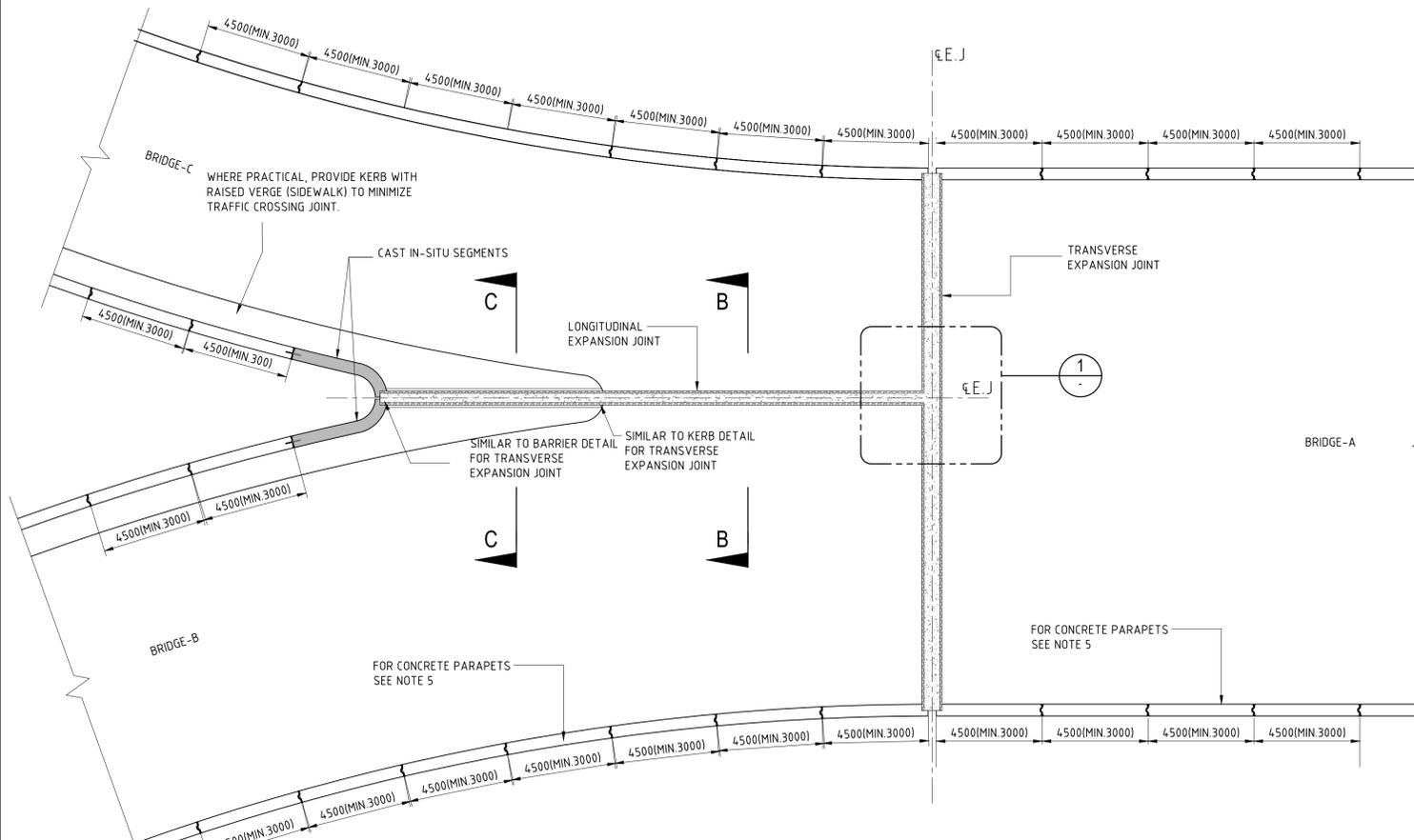
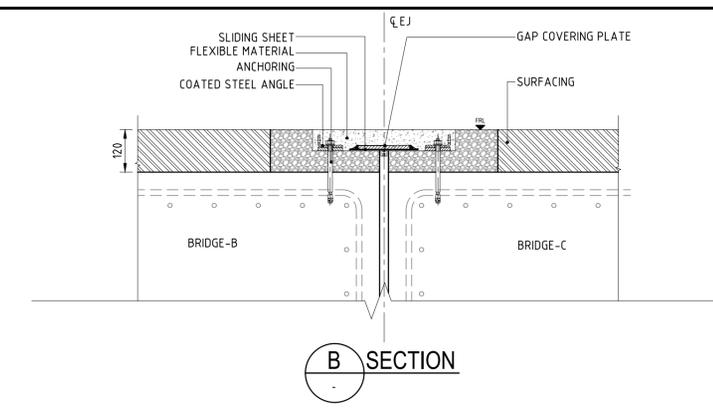


**FLEXIBLE PLUG JOINT PERFORMANCE REQUIREMENTS:**

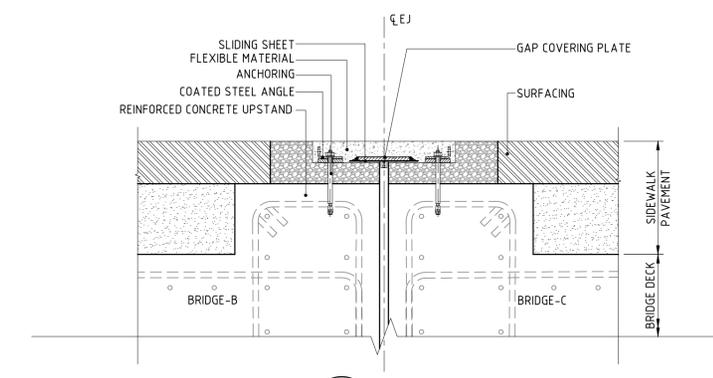
1. A FLEXIBLE PLUG, SHALL BE POURED IN SITU TO FORM A CONTINUOUS, SEAMLESS, WATERTIGHT, TRAFFICABLE SURFACE; THE DRIVING/TRAFFICABLE SURFACE OF THE JOINTS SHALL BE COMPLETELY FLAT AND CONTINUOUS, FLASH TO THE ADJACENT SURFACES ENSURING HIGH DRIVING COMFORT AND MINIMAL NOISE EMISSIONS UNDER TRAFFIC. PREFORMED UNITS, SYSTEMS WITH METAL COVER PLATES, EPDM SEALING ELEMENTS, GAPS ON SURFACE AND RUBBER RECESSES ARE NOT CONSIDERED COMPLIANT TO THE REQUIREMENTS OR EQUIVALENT TO THIS TYPE OF JOINTS. RECESS IN THE STRUCTURAL CONCRETE FOR FIXING THE JOINT IS NOT ALLOWED.
2. JOINTS SHALL BE ABLE TO ACCOMMODATE THE MOVEMENTS AND ROTATIONS IN ALL THREE DIRECTIONS AS PER THE DESIGN.
3. JOINTS SHALL BE COMPLETELY WATERTIGHT, NOT SUSCEPTIBLE TO DAMAGE FROM STANDING WATER.
4. THE EXPANSION JOINT TYPE SHALL BE CAPABLE OF BEING FORMED INTO ANY SPECIFIED SHAPE/GEOMETRY/CONNECTION, WITH A SEAMLESS END SURFACE. JOINT SYSTEMS SHALL BE COMPATIBLE AT POINTS OF CONNECTION AND CHANGE OF DIRECTION.
5. JOINTS SHALL OFFER HIGH DURABILITY, AND HIGH RESISTANCE TO ENVIRONMENTAL INFLUENCES, CHEMICALS, ACIDS, CHLORIDES, AGEING FROM TEMPERATURE AND UV LIGHT. THE JOINT MANUFACTURER SHALL ASSESS THE CONDITION, THICKNESS AND QUALITY OF ASPHALT PAVEMENT AND PROVIDE ADDITIONAL STRENGTHENING WITH STIFFENING RIBS IF DEEMED NECESSARY.
6. THE JOINT SURFACE SHALL INCORPORATE ANTI-SLIP GRANULATE OR SIMILAR TO AVOID A SLIPPERY SURFACE AND ENHANCE SKID RESISTANCE.
7. THE COLOR OF THE JOINT'S ELASTIC MATERIAL, WHEN INSTALLED, SHALL MATCH ADJACENT SURFACES UNLESS OTHERWISE SPECIFIED, BUT ALTERNATIVE COLORS SHALL BE AVAILABLE IF REQUESTED.
8. INSTALLED JOINTS SHALL BE ESSENTIALLY MAINTENANCE-FREE AND NOT REQUIRE CLEANING DUE TO DEBRIS ACCUMULATION.
9. THE PROPOSED JOINT SYSTEM SHALL BE COVERED BY A VALID EUROPEAN TECHNICAL ASSESSMENT (ETA) CERTIFICATE ACCORDING TO THE EUROPEAN ASSESSMENT DOCUMENT (EAD) AS PER PWA IAN031.
10. ETA SHALL PROVE A 15 YEARS OF WORKING LIFE OF THE KIT AS PER PWA-IAN031 REQUIREMENT.



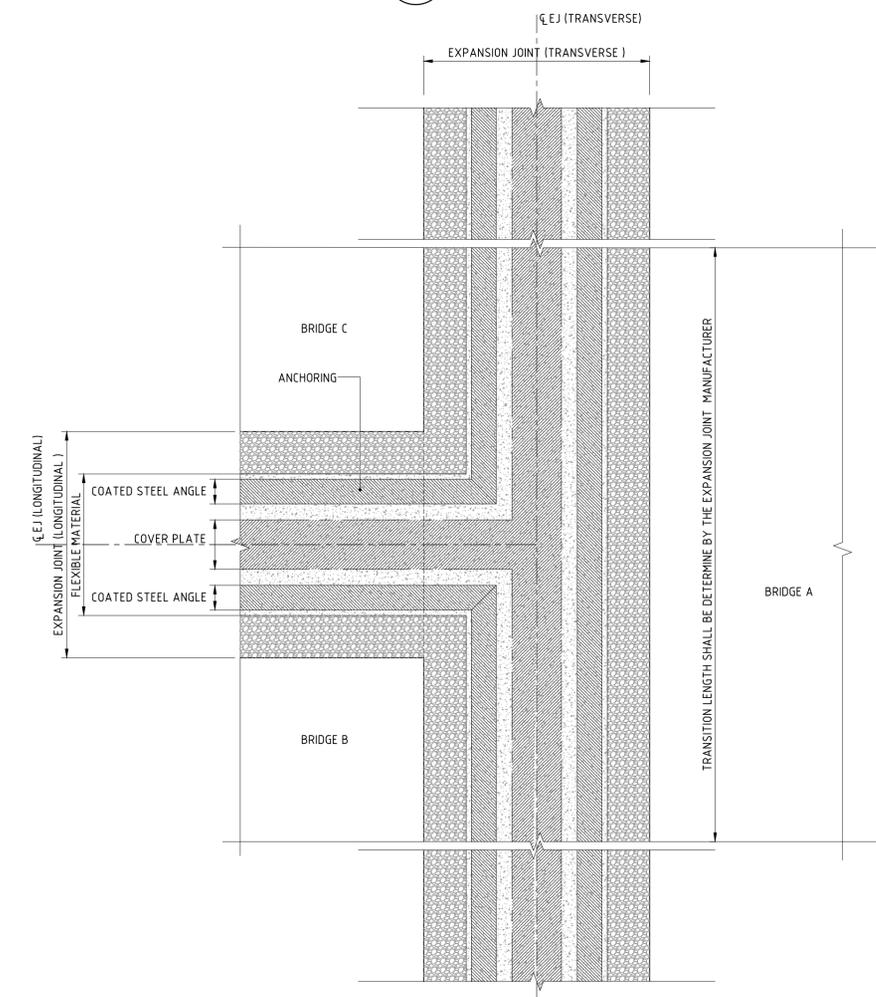
**A TYPICAL PLAN**



**B SECTION**



**C SECTION**



**1 DETAIL**

**USE OF STANDARD DETAILS:**

1. THIS DRAWING SHOWS STANDARD DETAILS WHICH ARE INDICATIVE OF THE BASIC PRINCIPLES WHICH ARE PREFERRED BY ASHGHAL.
2. THE STANDARD DETAILS ARE GENERIC IN NATURE AND MUST BE FURTHER DEVELOPED BY THE DESIGNER AS NECESSARY TO SUIT THE PARTICULAR APPLICATION.
3. WHERE THESE STANDARD DETAILS ARE ADOPTED AS THE BASIS OF ANY DETAIL INCLUDED IN A DESIGN, THE DESIGNER SHALL BE ENTIRELY RESPONSIBLE FOR THE COMPLETED DETAIL AND ALL ASSOCIATED LIABILITY. DESIGNERS MUST THEREFORE SATISFY THEMSELVES AS TO THE SUITABILITY OF THE STANDARD DETAIL FOR THE PROPOSED APPLICATION.
4. DESIGNERS SHALL ADOPT THE STANDARD DETAILS SHOWN AS THE BASIS OF THEIR DESIGN UNLESS THEY CONSIDER THAT A DETAIL IS UNSUITABLE AND AGREE WITH ASHGHAL THAT IT SHALL NOT BE USED.
5. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH ALL APPLICABLE ASHGHAL STANDARD DETAILS, DESIGN INSTRUCTIONS, CIRCULARS, ADVICE NOTES ETC.
6. DESIGNERS SHALL REFER ANY DISCREPANCIES OR CONTRADICTIONS BETWEEN THIS DRAWING AND OTHER APPLICABLE ASHGHAL STANDARD DETAILS, DESIGN INSTRUCTIONS, CIRCULARS, ADVICE NOTES ETC. TO ASHGHAL FOR DIRECTION.

**NOTES:**

1. LONGITUDINAL EXPANSION JOINTS SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY. WHEN USED, IT IS PREFERABLE THAT THEY SHALL BE LOCATED IN AREAS OUTSIDE CARRIAGEWAYS NOT SUBJECT TO REGULAR TRAFFIC. WHERE POSSIBLE, JOINTS SHALL BE PROTECTED FROM TRAFFIC BY RAISED VERGES (SIDEWALKS) AS SHOWN ON THIS DRAWING OR ROAD MARKINGS.
2. WHERE THE USE OF ALTERNATIVE FORMS OF JOINTS ARE NECESSARY, SIMILAR PRINCIPLES SHALL BE ADOPTED.
3. EXPANSION JOINTS AND ALL ASSOCIATED COMPONENTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
3. MATERIALS/SYSTEMS/PRODUCTS SHALL BE OBTAINED FROM THE SAME MANUFACTURER WHEN AXES OF MOVEMENTS ARE JOINED, TO ENSURE COMPATIBILITY, VALIDITY OF WARRANTIES AND UNIFORMITY IN DESIGN/MAINTENANCE/OPERATION.
4. SHAPES, PROPORTIONS AND FEATURES OF EXPANSION JOINTS SHOWN ARE INDICATIVE ONLY AND WILL VARY DEPENDING ON MANUFACTURER.
5. FOR STITCHING DETAILS OF CONCRETE BRIDGE PARAPETS SEE STANDARD DRAWING SD 5-1-301 REV.01.
6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

Rev.	Date	Revision Details	Appd.
01	DEC 23	ISSUED FOR USE	
00	SEPT 13	ISSUED FOR USE	

هيئة الأشغال العامة  
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**PA**  
PROJECTS AFFAIRS

QCS Section: 5 (CONCRETE)  
PART 1 (GENERAL)

Drawing Title:  
**LONGITUDINAL BRIDGE DECK  
EXPANSION JOINTS**

Author: C.ANAGNOSTAKI	Sheet No: 1 OF 1
Approved: T.TZAVEAS	Scale: AS NOTED FOR A1
Date: DECEMBER 2023	Revision: 1
Drawing Number: SD 5-1-502	