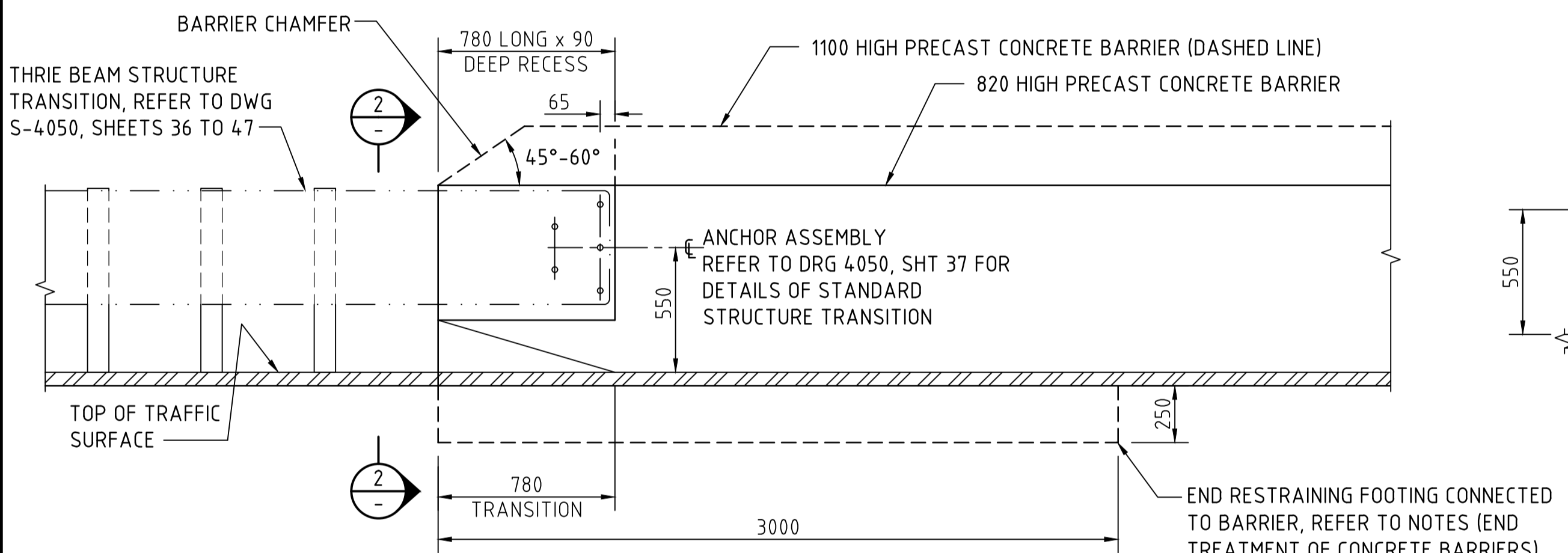
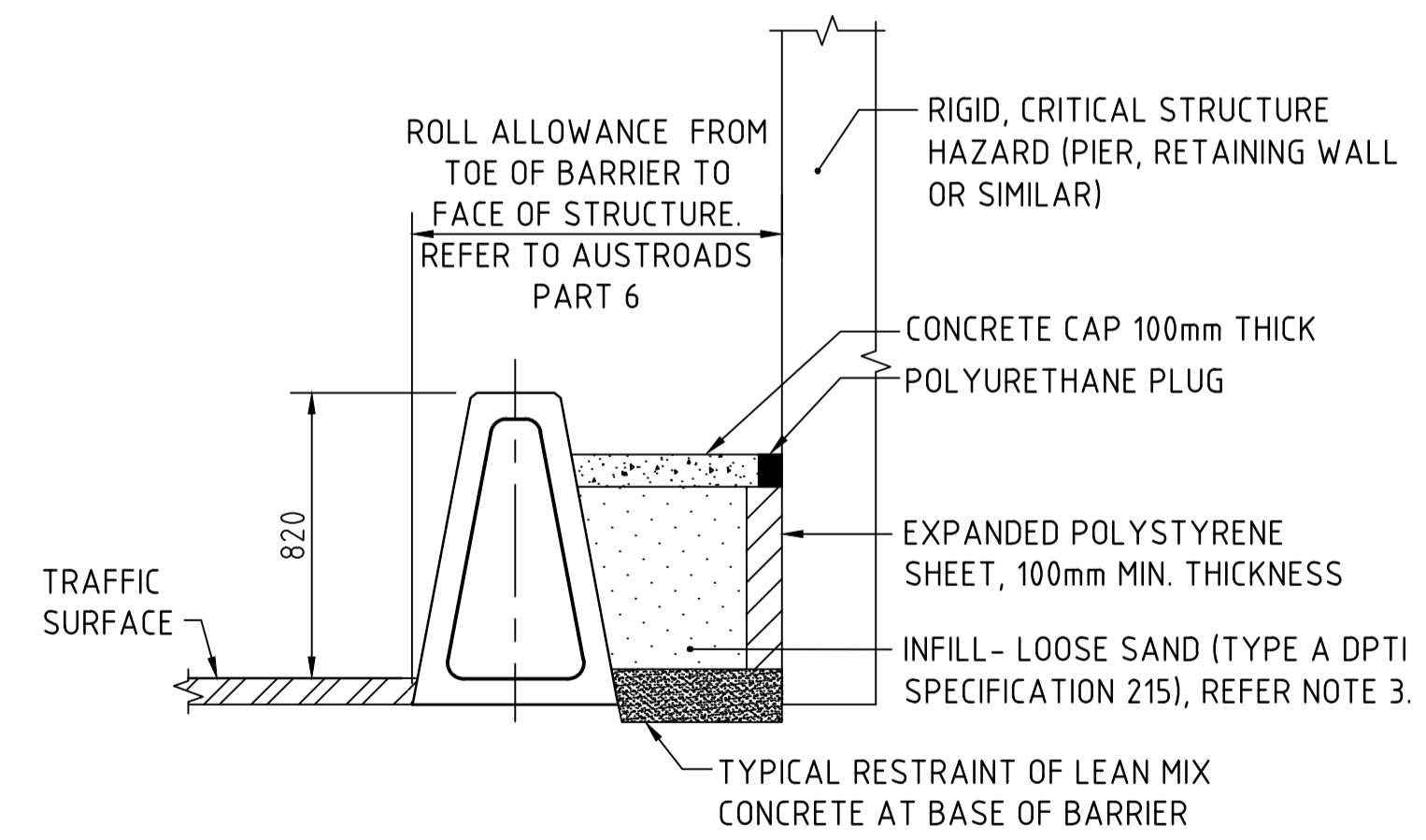


TYPICAL ROAD AND BRIDGE CONCRETE BARRIER CONNECTION
SCALE 1:20

NOTE: DRAWN FOR 820mm HIGH SINGLE SLOPE PRECAST ROAD CONCRETE BARRIER, 920mm & 1100mm HIGH BARRIERS SIMILAR

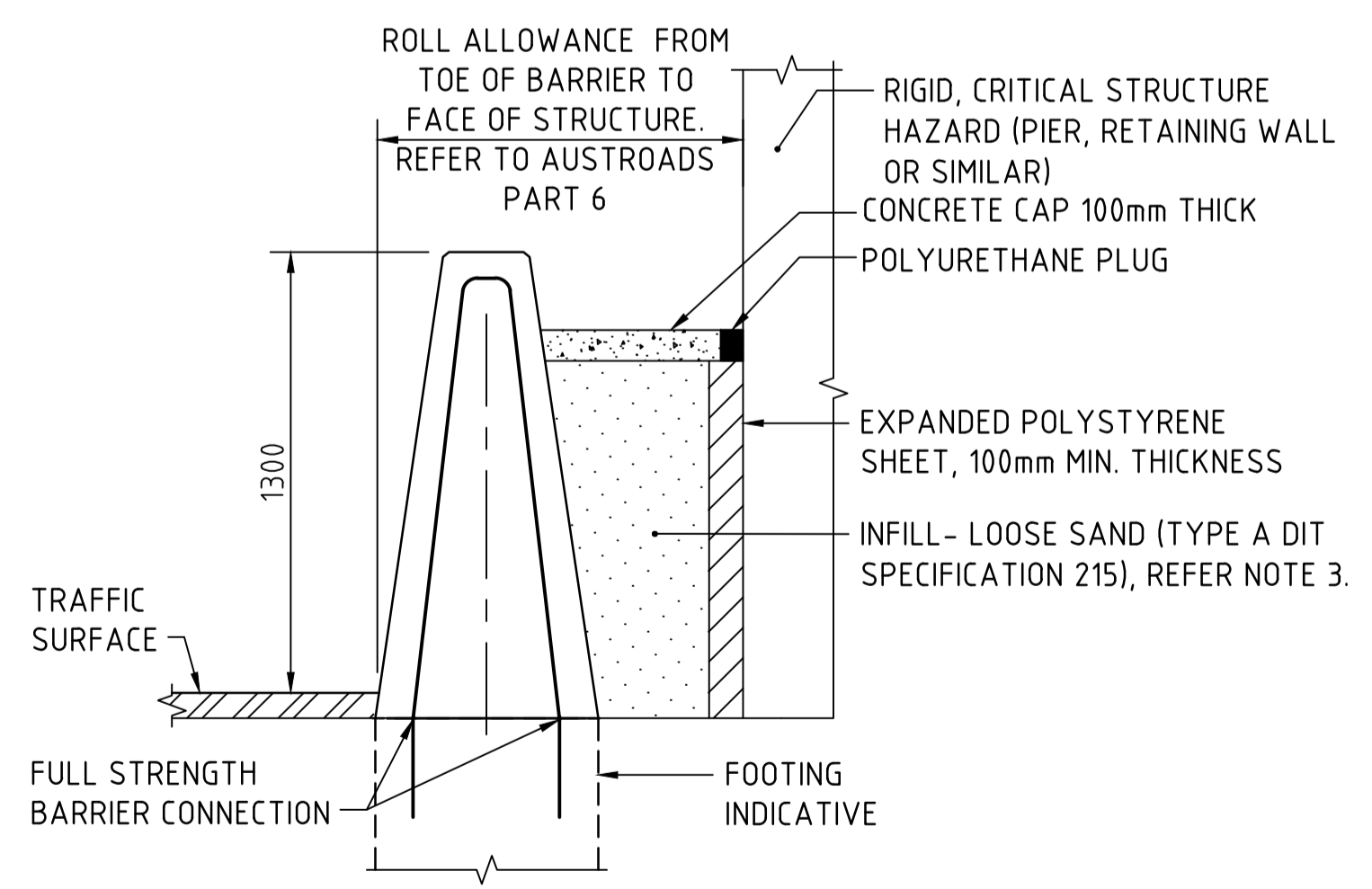


TYPICAL CONNECTION OF ROAD CONCRETE BARRIER TO THRIE BEAM TRANSITION
SCALE 1:20



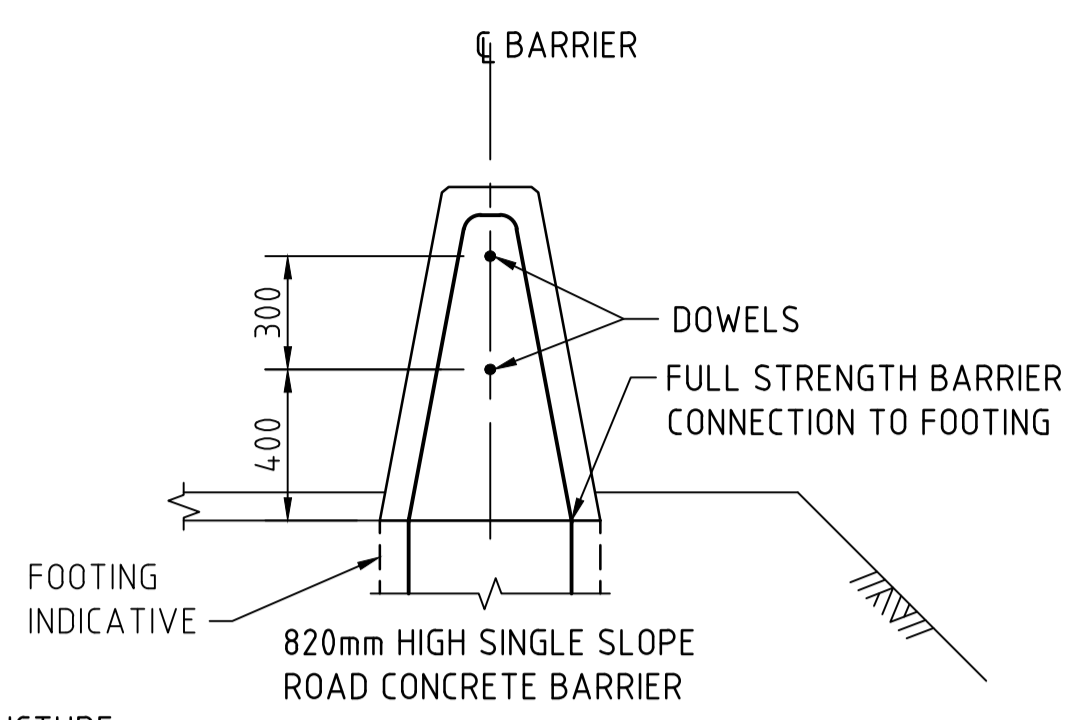
DETAIL 2 - SINGLE SLOPE TL3 CONCRETE BARRIER AT FRONT OF RIGID STRUCTURAL HAZARDS
SCALE 1:20

DRAWN FOR SINGLE SLOPE CONCRETE BARRIER <3.0m FROM HAZARD. (SINGLE SLOPE TL4 CONCRETE BARRIER SIMILAR)

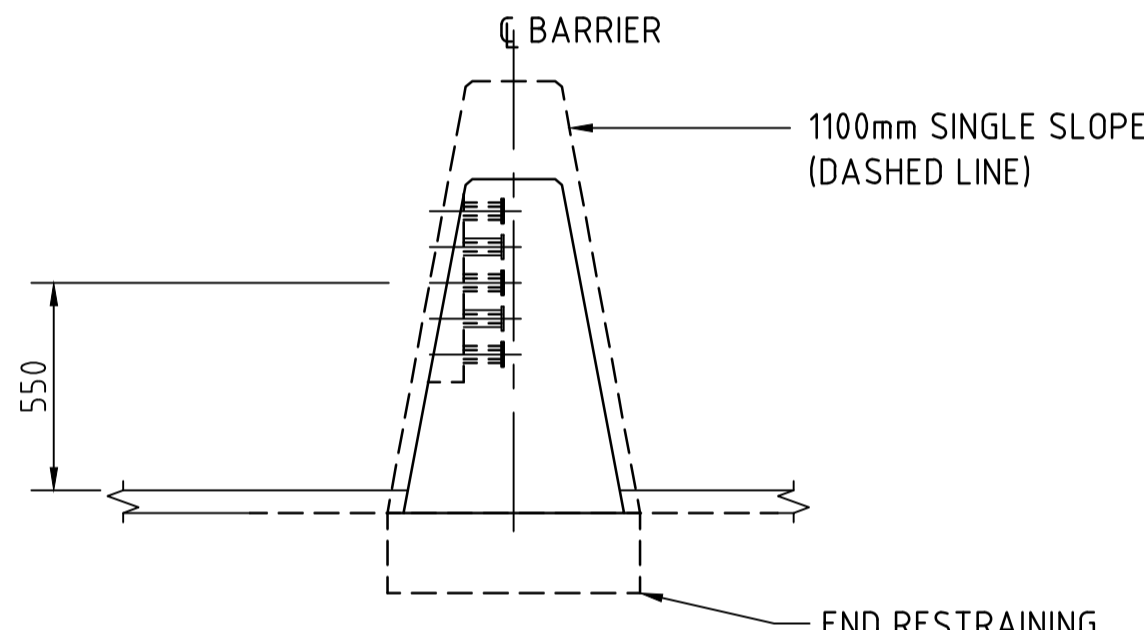


DETAIL 1 - SINGLE SLOPE TL5 CONCRETE BARRIER AT FRONT OF RIGID STRUCTURAL HAZARDS
SCALE 1:20

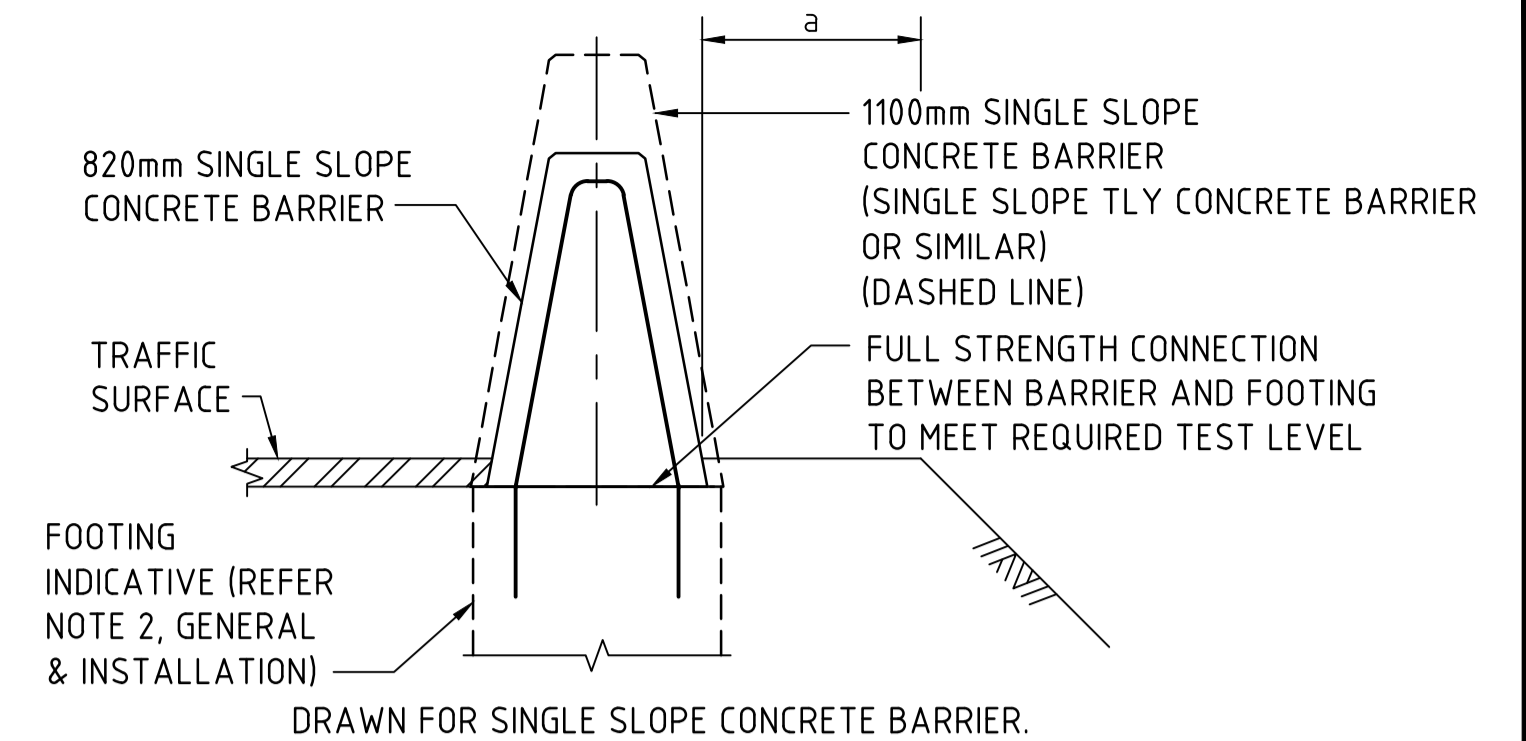
DRAWN FOR SINGLE SLOPE CONCRETE BARRIER <3.0m FROM HAZARD.



VIEW 1
SCALE 1:20



VIEW 2
SCALE 1:20



SINGLE SLOPE NEAR THE EDGE OF EMBANKMENT WHEN a < 1500mm
SCALE 1:20

NOTES

- GENERAL AND INSTALLATION**
- MINIMUM LENGTH OF CONCRETE BARRIER TO BE 30M EXCLUDING END TREATMENT.
 - THE BARRIER REQUIRES A LATERAL RESTRAINT OF 75MM DEEP AC OR APPROVED EQUIVALENT ON BOTH SIDES OF THE BARRIER. MINIMUM WIDTH OF AC AT THE SIDE OPPOSITE TO IMPACT TO BE 1500MM TO MEET REQUIRED TEST LEVEL. IN CASES WHERE THIS CANNOT BE ACHIEVED, A SPECIAL BARRIER RESTRAINT IS TO BE DESIGNED SUCH AS A REINFORCED FOOTING WITH FULL STRENGTH CONNECTION BETWEEN THE FOOTING AND THE BARRIER. REFER TO SHEET 4 NOTE 10 FOR DPTI APPROVED EQUIVALENT RESTRAINT TREATMENTS.
 - THE BARRIER CONSTRUCTION IS TO MEET AS3845 & DIT SPECIFICATION REQUIREMENTS FOR BOTH PRECAST AND IN-SITU BARRIERS. THE CONCRETE BARRIER IS TO HAVE ALL FACES REINFORCED TO PREVENT SCUTTER OF CONCRETE AT IMPACT, FOR MAINTENANCE AND FOR STRENGTH.
 - A SPECIAL BARRIER DESIGN IS REQUIRED WHEN DESIGNED SPECIFICALLY FOR COMMERCIAL VEHICLES.
 - AS REQUIRED, A FULL STRENGTH SHEAR EXPANSION JOINT IS TO BE PROVIDED AT THE INTERFACE BETWEEN THE BRIDGE BARRIER AND CONCRETE ROAD SAFETY BARRIER.
 - A LENGTH OF SPECIAL CONCRETE TRANSITION BARRIER BETWEEN CONCRETE BARRIERS OF A DIFFERENT HEIGHT, SHAPE & STRENGTH SHALL BE PROVIDED TO ASSURE SMOOTH REDIRECTION AND TO PREVENT SNAGGING & POCKETING.
 - THE BARRIER TEST LEVEL (TL) SHALL BE SPECIFIED BY THE PRINCIPAL.
 - REFER TO SHEET 4 FOR ADDITIONAL INFORMATION ON EXTRUDED BARRIERS.
- CONCRETE BARRIERS AT FRONT OF RIGID STRUCTURAL HAZARDS FOR TRAFFIC & STRUCTURE PROTECTION**
- UNLESS OTHERWISE DIRECTED THE BARRIER SHALL BE INSTALLED TO AVOID ANY LOAD BEING TRANSFERRED TO THE STRUCTURE & STRUCTURE FOOTING. ALLOWANCE FOR VEHICLE ROLL SHALL BE PROVIDED AS PER AUSTRROADS IN PART 6 AND AS SHOWN ON THIS DRAWING.
 - THE BARRIER TO HAVE SINGLE SLOPE OR F-SHAPE PROFILED TRAFFIC FACES AS IN AUSTRROADS, PART 6 AND TO BE APPROVED BY THE PRINCIPAL.
 - BARRIERS WITH CLEARANCE FROM BARRIER TOE TO THE STRUCTURAL HAZARD LESS THAN 3.0m, SHALL:
 - HAVE A MINIMUM HEIGHT: 1300mm(TL5), 920mm(TL4). BARRIER TL TO BE ADVISED BY PRINCIPAL.
 - TL5 BARRIERS TO BE EITHER STRUCTURALLY DESIGNED AND HAVE REINFORCED CONCRETE FOOTING/PILES WITH FULL STRENGTH, MOMENT AND SHEAR BARRIER CONNECTIONS OR THE BARRIER, FOOTING AND CONNECTION CAN BE BASED ON FULL SCALE CRASH TESTING, REFER TO DETAIL 1.
 - TL4 BARRIERS TO BE STANDARD ROAD BARRIERS WHICH SHALL HAVE A POSITIVE, PRINCIPAL APPROVED, RESTRAINT TO LIMIT BARRIER DEFLECTION AT THE FRONT OF THE HAZARD, REFER TO DETAIL 2 ON THIS SHEET.
 - FOR MAINTENANCE REASONS, COMPRESSIBLE MATERIAL INFILL CAN BE PROVIDED BETWEEN THE BARRIER AND STRUCTURE. ANY CONTRIBUTION OF THIS INFILL LAYER TO THE STRENGTH OF BARRIER SHALL BE IGNORED IN DESIGN. THE BARRIER DESIGN SHALL INCLUDE THE TYPE OF IN-FILL AND PROVISIONS FOR DRAINAGE.
 - LAYOUT OF BARRIER SYSTEM INCLUDING MAIN BARRIER PROVIDING REQUIRED LEVEL OF HAZARD PROTECTION SHALL BE DESIGNED BASED ON PART 6. ON ALL ONE-WAY ROADS THE MAIN BARRIER (EXCLUDING TRANSITION OR CHAMFER) SHALL EXTEND PAST THE HAZARD BY MINIMUM OF 4m.
 - IF THE CLEARANCE FROM THE BARRIER TOE TO THE STRUCTURAL HAZARD IS MORE THAN 3.0M, REFER DIT SUPPLEMENT OF NEW RISK ASSESSMENT PROCESS AND IN CONJUNCTION WITH AGRD PART 6 RISK SCORE CALCULATION TO DETERMINE THE PROVISION OF ROAD CONCRETE BARRIER. THE ROAD CONCRETE TL5/TL4 BARRIER AS PER THIS STANDARD DRAWING (SHEETS 1&2), SHALL BE PROVIDED AT THE FRONT OF THE HAZARD
- END TREATMENT OF CONCRETE BARRIERS**
- IF THE CONCRETE BARRIER END IS WITHIN THE CLEAR ZONE IT SHALL BE CRASHWORTHY, E.G. TERMINATION SHALL INCLUDE SOME OR ALL OF THE FOLLOWING: CHAMFER, GRADUAL CHANGE OF SHAPE TO REMOVE PROTRUDING EDGES AND FLARING. IT SHALL BE PROTECTED BY CRASH CUSHIONS OR TRANSITION TO ANOTHER BARRIER TYPE.
 - BARRIER INSTALLATIONS SHALL HAVE END RESTRAINING FOOTINGS AT BOTH ENDS AS FOLLOWS:
 - 3.0m LONG X 0.25m DEEP FOOTING FOR TL5/TL4/TL3 TYPICAL CONCRETE ROAD BARRIER UNLESS IT IS RESTRAINED BY OTHER MEANS, E.G. THRIE BEAM TRANSITION.
 - A SPECIAL FOOTING AS APPROVED BY THE PRINCIPAL FOR 1.3M HIGH BARRIERS AT FRONT OF RIGID STRUCTURE HAZARD.
- FABRICATION & INSTALLATION TOLERANCES**
- TOLERANCES NOT SHOWN ON SHEET 1 & 2 SHOULD BE IN ACCORDANCE WITH ASSOCIATED DOCUMENTS LISTED BELOW. WHEN THERE IS A CONFLICT SMALLER TOLERANCES TO BE USED.
- ASSOCIATED DOCUMENTS**
- AS/NZS 3845: PRINCIPALS SPECIFICATION; AUSTRROADS ROADSIDE DESIGN, SAFETY & BARRIERS PART 6.

FILE: \\jacobs.com\ANZ\IE\Projects\06_Central West\W2L7000\Z1\Deliverables\Drawings\4064_SHT_03_AMD_3.dwg

BARRIERS UPDATED, NOTES UPDATED.	JACOBS	30/10/20
GENERAL & INSTALLATION NOTE 2 AMENDED, NOTE 8 ADDED.	SA TP	6/8/19
CHANGES TO SINGLE SLOPE CONCRETE BARRIER NEAR PIER OR RETAINING WALL DETAIL, DETAILS & NOTES ADDED & TL4 DETAIL ADDED, BARRIER HEIGHT TOLERANCE ADDED	HD AP	19/12/13
BY	CHECK	ACCEPTANCE
DATE		

100 MILLIMETRES ON ORIGINAL A1 DRAWING ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE UNCONTROLLED COPY WHEN PRINTED

DESIGNED	QUALIFICATION
DATE: DD/MM/YYYY	REVIEWER
QUALIFICATION	DATE: DD/MM/YYYY
INDEPENDENT DESIGN CERTIFIER (IF REQUIRED)	DATE: DD/MM/YYYY



DESIGNED: A.P.		DRAFTED: H.D.		ACCEPTED FOR USE: P. MOLLOY	
CHECKED: A.P.		REVIEWED: P.M.		DATE: 25/5/2011	
ACCEPTANCE FORM KNET No.: 5551523		DRAWING No.: S - 4064		SHEET No.: 3	
LATITUDE:		LONGITUDE:		AMEND No.: 3	