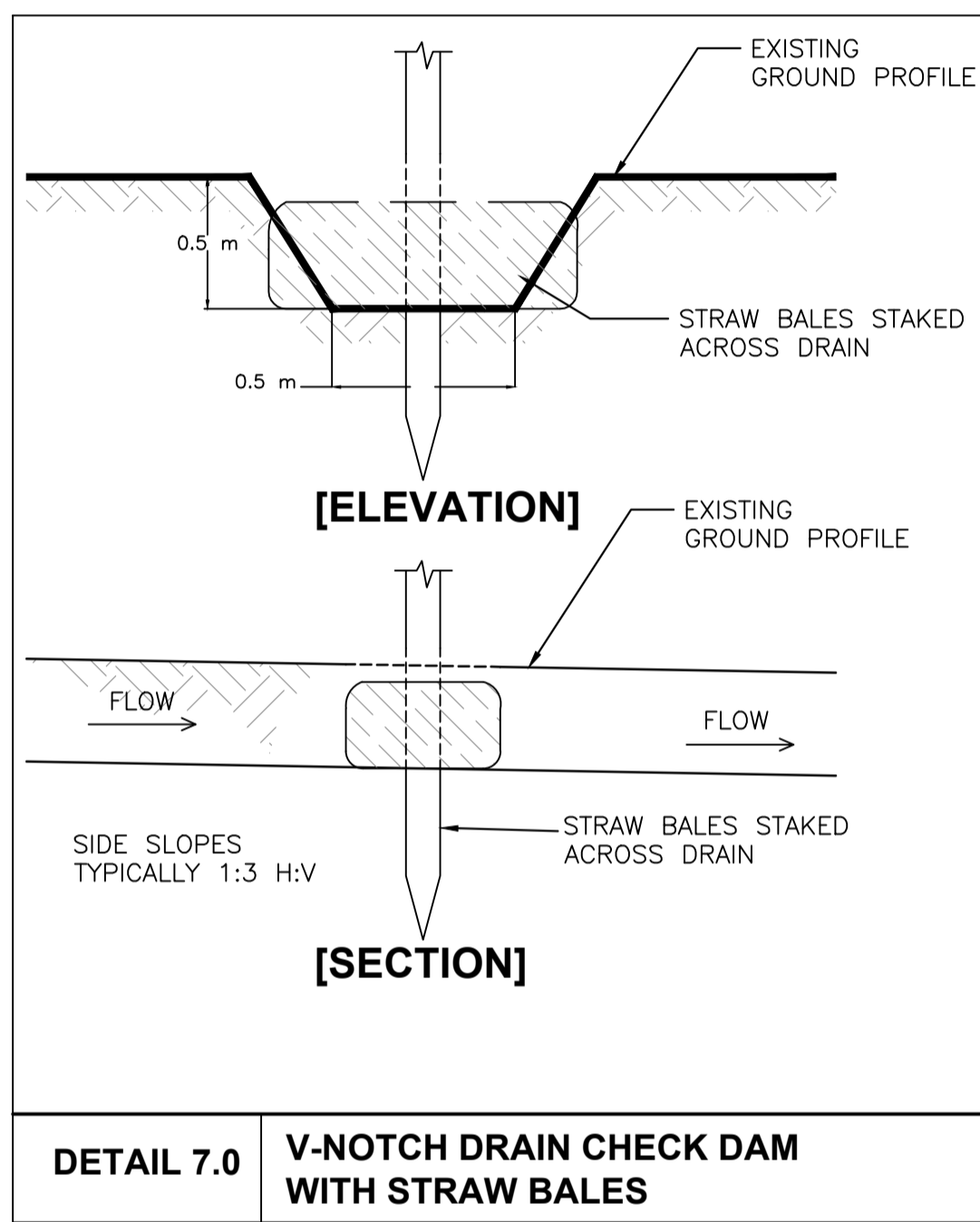
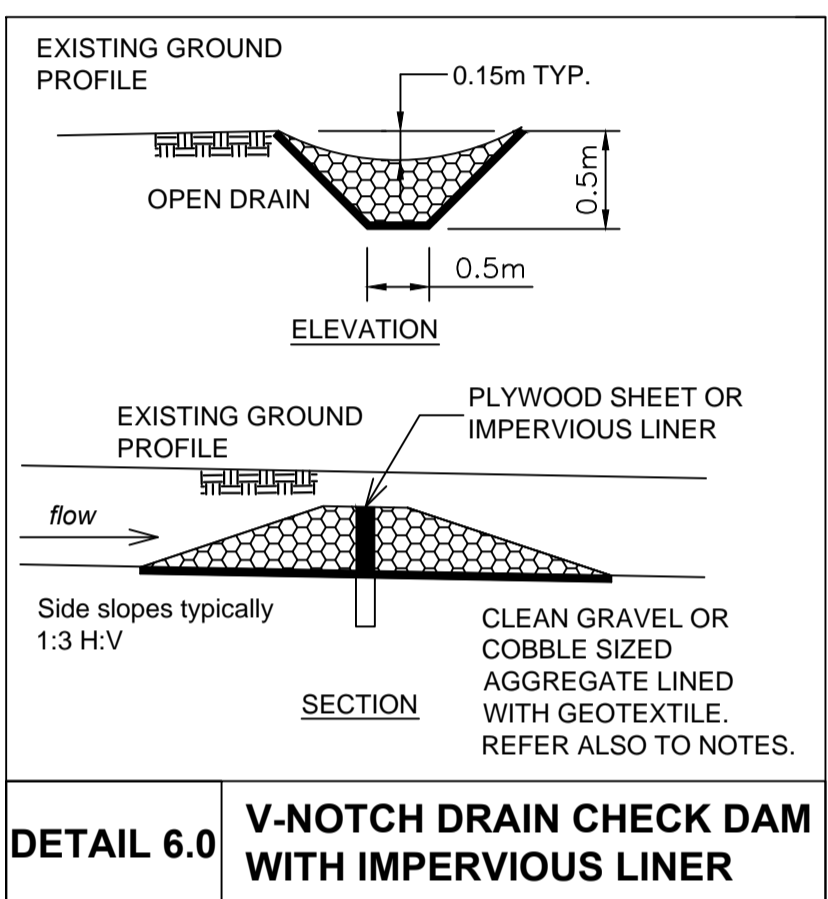
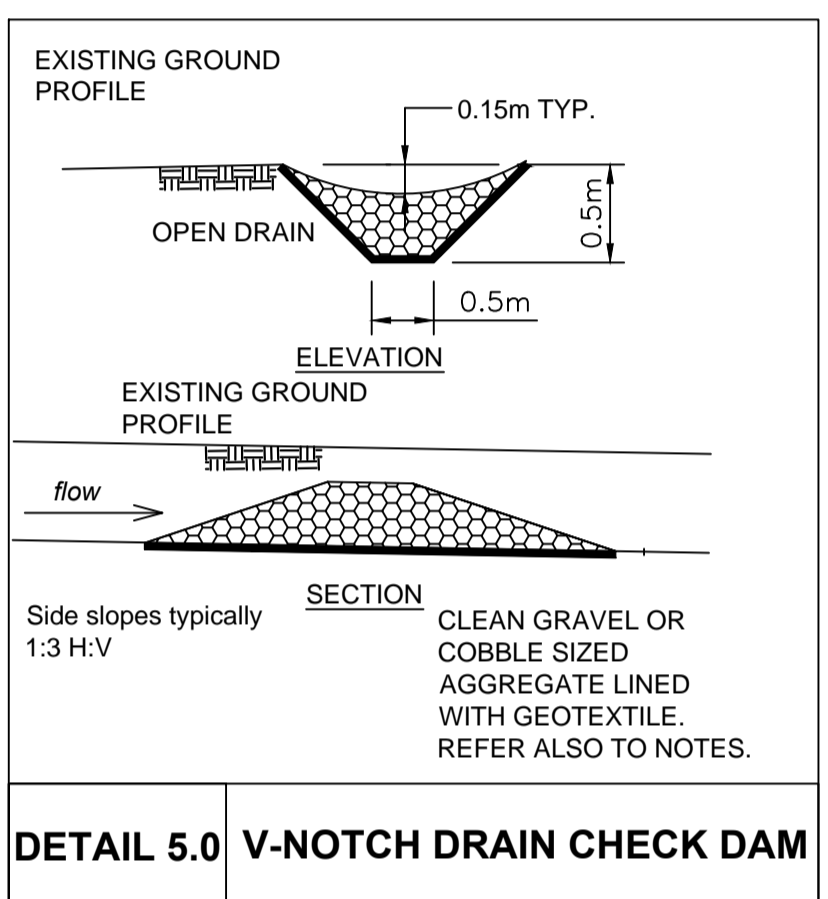
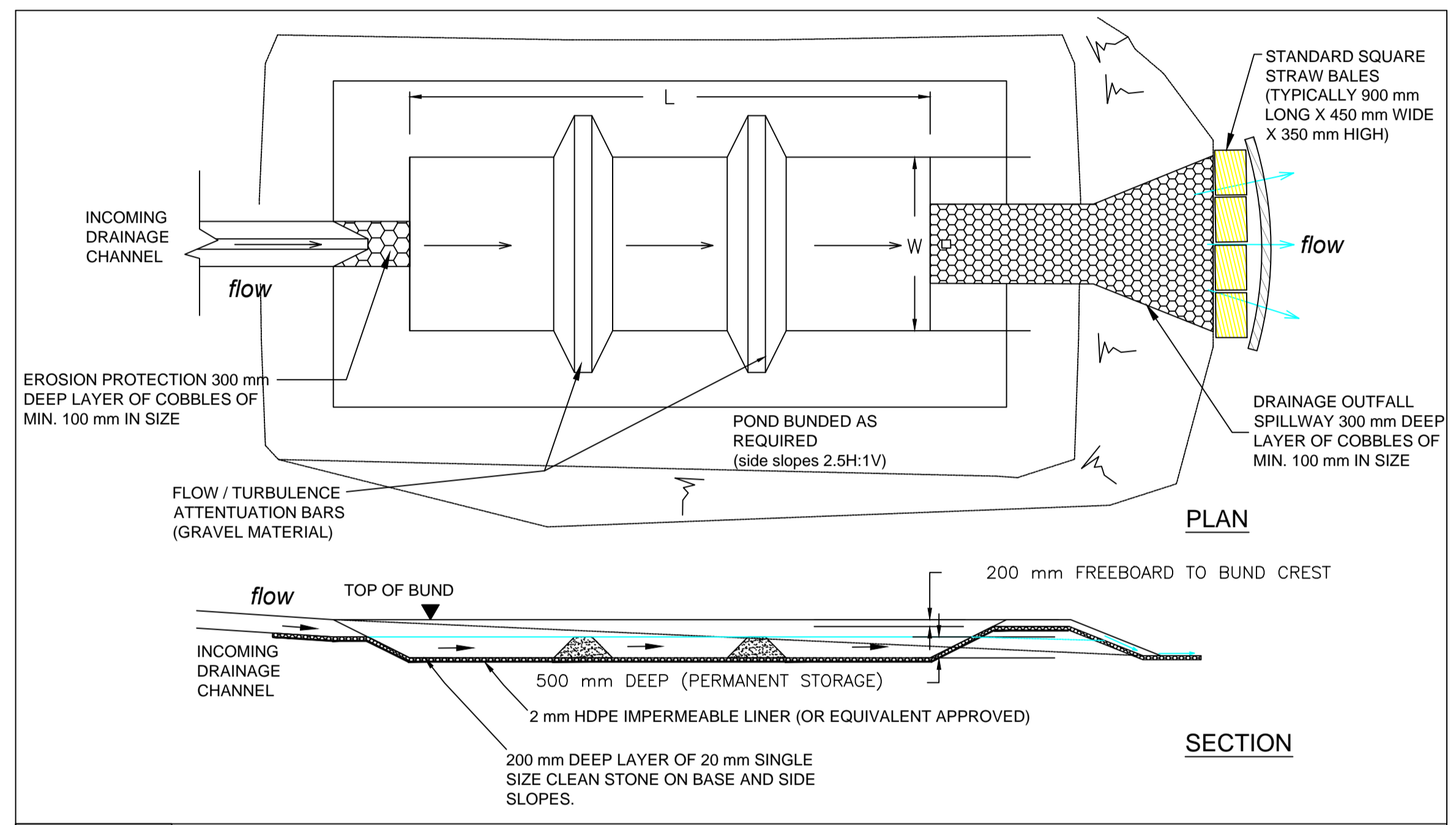
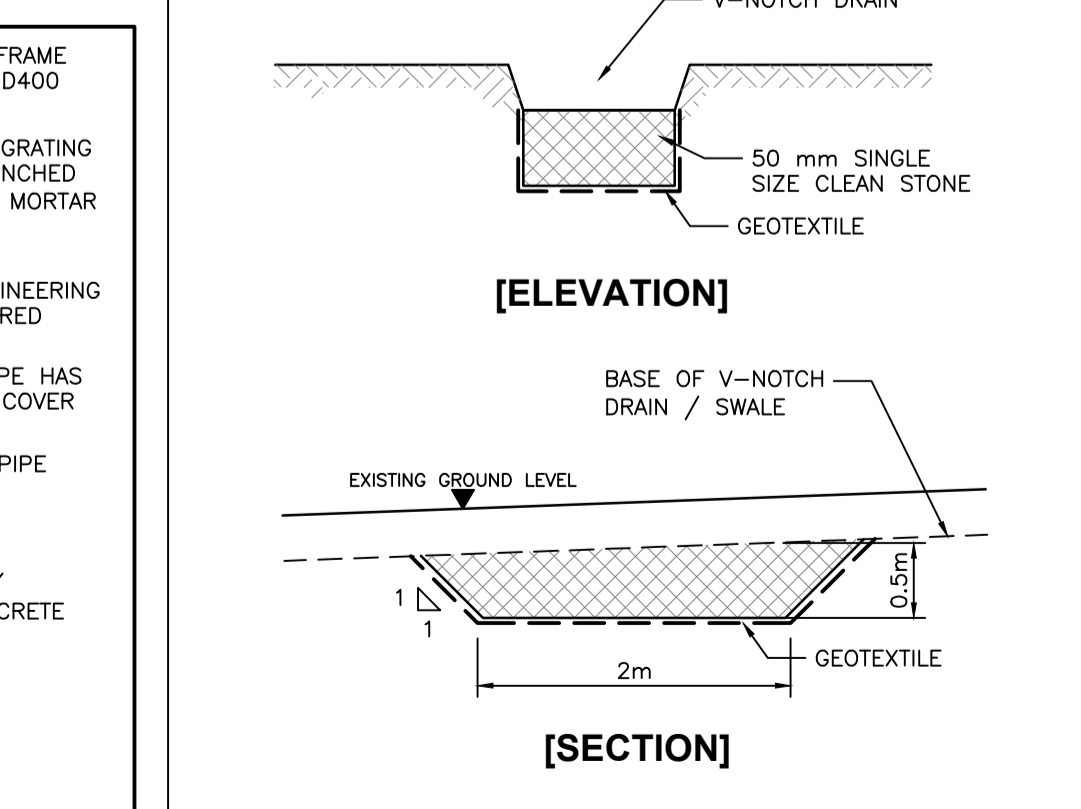
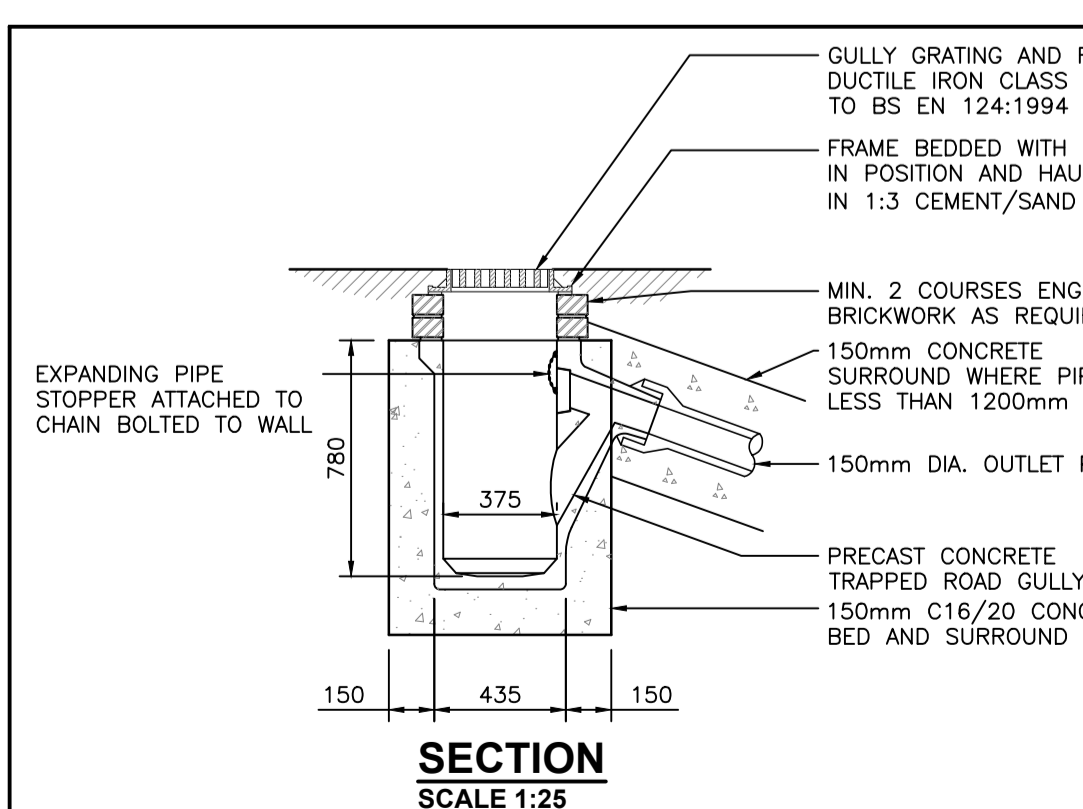
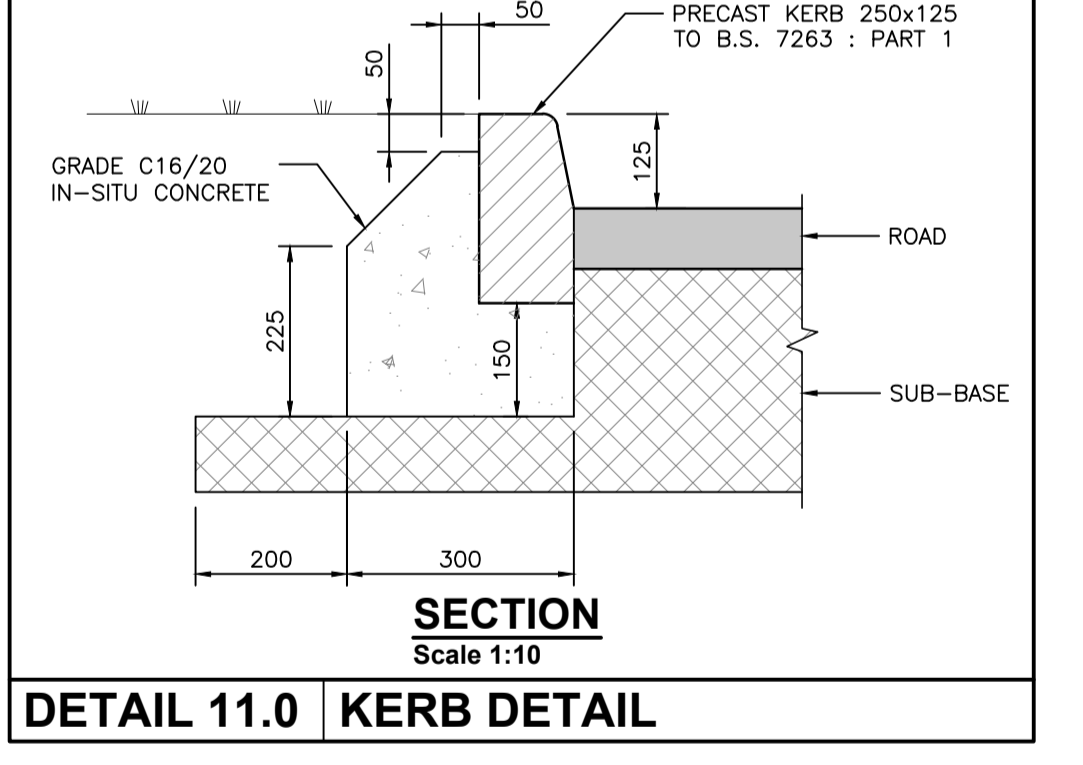
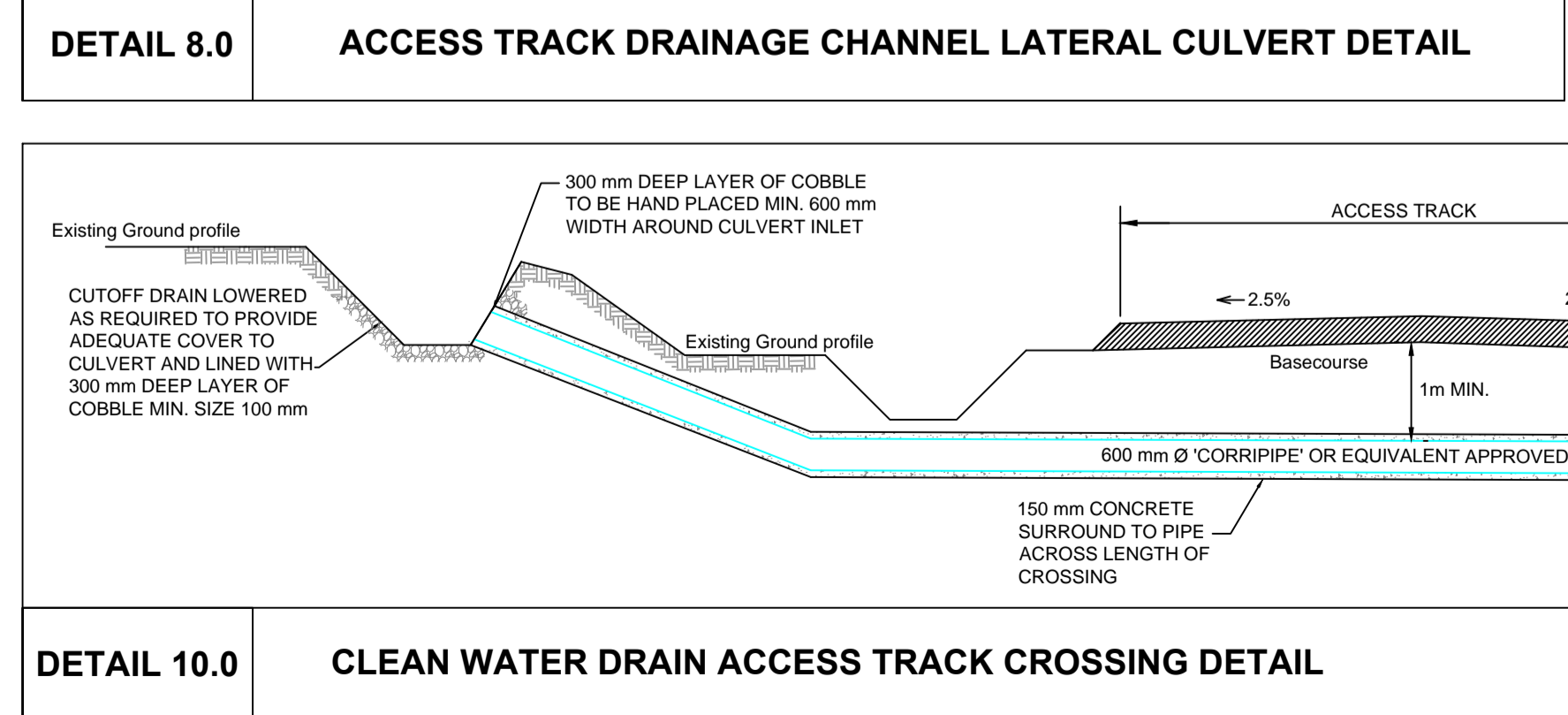
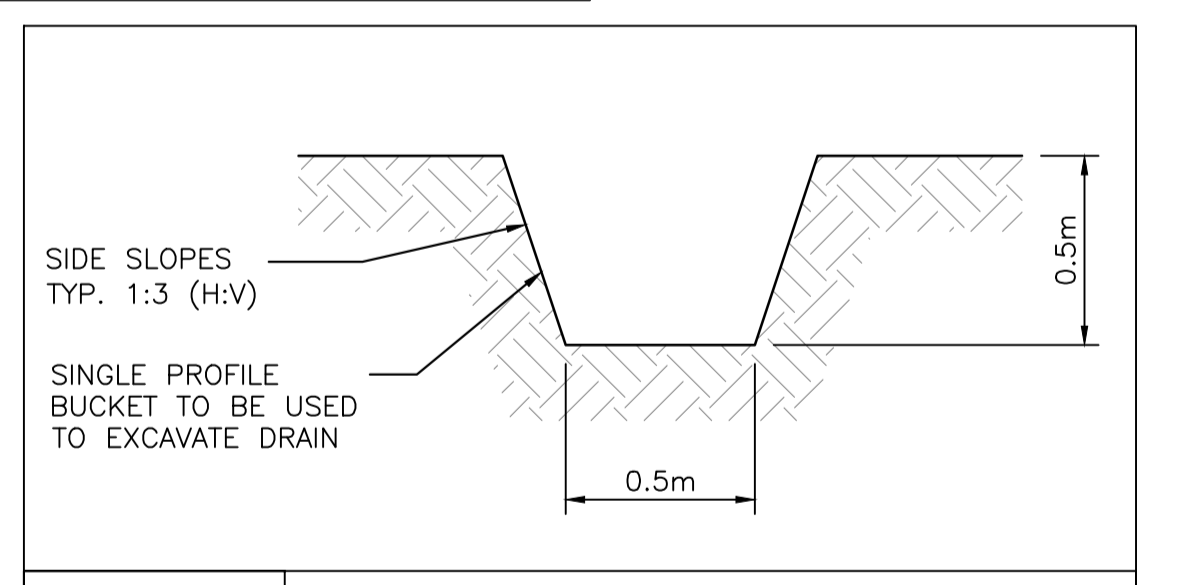
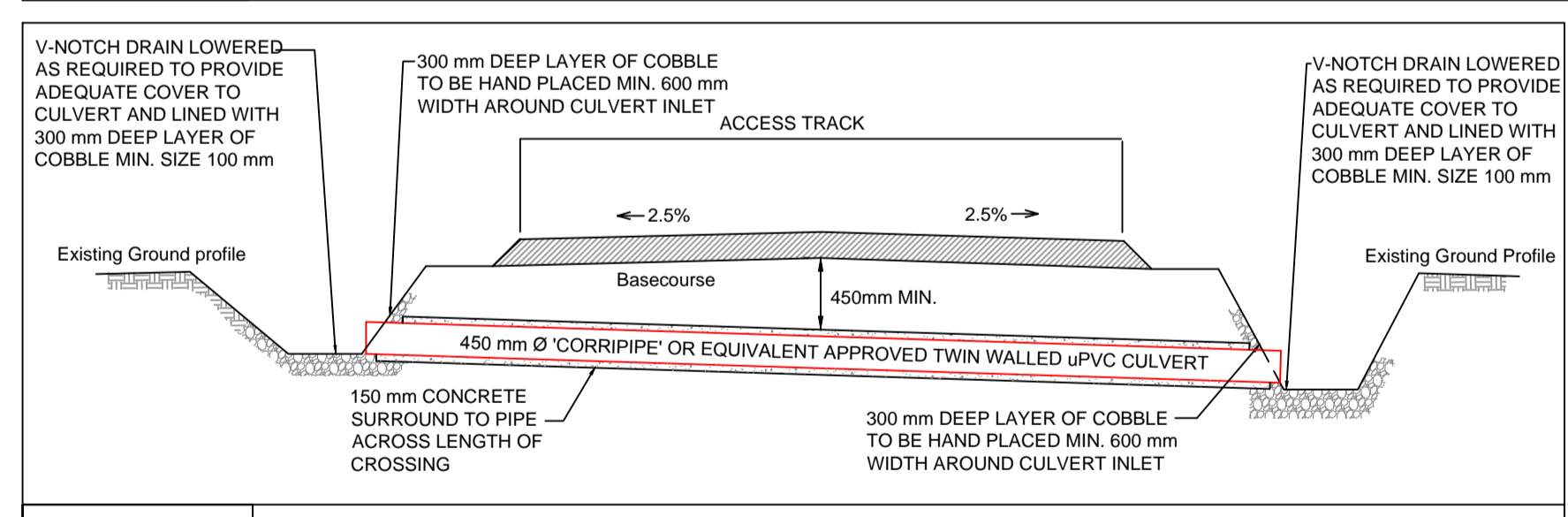


- NOTES:**
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL ENGINEER'S DRAWINGS. ANY DISCREPANCIES TO BE NOTED TO THIS OFFICE BEFORE COMMENCEMENT OF WORKS.
 - FOR DRAINAGE LAYOUT REFER TO DRG. QR320171-MWC-P-7010 TO 7019.
 - A RISK ASSESSMENT, CARRIED OUT BY AN APPROPRIATELY QUALIFIED ENGINEER, IS TO BE CARRIED OUT ON EACH EXCAVATION PRIOR TO ANY CIVIL WORKS COMMENCING.
 - LOCATION AND DEPTH OF ALL DRAINAGE FEATURES TO BE REVIEWED AND ASSESSED FOR SLOPE STABILITY RISK BY AN APPROPRIATELY QUALIFIED ENGINEER PRIOR TO ANY CIVIL WORKS. LOCATIONS MAY BE ALTERED FOLLOWING THIS ASSESSMENT.
 - EXACT LOCATION OF DRAINAGE FEATURES TO BE CONFIRMED ON SITE BY THE SITE ENGINEER.
 - EXISTING DRAIN CROSSINGS UNDERNEATH ACCESS TRACK ON SITE ARE TO BE MAINTAINED. SUITABILITY OF EXISTING CULVERTS AND REQUIREMENT FOR NEW CULVERTS TO BE REVIEWED ON SITE PRIOR TO CONSTRUCTION WORKS.
 - CONTRACTOR TO PROVIDE ALL NECESSARY SAFETY MEASURES ASSOCIATED WITH THE CONSTRUCTION OF SITE DRAINAGE AND/OR REQUIRED DUE TO THE IMPACT OF DRAINAGE FEATURES ON CONSTRUCTION RELATED ACTIVITIES.
 - CONTRACTOR TO PROVIDE METHOD STATEMENTS AND DESIGN RISK ASSESSMENTS FOR ALL DRAINAGE RELATED WORK AND ACTIVITIES.
 - CONTRACTOR TO COMPLY WITH ALL ENVIRONMENTAL AND SURFACE WATER DRAINAGE PROPOSALS AND MITIGATION MEASURES CONTAINED WITHIN THE PLANNING APPLICATION DOCUMENTS AND ENVIRONMENTAL IMPACT ASSESSMENT (EIS) AND THEREAFTER ANY CONDITIONS WHICH MAY BE IMPOSED.
 - NO DIRECT DISCHARGES TO WATERCOURSES PERMITTED WITHOUT LICENCE FROM THE RESPONSIBLE ENVIRONMENTAL AGENCIES. ALL DISCHARGES SHOULD BE INDIRECT AS SHEET FLOW ACROSS UNWORKED VEGETATED GROUND.
 - AREAS STRIPPED OF VEGETATION TO BE KEPT TO A MINIMUM VEGETATED AREAS ADJACENT TO ACCESS TRACKS TO BE LEFT UNDISTURBED AS MUCH AS POSSIBLE.
 - CLEAN WATER CUT OFF DRAIN ROAD CROSSING AND OUTFALL TO BE PROVIDED TYPICALLY AT 300 m INTERVALS. EXACT LOCATION AND SPACING TO BE DETERMINED ON SITE AND AGREED WITH SITE ENGINEER.
 - ACCESS TRACK DRAINAGE LATERAL CULVERT AND OUTFALL TO BE PROVIDED TYPICALLY AT 150 m INTERVALS. EXACT LOCATION AND SPACING TO BE DETERMINED ON SITE AND AGREED WITH SITE ENGINEER.
 - EROSION PROTECTION TO PREVENT SCOUR TO BE PROVIDED IN DRAINAGE CHANNELS WITH A CHANGE IN DIRECTION 1:127 AND WHERE THE FALL EXCEEDS 1:40 OR WHERE OTHERWISE DIRECTED BY THE SITE ENGINEER.
 - EROSION PROTECTION TO PREVENT SCOUR TO BE PROVIDED AT ALL ROAD CROSSING CULVERT PIPE LOCATIONS.
 - LOCATION OF CHECK DAMS INDICATIVE ONLY. CHECK DAMS TO BE PLACED IN ALL DRAINAGE CHANNELS AT MINIMUM INTERVALS OF 50 m WHERE THE GRADIENT IS BETWEEN 1% AND 2%, INTERVALS OF 25 m WHERE THE GRADIENT IS BETWEEN 2% AND 5% AND EVERY 10 m WHERE THE GRADIENT EXCEEDS 5%.
 - CLEAN STONE FOR FLOW CONTROL CHECK DAMS TO BE CLEAN GRADED 40 mm STONE WITH PLACEMENT OF 100 mm STONE / COBBLES ON THE DOWNGRADIENT SIDE OF SLOPED SECTIONS.
 - IMPERMEABLE CHECKDAMS TO BE PROVIDED IN DRAINAGE CHANNELS EVERY 100 m TO ACCOMPANY DRAINAGE OUTFALLS.
 - CHECK DAMS TO BE ALTERNATING STRAW BALE, STONE & IMPERMEABLE BARRIER TYPE.
 - WHERE POSSIBLE DRAINAGE CONVEYANCE CHANNELS & SEDIMENT CONTROLS REQUIRING EXCAVATION TO BE INSTALLED DURING SEASONALLY DRY GROUND CONDITIONS.
 - ALL SURFACE WATER DRAINAGE AND PROTECTION MEASURES TO BE CARRIED OUT IN ADVANCE OF ANY SITE CLEARANCE, EXCAVATIONS AND EARTHWORKS ACTIVITIES ON THE SITE.
 - CONSTRUCTION PROCESSES THAT POSE A RISK OF ACTIVATING SEDIMENT LADEN RUN-OFF, SUCH AS EXCAVATIONS, TO BE HALTED DURING PERIODS OF EXTREME RAINFALL. NO NEW EXCAVATION TO BE CARRIED OUT IN ADVANCE OF FORECASTED HEAVY RAINFALL.
 - CONCRETE WORKS SHALL BE CARRIED OUT ONLY DURING DRY WEATHER PERIODS. NO CONCRETE WORKS TO BE CARRIED OUT IN ADVANCE OF FORECASTED HEAVY RAINFALL.
 - SILT FENCES TO BE LOCATED AT THE DOWN SLOPE SIDE OF DISTURBED DEVELOPMENTS OR AT OUTFALLS WHERE SURFACE WATER FLOWING OVER THESE AREAS IS INTERRUPTED. SILT FENCES ALSO TO BE PLACED AROUND AREAS WHERE EXCAVATED MATERIAL IS STOCKPILED.
 - BUILD UP OF SILT AT CHECK DAMS, SILT TRAPS AND BEHIND SILT FENCES TO BE REMOVED AND DISPOSED OF APPROPRIATELY.
 - VISUAL INSPECTION OF SWALES, CHECK DAMS, SILT TRAPS, BUFFERED OUTFALLS, SETTLEMENT PONDS, OUTFALL EROSION PROTECTION MEASURES AND SILT FENCES TO BE CARRIED OUT AS PART OF ONGOING MAINTENANCE PROGRAM AND WHERE SUCH DEVICES BECOME CLOGGED WITH SILT OR VEGETATION THEY MUST BE FREED OR REMOVED AND REPLACED PRIOR TO REMOVAL OF SILT BUILD UP.
 - THE LEVEL OF SILT IN RUNOFF DURING CONSTRUCTION IS TO BE MONITORED VISUALLY AND EXCESSIVE SEDIMENTATION LEVELS ARE TO BE MANAGED BY PLACING EXTRA CHECK DAMS IN DRAINS AND PLACING EXTRA LAYERS OF STRAW BALES AND SILT FENCES AT THE AFFECTED BUFFERED OUTFALLS.
 - STOCKPILE OF STRAW BALES TO BE HELD ON SITE AND KEPT DRY. STRAW BALES SHOULD BE REPLACED REGULARLY AND AS NECESSARY.
 - CONTRACTOR TO STORE ALL OILS, FUELS AND LUBRICANTS IN BUNDED AREAS. ALL REFUELLING OPERATIONS TO BE CARRIED OUT IN DESIGNATED AREAS WITH THE REQUISITE DRIP TRAY AND SPILL PRECAUTION IN PLACE.
 - CONTRACTOR TO CARRY OUT REGULAR MONITORING OF SURFACE WATER DISCHARGE FROM SITE. SAMPLES TO BE TAKEN AND TESTED MONTHLY OR AFTER RAINFALL EVENT AS DIRECTED BY RESIDENT ENGINEER.
 - CONTRACTOR TO KEEP A STOCK OF STRAW BALES, STRAW MATTING, MULCH AND TARPOLEIN TO BE DEPLOYED OVER EXPOSED GROUND IN ADVANCE OF FORECASTED HEAVY RAINFALL AND AS DIRECTED BY RESIDENT ENGINEER.



POND TYPE	WIDTH (m)	LENGTH (m)
TYPE 1	11	55
TYPE 2	5.4	27
TYPE 3	4.4	22

NOTE: CONCRETE POST AT 2 m CENTRES WITH PLASTIC COATED WIRE MESH FENCING MINIMUM 1.5 m HIGH TO BE PROVIDED AROUND SETTLEMENT POND PERIMETER COMPLETE WITH DEEP WATER WARNING SIGNAGE



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0	18.08.15	ISSUED FOR PLANNING	SB	TK	TB	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
	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	REVISED
Client	ESB WIND DEVELOPMENT LTD.					
Project	GROUSEMOUNT WIND FARM					
Contract	PLANNING APPLICATION					
Drawing Title	DRAINAGE DETAILS SHEET 1					
Production Unit	WIND DEVELOPMENT					
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0) 703800 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
DRAWN	S. Bolton	PRODUCED	T. Kearns	VERIFIED	T. Bree	APPROVED
						F. Quigley
CLIENT REF	No. of Sheets		SIZE	REV	SCALE	
	1		A1	0	As Shown	
DRAWING NUMBER						
QR320171-MWC-P-7001						