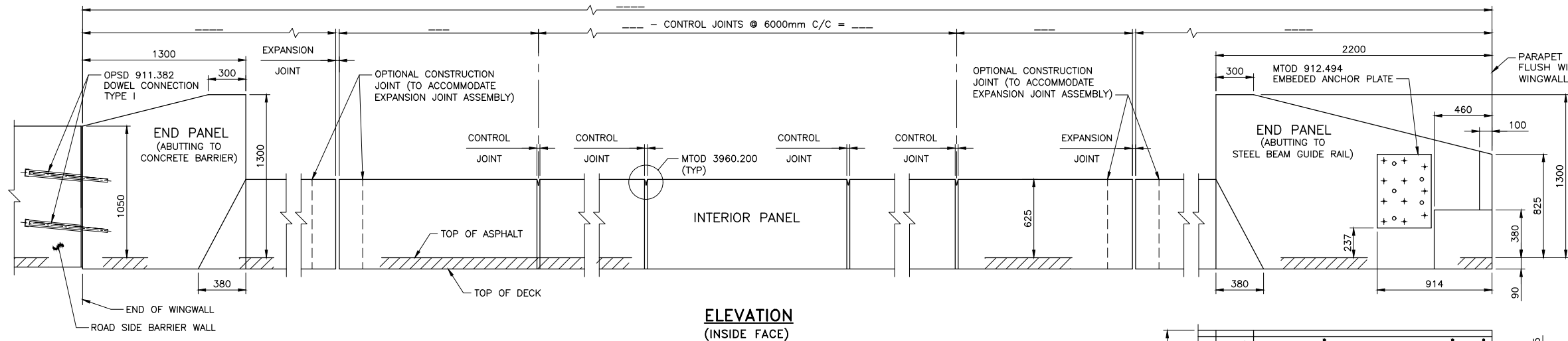
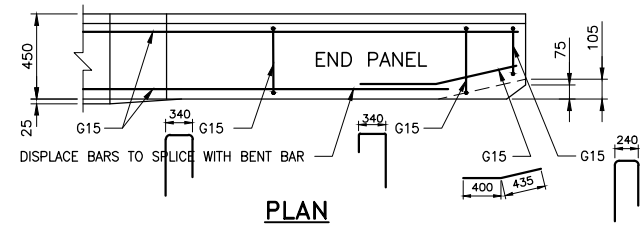


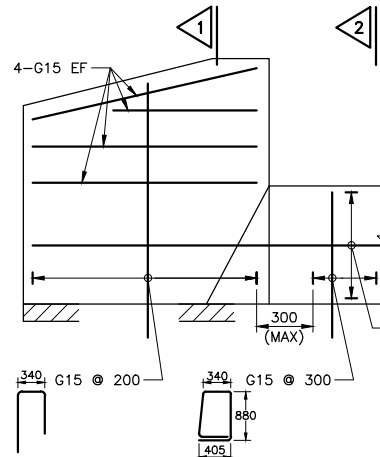
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MODIFIED: 2026-06-24 11:41



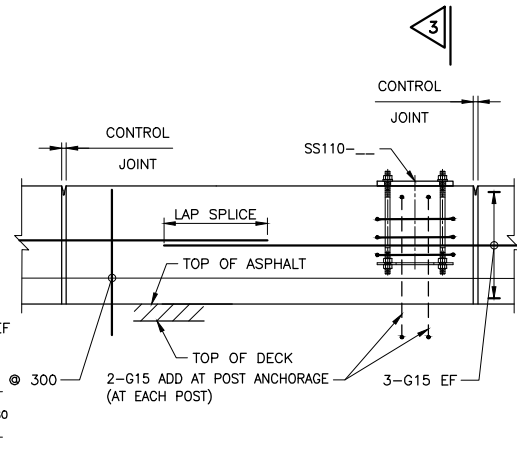
ELEVATION
(INSIDE FACE)



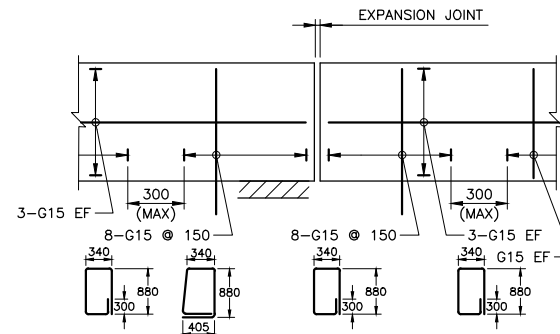
PLAN



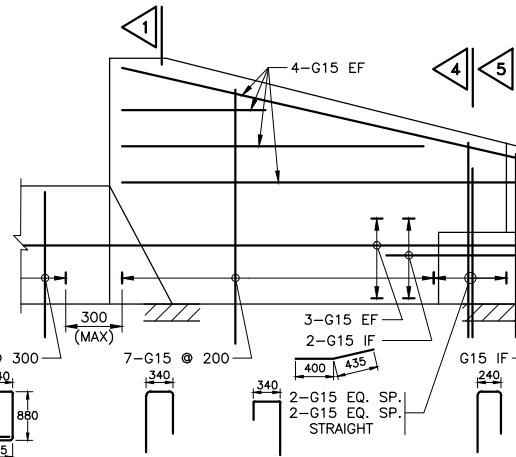
END PANEL
(ABUTTING TO CONCRETE BARRIER)



AT CONTROL JOINT

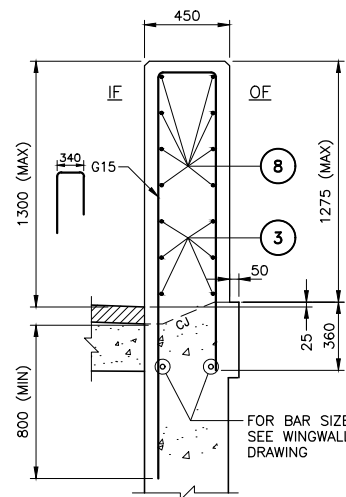


AT EXPANSION JOINT

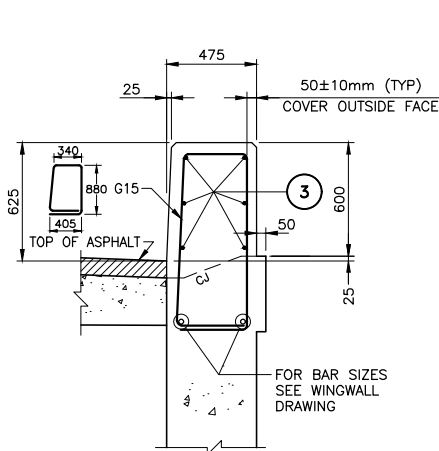


END PANEL
(ABUTTING TO STEEL BEAM GUIDE RAIL)

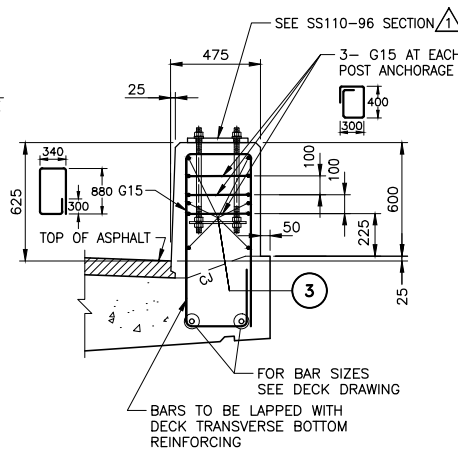
TYPICAL REINFORCING ARRANGEMENT ELEVATION



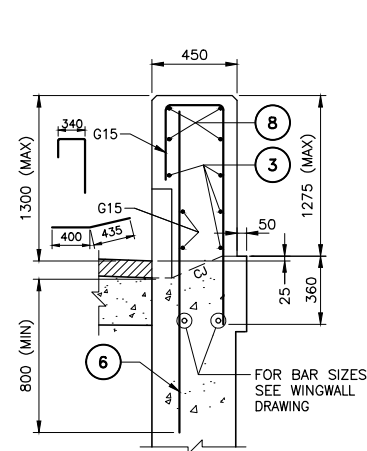
1 CONCRETE PARAPET
ON WINGWALL
(END WALL) TYPICAL REINFORCING



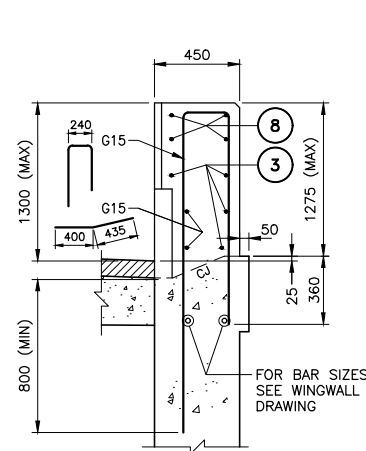
2 CONCRETE PARAPET
ON WINGWALL
(UNDER RAILING) TYPICAL DIMENSIONS AND REINFORCING



3 CONCRETE PARAPET
ON DECK
TYPICAL DIMENSIONS AND REINFORCING



4 END PANEL
ABUTTING TO STEEL BEAM GUIDE RAIL



5

NOTES:

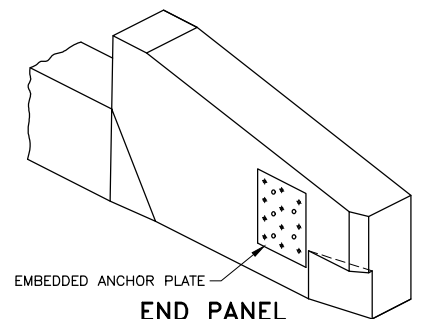
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL APPLICABLE STANDARD DRAWINGS REFERENCED/LISTED ON THIS DRAWING.
- SYSTEM CONFIGURATION IS EQUIVALENT TO MASH TL-5.
- CONCRETE COVER TO REINFORCING BAR 60 ±10mm EXCEPT AS NOTED.MPa.
- GLASS FIBRE REINFORCED POLYMER REINFORCING BARS SHALL BE GRADE III.
- BAR LAP SPLICE FOR HORIZONTAL REINFORCEMENT MUST NOT LAP THROUGH CONTROL JOINT.
- MINIMUM BAR LAP SPLICE TO BE 1000mm UNLESS OTHERWISE SHOWN.
- LENGTH OF HORIZONTAL BAR TO SUIT CONTRACTOR'S OPERATIONS. BAR LENGTHS NEED NOT MATCH DISTANCE BETWEEN CONTROL JOINTS.
- CONTROL JOINT TO BE FORMED.
- SAWCUTS NOT PERMITTED.
- CONTROL JOINT FORM HARDWARE NOT TO BE LEFT IN PLACE.
- OPTIONAL CONSTRUCTION JOINTS TO BE LOCATED WITHIN LIMITS OF CONCRETE DAMS ON DECK OR BALLAST WALL.
- CHASE REQUIRED ON HIGH AND LOW SIDE OF CROSSFALL.

LEGEND:

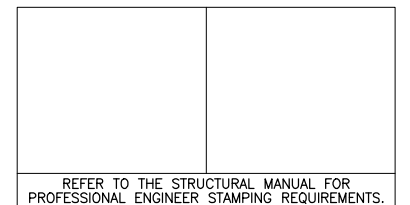
- EF - DENOTES EACH FACE
- IF - DENOTES INSIDE FACE
- OF - DENOTES OUTSIDE FACE
- CJ - CONSTRUCTION JOINT
- GFRP - GLASS FIBRE REINFORCED POLYMER REINFORCING BAR

NOTES TO DESIGNER:

- UPDATE ELEVATION SPECIFIC TO THE BRIDGE.
- SELECT END PANELS BASED ON THE TYPE OF BARRIER BEYOND THE BRIDGE AND DELETE DETAILS THAT DO NOT APPLY.
- THE 'NOTES TO DESIGNER' SHALL BE DELETED FROM THIS DRAWING PRIOR TO ISSUING.



END PANEL
ABUTTING TO STEEL BEAM GUIDE RAIL



APPLICABLE STANDARD DRAWINGS:

- MTOD 912.494 ANCHOR PLATE
- MTOD 3960.200 BARRIER AND PARAPET WALL, JOINTS AND CHASE
- OPSD 911.382 GUIDE RAIL SYSTEM, CONCRETE BARRIER, DOWEL CONNECTION DETAIL

STANDARD DRAWING JUNE 24, 2026	SS110-5120
PARAPET WALL FOR TWO TUBE RAILING, TL-5 (GFRP)	

REVISIONS	DATE	BY	DESCRIPTION
DESIGN	-	CHK	-
DRAWN	-	CHK	-

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL APPLICABLE STANDARD DRAWINGS REFERENCED/LISTED ON THIS DRAWING.
2. RAIL ELEMENTS SHALL BE HOLLOW STRUCTURAL SECTIONS GRADE 350WT, CLASS C.
3. POSTS AND PLATES SHALL BE GRADE 350WT.
4. THE CHARYP IMPACT ENERGY REQUIREMENTS SHALL BE 27 JOULES AND THE TEST TEMPERATURE SHALL BE 0 DEGREES CELSIUS.
5. ANCHOR STUDS, WASHERS, AND NUTS SHALL BE ACCORDING TO ASTM A193, GRADE B7, ASTM A449, OR ASTM F1554, GRADE 105.
6. FULL THREAD STUDS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A108. LOCK NUTS SHALL BE ACCORDING TO ASTM A563. WASHERS SHALL BE ACCORDING TO ASTM F436.
7. RAILS SHALL BE SUPPLIED IN LENGTHS TO BE ATTACHED TO A MINIMUM OF THREE (3) POSTS EXCEPT WHEN THE WINGWALL LENGTH OF A BRIDGE WITH EXPANSION JOINTS DOES NOT PERMIT. IN THIS CASE, THE RAIL LENGTH SHALL BE ATTACHED TO TWO (2) POSTS ON THE WINGWALL.
8. GALVANIZING ON MATING SURFACES OF RAILS TO HAVE UNIFORM THICKNESS NOT EXCEEDING 0.15mm TO ENSURE SLIDING FIT.
9. RAILS, POSTS, RAIL SPLICES, AND END CAPS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
10. BOLTS, ANCHOR STUDS, PLATES, WASHERS, AND NUTS SHALL BE HOT-DIP GALVANIZED. LOCK NUTS SHALL BE ZINC PLATED ACCORDING TO ASTM B695.
11. ALTERNATE RAILS CAPS MAY BE USED WITH APPROVAL OF THE ENGINEER.
12. RAILS SHALL BE PREBENT TO FOLLOW ROAD CURVATURE WHERE RADIUS IS LESS THAN 150 METRES.
13. RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
14. RAILS MAY BE CUT AS REQUIRED IN THE FIELD, CUT TO BE SURFACE TREATED WITH A ZINC TOUCH-UP SOLDER, GALVAGUARD OR AN APPROVED EQUIVALENT.
15. WHEN CONNECTING TO EXISTING RAILING, RAILS MUST BE MADE CONTINUOUS AND POST SPACINGS TO BE DETERMINED WITH REFERENCE TO EXISTING POSTS.
16. GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF EPOXY GROUT MAY BE USED WHEN REQUIRED FOR FILLING THE VOIDS UNDER THE BASE PLATE.
17. POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT CONDITION AND GIVEN AN ADDITIONAL 1/3 OF A TURN.
18. BOLTS IN RAIL SPLICES SHALL BE TIGHTENED TO A CONDITION THAT WILL ALLOW RAIL MOVEMENT.
19. PRIOR TO ASSEMBLY, APPLY LOCTITE 242, OR APPROVED EQUIVALENT THREAD-LOCKING FLUID, TO THE BOLT THREADS AT THE NUT ENGAGEMENT AREA, PER MANUFACTURER'S SPECIFICATION.

1. THE IMPACT TEST TEMPERATURE SHALL BE DETERMINED BY REFERRING TO CSA S6-25, TABLE 10.14 BASED ON THE MINIMUM SERVICE TEMPERATURE OF THE STRUCTURE GIVEN IN TABLE A3.1.2.
2. THE 'NOTES TO DESIGNER' SHALL BE DELETED FROM THIS DRAWING PRIOR TO ISSUING.

SSD 110-5110 PARAPET WALL FOR TWO TUBE RAILING, TL-5 (GFRP)

STANDARD DRAWING JUNE 24, 2026	SS110-5510
TWO TUBE RAILING ON PARAPET, TL-5	

REVISIONS							
	DATE	BY		DESCRIPTION			
DESIGN	- CHK	-	CODE	CSA S6:25	LOAD	- DATE	-
DRAWN	- CHK	-	SITE	-		DWG.	-

