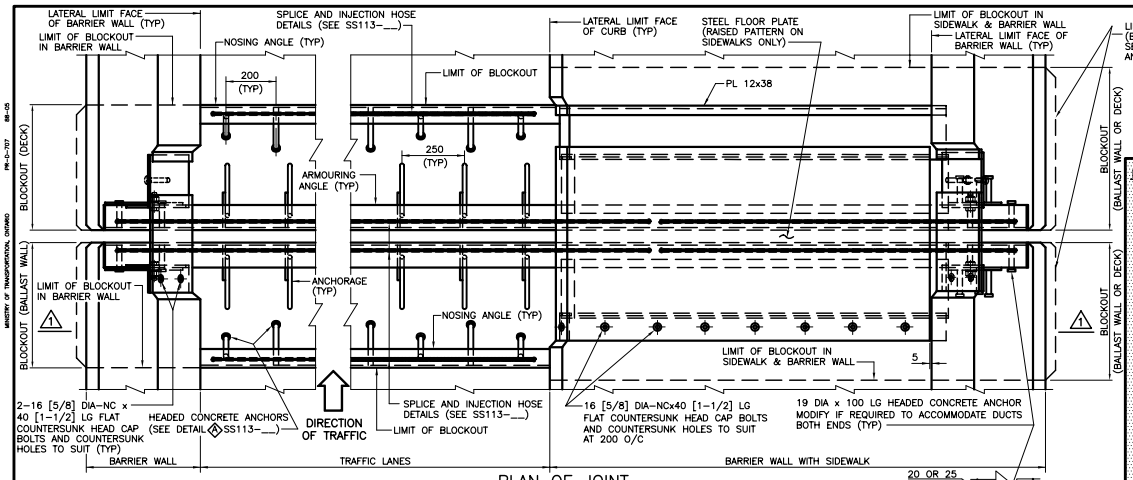
METRIC
DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

CONT No
WP No

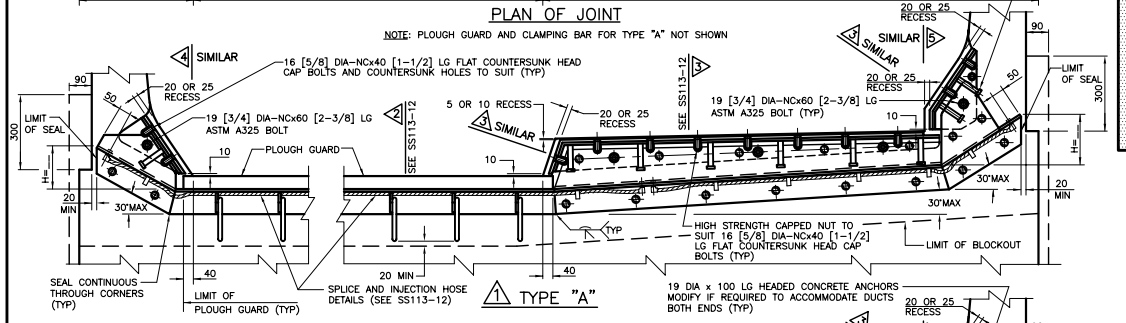
SHEET

STRIP SEAL EXPANSION JOINT ASSEMBLY FOR BARRIER WALLS

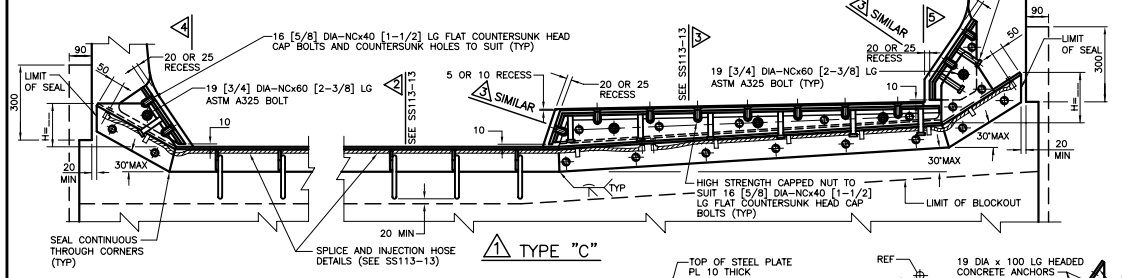


PLAN OF JOINT

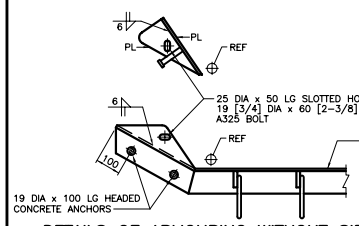
NOTE: PLOUGH GUARD AND CLAMPING BAR FOR TYPE "A" NOT SHOWN



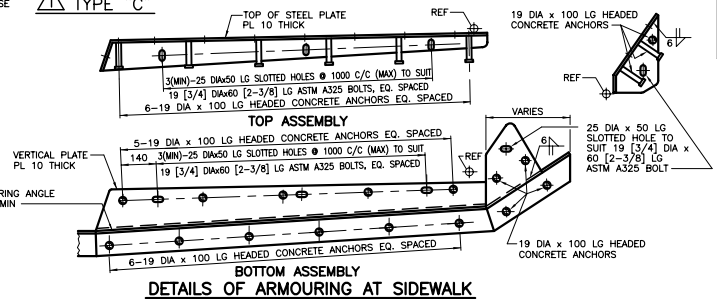
1 TYPE "A"



1 TYPE "C"



DETAILS OF ARMOURING WITHOUT SIDEWALK



DETAILS OF ARMOURING AT SIDEWALK

NOTES TO DESIGNER:

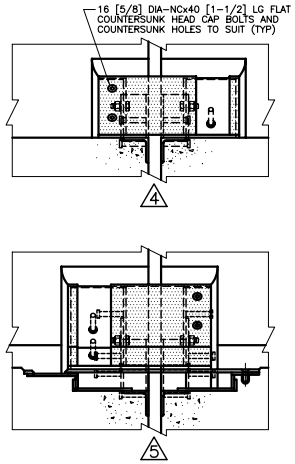
1. IF DRAINAGE SYSTEM FOR EXPANSION JOINTS IS REQUIRED, THE DESIGNER SHALL USE STANDARD DRAWINGS SS113-11 AND SS113-14, INSTEAD OF THIS STANDARD DRAWING.
2. FOR SKEWED BRIDGES, A PLAN AND PROFILE OF THE EXPANSION JOINT(S) SHALL BE DETAILED ON THIS DRAWING SHOWING CROSSFALLS, BREAKPOINTS AND RELEVANT DIMENSIONS.
3. WHEN THE SKEW IS GREATER THAN 5° AND THE REQUIRED HEIGHT OF ARMOURING UPTURN 'H' (SEE NOTE 4) EQUALS 180mm, THE WIDTH OF DECK SHALL BE WIDENED LOCALLY BY 40mm BEYOND THE STANDARD 50mm PROJECTION. THIS LOCAL WIDENING SHALL TYPICALLY EXTEND VERTICALLY TO 300mm ABOVE TOP OF CONCRETE PROJECTION, AND LONGITUDINALLY TO THE LIMITS OF BLOCKOUT IN BARRIER WALL (SEE DASHED LIMITS ON PLAN AND SECTIONS). THIS DETAIL SHALL ALSO BE SHOWN ON THE DECK, BARRIER WALL AND ABUTMENT DRAWINGS.
4. REQUIRED HEIGHT OF UPTURN, H (mm):

	CROSSFALL SLOPE	DECK WITH CROWN		DECK WITHOUT CROWN	
WITHOUT SIDEWALK	≤ 2%	100	100	100	0
	> 2%	180	180	180	0
WITH SIDEWALK	> 0%	100	100	100	100

5. WHEN THE CROSSFALL SLOPES AT THE TWO ABUTMENTS ARE NOT INDENTICAL, TWO VALUES OF 'H' SHALL BE GIVEN AT EACH SIDE OF THE DECK.
6. WHERE REQUIRED, THE DESIGNER SHALL NOTE ON THE ASSEMBLY DRAWING WHETHER THE SEAL HAS TO BE TURNED UP TO AVOID CONFLICT WITH UTILITY DUCTS ON STRUCTURE REHABILITATIONS.
7. THE 'NOTES TO DESIGNER' SHALL BE DELETED FROM THIS DRAWING PRIOR TO ISSUING OF CONTRACT.

NOTES:

1. EXPANSION JOINT SHALL BE IN ACCORDANCE WITH THE DESIGNATED SOURCES FOR MATERIALS LIST DSM 9.40.___, TYPE "_". DETAILS SHOWN FOR OTHER TYPES ARE NOT APPLICABLE.
2. EXPANSION JOINT ASSEMBLY CONSTRUCTION AND MATERIAL SHALL BE ACCORDING TO OPSS 920 AND OPSS 1210, AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. STEEL PLATE 10mm THICK UNLESS OTHERWISE NOTED.
4. WELDING ELECTRODES SHALL BE OF A LOW HYDROGEN CLASSIFICATION.
5. JOINT ASSEMBLIES SHALL BE COMPLETELY SHOP ASSEMBLED (EXCEPT FOR SEALS) AND PRESET TO DIMENSION 'J' FOR 15°C AND ADJUSTED IN THE FIELD TO SUIT INSTALLATION TEMPERATURE.
6. JOINT ASSEMBLY INSTALLATION TEMPERATURE SHALL BE TAKEN AS MEAN SHADE AIR TEMPERATURE AT STRUCTURE PRIOR TO JOINT INSTALLATION AS FOLLOWS:
   - FOR CONCRETE STRUCTURES – 48 HOURS
   - FOR STEEL STRUCTURES – 24 HOURS
7. FIELD SPLICES IN JOINT ASSEMBLY ARE ONLY PERMITTED AT STAGED CONSTRUCTION, AND/OR AS SHOWN ON THE CONTRACT DRAWINGS.
8. IF THE JOINT ARMOURING FOR A SKEWED STRUCTURE IS SPLICED AT A CROWN, THE SPLICE SHALL BE DETAILED PARALLEL TO THE CENTRELINE OF THE TRAFFIC LANE.
9. SETTING ANGLES SHALL BE FLAME CUT ACCORDING TO OPSS 920, BUT IN NO CASE PRIOR TO CONCRETE REACHING INITIAL SET.
10. AFTER CURING OF THE CONCRETE FOR A MINIMUM OF 7 DAYS, THE SETTING DEVICES MAY BE REMOVED. THE VOIDS UNDER THE ARMOURING ANGLE AND NOSING ANGLE SHALL THEN BE PRESSURE INJECTED.
11. PREFORMED SEALS SHALL HAVE MINIMUM THICKNESS OF 5mm OR AS PER DSM.
12. ALL STEEL RETAINER SURFACES COMING IN CONTACT WITH PREFORMED SEAL SHALL BE CLEANED PRIOR TO INSTALLATION OF THE SEAL.
13. PREFORMED SEALS SHALL BE INSTALLED AFTER JOINT ASSEMBLY HAS BEEN CAST IN PLACE, STYROFOAM OR FILLER BETWEEN DECK AND BALLAST WALL REMOVED, AND EXPANSION GAP CLEARED OF ANY DEBRIS.
14. FOR POST-TENSIONED CONCRETE BRIDGES, JOINT ASSEMBLY SHALL NOT BE INSTALLED UNTIL AT LEAST __ DAYS AFTER COMPLETION OF POST-TENSIONING OPERATIONS.
15. RAISED MEDIANS ON STRUCTURES SHALL BE PROVIDED WITH SLIDING PLATES. PLATE THICKNESS AND ANCHORAGES SHALL CONFORM TO SIDEWALK DETAILS, AND SHALL ACCOMMODATE INSTALLATION OF SEALS.
16. FOR SKEWED STRUCTURE, WORKING DRAWINGS SHALL BE DETAILED TO SUIT GEOMETRY OF STRUCTURE.
17. ALL JOINT ANCHORAGES SHALL BE DETAILED ON WORKING DRAWINGS PERPENDICULAR TO THE EXPANSION JOINT ON BOTH THE DECK SIDE AND THE ABUTMENT SIDE EXCEPT AS FOLLOWS. STRUCTURES SKEWED FROM OVER 15° AND UP TO 45° SHALL HAVE ANCHORAGES DETAILED 30' OFFSET FROM THE PERPENDICULAR TO THE EXPANSION JOINT ON THE DECK SIDE.
18. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING SS113-12 OR SS113-13.
19. LEGEND: [ ] DENOTES FASTENER SIZE IN INCHES.



ADDITIONAL NOTES FOR BOLTS:

1. 19 [3/4] DIAMETER BOLTS SHALL BE IN ACCORDANCE WITH WITH ASTM A325. ALL BOLTS USED IN 25 DIA. x 50 LONG SLOTTED HOLES SHALL BE INSTALLED WITH OVERSIZE WASHERS.
2. 16 [5/8] DIAMETER FLAT COUNTERSUNK HEAD CAP BOLTS SHALL BE IN ACCORDANCE WITH ASTM F835.
3. CLAMPING BAR BOLTS FOR TYPE 'A' JOINTS SHALL BE EITHER 19 [3/4] DIAMETER FLAT COUNTERSUNK HEAD CAP BOLTS TENSIONED TO 140kN AND IN ACCORDANCE WITH ASTM F835, OR 19 [3/4] DIAMETER HEX HEAD BOLTS TENSIONED TO 125kN AND IN ACCORDANCE WITH ASTM A325.
4. ALL BOLTS SHALL BE INSTALLED USING MOLY50 LUBRICANT.
5. ALL BOLTS SHALL BE TENSIONED USING THE TURN-OF-NUT TIGHTENING METHOD IN ACCORDANCE WITH CAN/CSA S16.1.

REFER TO 1.1.8 IN THE STRUCTURAL MANUAL FOR PROFESSIONAL ENGINEER STAMPING REQUIREMENTS.

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

STANDARD DRAWING
APRIL 2008

SS113-10

STRIP SEAL EXPANSION JOINT ASSEMBLY FOR BARRIER WALLS

REVISIONS	DESCRIPTION			
DESIGN	CHK	CODE CHBDC-00	CL 625-ONT	DATE
DRAWN	CHK	SITE		DWG

DRAWING NAME: s113-10.dwg
CREATED: 1998/03/11
MODIFIED: 2008/03/27 09:35:21
PN-2-707 88-05
MINISTRY OF TRANSPORTATION, ONTARIO