 392 8100				Date				CONSULTANT DRAWING No.				TP2113-T-076			
REVISION				NAME				Name				Date				Tel: (033) 392 8100				Date				SANRAL DOCUMENT #				1			
CONSULT. ENG.				NAME				Name				Date				Tel: (033) 392 8100				Date				SCALE : N. T. S				SHEET 17 OF 26			

FOR TENDER
(FOR TENDER PURPOSES ONLY)