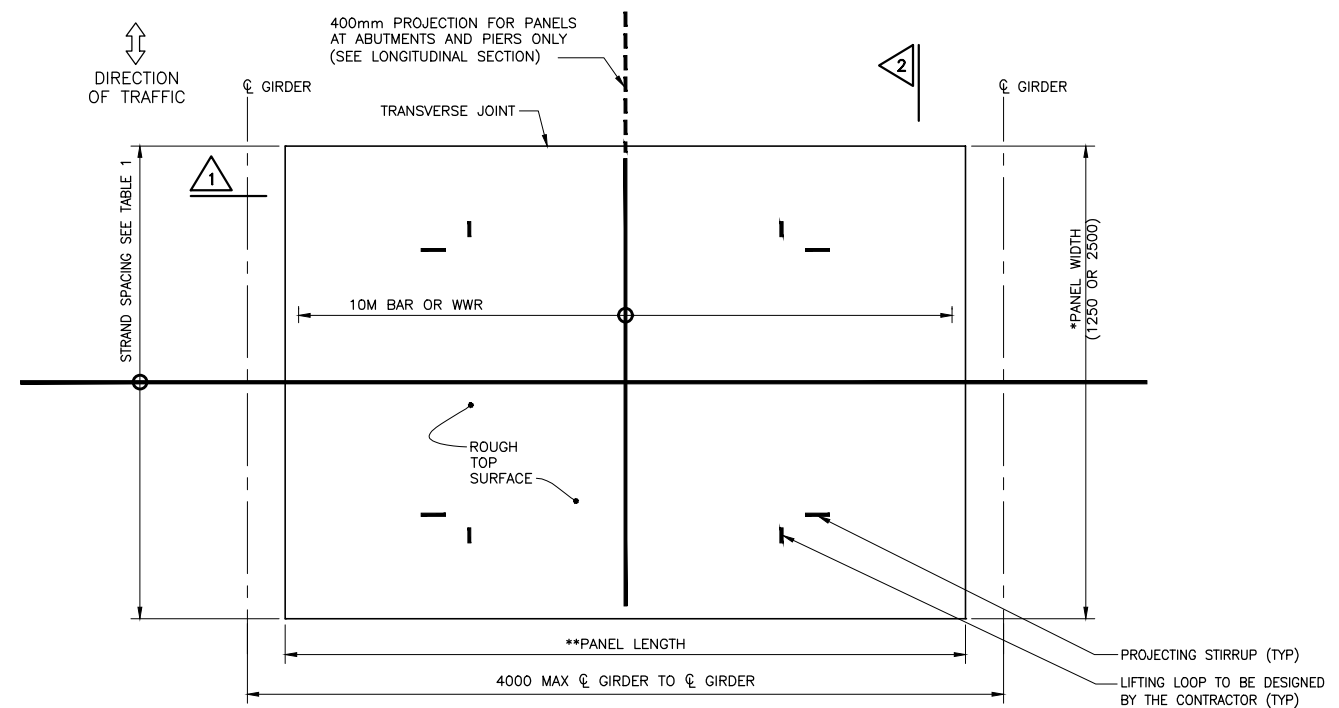


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 MINISTRY OF TRANSPORTATION OF ONTARIO STRUCTURAL ANS D FRAME 2020-05

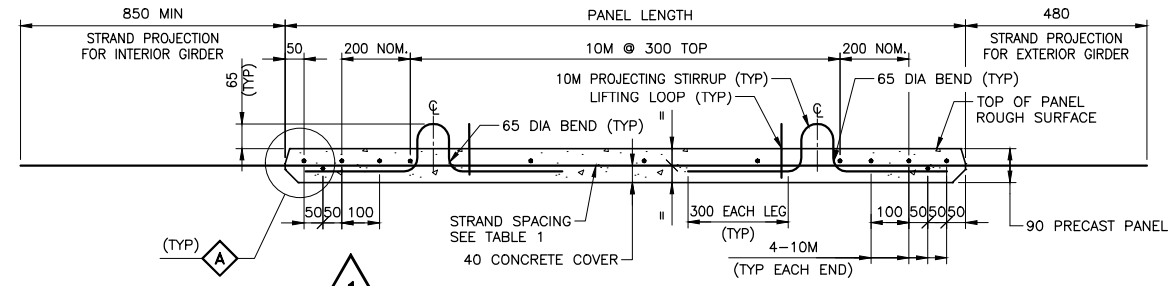
Ontario Ministry of Transportation
 CONT WP **DRAFT** SHEET
 PARTIAL DEPTH PRECAST DECK PANELS FOR NU GIRDERS - DETAILS

METRIC
 DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN
 DRAWING NOT TO BE SCALED
 100mm ON ORIGINAL DRAWING

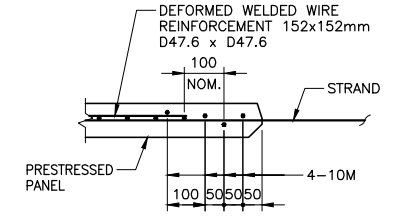


TYPICAL PRESTRESSED DECK PANEL
 (ALL PANEL LENGTHS)
PLAN

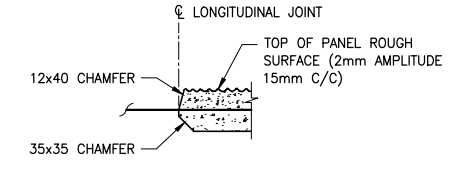
* PANEL DIM. PARALLEL TO LONG DIRECTION OF BRIDGE
 ** PANEL DIM. PARALLEL TO TRANSVERSE DIRECTION OF THE BRIDGE



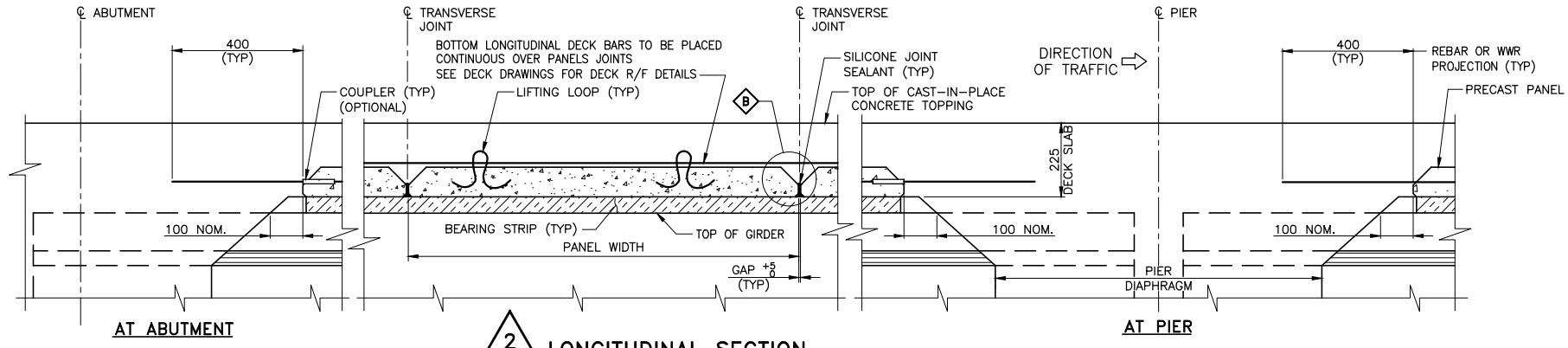
1 TYPICAL SECTION OF PRESTRESSED DECK PANEL



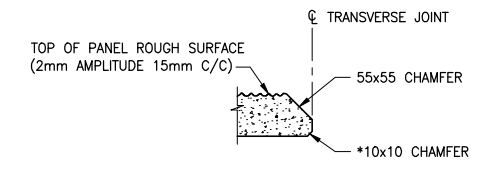
1 OPTIONAL DETAIL WITH WWR
 (PRESTRESSED PANELS ONLY)



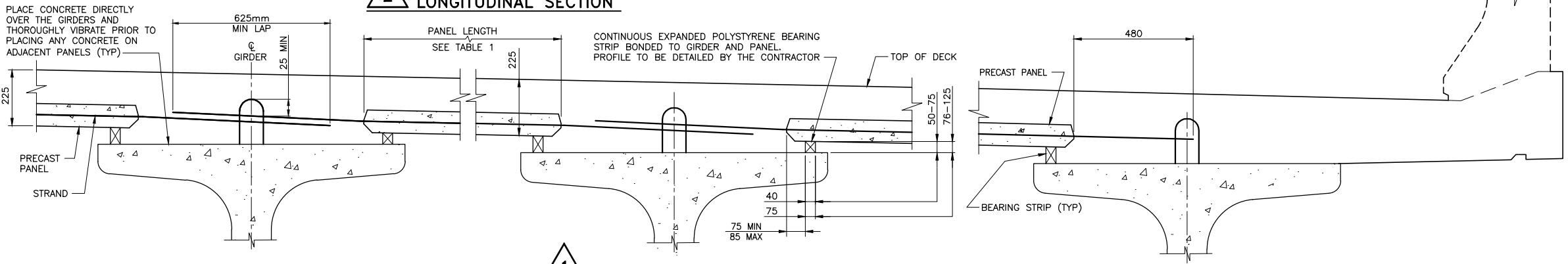
A CHAMFER DETAIL
 (TYP)



2 LONGITUDINAL SECTION



B CHAMFER AT TRANSVERSE JOINT
 (TYP)
 *TERMINATE THE BOTTOM CHAMFER 150mm FROM THE ENDS OF PANEL.



1 DECK CROSS-SECTION

TABLE 1

TABLE OF PRESTRESS DATA

PANEL LENGTH (m)	≤1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2
STRAND SPACING (mm)	300	275	250	225	175	150	125	100
JACKING FORCE (kN)	77							
BREAKING STRENGTH (kN)	102							

NOTES TO DESIGNER:

- THIS STANDARD IS ONLY APPLICABLE FOR DECK PANELS SPANNING TRANSVERSELY BETWEEN LONGITUDINAL GIRDERS.
- THESE PANELS ARE INTENDED FOR USE ON GIRDERS SPANNING LONGITUDINALLY BETWEEN SUPPORTS UP TO A MAXIMUM SPACING OF 4.0m ON CENTRE.
- IF THE CONCRETE STRENGTH OF THE CORRESPONDING CAST-IN-PLACE DECK IS GREATER THAN 40 MPa, THEN THE STRENGTH OF THE PRECAST PANEL SHALL BE INCREASED TO MATCH.
- WHEN THE REQUIRED PANEL LENGTH FALLS BETWEEN THOSE VALUES LISTED IN TABLE 1 THEN USE THE STRAND SPACING FOR THE NEXT LARGER LISTED PANEL LENGTH.
- THE TOTAL COMPOSITE DECK SLAB SHALL BE 225mm.
- WHEN CALCULATING THE ELEVATIONS THE DESIGNER IS ALERTED THAT THE MINIMUM DECK HAUNCHES OVER GIRDER'S TOP FLANGE IS 50mm.
- THE 'NOTES TO DESIGNER' SHALL BE DELETED FROM THIS DRAWING PRIOR TO ISSUING.

- NOTES:**
- THESE DRAWINGS SHOW DETAILS FOR PARTIAL DEPTH PRECAST DECK PANELS FOR USE WITH NU GIRDERS.
 - PANELS 1.4m OR LESS MAY BE SUPPLIED AS REINFORCED CONCRETE, WITH 15M @ 300mm IN PLACE OF STRAND. THE 15M REINFORCING STEEL PROJECTIONS SHALL BE THE SAME AS STRAND PROJECTIONS LABELED ON SECTION.
 - SHOP DRAWINGS SHOWING PANEL LAYOUT AND ASSOCIATED CONSTRUCTION DETAILS SHALL BE PRODUCED BY THE CONTRACTOR.
 - LIFTING LOOPS SHALL BE MADE VISUALLY DIFFERENT FROM STIRRUP PROJECTIONS, SUCH AS: ORIENTED IN A DIFFERENT DIRECTION OR USING OTHER SUITABLE METHODS.
 - PROJECTED STIRRUPS ARE NOT REQUIRED FOR STRUCTURAL DESIGN OF THE PANELS AND MAY BE PROVIDED TO TIE THE CAST-IN-PLACE CONCRETE TOPPING REINFORCEMENT FOR EASE IN CONSTRUCTION. USE STAINLESS STEEL STIRRUPS FOR DECK REINFORCED WITH STAINLESS STEEL OR GFRP REBAR.
 - THE BEARING STRIPS THAT ARE USED TO SUPPORT THE PANELS PRIOR TO POURING THE CAST-IN-PLACE TOPPING SHALL BE DETAILED BY THE CONTRACTOR AND SHALL BE BONDED TO THE GIRDER BY INDUSTRIAL GRADE ADHESIVE, WITH ANY GAPS SEALED WITH CAULKING. CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE PANELS AND THE BEARING STRIPS DURING CONSTRUCTION.
 - BOTTOM LONGITUDINAL DECK BARS TO BE PLACED CONTINUOUS ON PRECAST DECK PANELS AND SHALL NOT HAVE LAP SPLICES OVER THE TRANSVERSE JOINTS OF PANELS.
 - LIFTING LOOPS SHALL BE CUT OFF AND REMOVED PRIOR TO PLACING CONCRETE FOR THE CAST-IN-PLACE PORTION OF THE DECK.
 - CONTRACTOR IS REMINDED TO PAY ATTENTION TO THE QUALITY OF VIBRATION OF THE WET CONCRETE PLACED OVER GIRDER FLANGES SO THAT IT FLOWS AND PROPERLY FILLS UNDER THE EDGES OF THE PRECAST DECK PANELS.
 - CONTRACTOR TO SUBMIT SUPPORTING DOCUMENTS FOR APPROVAL PRIOR TO FABRICATION IF RESISTANCE WELDING IS PLANNED TO BE USED TO FABRICATE THE REINFORCEMENT CAGE.
 - FABRICATOR MAY ADJUST THE STRAND/REBAR SPACING TO CREATE SEVERAL 100x100mm STEEL FREE AREAS TO ACCOMMODATE CORES FOR QUALITY ASSURANCE TESTING. THE LOCATIONS FROM WHERE CORES MAY BE TAKEN SHALL BE CLEARLY MARKED ON DECK PANEL SHOP DRAWING. CORE SIZE SHALL BE AS SPECIFIED ELSEWHERE IN THE CONTRACT.
 - FABRICATION TOLERANCES SHALL BE ACCORDING TO MTOD 3960.100.

- MATERIALS:**
- CONCRETE STRENGTHS**
30 MPa AT TRANSFER AND 40 MPa AT 28 DAYS.
 - PRESTRESSING STEEL**
PRESTRESSING STEEL SHALL BE LOW RELAXATION SEVEN WIRE STRAND, SIZE DESIGNATION 9mm DIA. GRADE 1860 MPa.
 - REINFORCING STEEL**
REINFORCING STEEL SHALL BE GRADE 500W.
 - WELDED WIRE REINFORCEMENT**
WELDED WIRE REINFORCEMENT SHALL BE DEFORMED AND GRADE 500 MPa IN ACCORDANCE WITH ASTM A1064.
 - BEARING STRIP**
THE BEARING STRIP SHALL BE HIGH DENSITY EXPANDED POLYSTYRENE WITH A MINIMUM COMPRESSIVE STRENGTH OF 0.38 MPa (55 PSI).

REFER TO THE STRUCTURAL MANUAL FOR PROFESSIONAL ENGINEER STAMPING REQUIREMENTS.

STANDARD DRAWING MARCH 24, 2023 SS109-43
 PARTIAL DEPTH PRECAST DECK PANELS FOR NU GIRDERS - DETAILS

REVISIONS

DATE	BY	DESCRIPTION

DESIGN	CHK	CODE CSA S6-19/LOAD CL 625-ONT	DATE
DRAWN	CHK	SITE	DWG