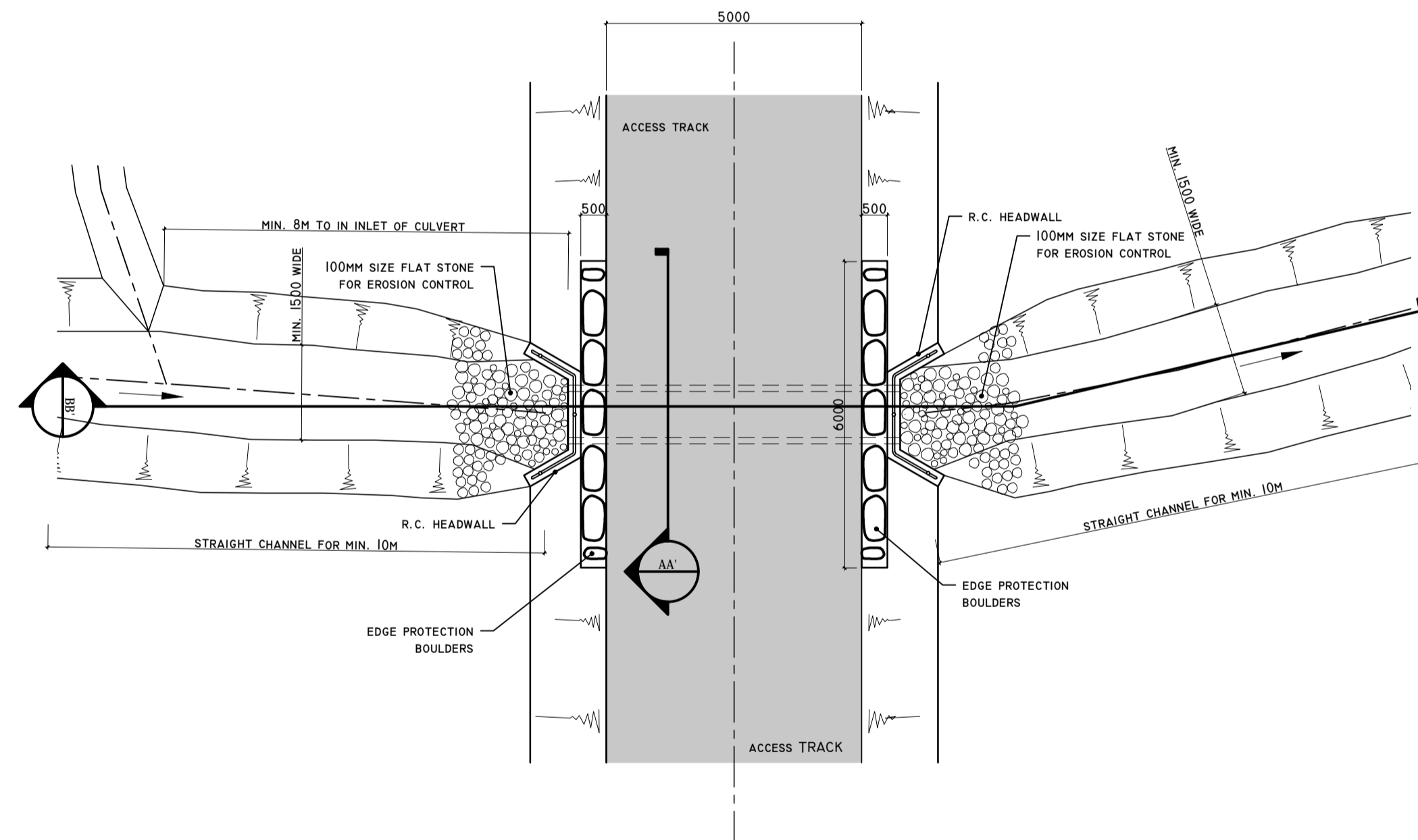
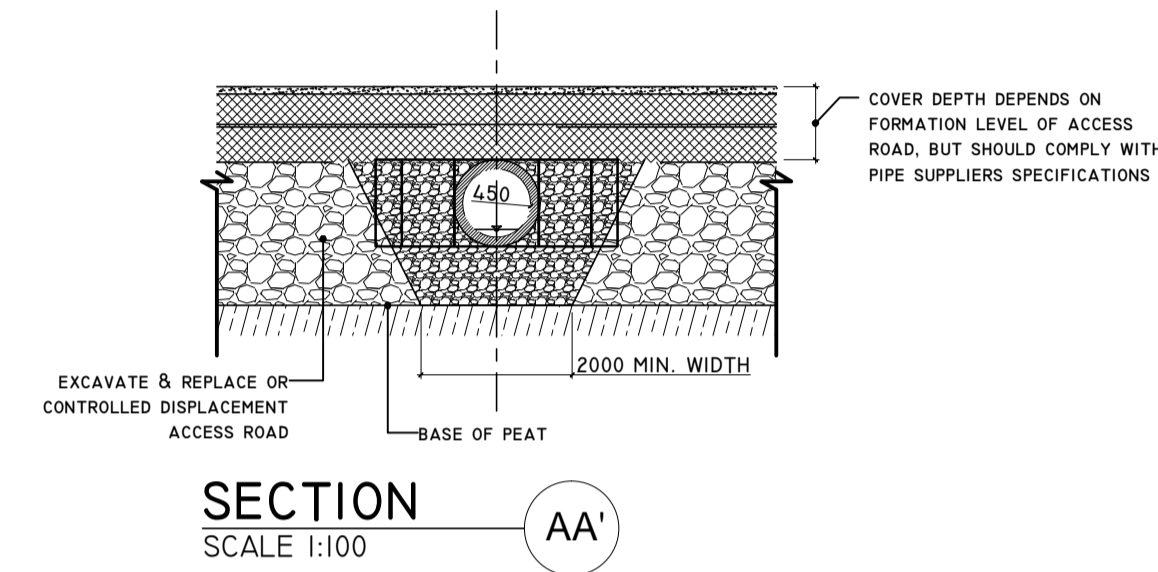
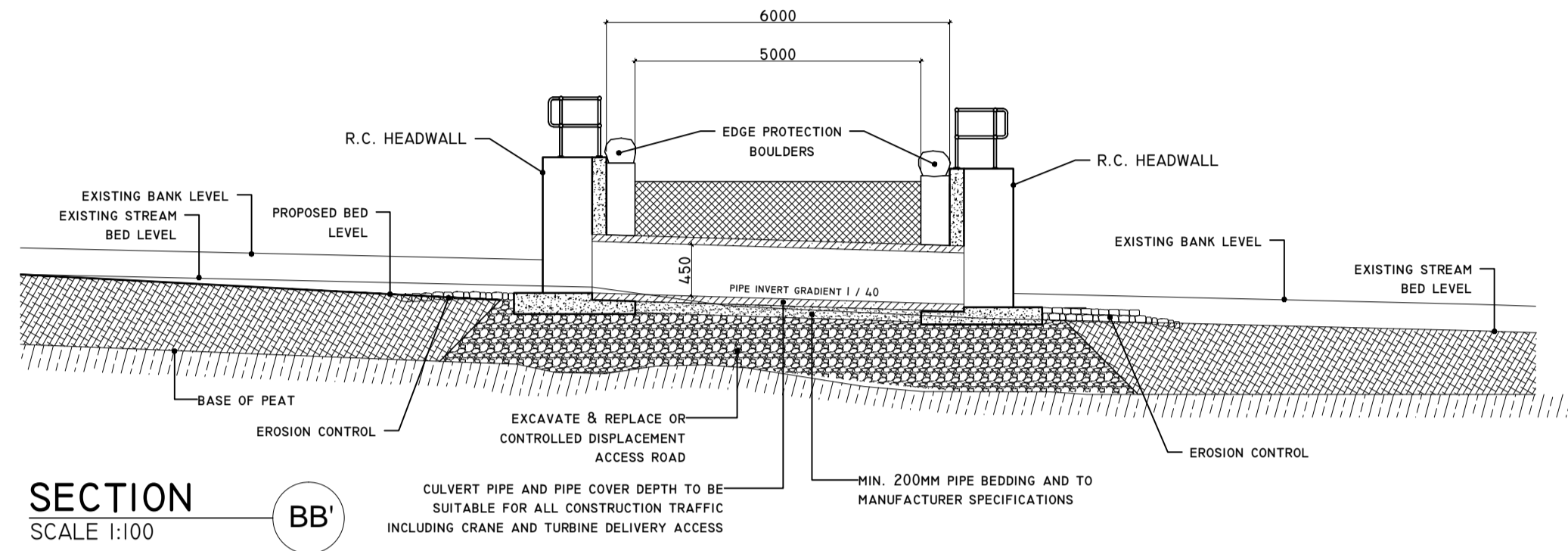


CONCRETE SPECIFICATION		
	BLINDING, MASS CONCRETE	EXTERNAL SLABS & CULVERTS
EXPOSURE CLASS	X0	XC4
MIN. CEMENT	-	280 kg/m <sup>3</sup>
MAX. WATER / CEMENT RATIO	0.65	0.6
CHLORIDE CONTENT CLASS	CL. 1.0	CL. 0.2
MAX. AGGREGATE (mm)	10	20
MIN. COVER (mm)	-	40
COMPRESSIVE STRENGTH	C16/20	C30/37

**POLLUTION PREVENTION NOTES:**

- SITE MANAGEMENT PROPOSALS ARE INTENDED TO ENSURE COMPLETE PROTECTION AGAINST SURFACE WATER AND GROUNDWATER POLLUTION, SILTATION AND EROSION.
  - SUITABLE SUDS PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SILTS TO RECEIVING WATER COURSES.
  - SILTY WATER CAN ARISE FROM SEWERING EXCAVATIONS, EROSION OF EXPOSED/DISTURBED GROUND, STOCKPILES, PLANT AND WHEEL WASH, SITE ROADS, AND DISTURBANCE OF RIVER BEDS.
- DISCHARGES**
- WATER CONTAINING SILT/PEAT WILL NOT BE PUMPED DIRECTLY TO WATERCOURSES/DRAINS/DITCHES. ALL DISCHARGES TO BE MADE OVER OPEN VEGETATED GROUND AT A MINIMUM 20M FROM NEAREST WATERCOURSE UNLESS OTHERWISE STATED.
  - A 20M BUFFER ZONE TO BE MAINTAINED AROUND ALL SENSITIVE WATERCOURSES AND WATERBODIES. NO EXCAVATED MATERIAL IS TO BE STORED WITHIN THE BUFFER ZONE.
  - PUMPED WATER WILL BE DIRECTED INTO ROAD SIDE SWALES AND TREATED IN VEGETATION SWALES AND OR SETTLEMENT PONDS PRIOR TO DISCHARGE.
  - PUMPING OF CLEAN WATER FROM EXCAVATIONS/OR OVER-PUMPING IN STREAMS WILL BE COMPLETED IN A MANNER THAT DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF DISCHARGE. THIS WILL BE DONE BY REDUCING THE FLOW RATE OR USE OF SPLASH PLATES, AND DISCHARGE CONTROLS.
  - VEGETATION WILL NOT BE STRIPPED FROM EXISTING DITCHES UNLESS ABSOLUTELY NECESSARY.
- EXCAVATIONS**
- WHERE DEEP EXCAVATIONS ARE PROPOSED CUT-OFF DRAINS WILL BE USE TO REDUCE THE AMOUNT OF SURFACE WATER ENTERING THE EXCAVATION. THIS WILL BE THE CASE AROUND TURBINE BASE EXCAVATIONS.
- EXPOSED GROUND & STOCKPILES**
- THE AMOUNT OF EXPOSED GROUND AND STOCKPILES OPEN AT ANY ONE TIME WILL BE MINIMISED AS FAR AS PRACTICABLE.
  - STOCKPILES WILL BE COVERED OR SEEDED AS SOON AS POSSIBLE.
  - SILT FENCES WILL BE USED TO REDUCE SILTY RUNOFF FROM PEAT REPOSITORY AREAS, AND STOCKPILES AREAS AS REQUIRED.
- SITE ROADS**
- USE OF ROAD SIDE SWALES WITH CHECK DAMS, AND FILTRATION CHECK DAMS TO REDUCE SILT IN RUNOFF WATER.
  - CHECK DAMS TO BE INSPECTED AND CLEANED REGULARLY.
  - DISCHARGES FROM SITE ROADS WILL BE VIA SETTLEMENT PONDS AND VEGETATION SWALES.
- REFUELLING**
- REFUEL MOBILE PLANT IN DESIGNATED REFUELLING AREA, PREFERABLY ON AN IMPERMEABLE SURFACE AND AWAY FROM DRAINS AND WATERCOURSES.
  - SPILL KITS AND DRIP TRAYS SHOULD BE AVAILABLE ON SITE.
- CONCRETE**
- CARE WILL BE TAKEN WHEN COMPLETING CONCRETE WORKS ON SITE TO ENSURE NO DISCHARGES OCCUR.
  - NO CONCRETE WASH WATER, OR WASTE CONCRETE WILL BE DISPOSED OF ON-SITE.
- IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:**
- STOP** - WORK IN THE IMMEDIATE AREA SHOULD BE STOPPED AND THE SOURCE OF THE POLLUTION IDENTIFIED.
- CONTAIN** - THE SOURCE OF THE POLLUTION SHOULD BE BUNDED USING A SUITABLE METHOD. NATURAL WATERCOURSES SHOULD BE TEMPORARILY DIVERTED AROUND THE SOURCE OF POLLUTION.
- NOTIFY** - THE RELEVANT AUTHORITIES (SITE MANAGER/FISHERIES/EPA.) SHOULD BE NOTIFIED IMMEDIATELY TO ENSURE THAT MEASURES CAN BE IMPLEMENTED DOWNSTREAM TO PROTECT FISHERIES AND OTHER SENSITIVE AREAS.



**TYPICAL CULVERT CROSSING (MINOR STREAM CROSSING)**  
SCALE 1:100

REFER ALSO TO STREAM CROSSING HEADWALL DETAIL ON DRG. NO. QR320171-MWC-P-7004

0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FQ
REV	DATE	REVISION DESCRIPTION	DRN	PRO	VER	APP
PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
TENDER	<input type="checkbox"/>	CLIENT APPROVAL	<input type="checkbox"/>	CONSTRUCTION	<input type="checkbox"/>	AS-BUILT
						REVISED
Client	ESB WIND DEVELOPMENT LTD.					
Project	GROUSEMOUNT WIND FARM					
Contract	PLANNING APPLICATION					
Drawing Title	MINOR STREAM CROSSING DETAILS					
Production Unit	WIND DEVELOPMENT					
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 703800 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
DRAWN	PRODUCED	VERIFIED	APPROVED	APPRO DATE		
S. Bolton	D. Shiels	S. Shanley	F. Quigley	19.08.2015		
CLIENT REF	No. of Bns	SIZE	REV	SCALE		
	1	A1	0	1:100		
DRAWING NUMBER						
QR320171-MWC-P-7004						