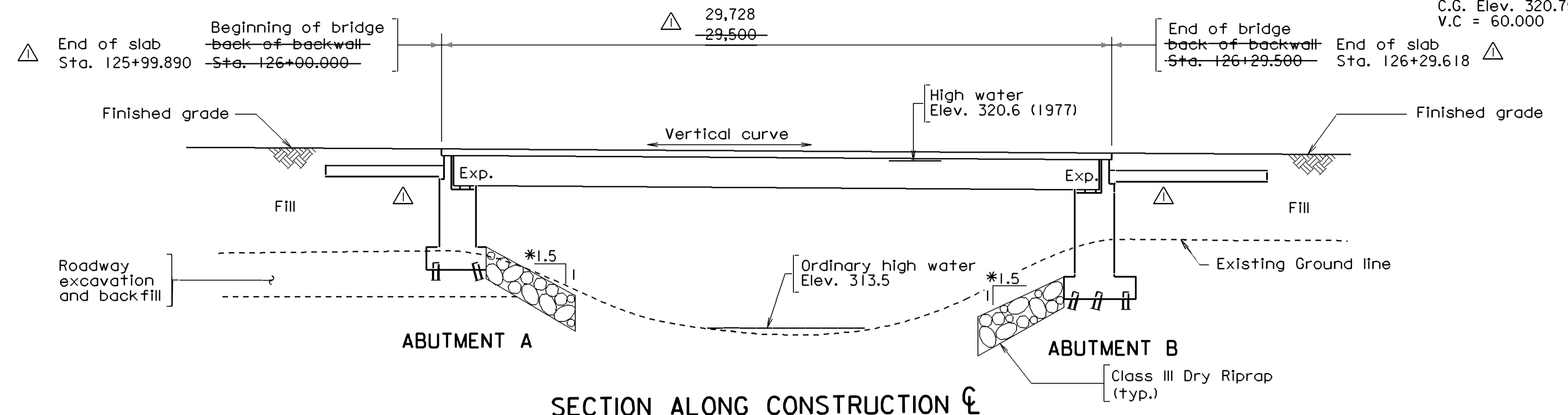


-0.673% +0.534%

C.G.Sta. 126+45.000
C.G. Elev. 320.750
V.C = 60.000

The Bridge As-Built Plans and corresponding BrDR Models are provided for example only and may not represent the modeling techniques used by your agency.



* Normal to abutment
** Light pole foundation

GENERAL NOTE:

Width: 1650 mm sidewalk, varying roadway, varying median, 11,700 mm roadway, 1650 mm sidewalk. Overall width 27,900 mm face-to-face of rails.

Span Layout: 1-28,000 mm prestressed concrete 1346 mm Bulb-T beam simple span.

Capacity: MS18 loading and alternate military loading.

Drainage Area: 105.7 square kilometers.

Specifications:

Construction: Road and Bridge Specifications, 1997.

Design: AASHTO Standard Specifications for Highway Bridges, 1996; 1997, and 1998 Interim Specifications; and VDOT Modifications.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions Included in the contract documents.

Design loading includes 1.0 kN/m² allowance for construction tolerances and construction methods.

The use of prestressed deck panels as stay-in-place forms will not be permitted.

Concrete in prestressed concrete beams shall be Class 55. Concrete in superstructure including sidewalks, rails, terminal walls, and medians shall be Class 30; in abutments, Class 25.

Prestressed concrete in beams shall be Class 55 having a minimum compressive cylinder strength at 28 days equal to 55 MPa and a minimum compressive cylinder strength at time of release of strands equal to 40 MPa.

Deformed reinforcing bars shall conform to ASTM A615M and shall have a yield strength of 420 MPa. All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

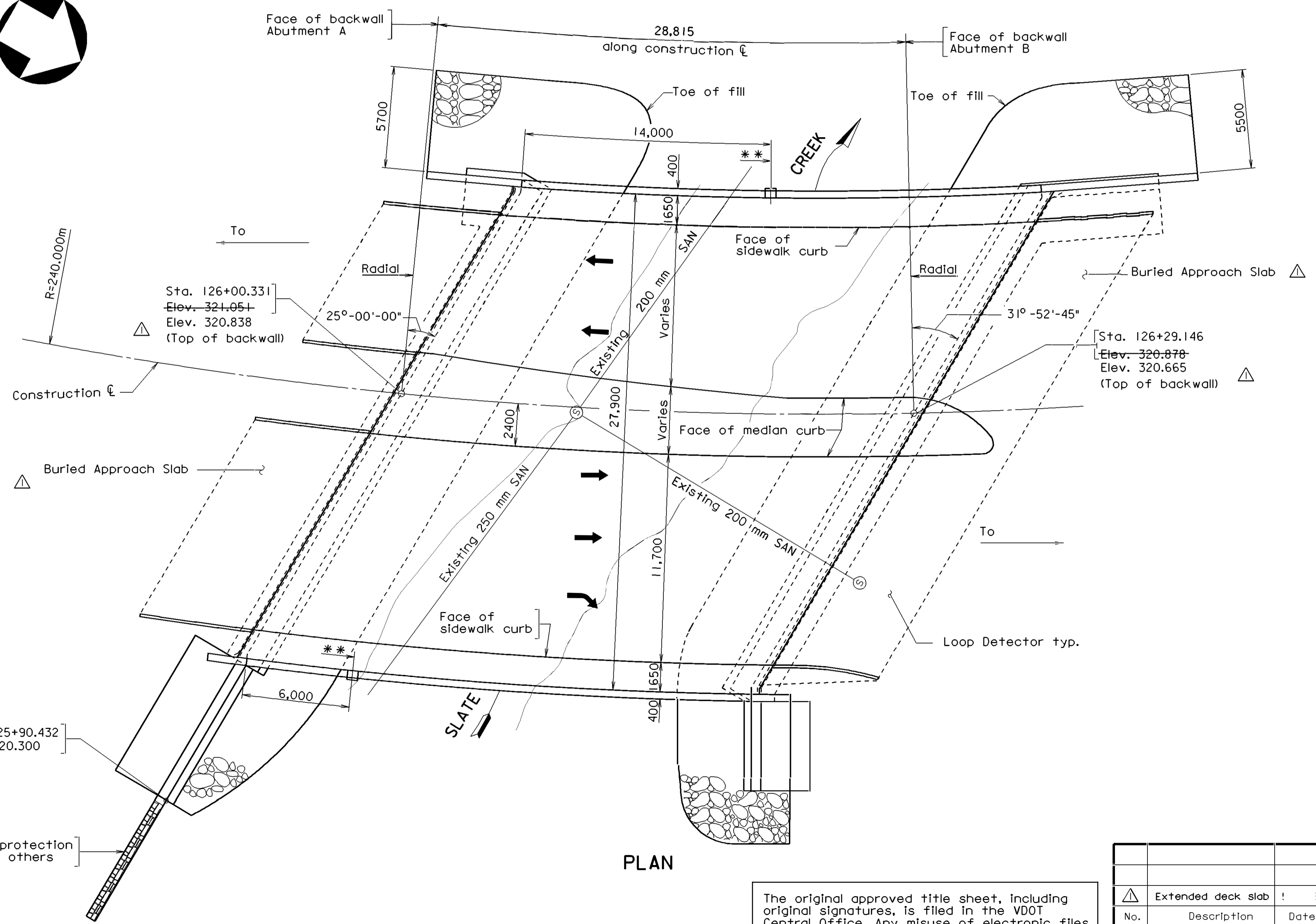
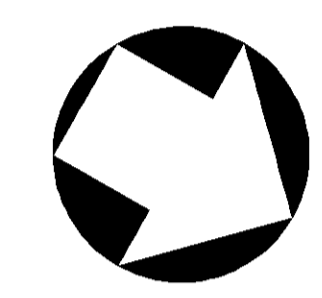
H-Piles in abutments have a design capacity of 490 kN per pile and shall be driven to refusal.

Bridge No. of existing bridge is .

Structural approach slabs are not included in the bridge contract.

B.M.: Chiseled square on southwest corner of traffic signal box located 2.698 m Rt. of Sta. 139+75.541 Route 460 survey traverse Line Elev. 319.326 m.

All dimensions are shown in millimeters (mm) unless otherwise noted. All elevations are shown in meters (m). Symbol \varnothing = diameter.



PLAN

Not to scale

The original approved title sheet, including original signatures, is filed in the VDOT Central Office. Any misuse of electronic files is illegal. Violators will be prosecuted to the full extent of the applicable laws.

No.	Description	Date
1	Extended deck slab	3
REVISIONS		
For Table of Revisions, see Sheet 2.		



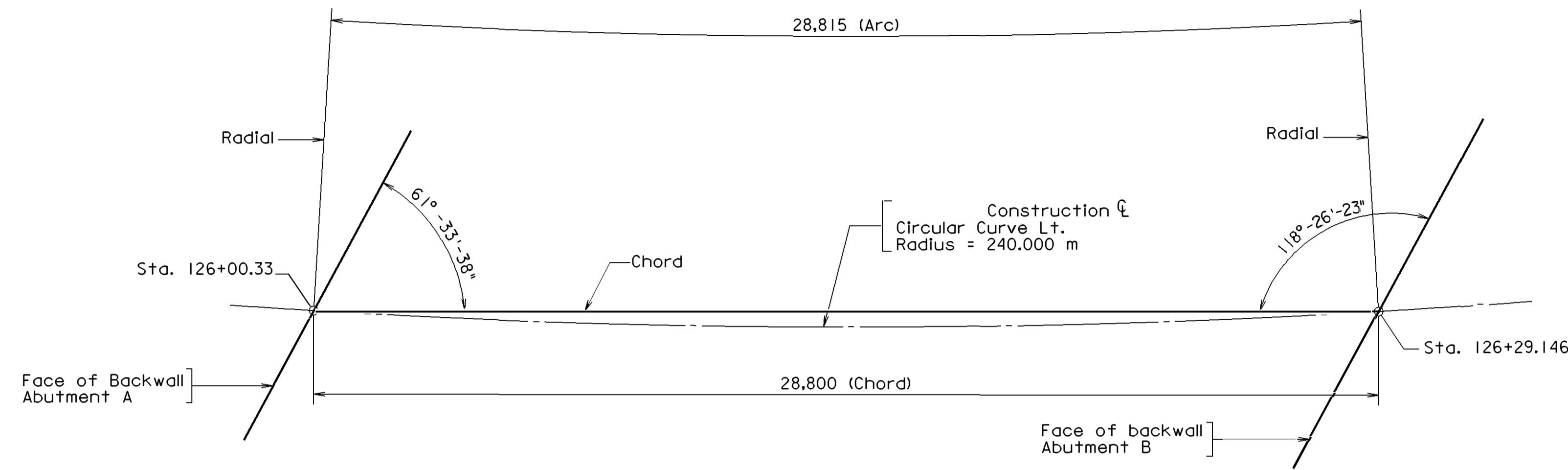
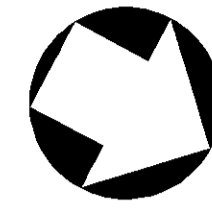
Recommended for Approval: !

Approved: ---

Date: ---

p28481001r1

SUPERVISED:	_____
DESIGNED:	_____
DRAWN:	_____
CHECKED:	_____



BRIDGE LAYOUT
Not to scale

INDEX OF SHEETS	
Sheet No.	Description
1	Plan, Elevation & General Notes
2	Bridge Layout, Estimated Quantities & Index of Sheets
3	Substructure Layout & Slope Protection
4	Abutment A, Plan & Elevation
5	Abutment A - Details I
6	Abutment A - Details II
7	Abutment A - Footings
8	Abutment B, Plan & Elevation
9	Abutment B - Details I
10	Abutment B - Details II
11	Abutment B - Footings
12	Bearings Details
13	Transverse Section
14	Framing Plan
15	Prestressed Concrete Beam MPCBT-1346
16	Intermediate & End Diaphragms Details
17	Deck Slab Plan
18	Deck Slab Elevations
19	Preformed Elastomeric Joint Sealer
20	Aluminum Railing
21	Aluminum Railing
22	Aluminum Railings Miscellaneous Details
23	Bridge Conduit System
24	Reinforcing Steel Schedule I
25	Reinforcing Steel Schedule II
26	Engineering Geology
27	Engineering Geology
28	Approach Slabs Layout
29	Approach Slab Abutment A
30	Approach Slab Abutment B

ESTIMATED QUANTITIES

	Concrete **		Reinforcing Steel	Epoxy Coating Reinforcing Steel	Prestressed Concrete Bulb-T Beam (27m-30m) EA.	Aluminum Railing	Bridge Deck Grooving	Steel Piles 250 mm	Pile Point For 250 mm Steel Pile	Structure Excavation	Preformed Elastomeric Joint Sealer 0mm to 51mm	Dry Riprap CL III 1350 mm	Porous Backfill	Pipe Underdrain 150 mm						
	Class 30	Class 25																		
Superstructure	-271.4	278.0	—	-25,780	28,690	13	58	-596	616	—	-66	8	—	—						
Abutment A	Footing	—	113.5	7025	—	—	—	473	53	125	—	650	-71	78						
	Neat	—	+74.9	170.9	—	—	8	—	—	—	—	—	—	36						
Abutment B	Footing	—	127.5	8050	—	—	—	574	73	354	—	730	-94	101						
	Neat	—	-242.5	238.5	—	—	11	—	—	—	—	—	—	48						
Total	-271.4	278.0	-658.4	650.4	15,075	-34,125	36,780	13	77	-596	616	1047	126	479	-66	8	1380	+65	179	84

⊗ Denotes items to be paid for on basis of plan quantity accordance with current Road and Bridge Specifications.

* Quantity includes 510 kg of epoxy coated welded wire fabric in median.

** Low permeability concrete to be used for construction of entire bridge.

Mobilization - Lump Sum

Dismantle and remove structure No. 6245 - Lump Sum

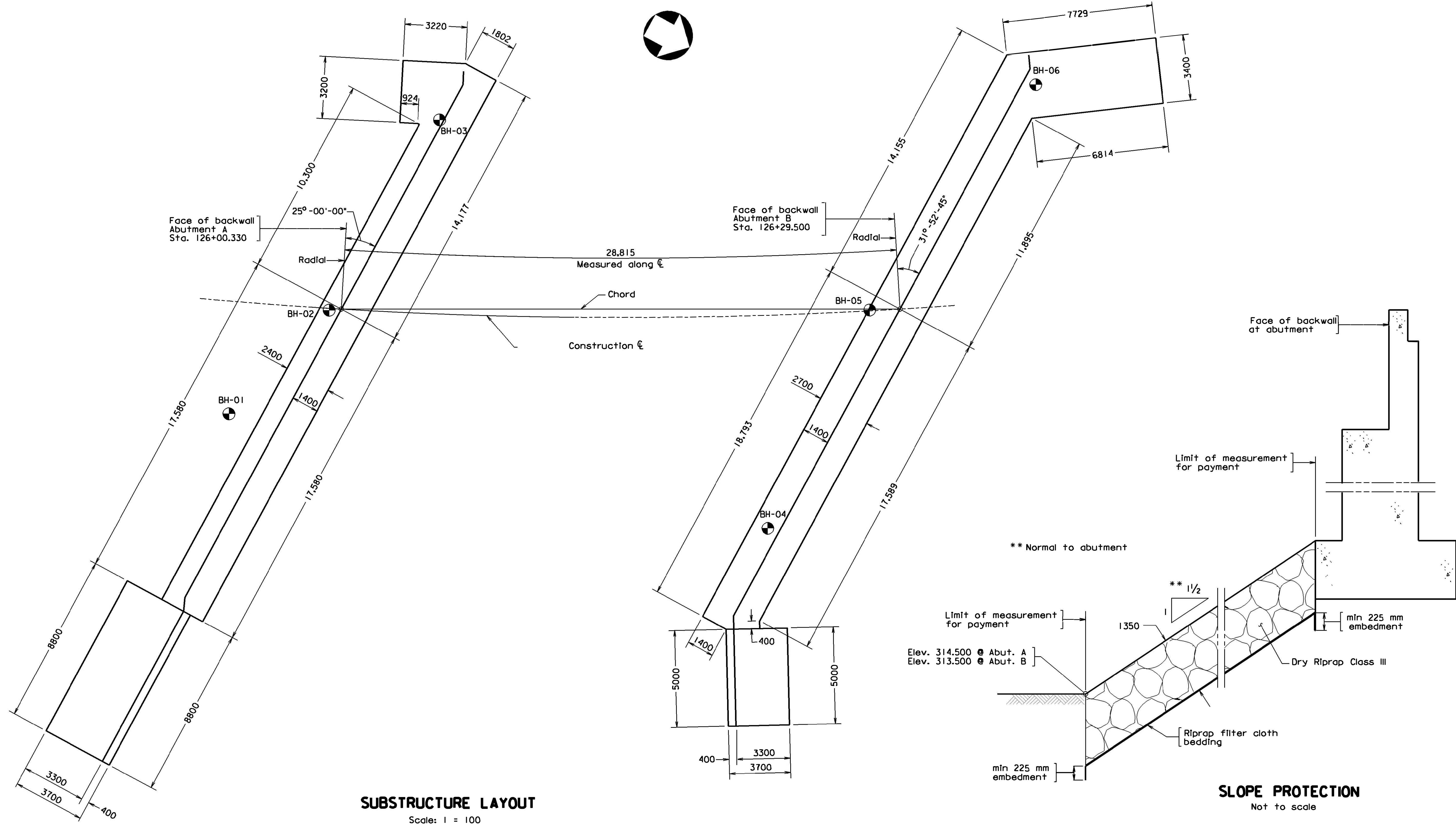
Construction Survey - Lump Sum

Rev. No.	Sheets Revised	Date
△	1,2,4,5,8,9,13,17,18,24,25,28,29,30	5/8/08

TABLE OF REVISIONS



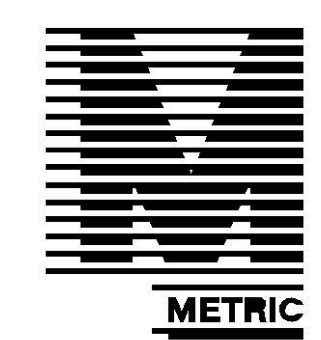
BRIDGE LAYOUT ESTIMATED QUANTITIES INDEX OF SHEETS			
△	Revised Quantities	5/8/08	
No.	Description	Date	
Revisions			Designed: Drawn: Checked:
			Date Plan No. Sheet No.



SUBSTRUCTURE LAYOUT
Scale: 1 = 100

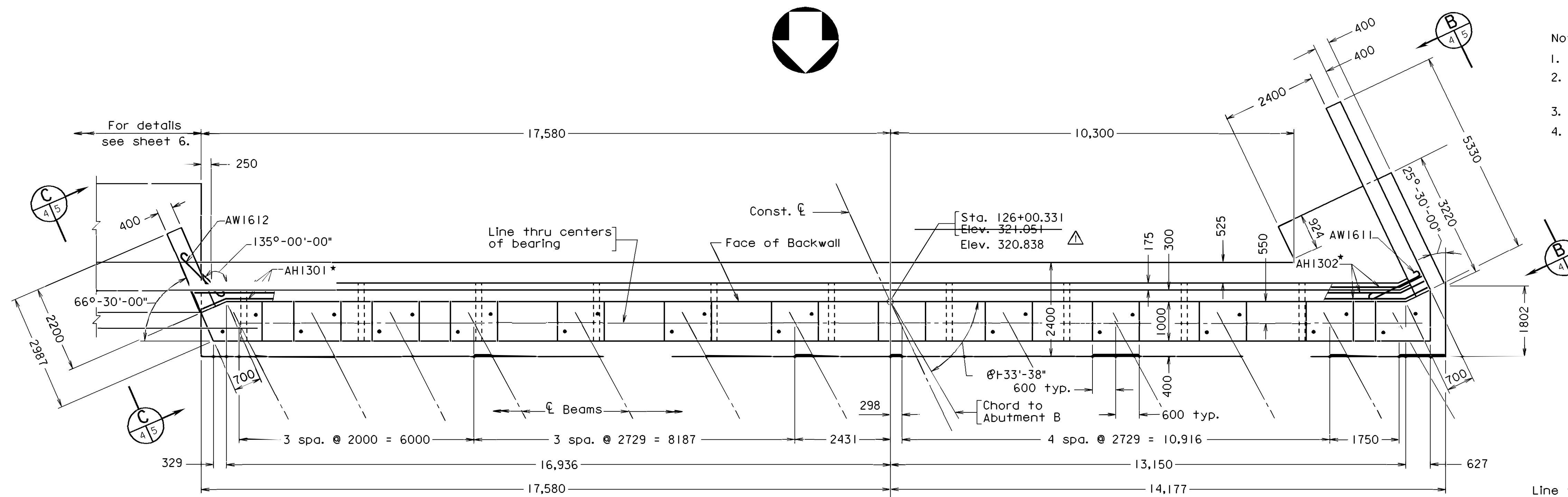
SLOPE PROTECTION
Not to scale

- Notes:
- This layout is to be used for the purpose of locating fill slopes and footing of abutments and retaining wall. For details of neatwork, see abutment and retaining wall details.
 - Symbol denotes boring location. For additional details, see sheets 26 and 27.



STRUCTURE AND BRIDGE DIVISION					
SUBSTRUCTURE LAYOUT SLOPE PROTECTION					
No.	Description	Date	Designed: ---	Date	Plan No.
			Drawn:		Sheet No.
	Revisions		Checked: -		3 of 30

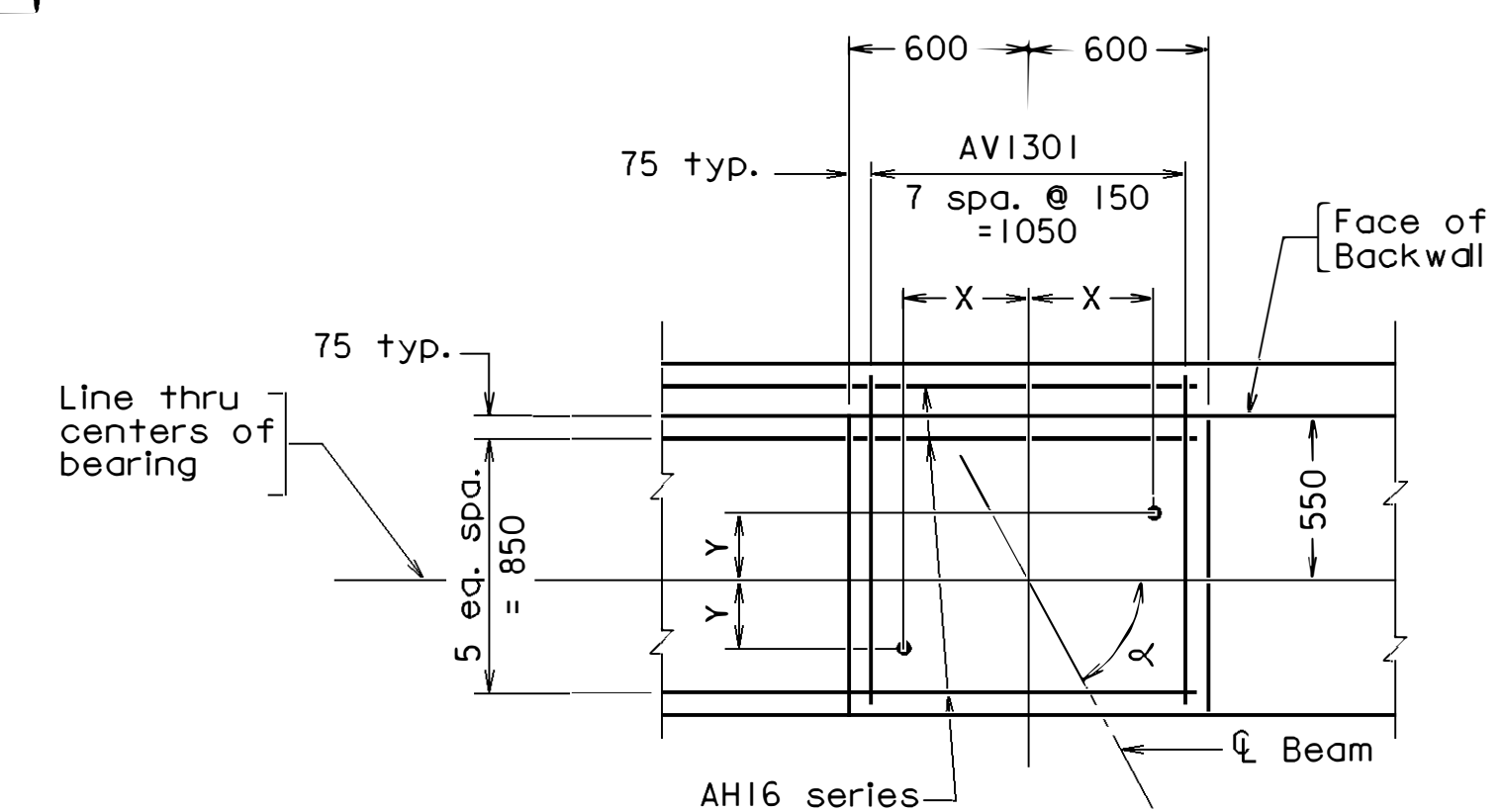
B28481003



PLAN
Not to scale

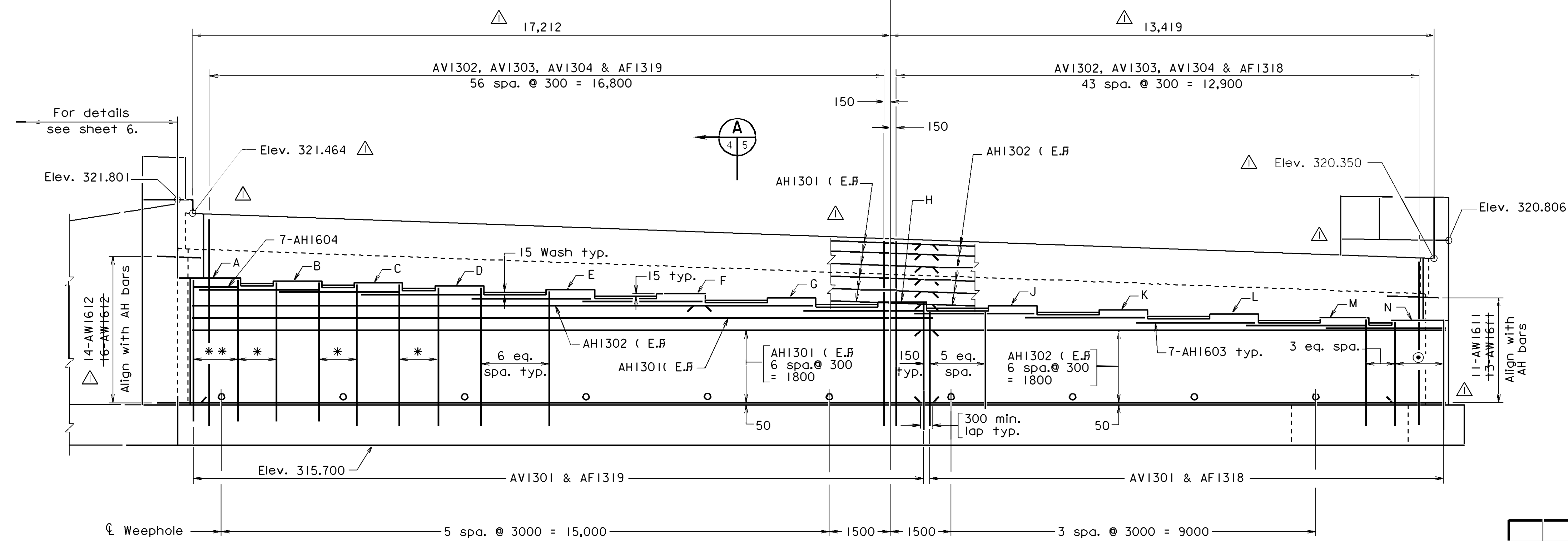
- * Field bend as needed
- * 4 Equal spaces
- ** 8 Equal spaces = 1100
- ⊙ 8 Equal spaces = 1200

- Note:
1. For footing reinforcement, see sheet 7.
 2. Backfill shall not exceed Elev. 318.400 prior to placement of the superstructure.
 3. For details of railing, see sheets 20 thru 22.
 4. For details of bearings, see sheet 12.



TYPICAL ANCHOR BOLT LAYOUT
Scale = 1:25

Beam	X	Y	α
B1	411	238	59°-59'-36"
B2 thru B10	418	226	61°-33'-38"
B11 thru B13	423	215	63°-00'-00"



ELEVATION
(piles & footing reinforcement not shown for clarity.)
Not to scale

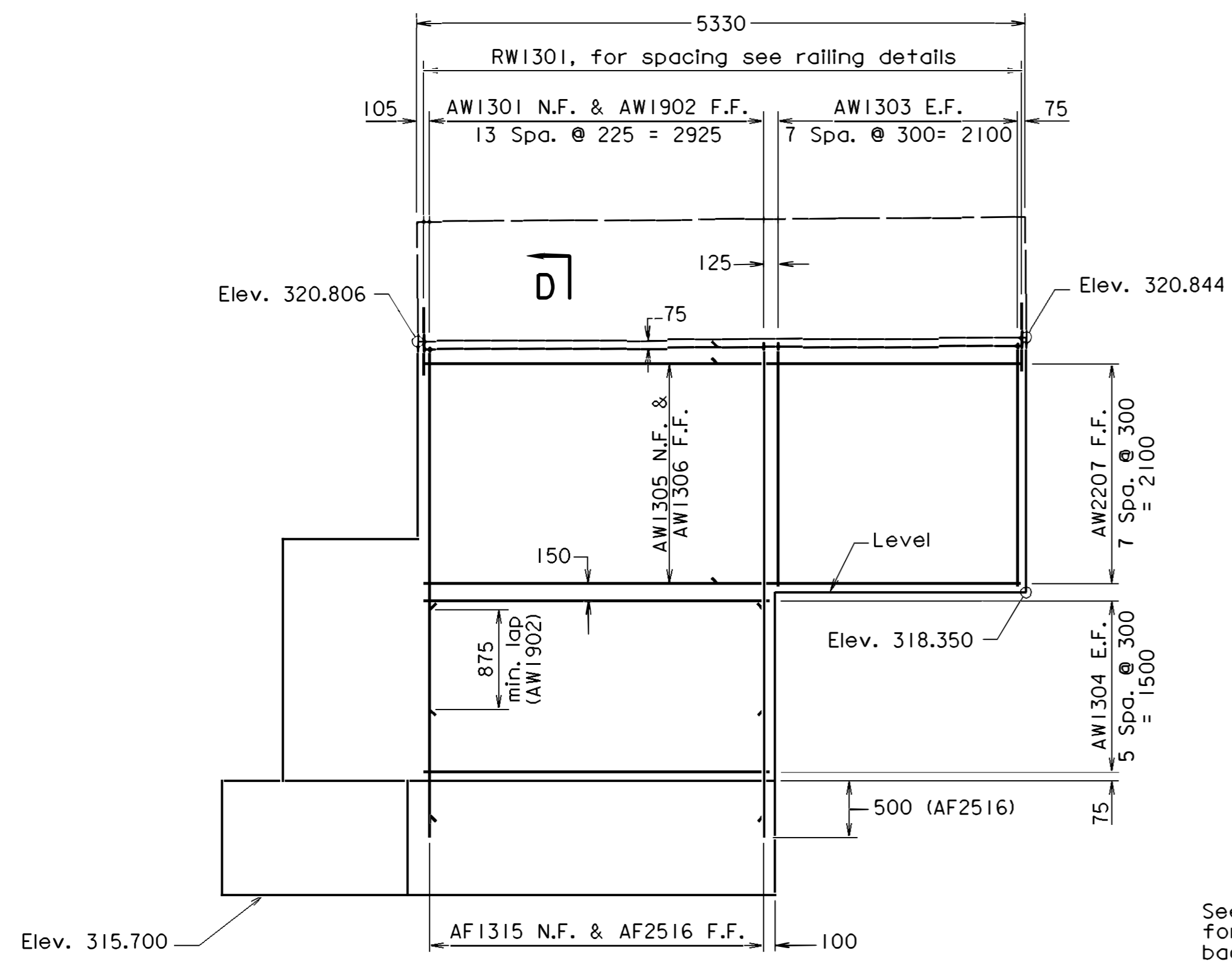
SEAT ELEVATIONS

A	319.868	H	319.253
B	319.796	J	319.153
C	319.723	K	319.054
D	319.650	L	318.955
E	319.550	M	318.856
F	319.451	N	318.793
G	319.352		

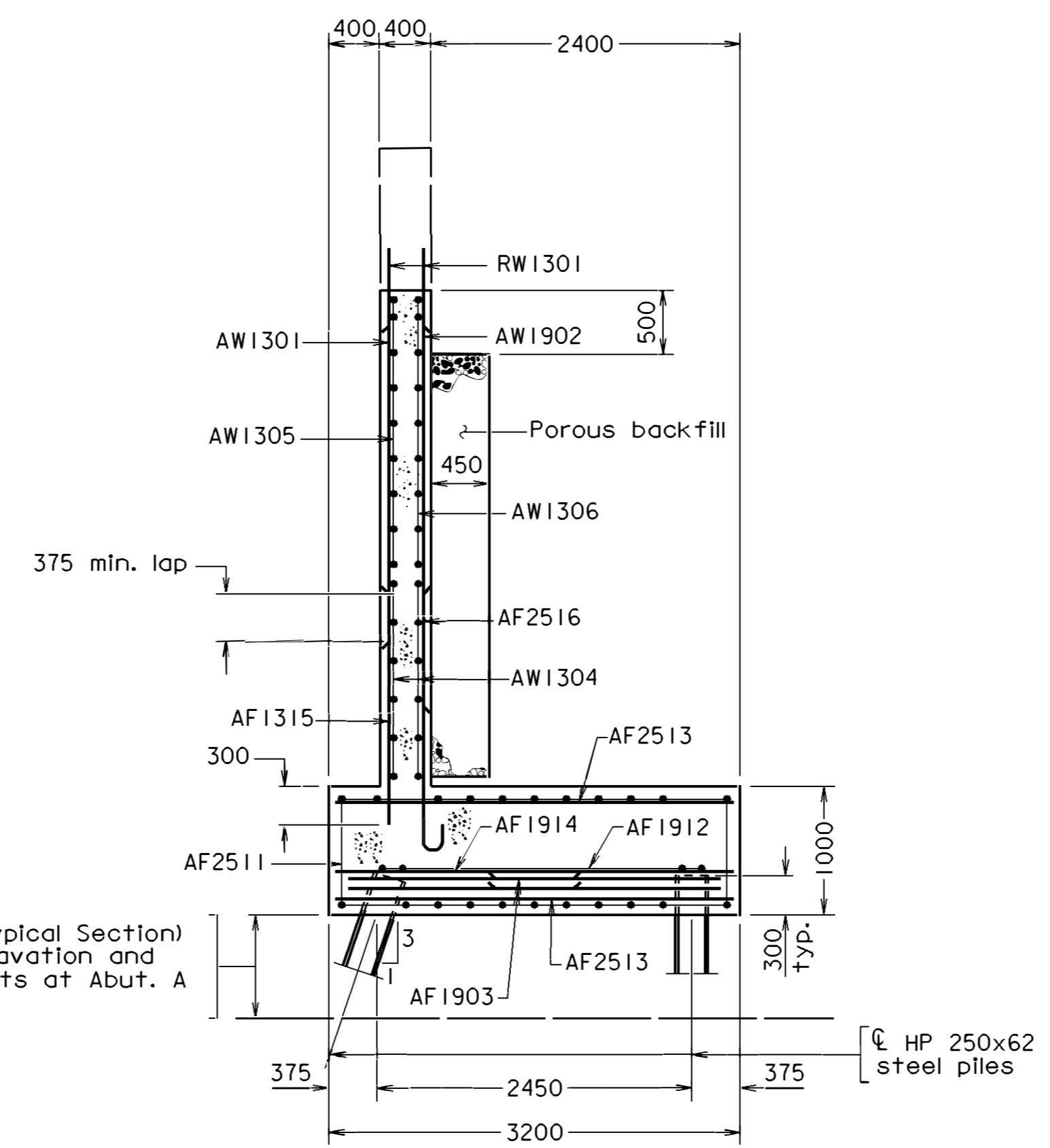


STRUCTURE AND BRIDGE DIVISION			
ABUTMENT A PLAN & ELEVATION			
△	Extended deck slab	5/8/08	
No.	Description	Date	Designed: -- Date Plan No. Sheet No.
	Revisions	Checked: 1	4 of 30

b28481004r-1



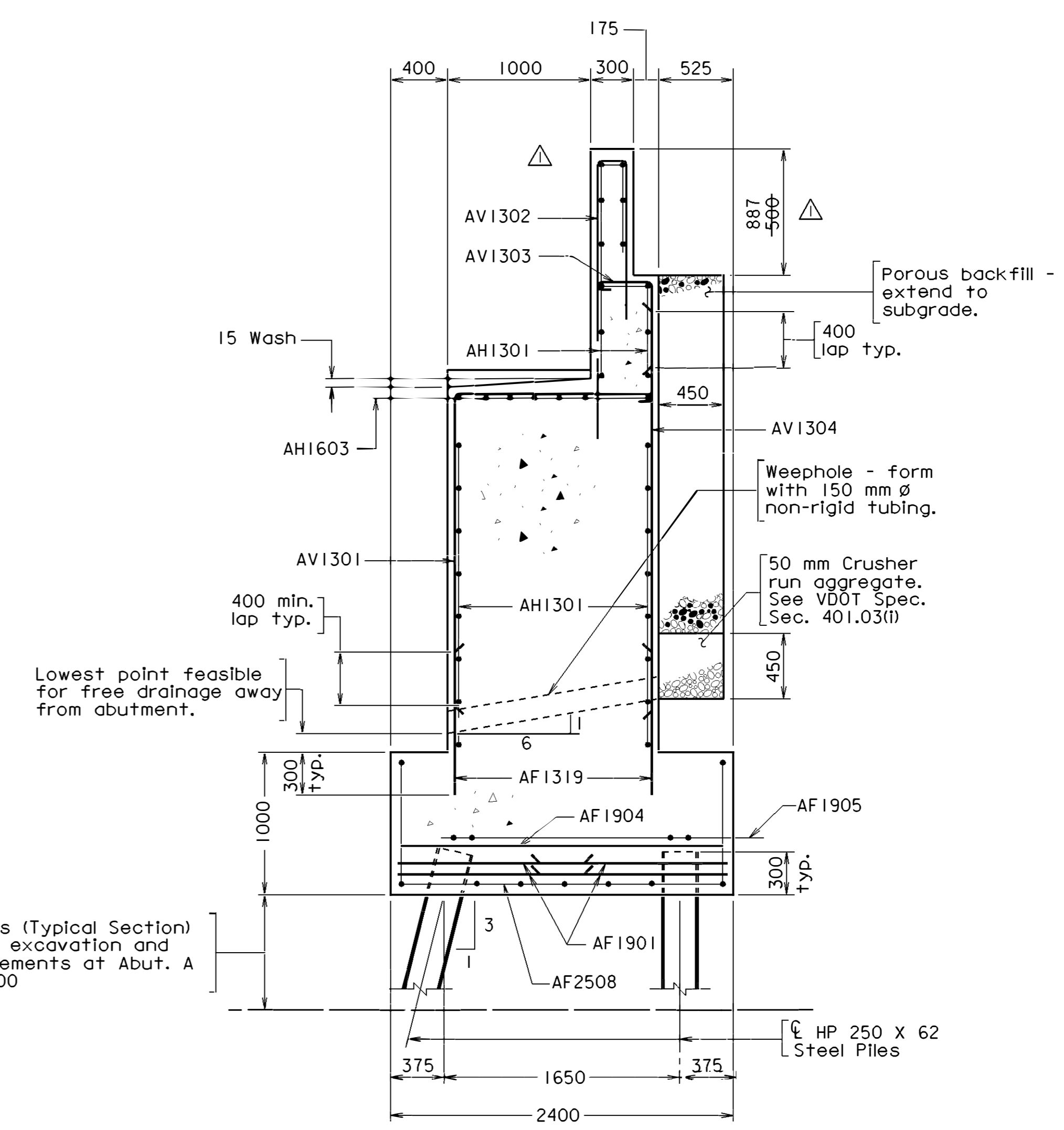
VIEW **D**
4 5



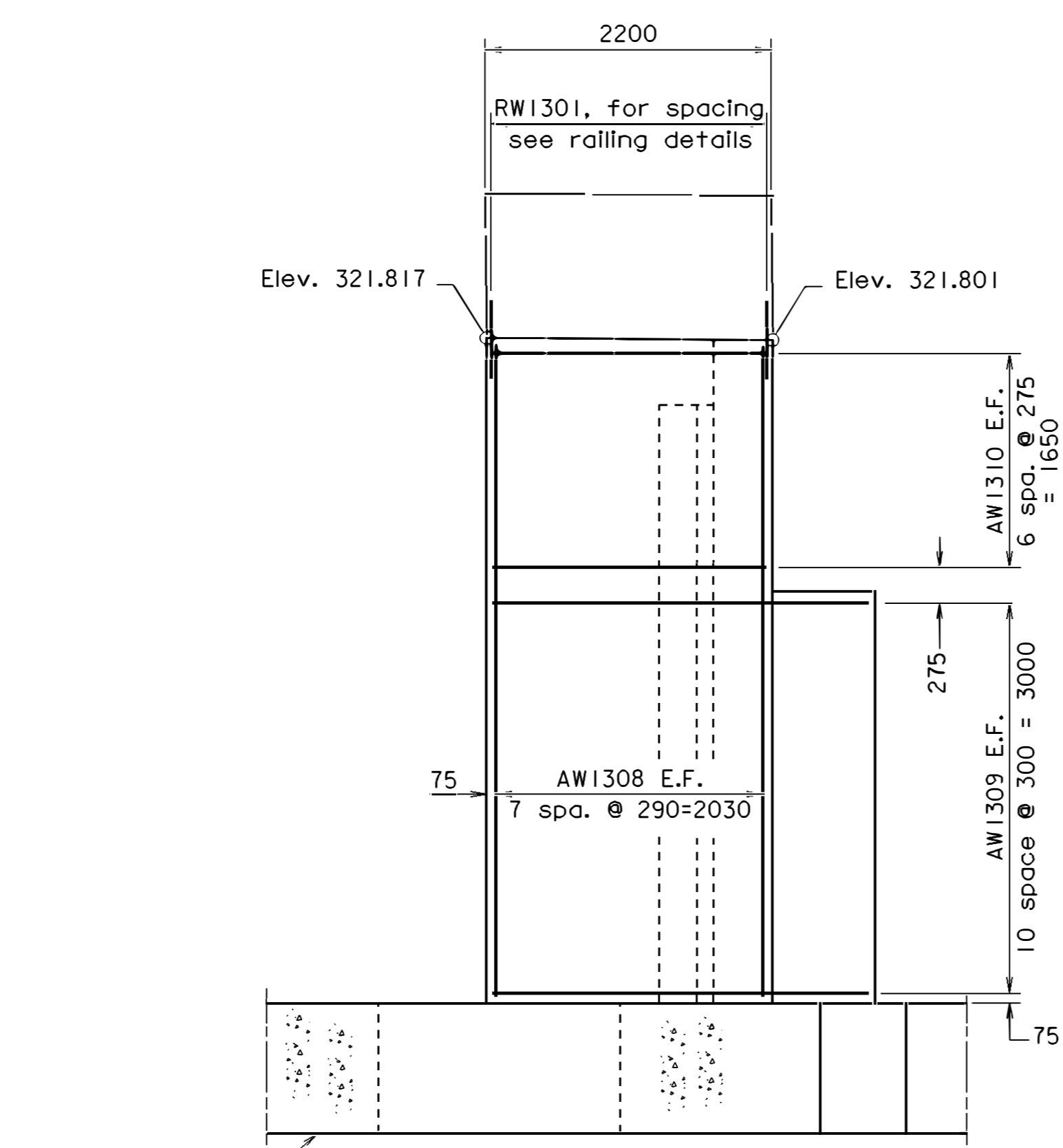
SECTION D-D

See Road Plans (Typical Section) for additional excavation and backfill requirements at Abut. A to Elev. 314.500

See Road Plans (Typical Section) for additional excavation and backfill requirements at Abut. A to Elev. 314.500



SECTION **A**
Not to scale 4 5



VIEW **C**
4 5

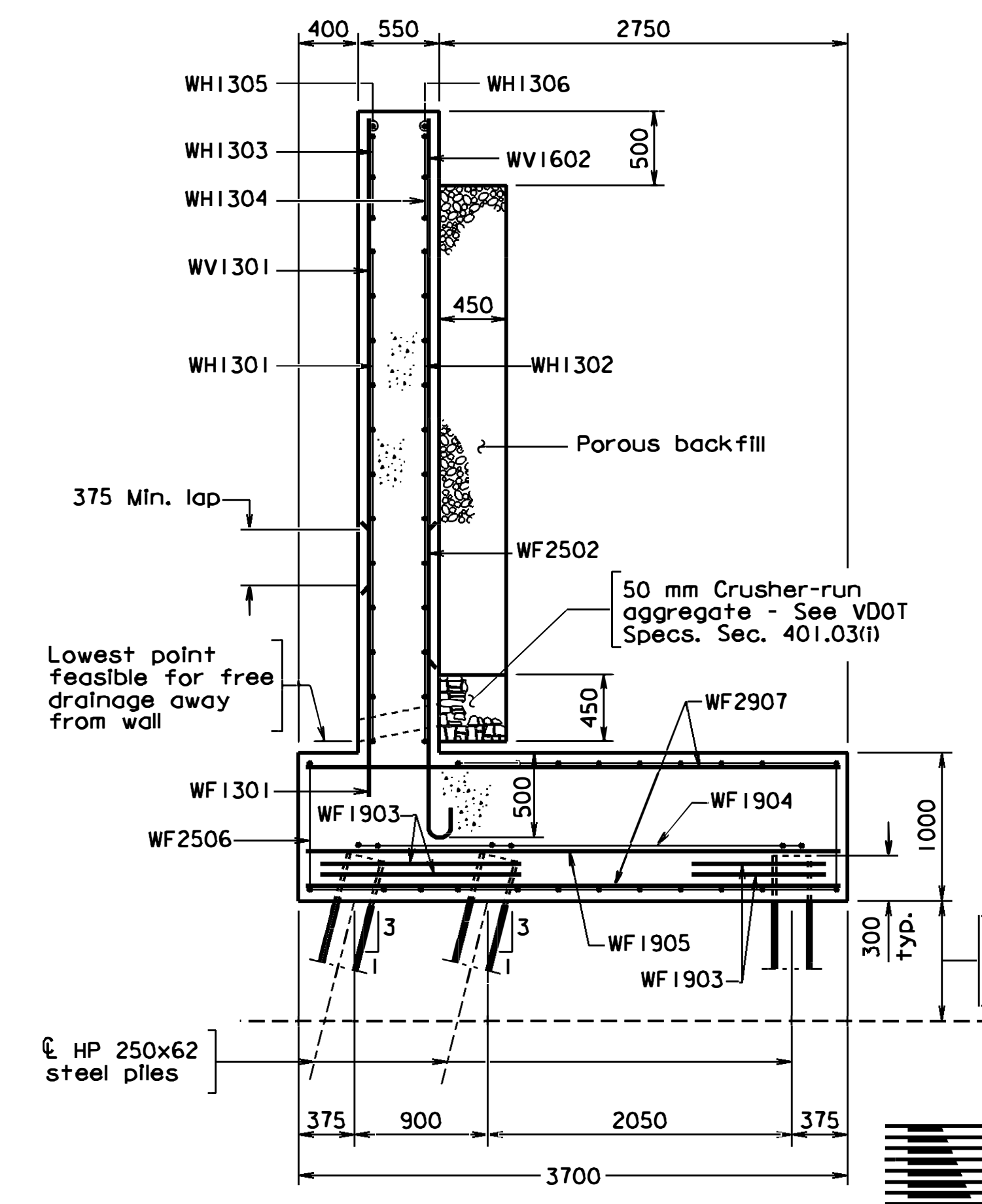
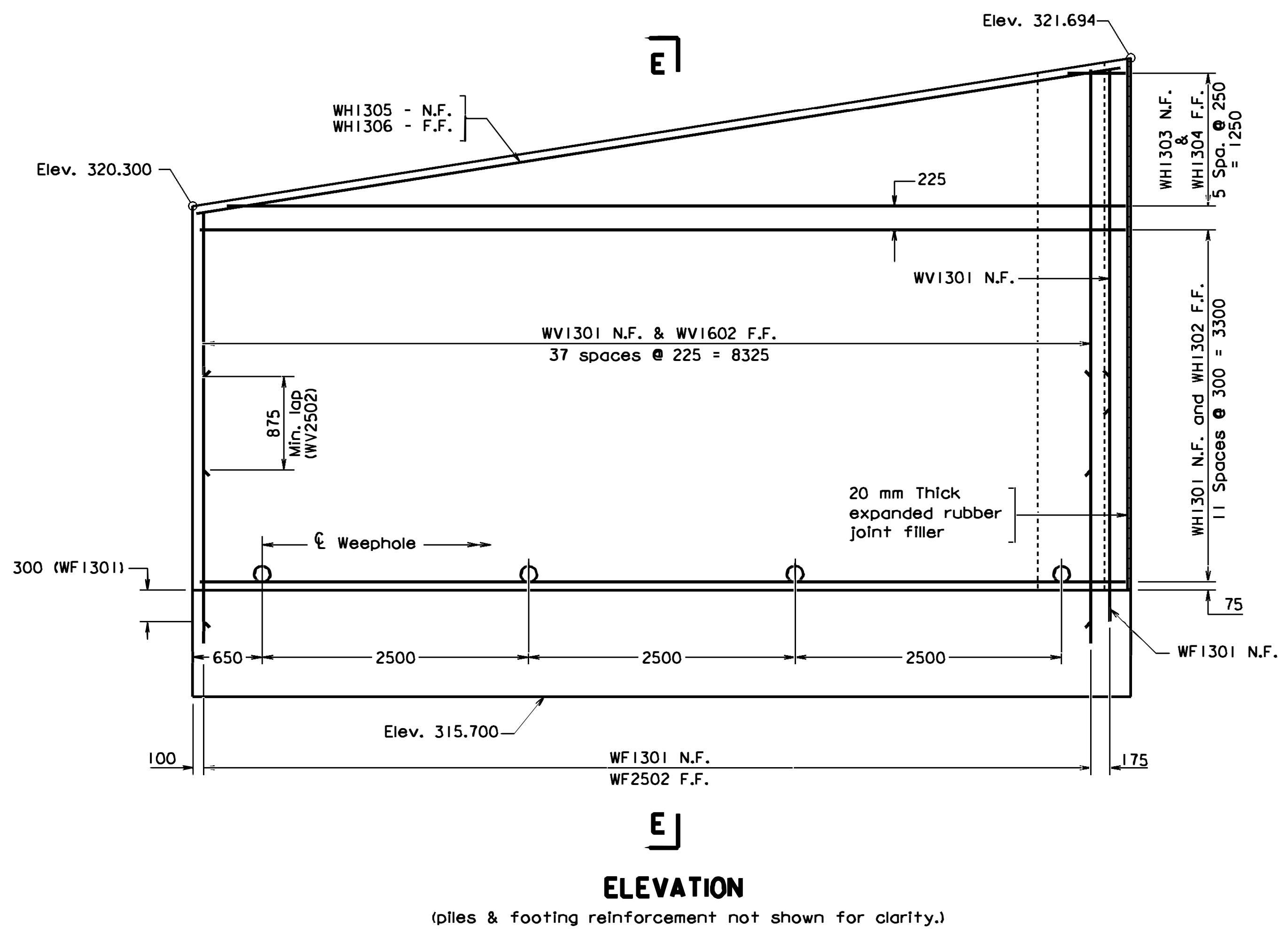
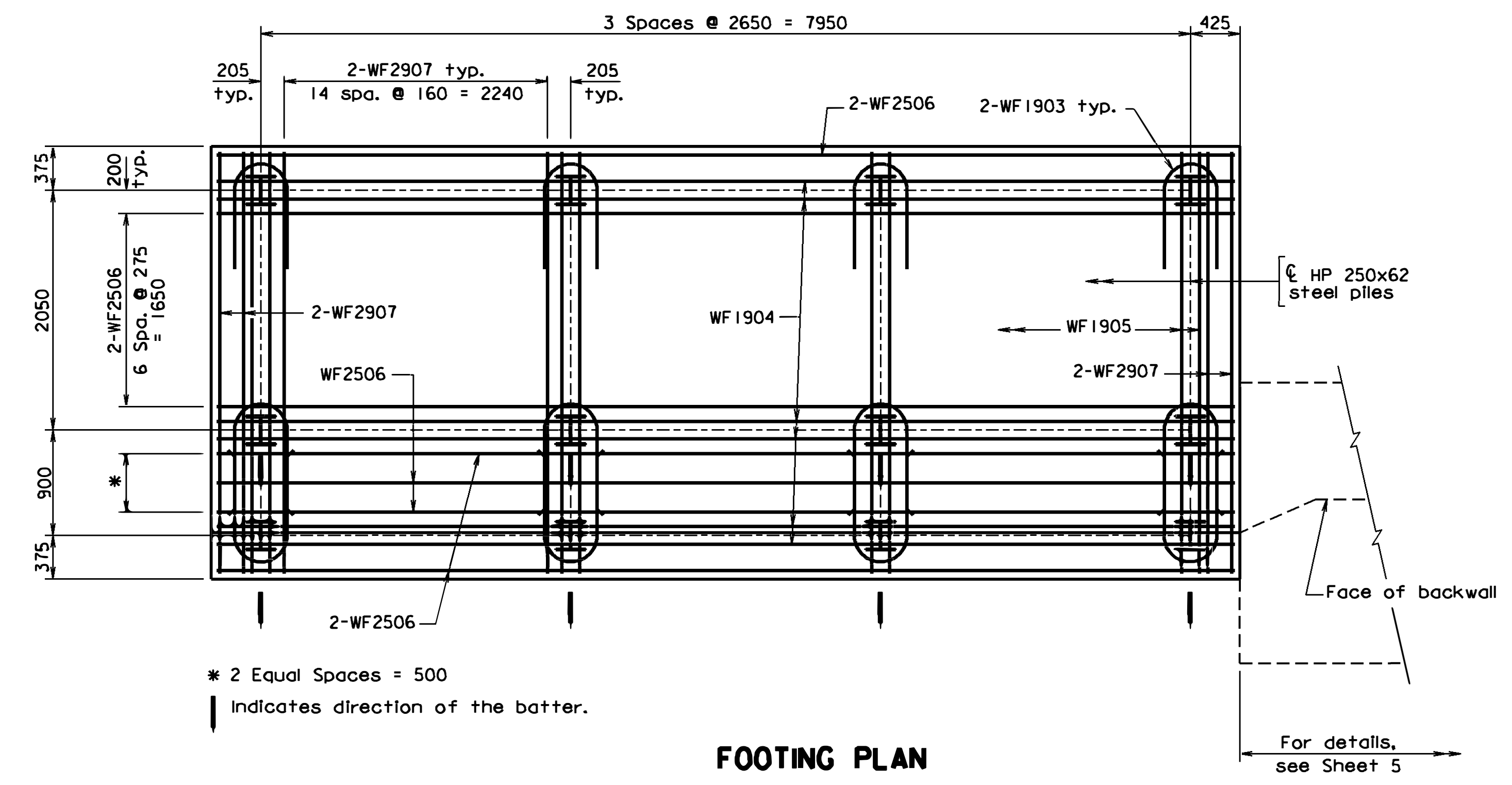
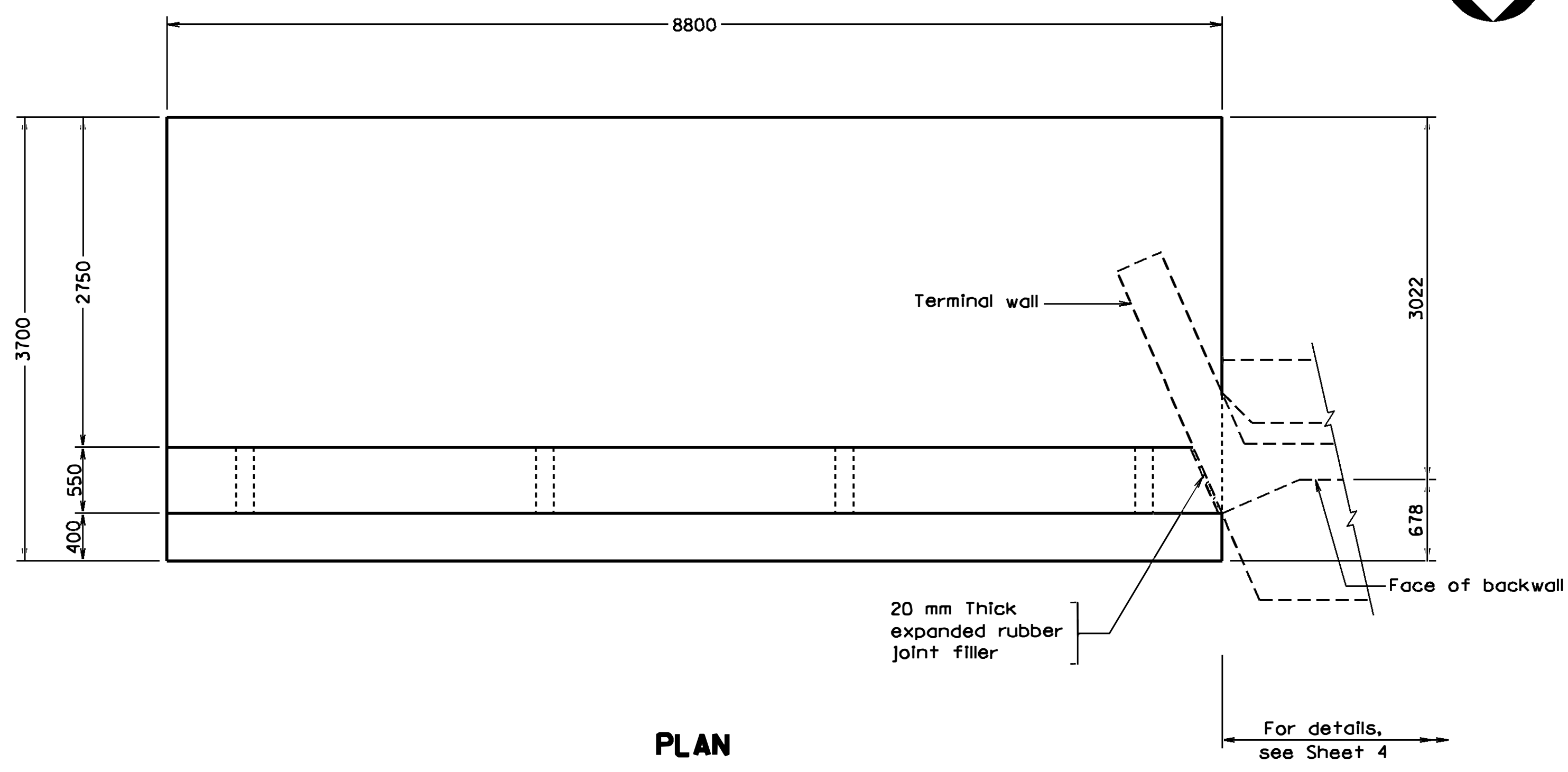
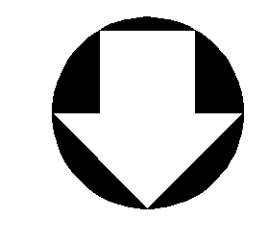
(Retaining wall stem not shown)

Not to scale



ABUTMENT A - DETAILS I					
△	Revise section A	5/8/08	Designed: --	Date	Plan No.
No.	Description	Date	Drawn: ...	Checked:	Sheet No.
Revisions					5 of 30

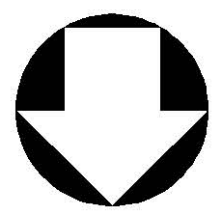
b28481005f1



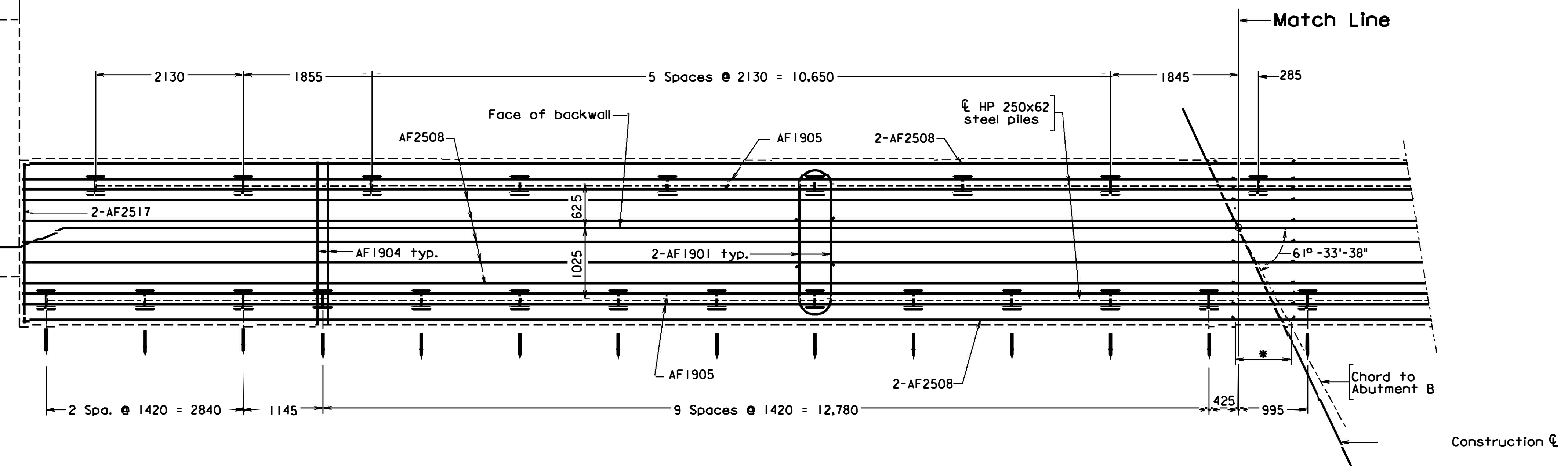
Not to scale

STRUCTURE AND BRIDGE DIVISION			
ABUTMENT A - DETAILS II			
No.	Description	Date	Designed: ---
			Drawn:
			Checked:
			Date
			Plan No.
			Sheet No.
			6 of 30

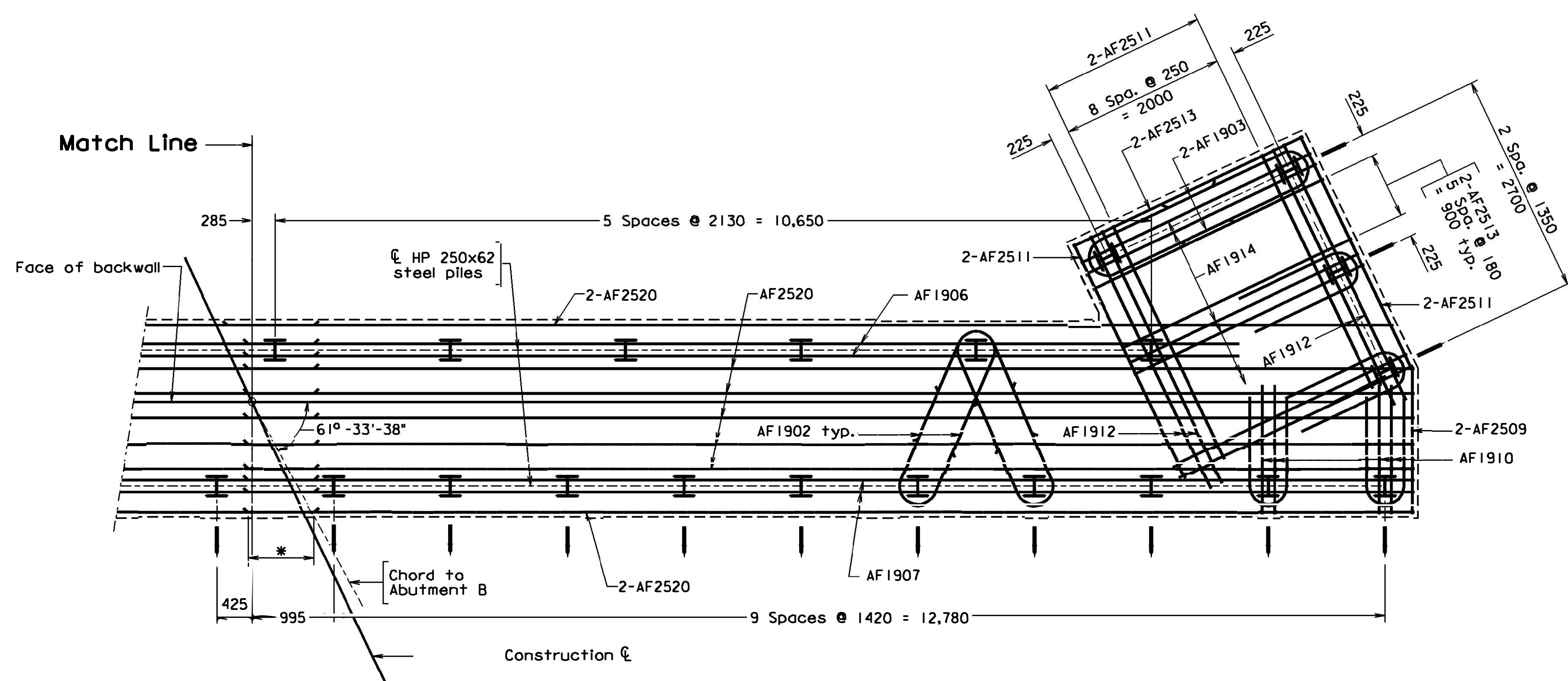
b28481006



For details, see sheet 6

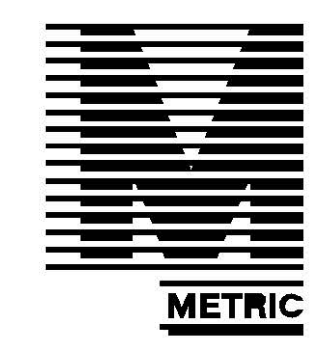


Indicates direction of the batter.
 * 750 min. lap typ.



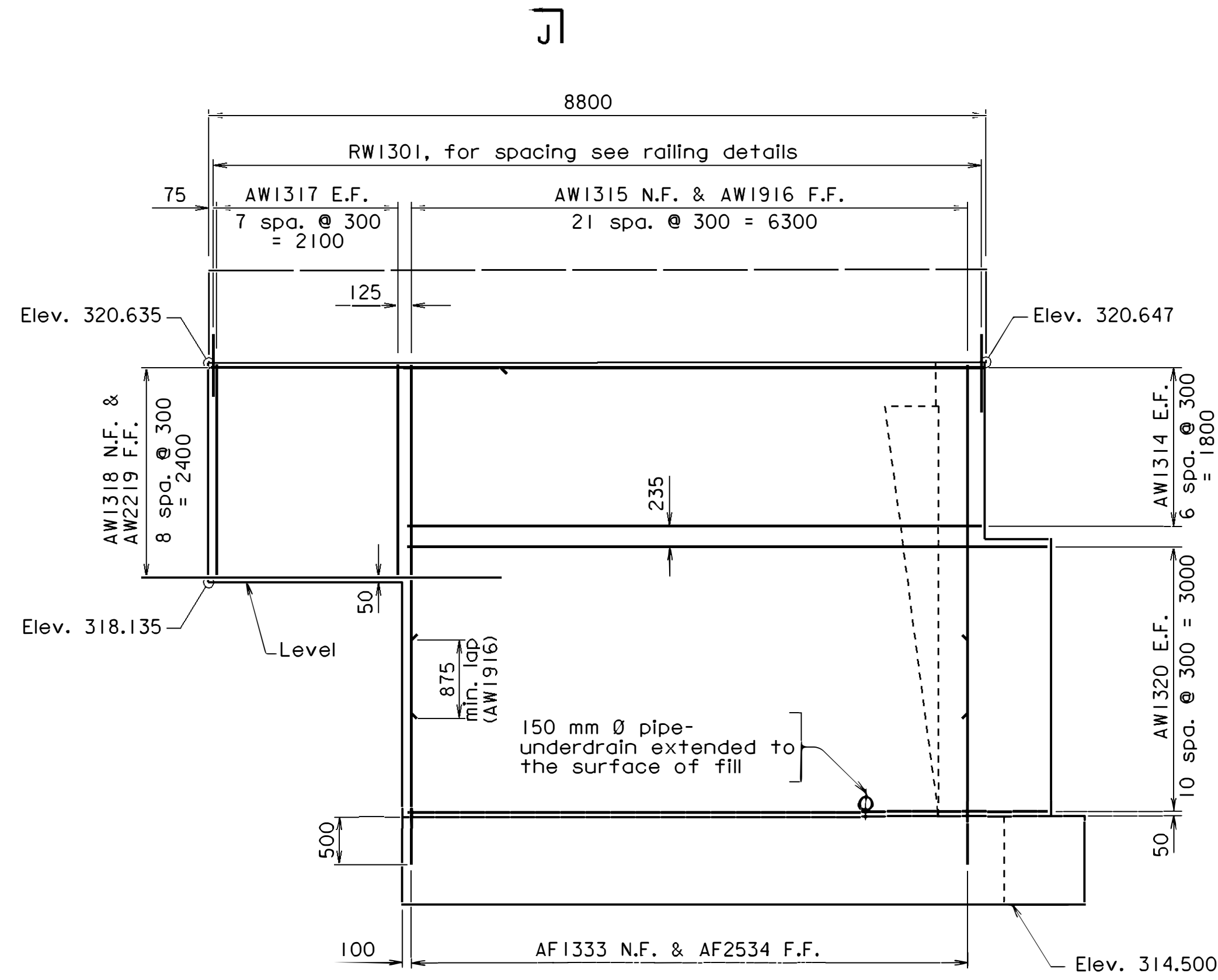
FOOTING PLAN

Not to scale

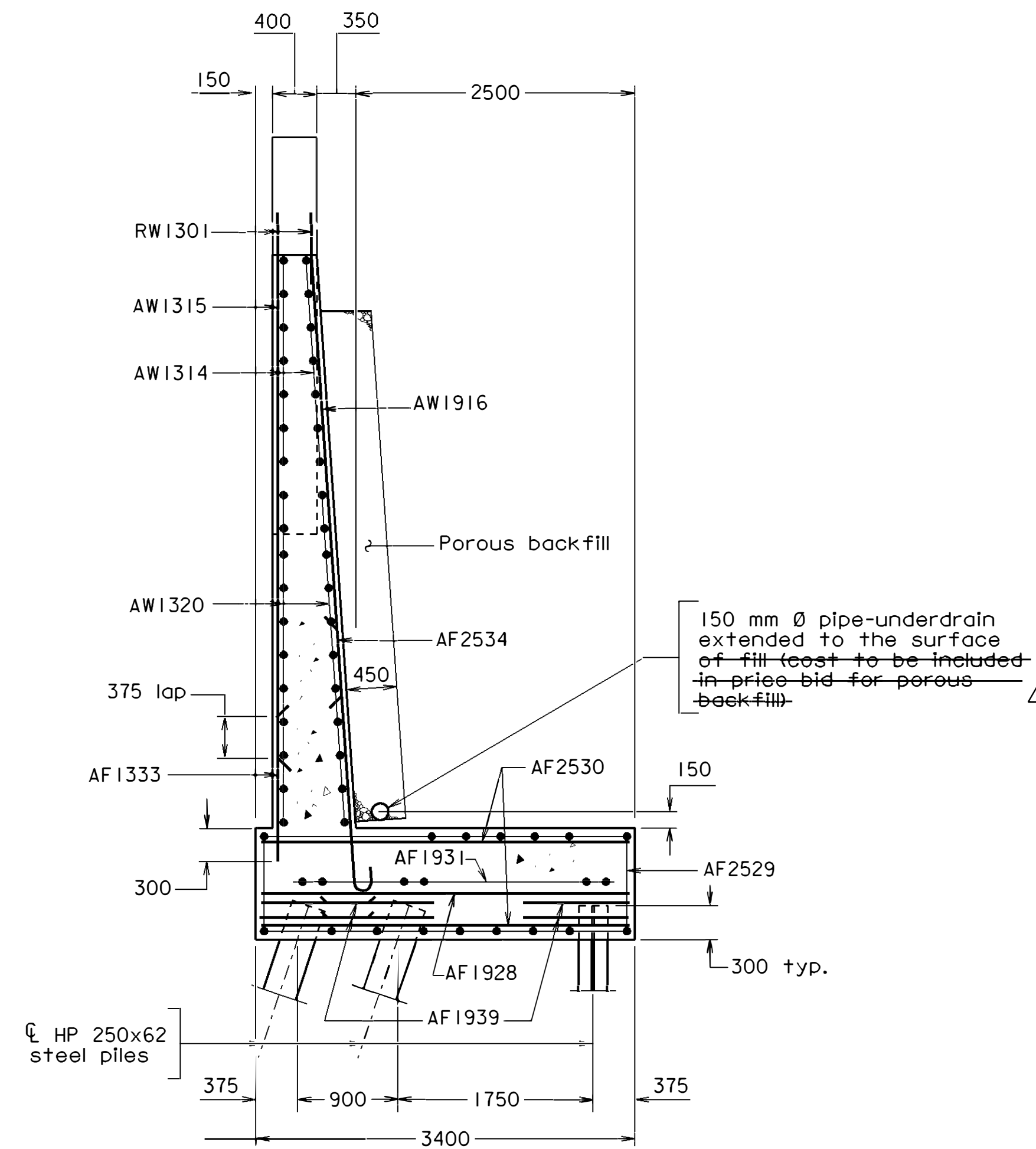


STRUCTURE AND BRIDGE DIVISION					
ABUTMENT A - FOOTING					
No.	Description	Date	Designed:	Date	Plan No.
			Drawn:		Sheet No.
			Checked:		7 of 30
Revisions					

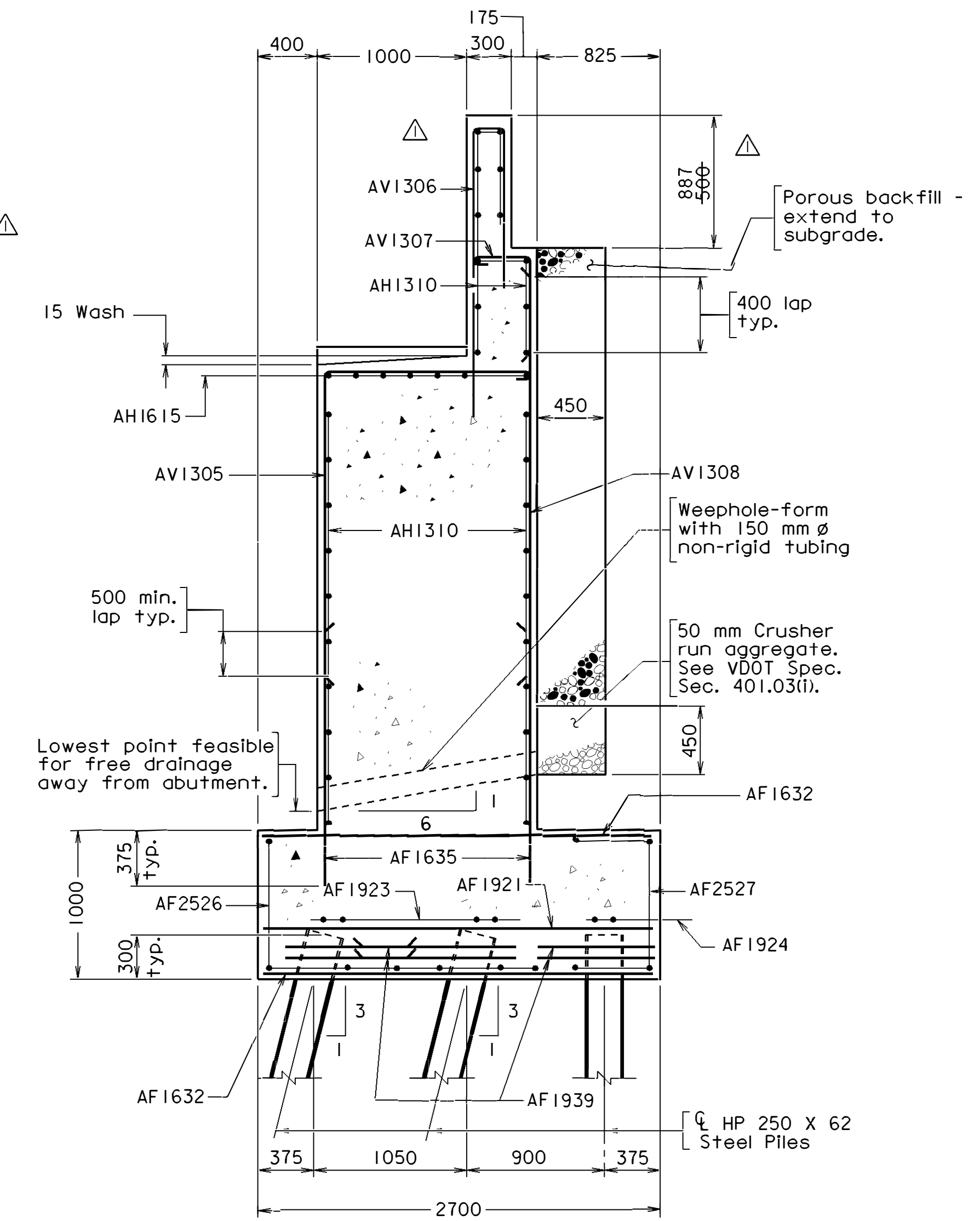
b2848 1007



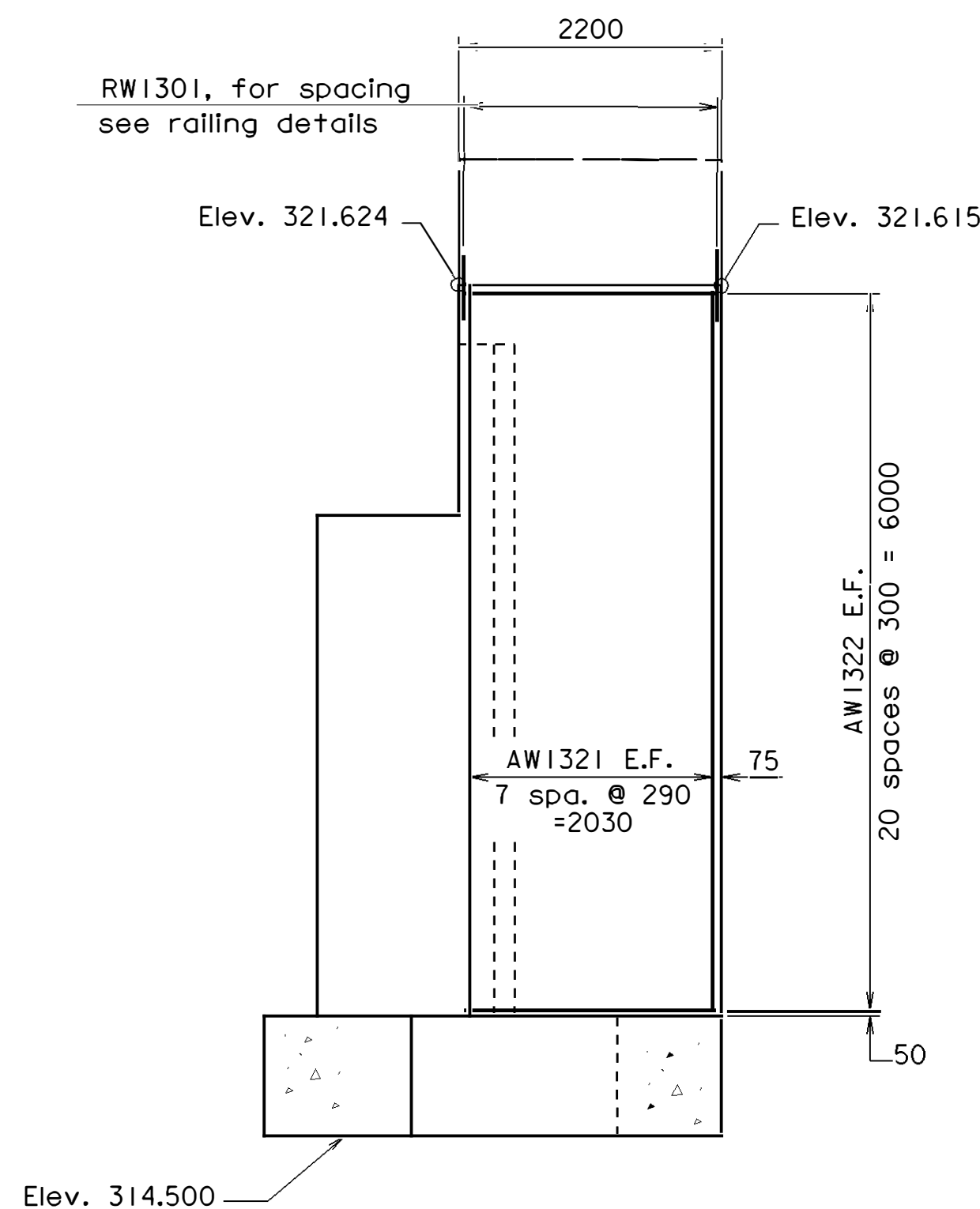
VIEW **G**
Scale = 1:50



SECTION J-J
Scale = 1:40



SECTION **F**
Not to scale



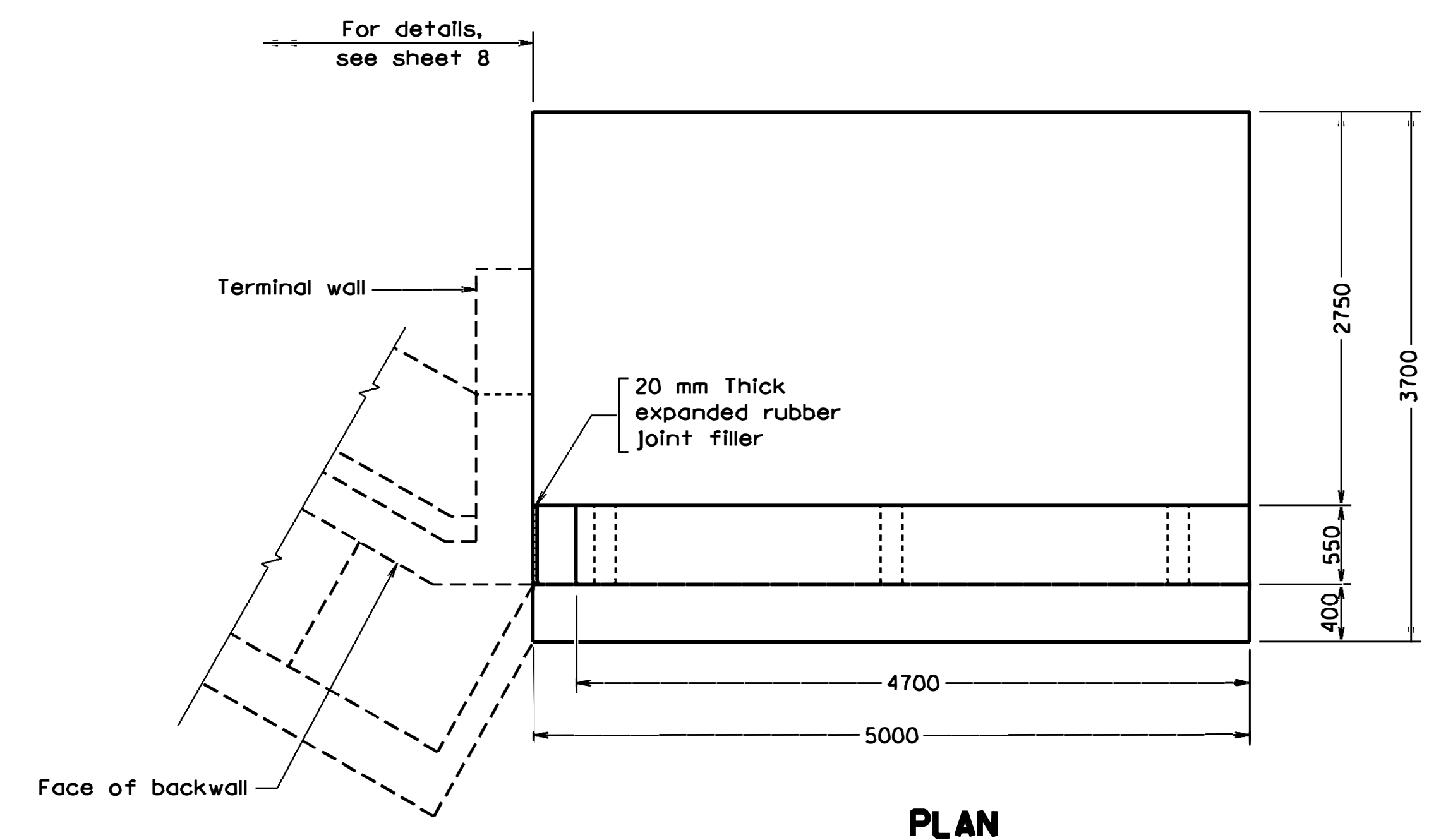
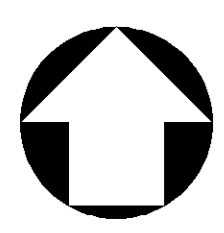
VIEW **H**
Scale = 1:50

(Retaining wall stem not shown)
Scale = 1:50

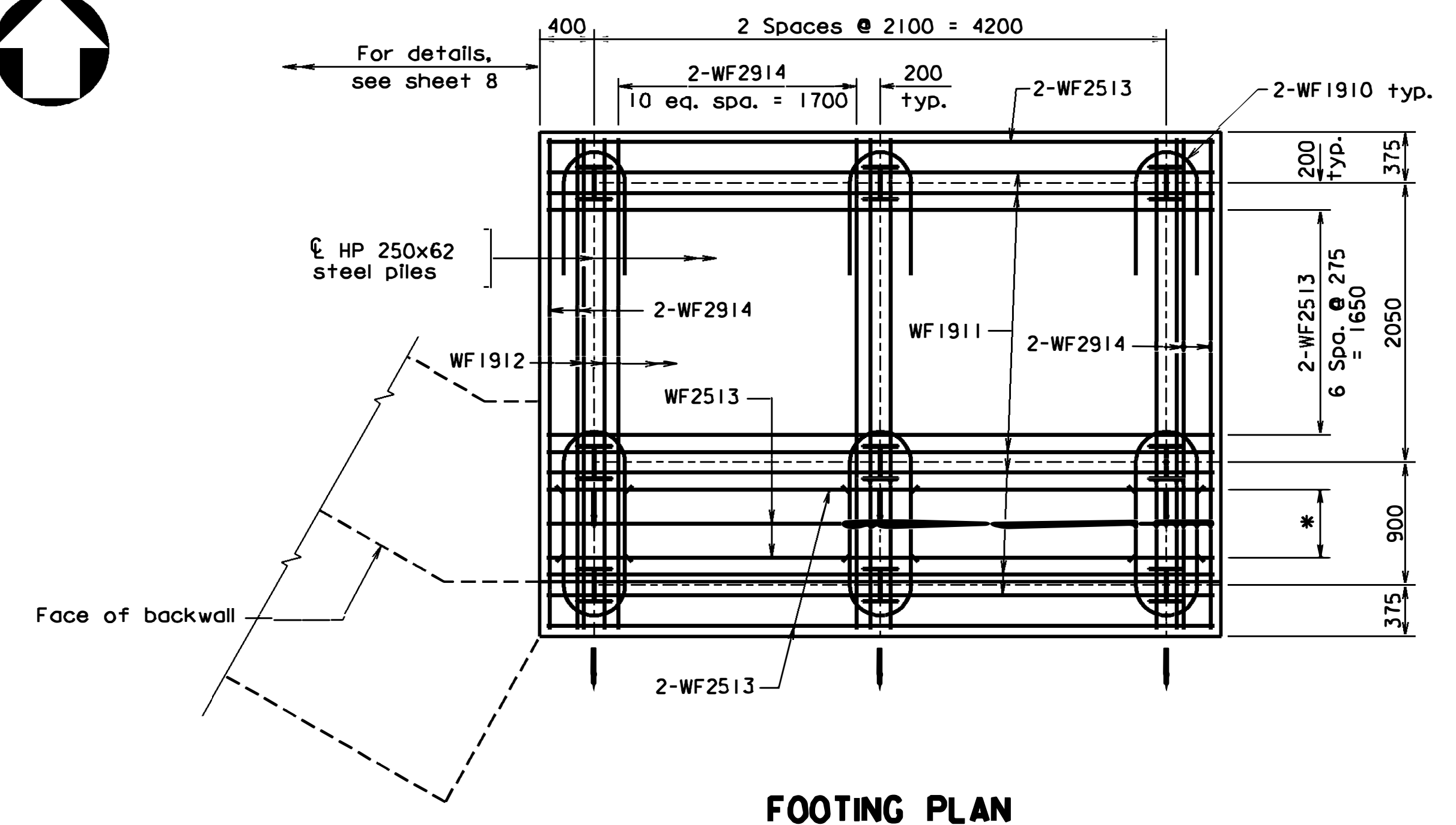


Revisions			Designed:	Date	Plan No.	Sheet No.
Δ	Revised section F	5/8/08				9 of 30
No.	Description	Date	Drawn:	Checked:		

ABUTMENT B - DETAILS I

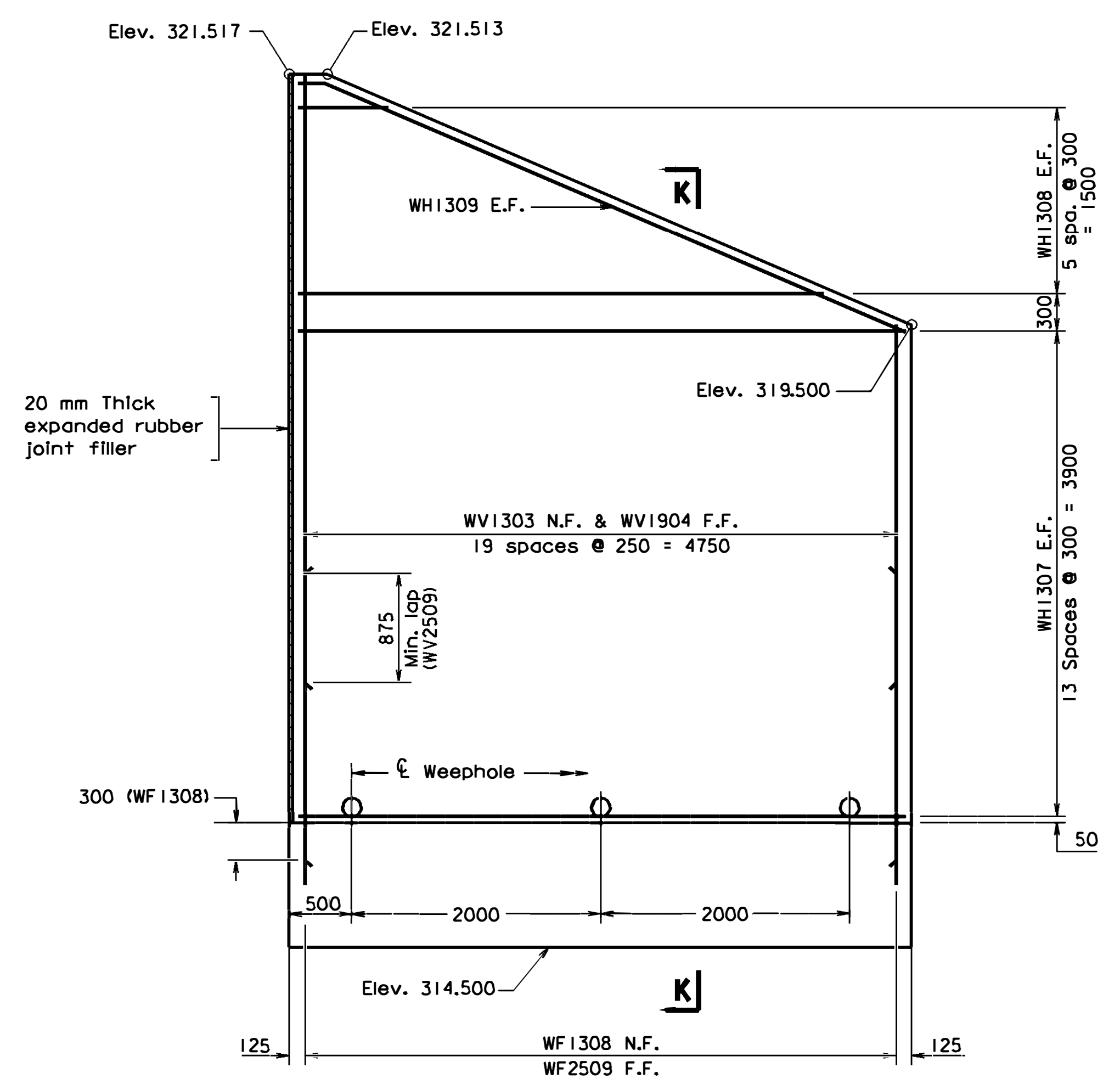


PLAN



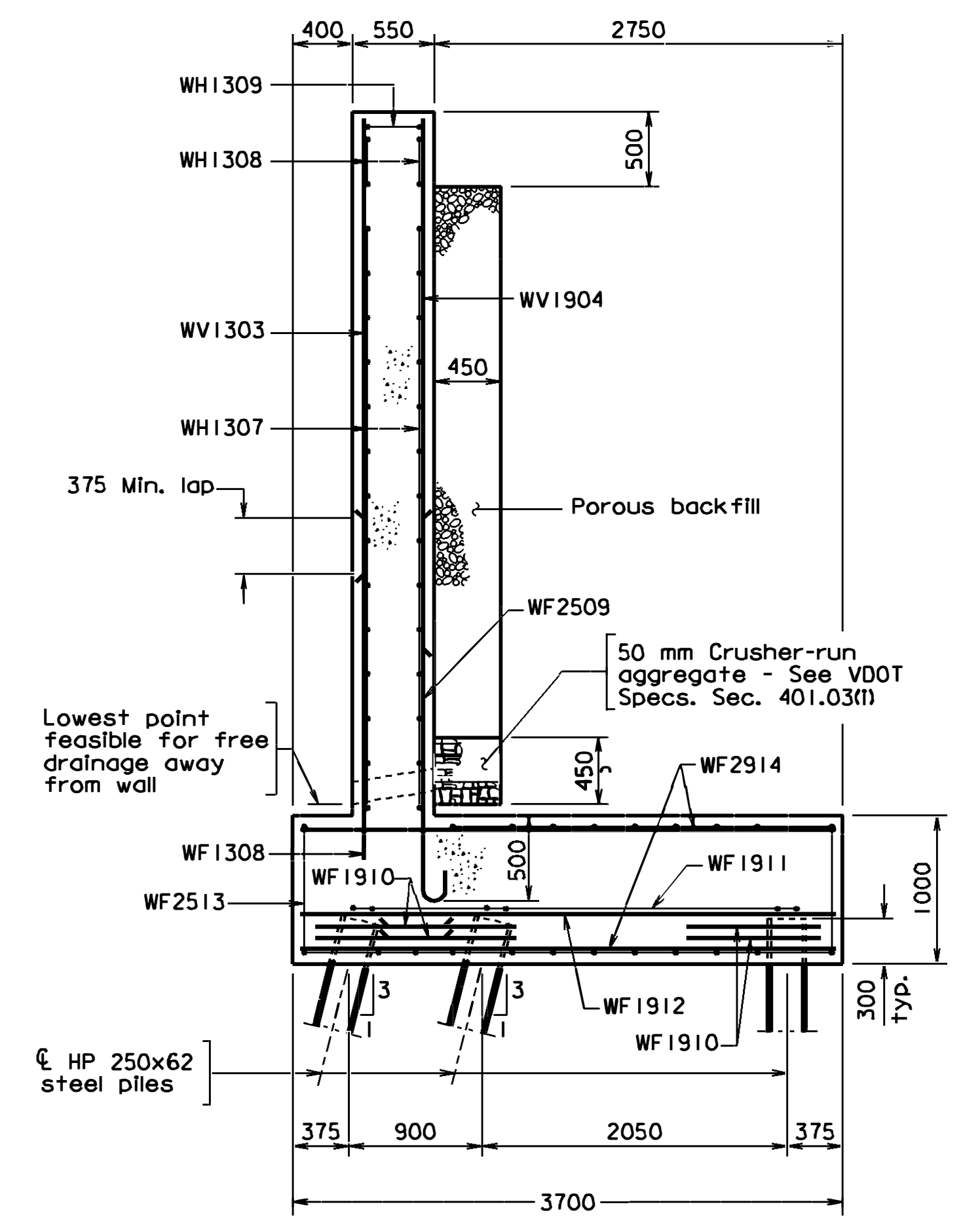
FOOTING PLAN

* 2 Equal Spaces = 500
 ↓ Indicates direction of the batter.



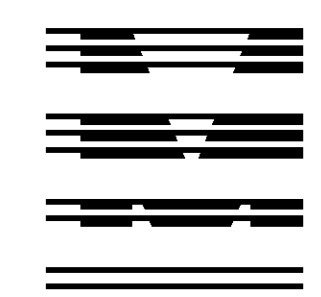
ELEVATION

(Piles & footing reinforcement not shown for clarity.)



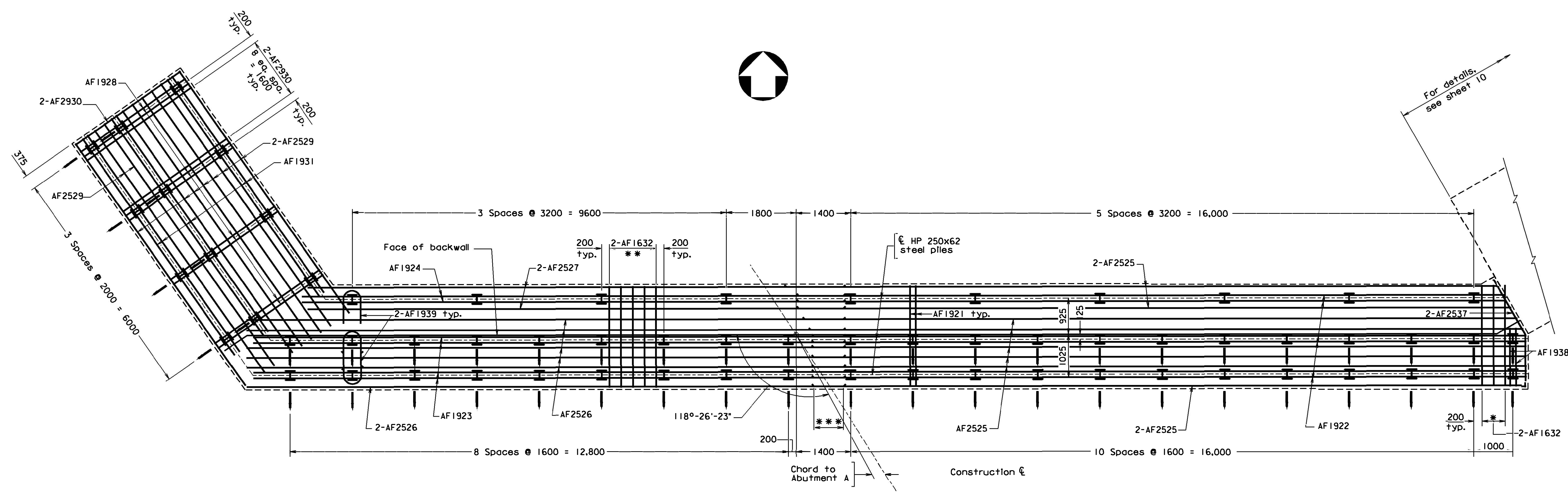
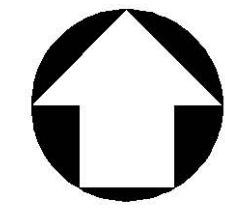
SECTION K-K

Not to scale



			ABUTMENT B - DETAILS II			
No.	Description	Date				
			Drawn: ...			Sheet No.
	Revisions		Checked:			10 of 30

b28481010



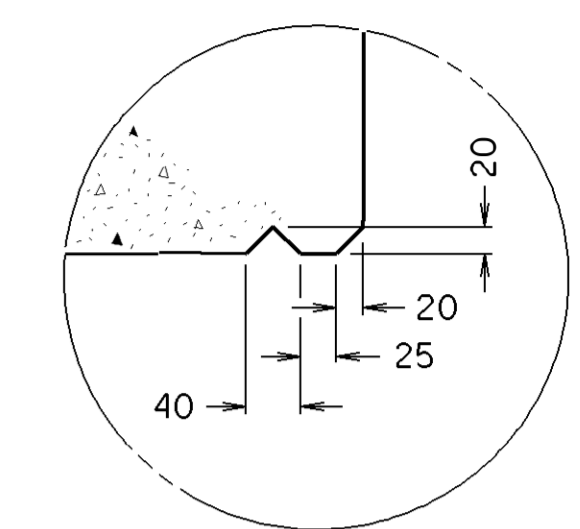
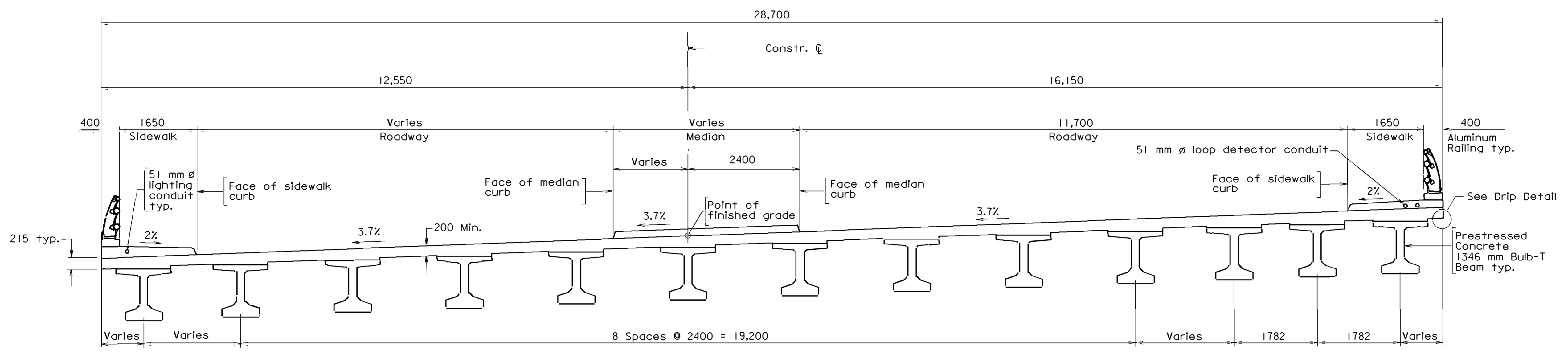
FOOTING PLAN
Scale = 1 : 50

- ↓ Indicates direction of the batter.
- * 2 Spaces @ 300 = 600
- ** 4 Spaces @ 300 = 1200 typ.
- *** 750 Min. Lap typ.

b28481011.dgn

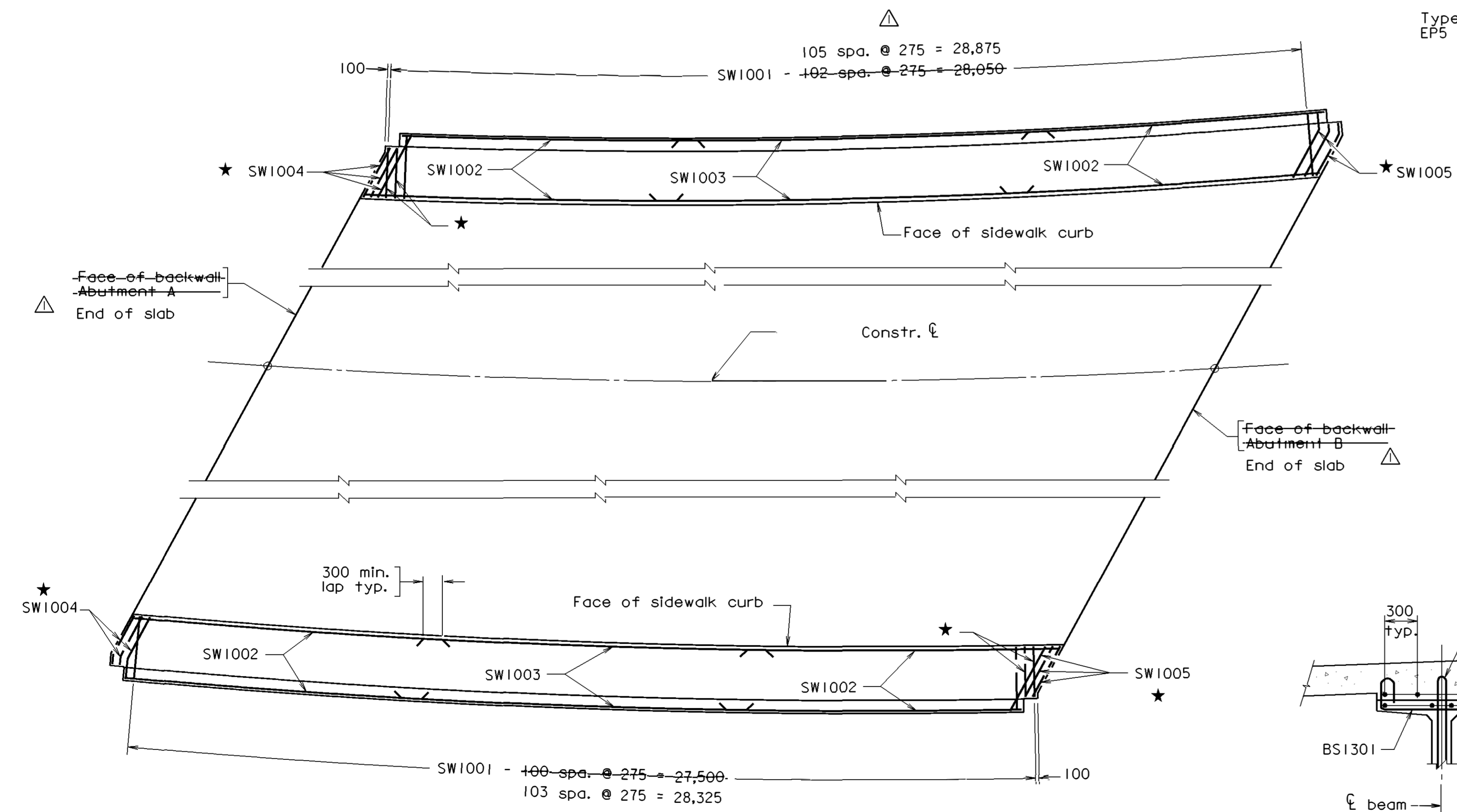


STRUCTURE AND BRIDGE DIVISION					
ABUTMENT B - FOOTING					
No.	Description	Date	Designed:	Date	Plan No.
			Drawn:		Sheet No.
Revisions			Checked:		11 of 30

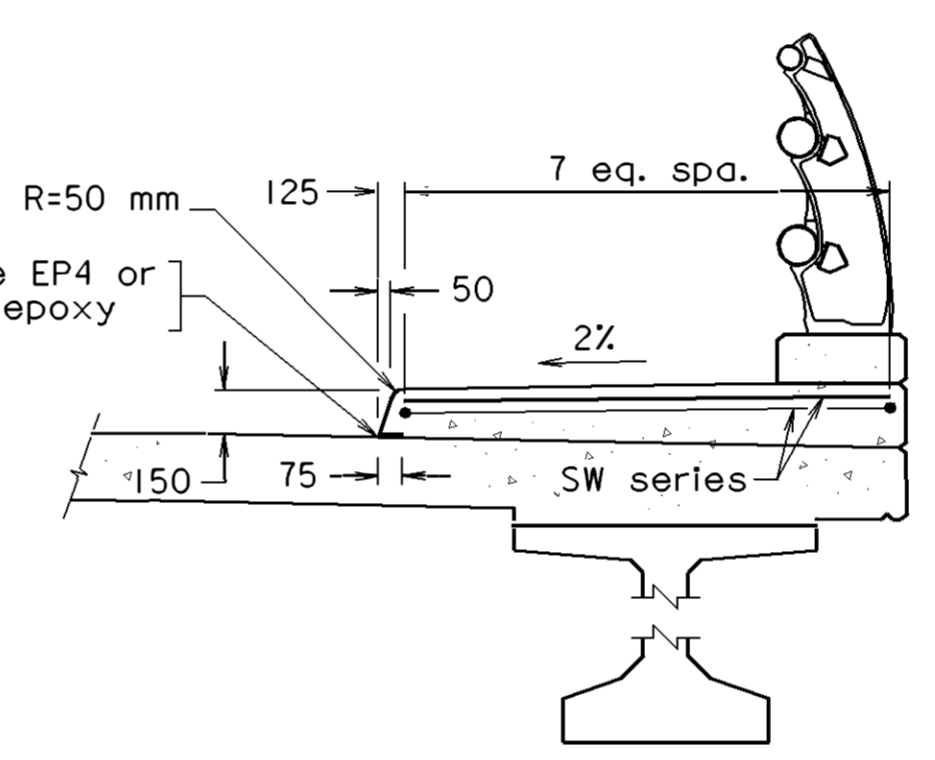


DRIP DETAIL

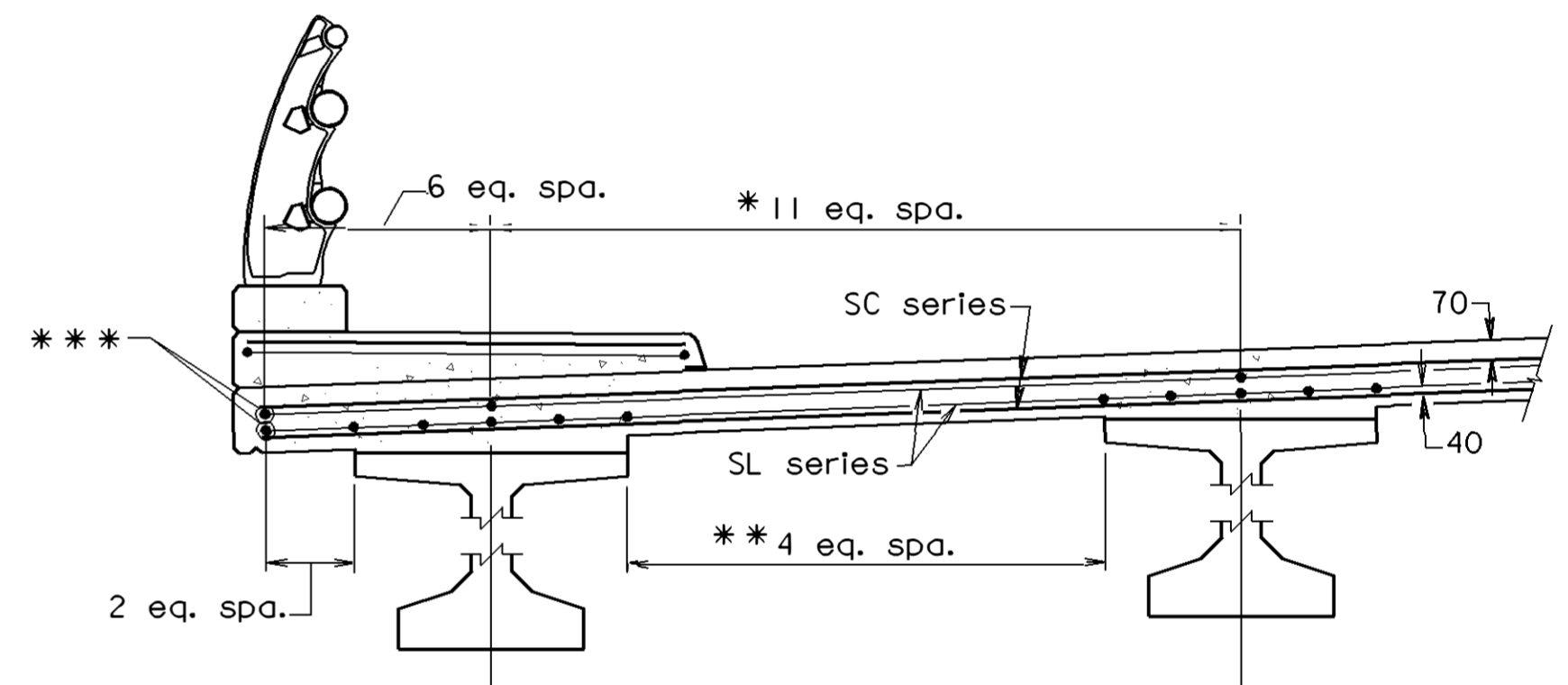
TRANSVERSE SECTION
Scale: 1 = 50



SIDEWALK PLAN



SIDEWALK SECTION

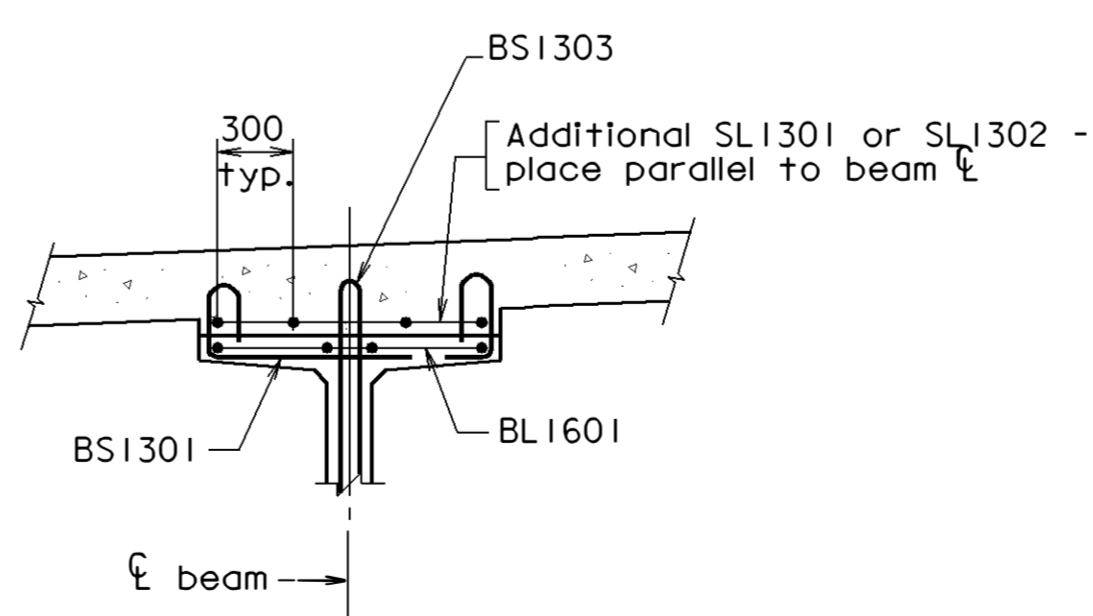


PART SECTION

- * Use 14 equal spaces between beams B2 and B10 and 11 equal spaces between other beams.
- * * Use 7 equal spaces between beams B2 and B10 and 4 equal spaces between other beams.
- * * * Place parallel to edge of deck slab.

Notes:

1. For spacing of SC series bars, see sheet 17.
2. For beam details, see sheet 15.
3. For median reinforcement, see sheet 17.
4. For aluminum railing, see sheets 20 thru 22.
5. For bridge conduit system, see sheet 23.
6. For beam layout, see sheet 14.



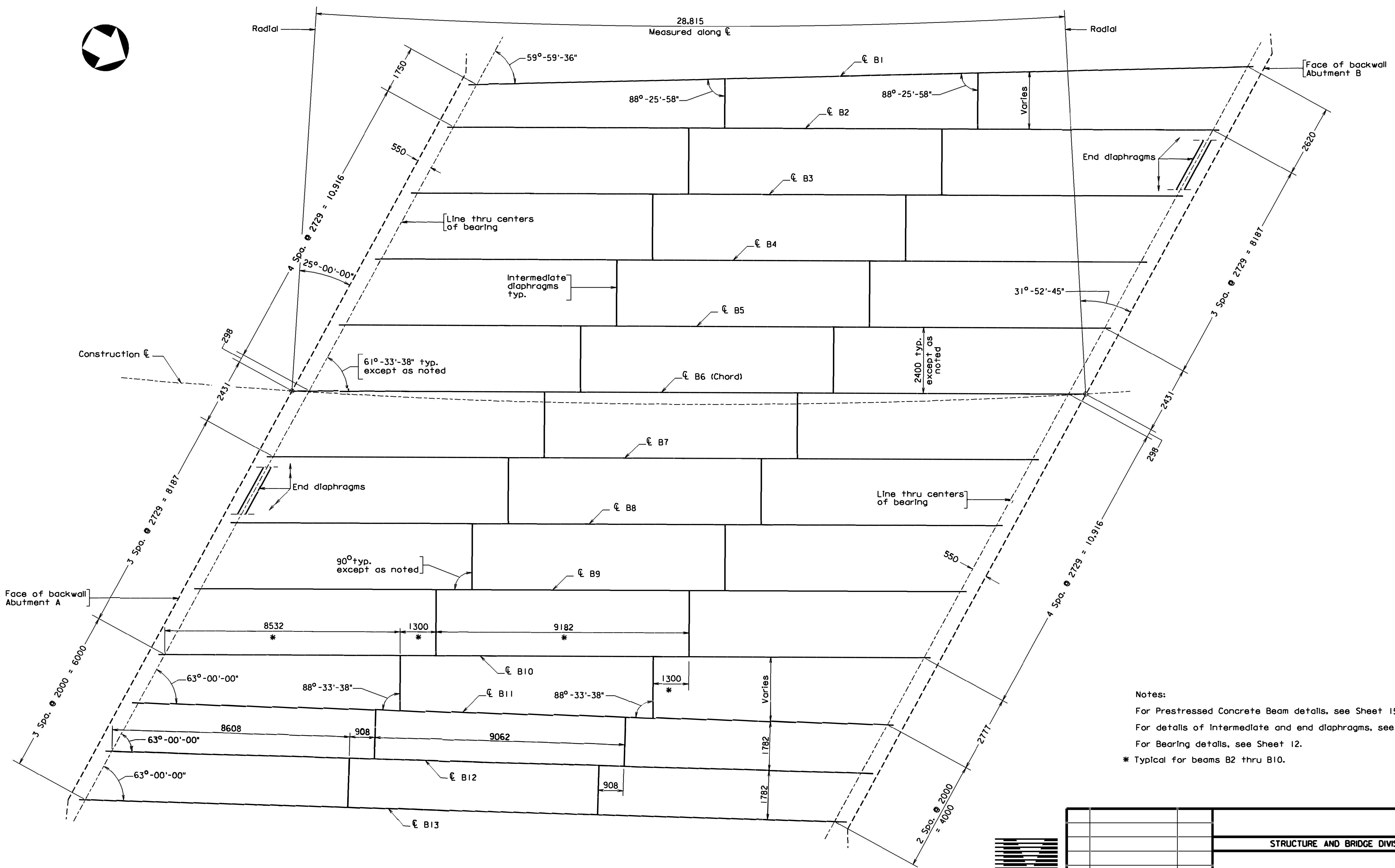
BEAM SECTION
(Deck bars not shown for clarity.)

Not to scale except as noted.



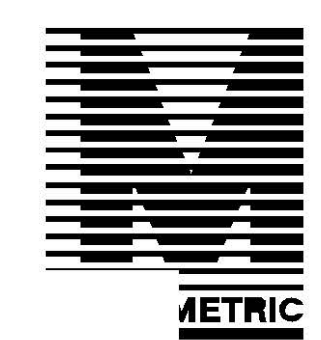
				TRANSVERSE SECTION	
No.	Description	Date	Designed: Drawn: ..	Date	Plan No.
	Revisions		Checked:		Sheet No.
					13 of 30

D28481013r1



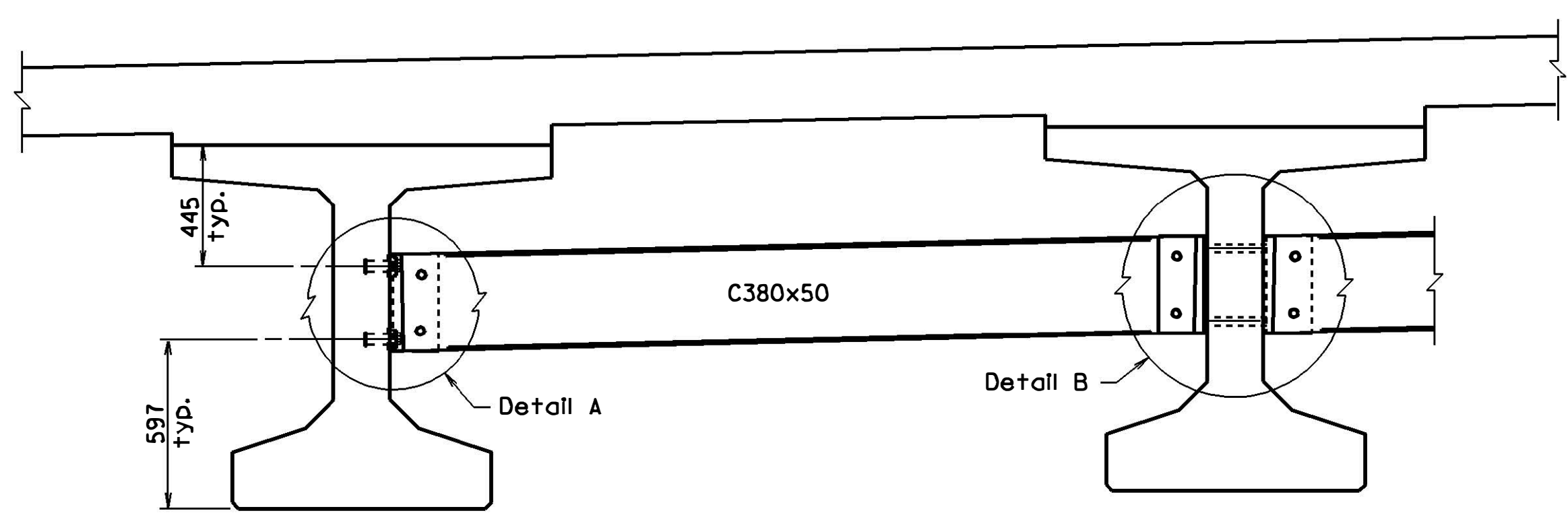
Notes:
 For Prestressed Concrete Beam details, see Sheet 15.
 For details of intermediate and end diaphragms, see Sheet 16.
 For Bearing details, see Sheet 12.
 * Typical for beams B2 thru B10.

FRAMING PLAN
 Not to scale

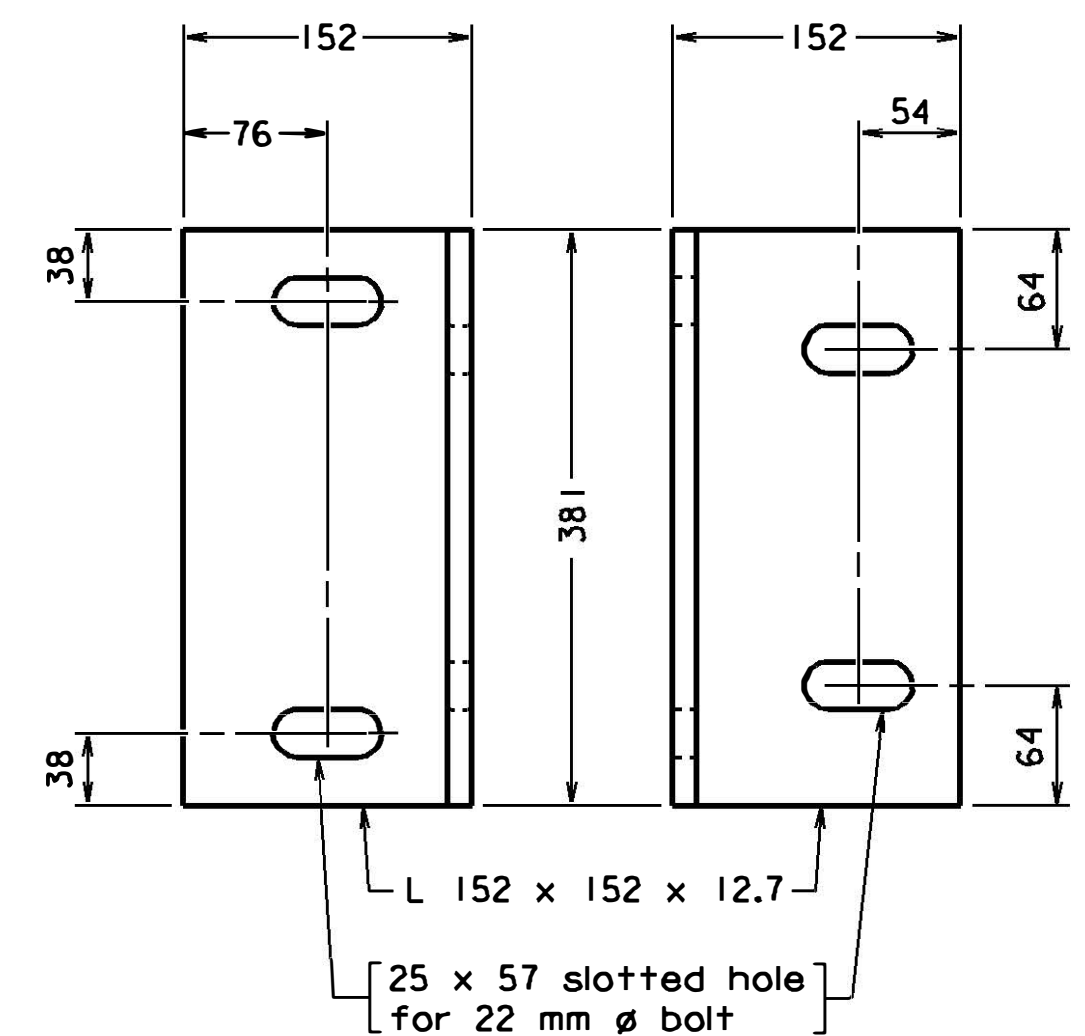


STRUCTURE AND BRIDGE DIVISION				
FRAMING PLAN				
No.	Description	Date	Designed:	Date
			Drawn:	Plan No.
			Checked:	Sheet No.
Revisions				14 of 30

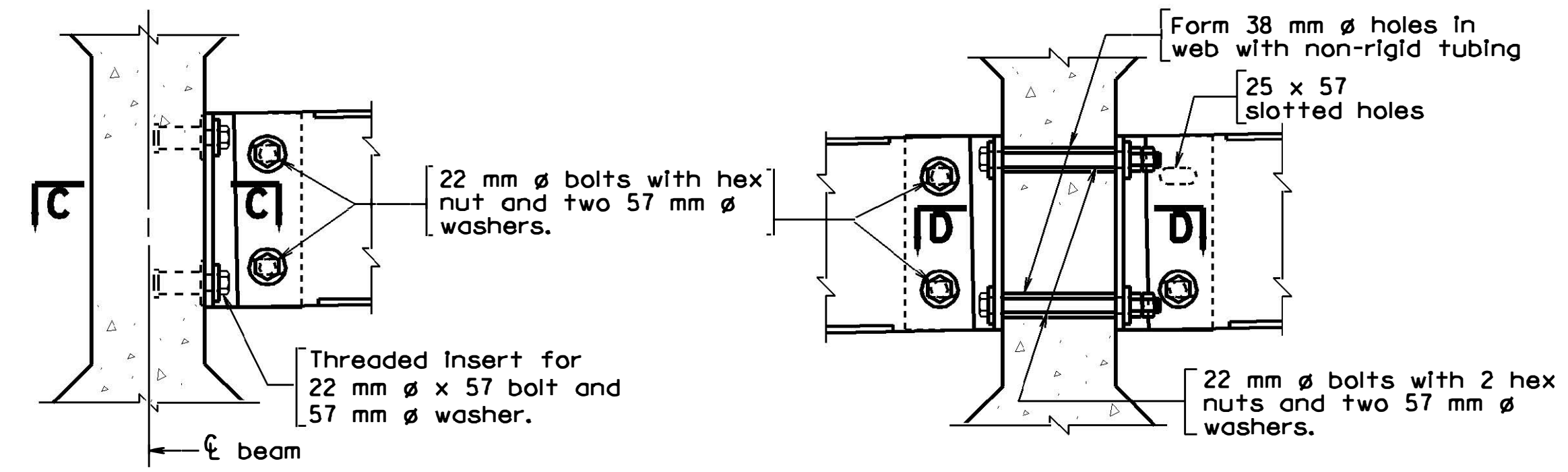
D28481014



PART TRANSVERSE SECTION



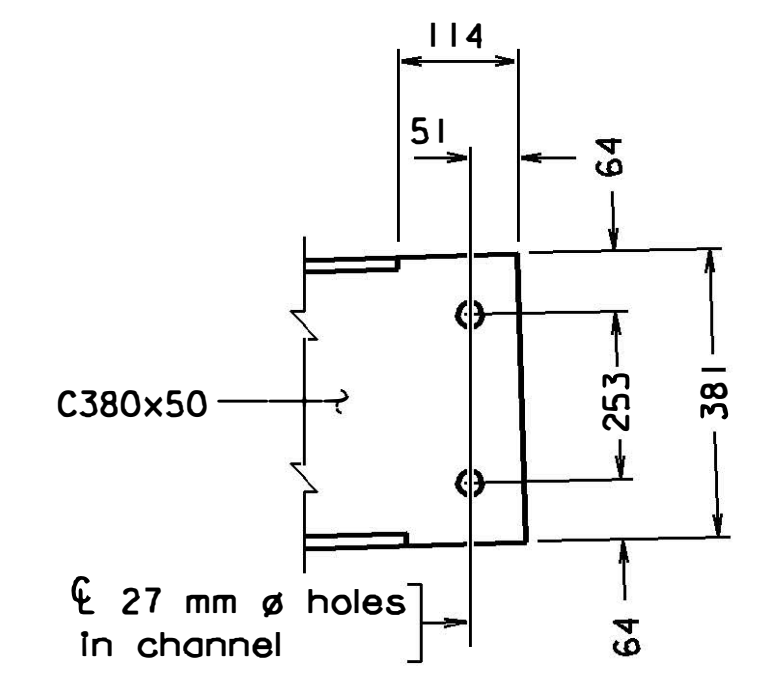
CONNECTOR PLATE DETAIL



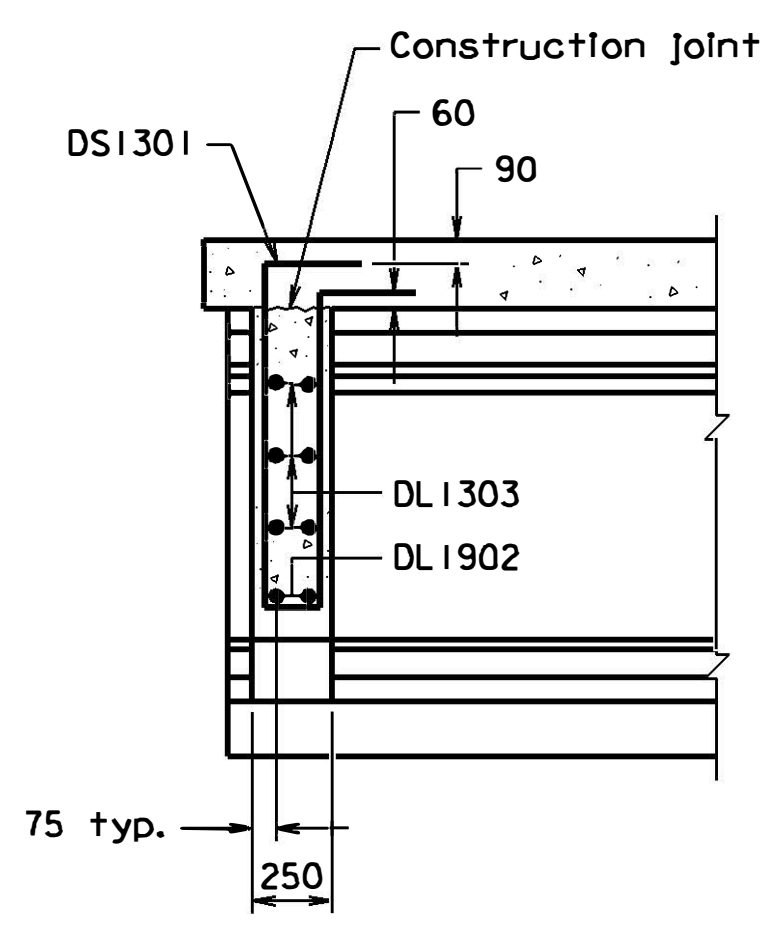
DETAIL A

DETAIL B

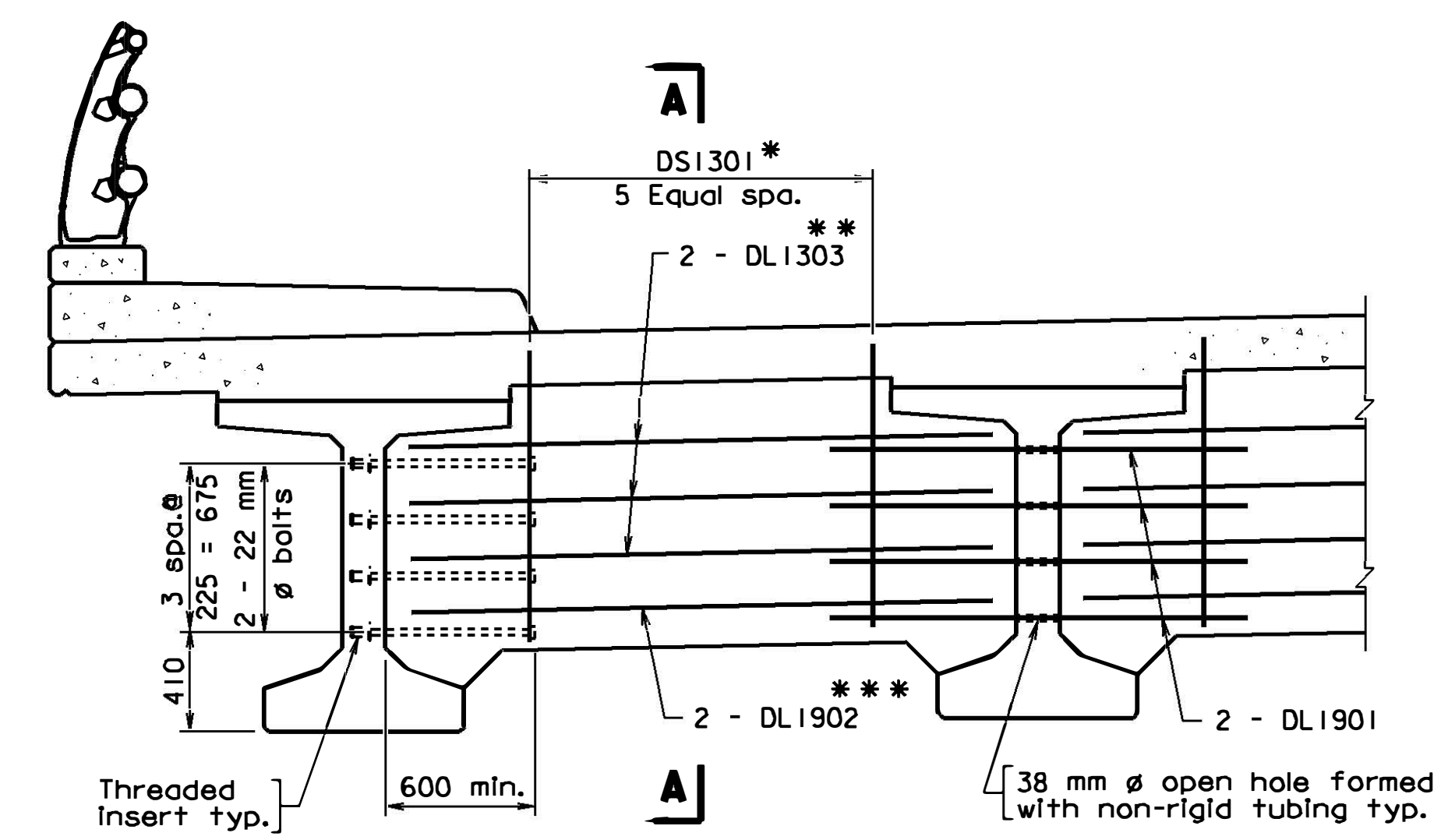
Use Detail A at exterior beams and interior beams where line of diaphragms is discontinued at interior beam. Use Detail B at interior beams where line of diaphragms is continuous across the structure.



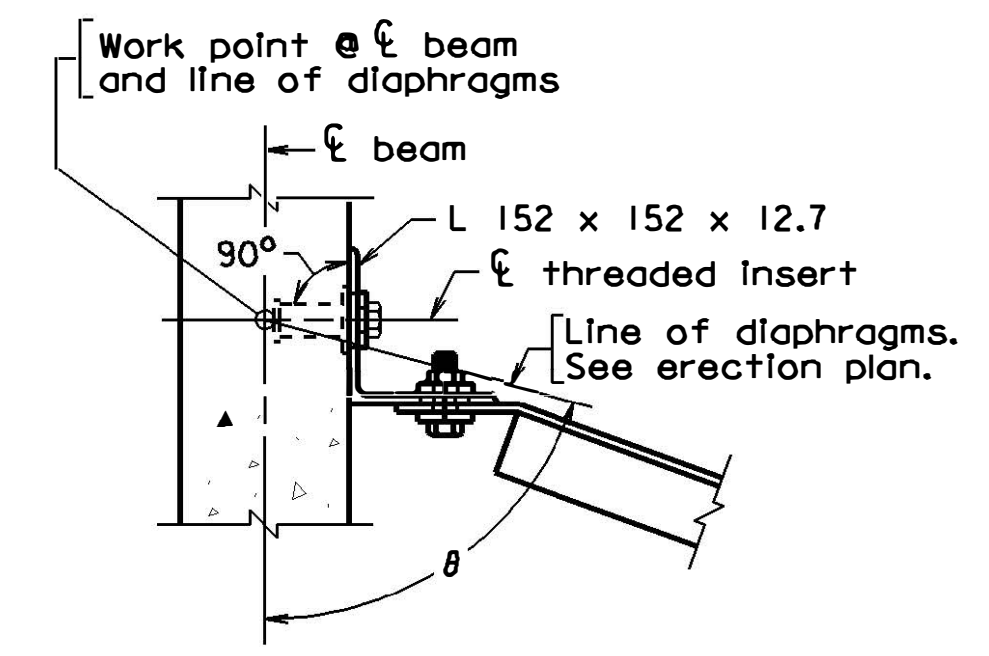
CHANNEL DETAIL



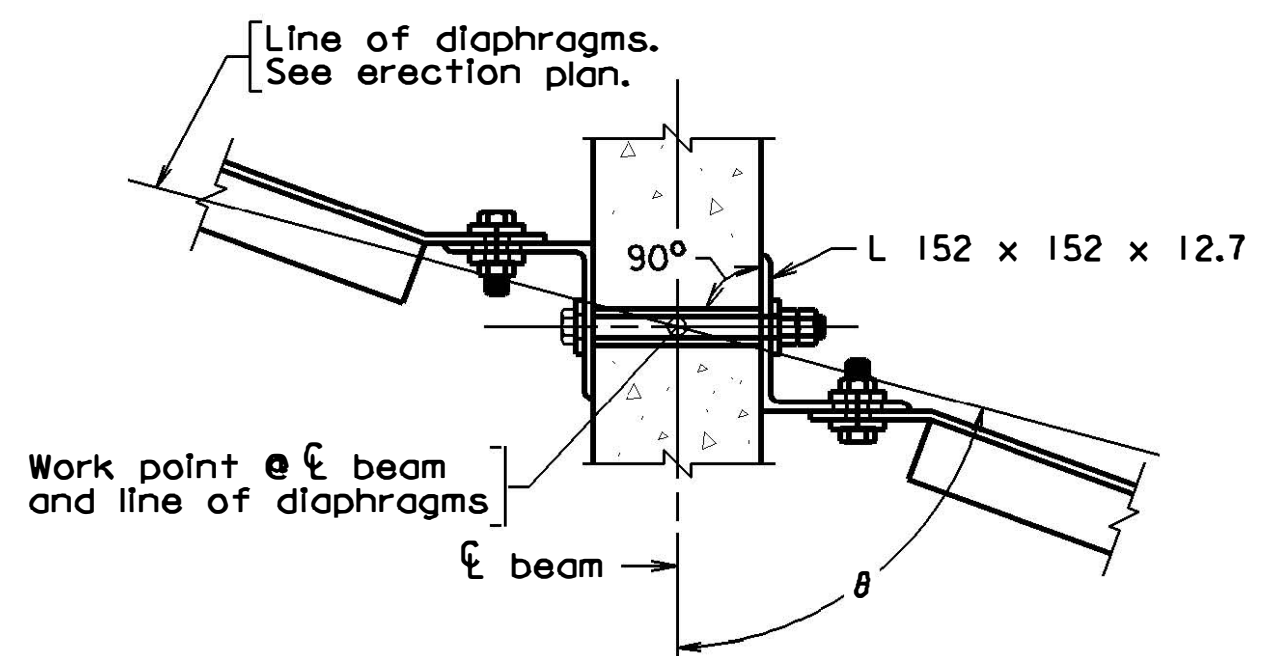
SECTION A-A



END DIAPHRAGM DETAILS



SECTION C-C



SECTION D-D

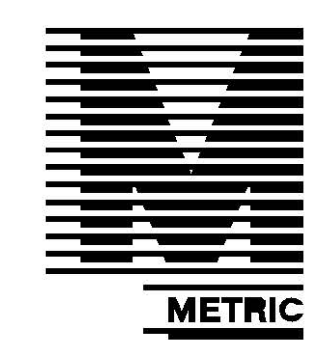
Beam	θ
B1	88°-25'-58"
B2 thru B10	90°-00'-00"
B11 (Left)	88°-33'-38"
B11 (Right)	90°-00'-00"
B12 & B13	90°-00'-00"

Not to scale

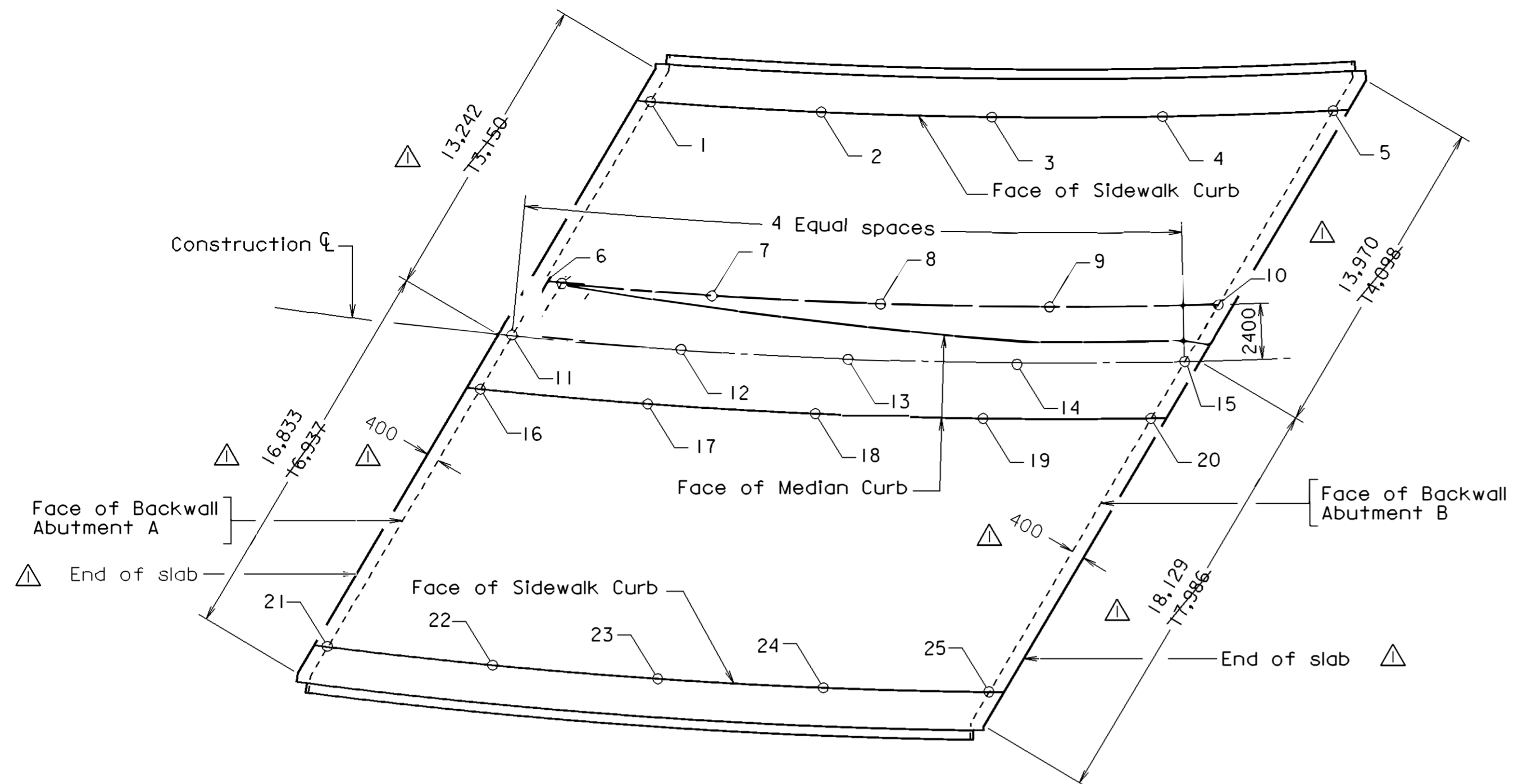
Notes:
 All structural steel shall be ASTM A709M, Grade 250.
 All bolts shall be 22 mm dia. H.S. bolts, ASTM A325M.
 All H.S. bolts shall be tensioned by the turn-of-nut method.
 All diaphragm materials including bolts, nuts and washers shall be galvanized.
 All threaded inserts shall develop the full strength of the threaded bolts.
 Payment for furnishing and installing steel intermediate diaphragms shall be included in the contract unit price for prestressed concrete members.
 All dimensions are shown in millimeters (mm) unless otherwise noted.
 Symbol ϕ = diameter.

END DIAPHRAGM REINFORCING TABLE				
Location	Abutment A		Abutment B	
	DL13 Series	DL19 Series	DL13 Series	DL19 Series
Between beam B1 & B2	DL1305	DL1904	DL1309	DL1908
Between beam B10 & B11	DL1307	DL1906	DL1311	DL1910
Between beam B11 & B12	DL1307	DL1906	DL1307	DL1906
Between beam B12 & B13	DL1307	DL1906	DL1307	DL1906

* Place parallel to beams, spacing as shown except use two equal spaces between the following:
 B1 & B2 at Abutment A
 B10 & B11 at Abutment A
 B11 & B12 at both abutments
 B12 & B13 at both abutments
 ** Bar designation is DL1303 other than noted at table.
 *** Bar designation is DL1902 other than noted at table.



STRUCTURE AND BRIDGE DIVISION			
INTERMEDIATE & END DIAPHRAGM DETAILS			
No.	Description	Date	Designed: _____
	Revisions		Checked: _____
		Date	Plan No.
			Sheet No.
			16 of 30



PLAN OF DECK ELEVATIONS

Point	Elevation	Point	Elevation	Point	Elevation	Point	Elevation	Point	Elevation
1	320.628	6	320.955	11	321.051	16	321.147	21	321.614
2	320.576	7	320.905	12	321.003	17	321.099	22	321.569
3	320.528	8	320.856	13	320.954	18	321.051	23	321.524
4	320.491	9	320.814	14	320.910	19	321.007	24	321.479
5	320.466	10	320.782	15	320.877	20	320.972	25	321.437

Notes:

Deck elevations shown in the table are on top of finished roadway along centerline at point of finished grade and faces of curbs.

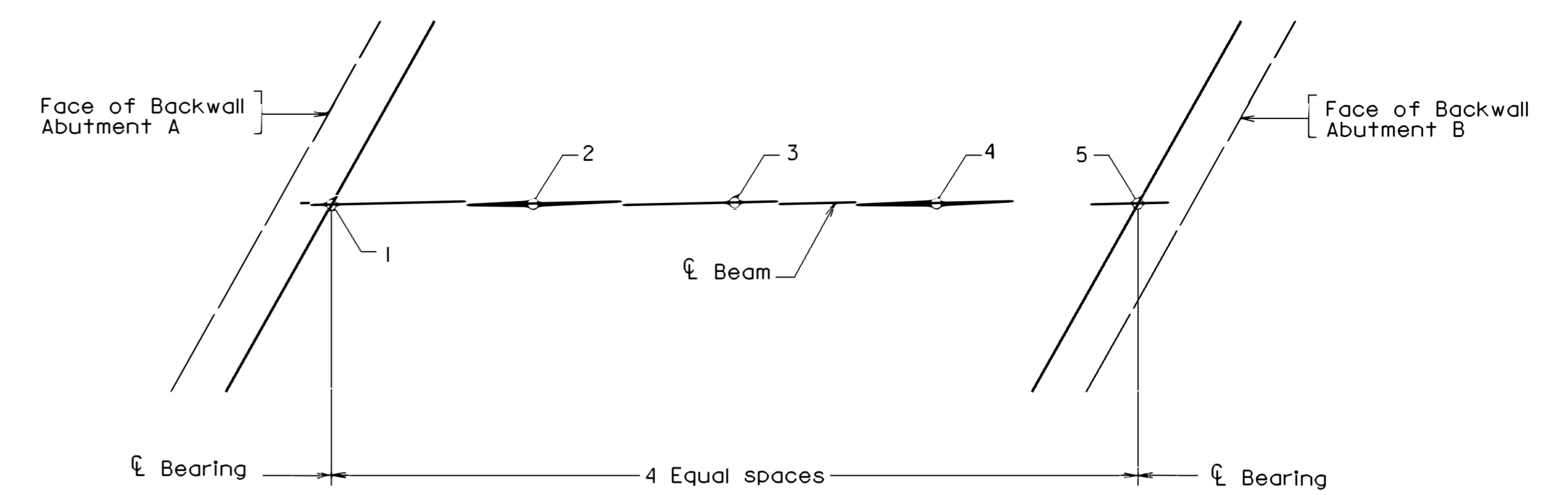
Straight line interpolation for intermediate elevations may be made between two adjacent points at no more than 7700 mm intervals.

Slab end detail notes:

- Section is taken normal to the abutment face.
- The 13 mm expanded rubber joint filler shall extend for the full length of the deck slab extension.
- Dimension shall be increased or decreased for every 5°C temperature drop or rise respectively by t.

Abutment	t
A	2
B	2

- For details on spacing of SC series bars, see sheet 17.
- For details on spacing of SL series bars, see transverse section on sheet 13.
- For details of buried approach slab, pipe underdrain and porous backfill see sheets 28, 29 and 30.

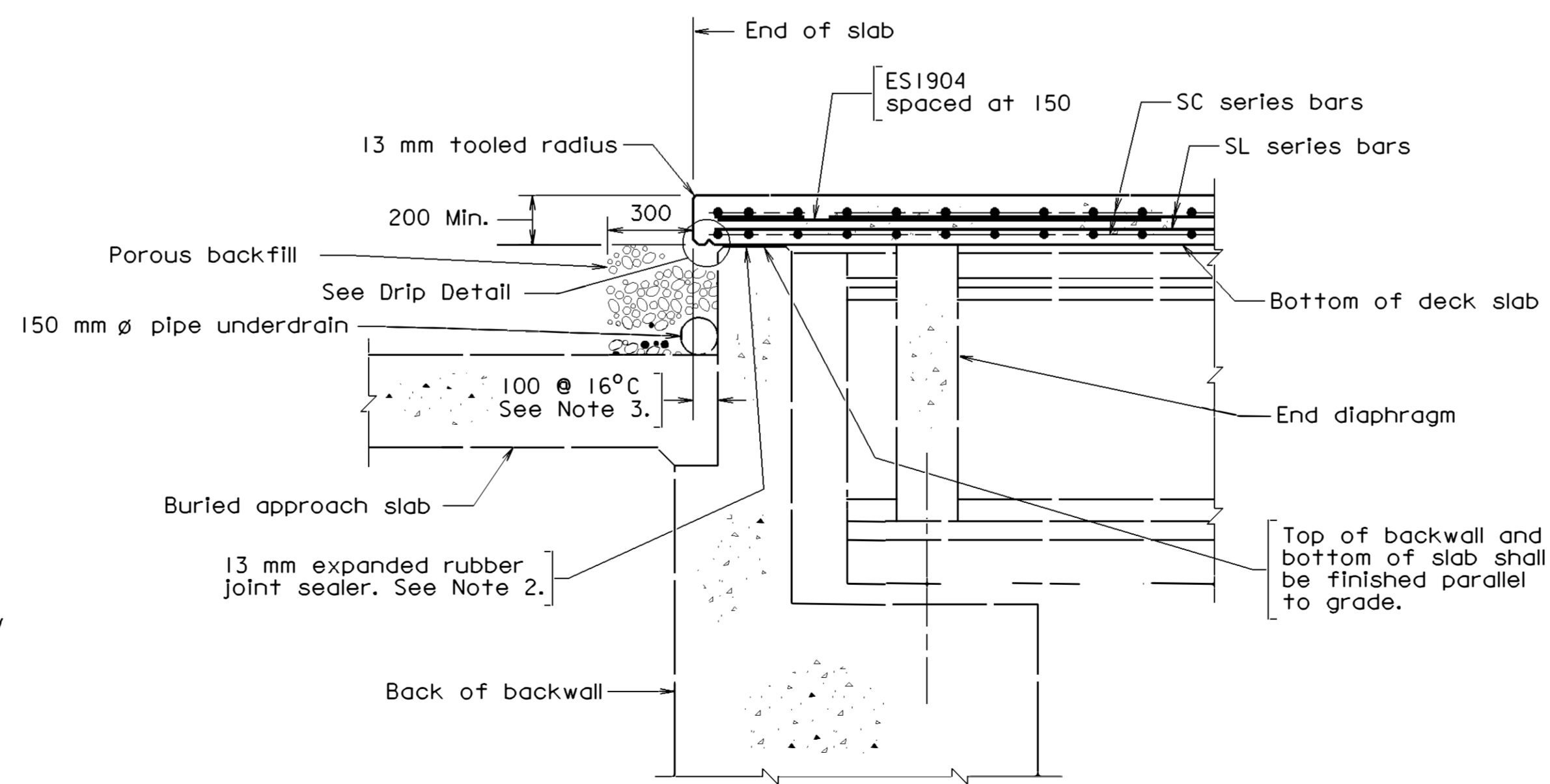


PLAN

Showing point of top of slab elevations

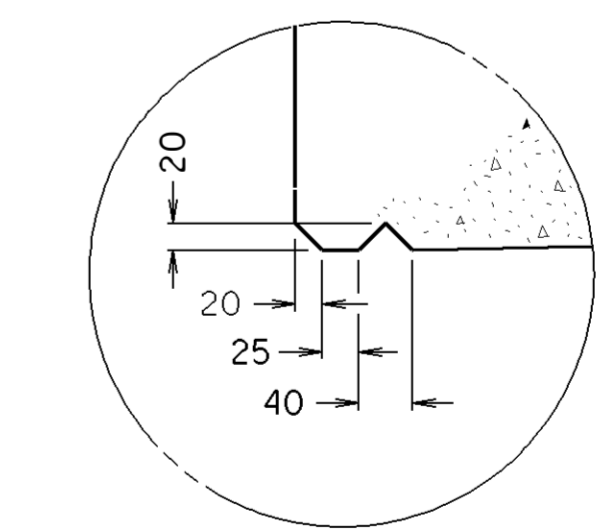
Beam	1	2	3	4	5
B1	320.586	320.524	320.475	320.444	320.432
B2	320.649	320.595	320.551	320.525	320.517
B3	320.748	320.693	320.647	320.618	320.606
B4	320.847	320.791	320.744	320.711	320.696
B5	320.946	320.890	320.841	320.805	320.787
B6	321.046	320.988	320.938	320.900	320.878
B7	321.145	321.087	321.036	320.995	320.970
B8	321.244	321.185	321.133	321.090	321.063
B9	321.343	321.284	321.231	321.186	321.156
B10	321.443	321.382	321.329	321.283	321.249
B11	321.516	321.462	321.415	321.374	321.345
B12	321.589	321.534	321.486	321.445	321.415
B13	321.661	321.607	321.558	321.517	321.484

See Framing Plan, sheet 14, for identification of beams by number.



SLAB END DETAIL SECTION B

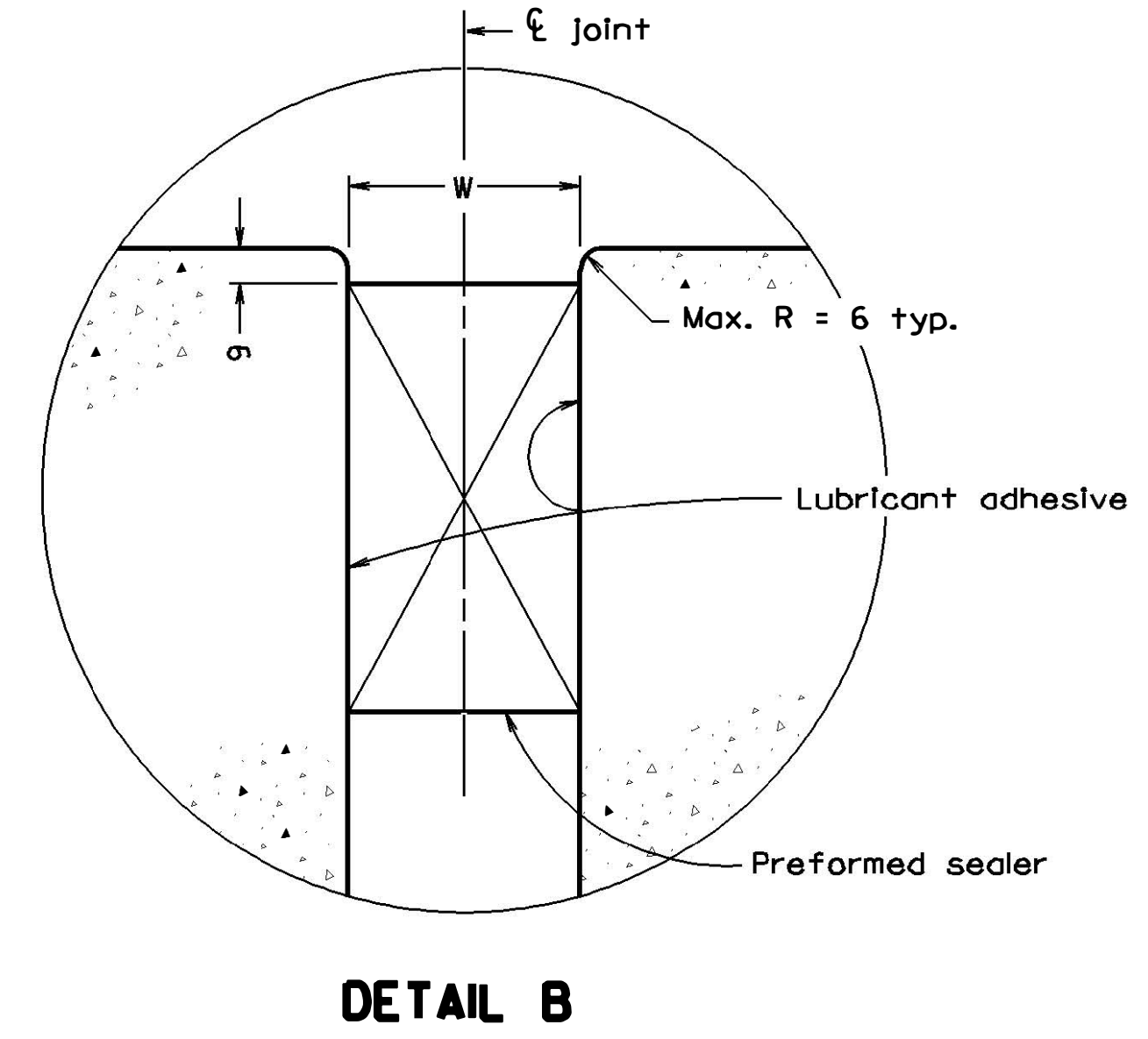
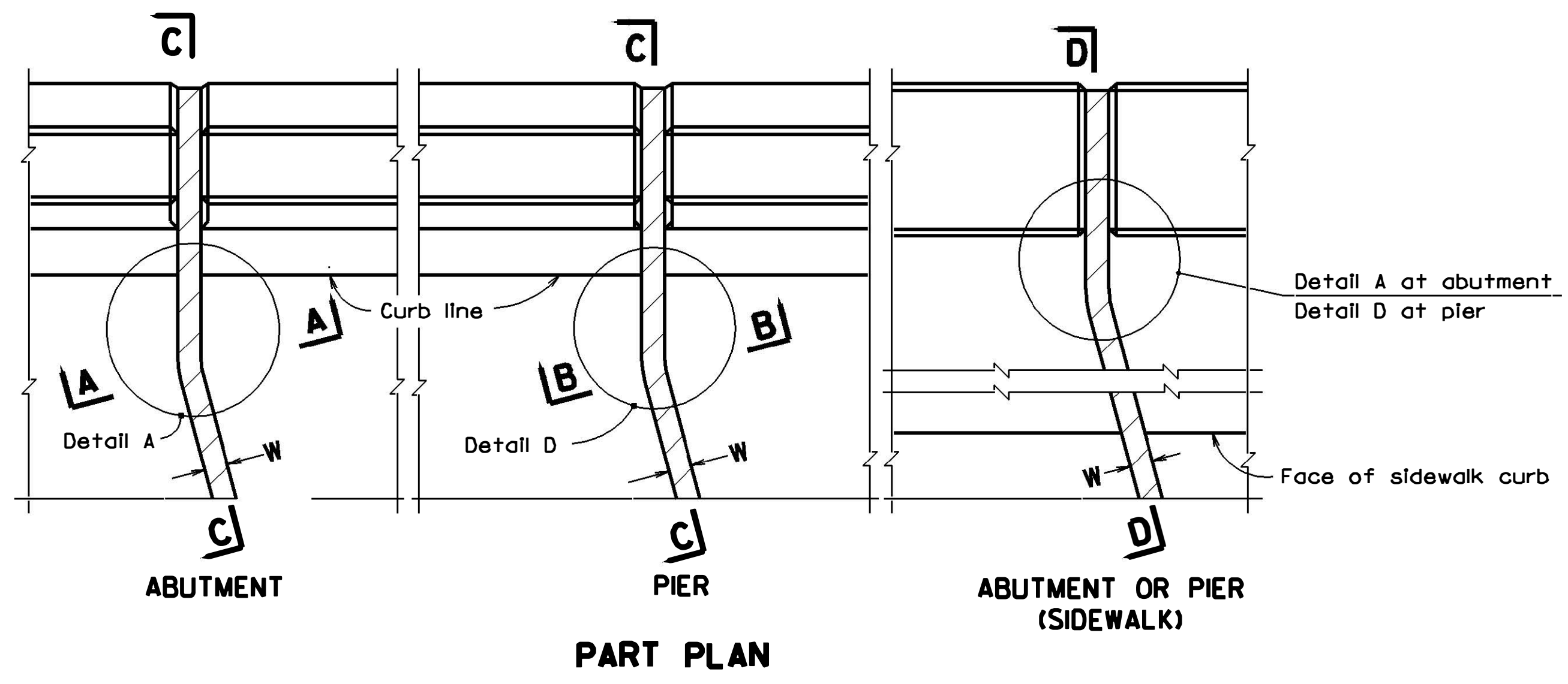
Not to Scale



DRIP DETAIL



				STRUCTURE AND BRIDGE DIVISION			
				DECK ELEVATIONS TOP OF SLAB ELEVATIONS ALONG C BEAMS			
No.	Description	Date	Designed: ...	Date	Plan No.	Sheet No.	
			Drawn: ...				
			Checked: ...				18 of 30



Notes:
Section of sealer shown is for heavy-duty structural type sealer and may vary slightly depending on manufacturer.

As nearly as possible, sides of joints shall be straight, vertical and parallel. The area of the installation shall be free from cracks and spalls.

Sealer shall be installed in one continuous piece except for sidewalk areas.

Joint width W is the final joint width of the cured concrete when placed at 16 °C. The width W shall be increased or decreased for every 5 °C temperature drop or rise respectively by t. When formed, joint width W shall be reduced by the amount Δ to compensate for the opening of the joint caused by the deflection of the beam when the deck concrete is placed. If the joint is formed so that the form material will not move and the joint will not open as the deck concrete is placed, then adjustment Δ shall not be made.

Fixed Bearing: $\Delta = \frac{4d \Delta's}{L}$

Expansion Bearing: $\Delta = \frac{d \Delta's}{L}$

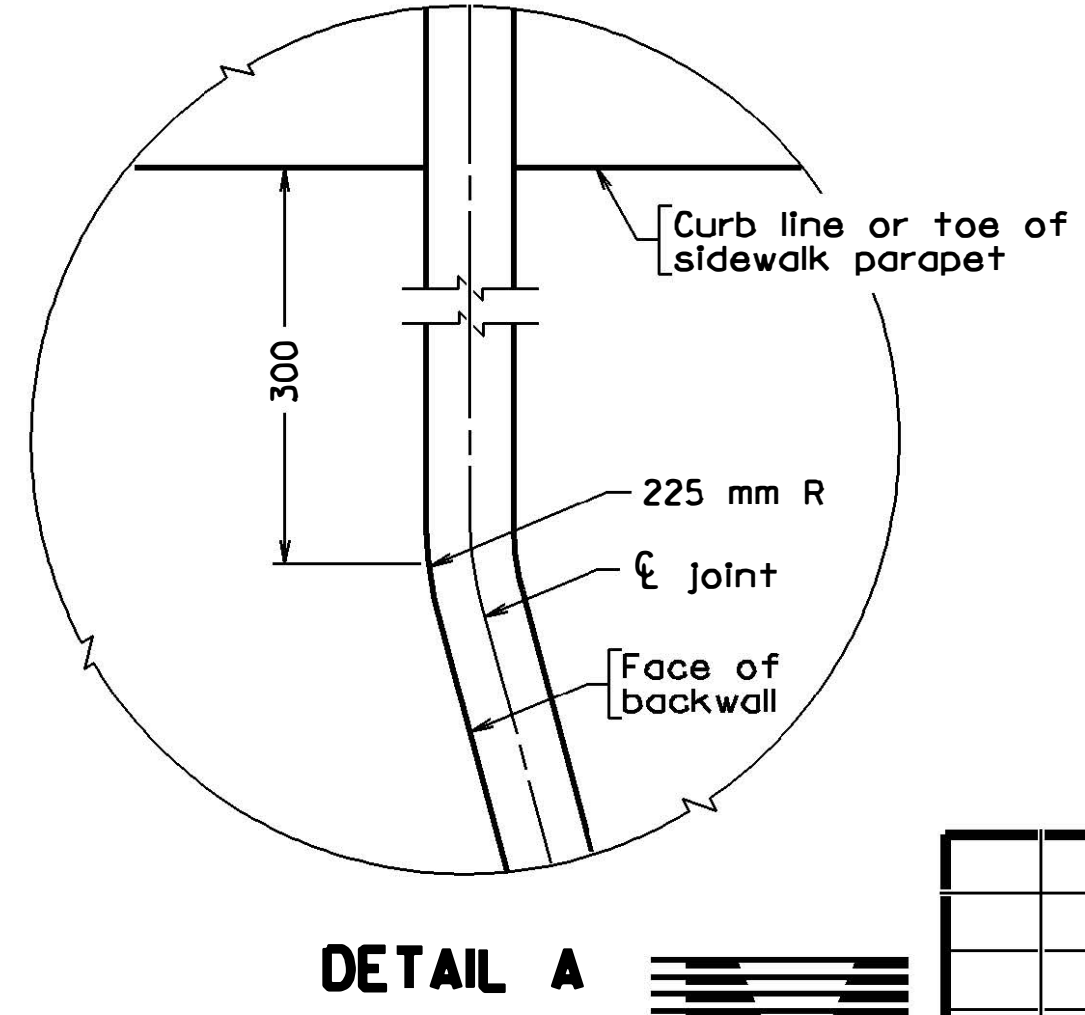
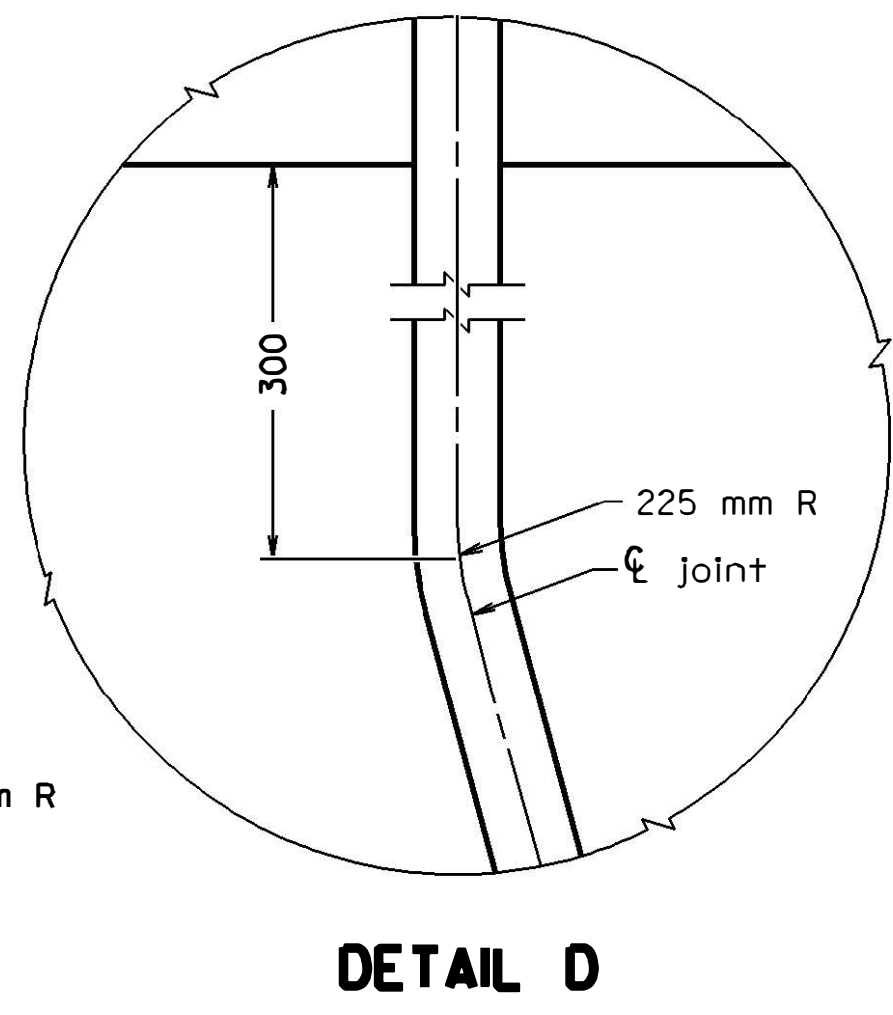
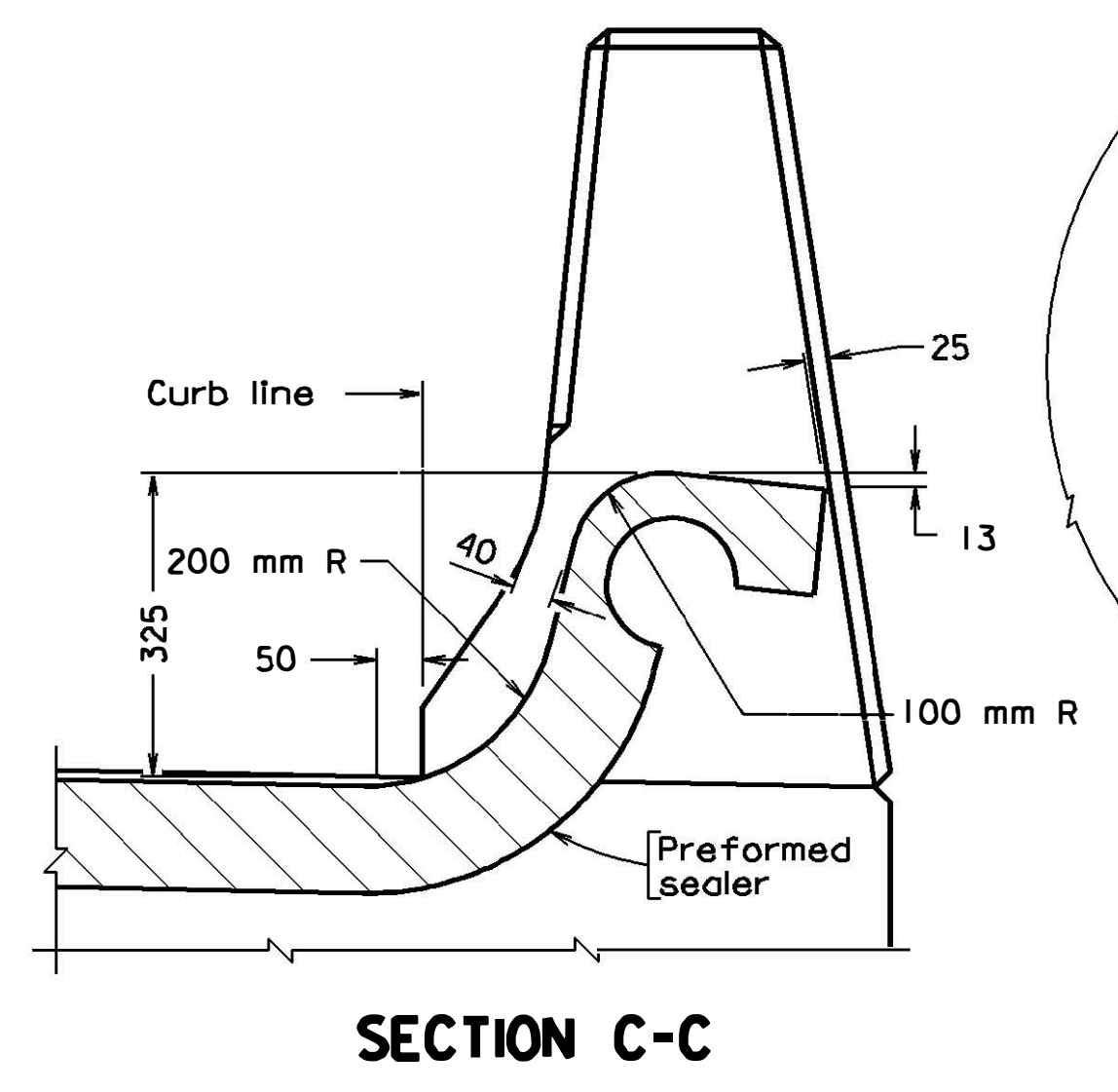
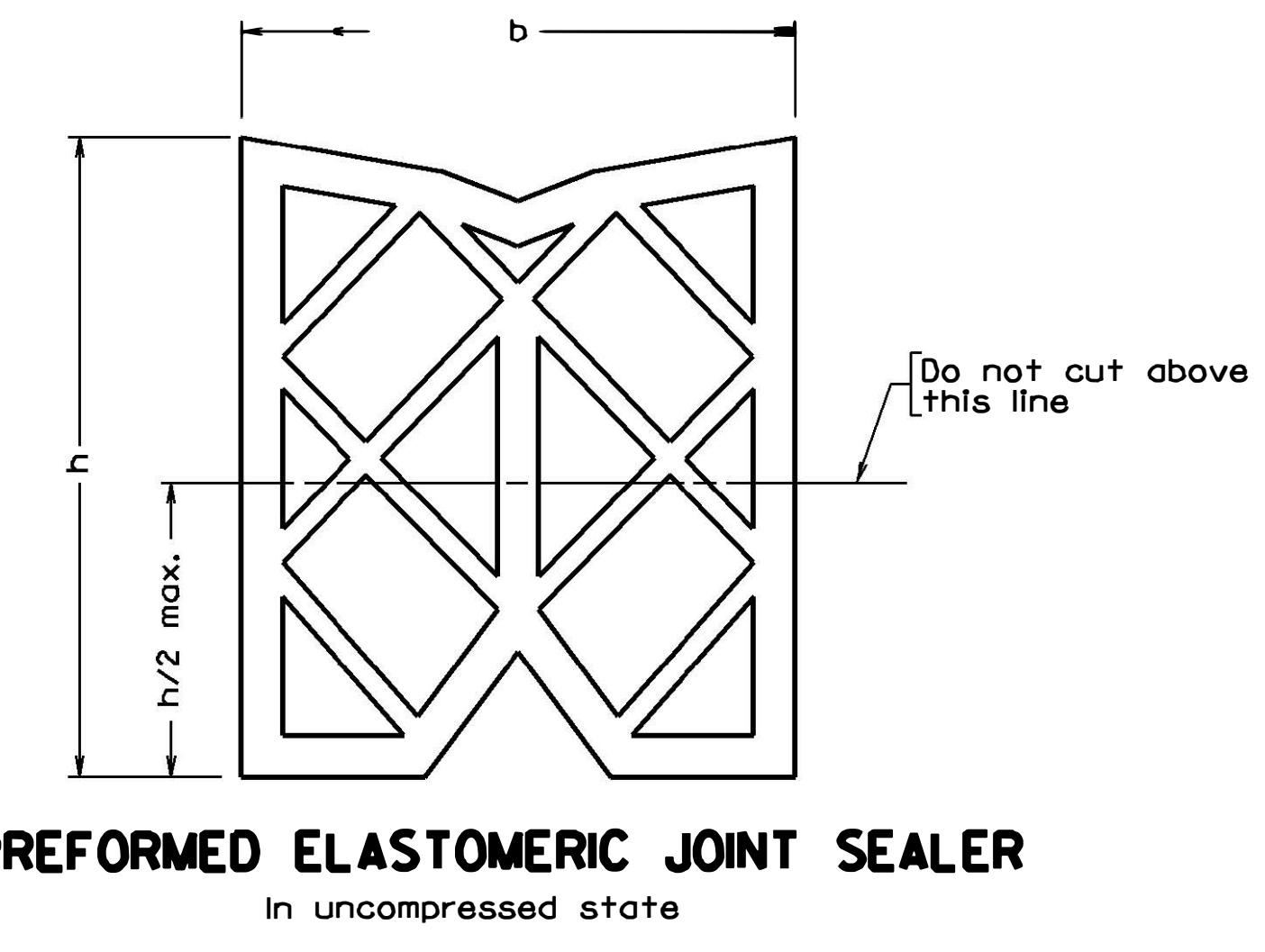
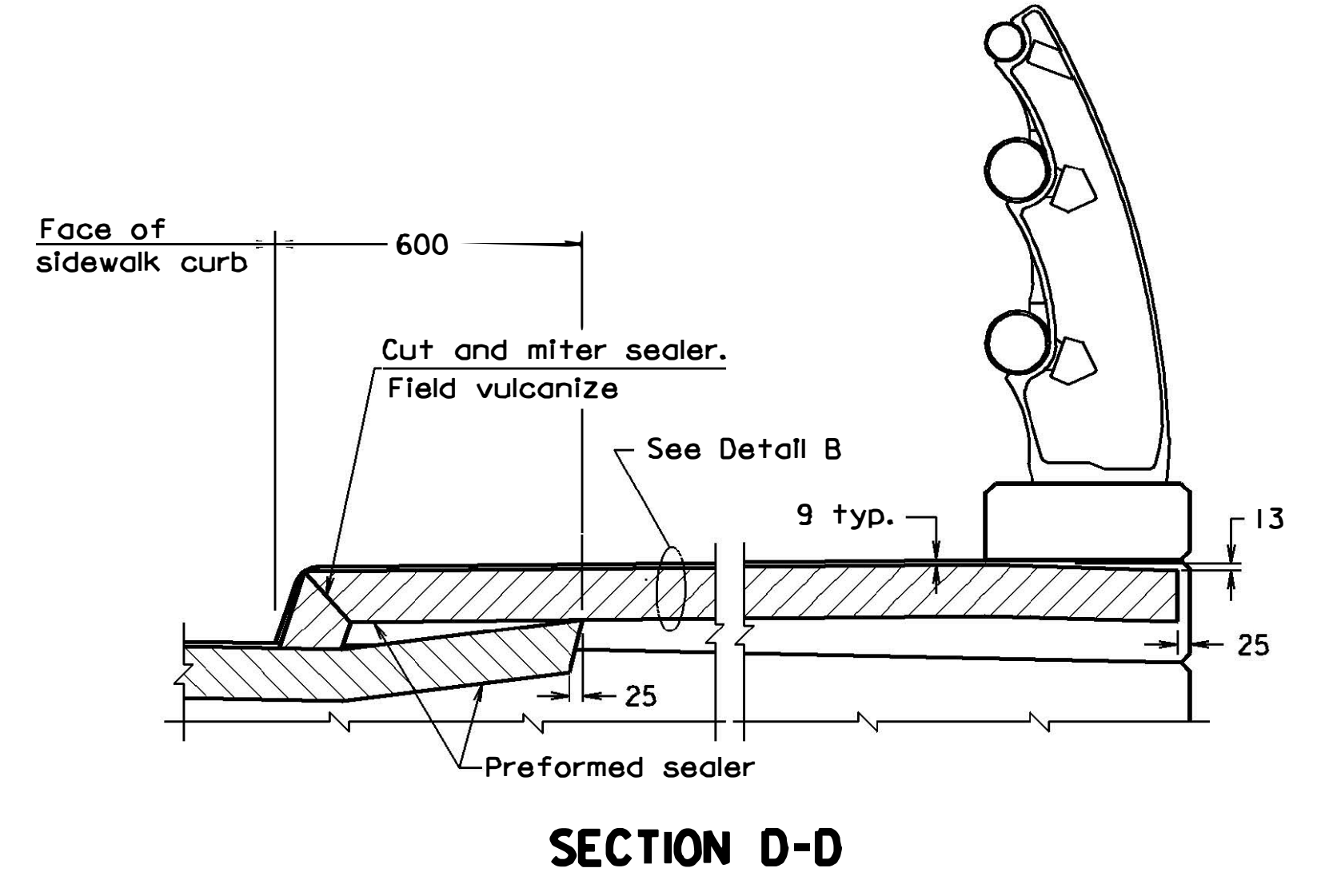
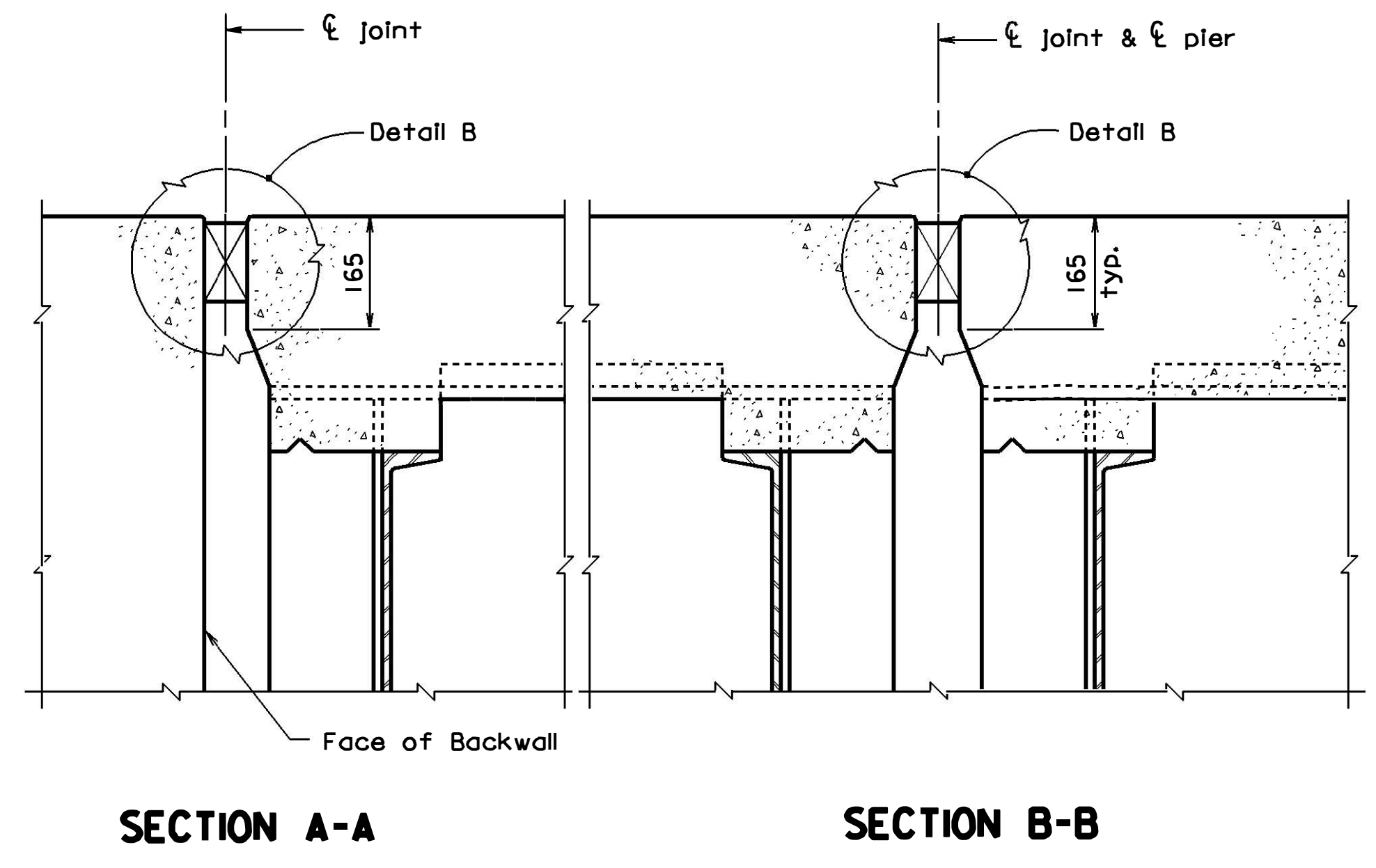
d = Total rotation depth from top of slab to point of rotation on bearing.

Δs = Deflection of beam at midspan from dead load of concrete deck slab and bolsters. (See dead load deflection diagram.)

L = Length of span.

Δ = Compensation for joint opening due to deflection of beam during placement of concrete deck slab and bolsters for the last span placed adjacent to the joint.

All dimensions are shown in millimeters (mm) unless otherwise noted.

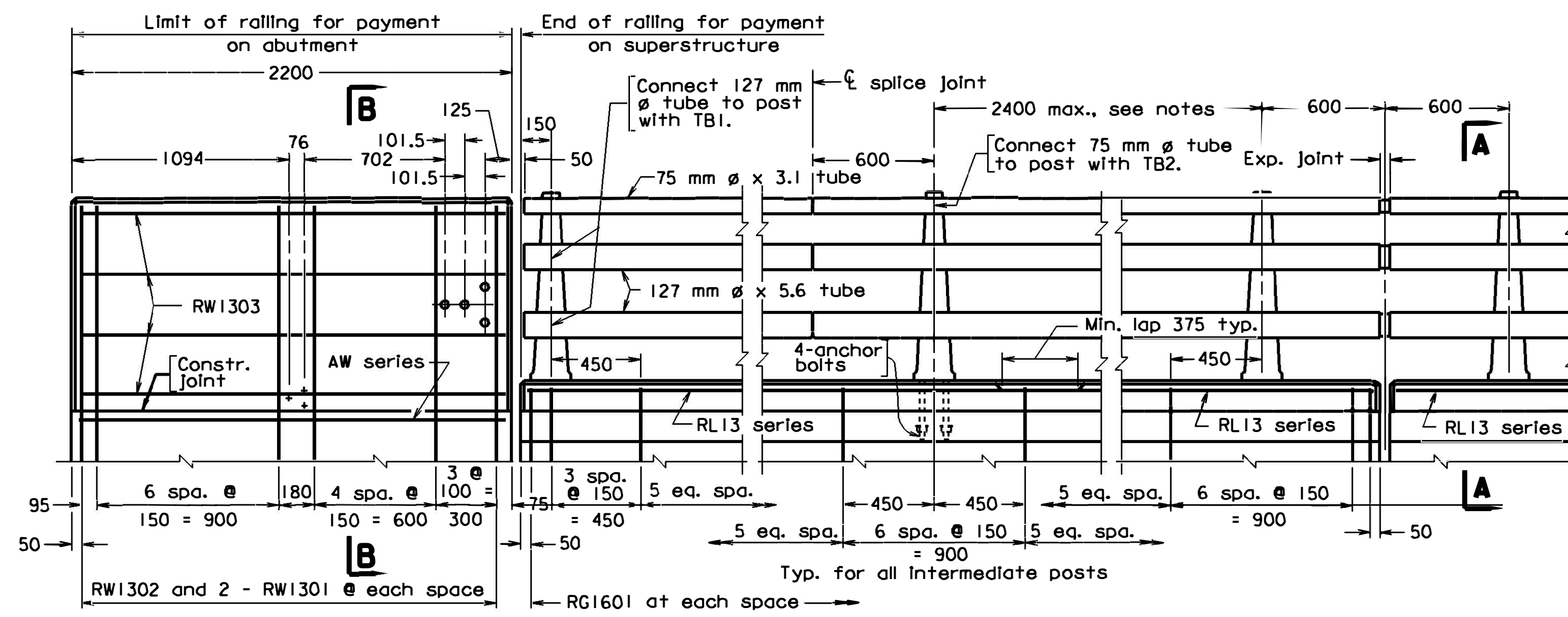


Abutment	Pier	Sealer Size b	Sealer Depth h	Joint Width W	t
A		51	52	32	2
B		51	52	32	2

STRUCTURE AND BRIDGE DIVISION					
PREFORMED ELASTOMERIC JOINT DETAILS					
No.	Description	Date	Designed: ---	Date	Plan No.
	Revisions		Drawn: ---		Sheet No.
			Checked: .		19 of 30

Not to scale





TERMINAL WALL ABUTMENTS PIERES
ELEVATION

Notes:

Posts shall be seated on neoprene bearing pads 1 mm minimum thickness, having a nominal durometer hardness of 60. Pads shall conform to post base dimensions.

Aluminum shims may be used for adjusting post alignment, maximum thickness of shim build-up not to exceed 3 mm. Where more tilting of the post is required, the concrete area shall be ground down.

Posts shall be cast aluminum.

Rail members shall be aluminum extruded tube conforming to ASTM B221M, alloy 6061-T6 or 6351-T5 only.

For miscellaneous details, see sheet 22.

All levels for concrete on this sheet shall be 19 mm.

Anchor bolts may be set normal to profile grade.

Bid item for railing shall include rails, rail post, bearing pads, anchor assemblies, sleeves and other associated metal parts as shown on the plans. Also included in bid item are concrete noted in plans and reinforcing steel indicated in Reinforcing Steel Schedule.

Reinforcing bars RG1601 and RW1301 shall be galvanized. All other reinforcing bars shall be epoxy coated.

All concrete shall be Class 30.

The Contractor shall determine all dimensions and details necessary for installation.

Post spacing/detailing:

Post spacing is measured along \bar{C} of anchor bolts.

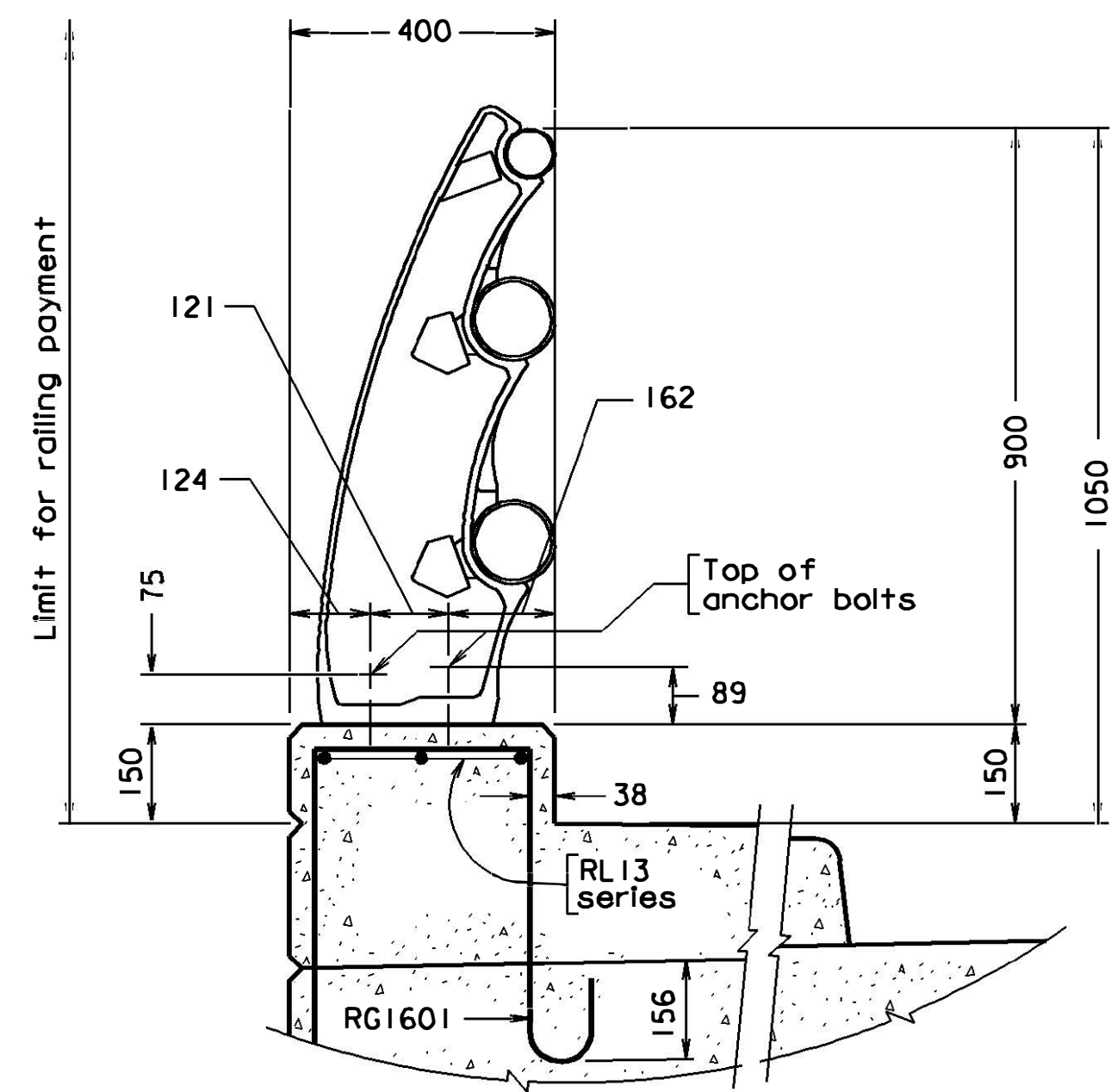
Intermediate posts shall be equally spaced with maximum spacing not to exceed 2400 mm.

Rails to be continuous over a minimum of three posts before splicing.

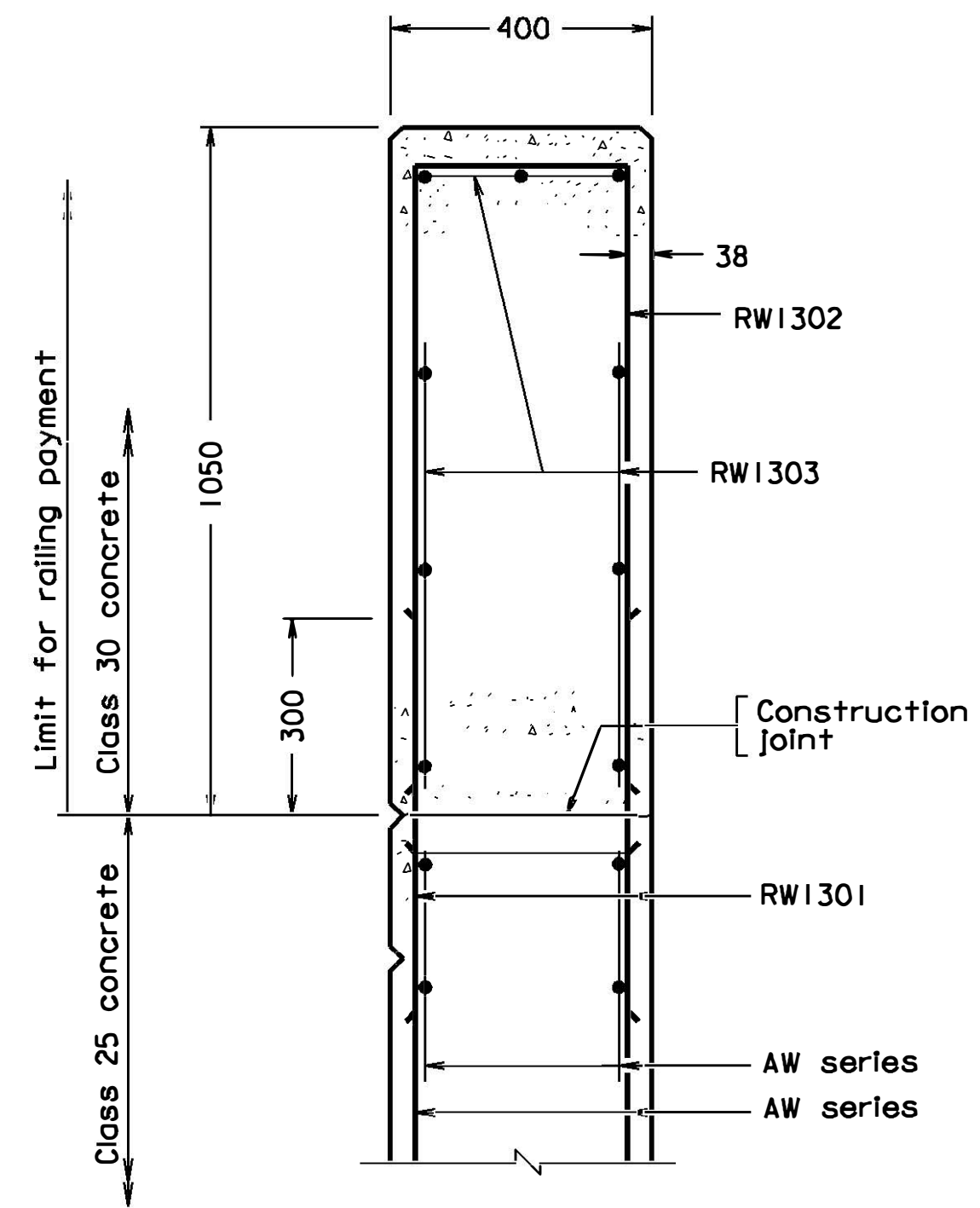
Terminal walls are detailed to take guardrail attachment GR-FOA-1. Holes for guardrail attachment shall be formed with sleeves of 38 mm nominal dia. pipe.

For miscellaneous details (MBMR-18), see sheet 22.

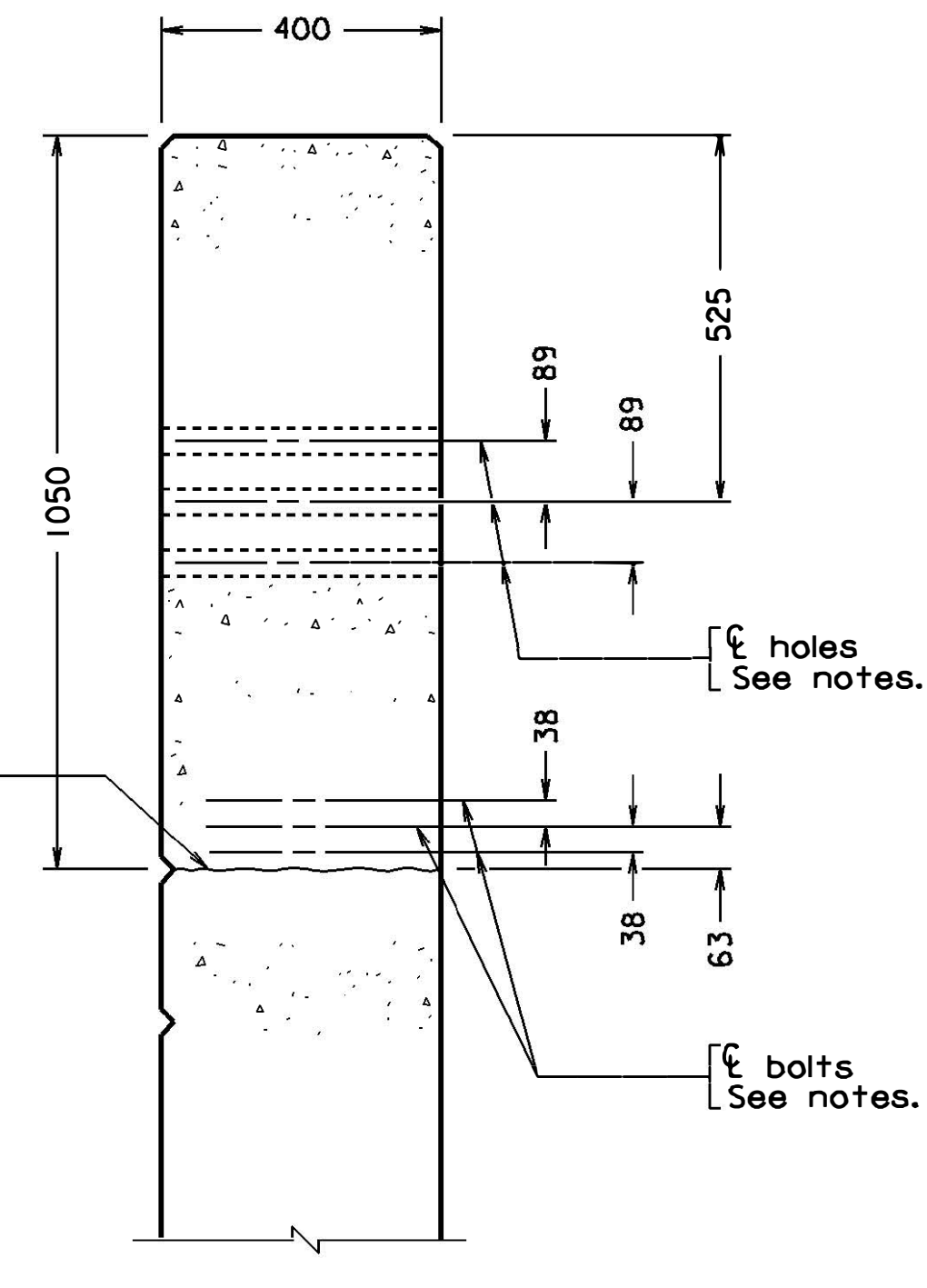
All dimensions are shown in millimeters (mm) unless otherwise noted. Symbol \bar{C} = diameter.



SECTION A-A



SECTION B-B



SECTION B-B

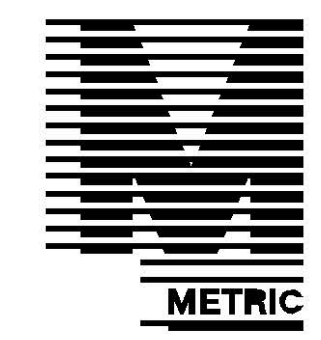
REINFORCING STEEL SCHEDULE

RG1601		RW1302			
Mark	No.	Size	Pin \bar{C}	Length	Location
*RG1601		#16	95	1350	Curb
*RL13		#13	—		Curb
*RW1301		#13	—	600	Terminal wall and wing
*RW1302		#13	76	2260	Terminal wall
*RW1303		#13	—	2150	Terminal wall

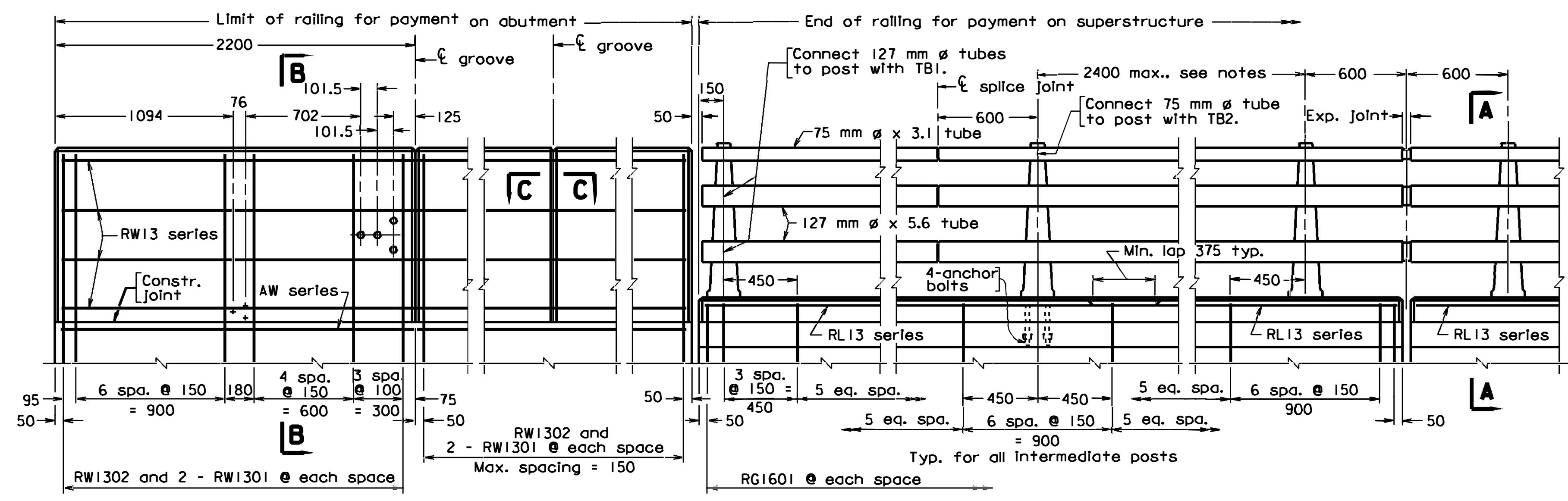
*Included in payment for railing.

Dimensions in bending diagram are out-to-out of bars.

STRUCTURE AND BRIDGE DIVISION					
ALUMINUM RAILING					
No.	Description	Date	Designed:	Date	Plan No.
			Drawn: ...		
			Checked:		
Revisions					20 of 30

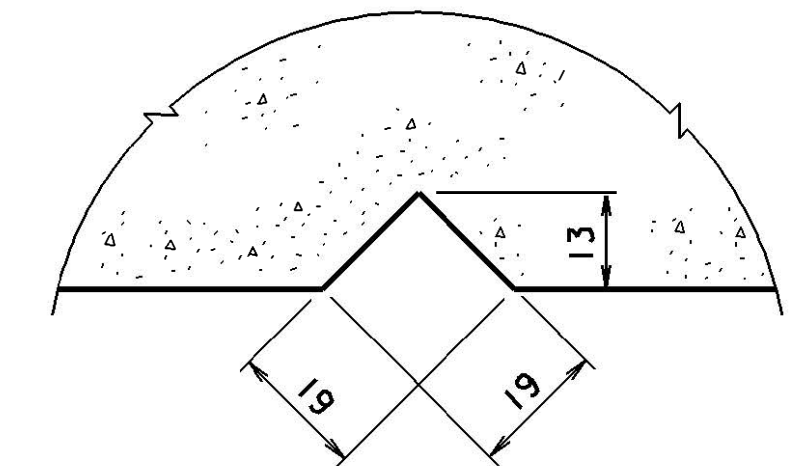


b28481020



TERMINAL WALL U-BACK WING ABUTMENTS PIERS

ELEVATION



SECTION C-C
Full Scale
Groove detail for both sides of parapet

Notes:

Posts shall be seated on neoprene bearing pads 1 mm minimum thickness, having a nominal durometer hardness of 60. Pads shall conform to post base dimensions.

Aluminum shims may be used for adjusting post alignment, maximum thickness of shim build-up not to exceed 3 mm. Where more tilting of the post is required, the concrete area shall be ground down.

Posts shall be cast aluminum.

Rail members shall be aluminum extruded tube conforming to ASTM B221M, alloy 6061-T6 or 6351-T5 only.

For miscellaneous details, see sheet 22.

All levels for concrete on this sheet shall be 19 mm.

Anchor bolts may be set normal to profile grade.

Bid item for railing shall include rails, rail post, bearing pads, anchor assemblies, sleeves and other associated metal parts as shown on the plans. Also included in bid item are concrete noted in plans and reinforcing steel indicated in Reinforcing Steel Schedule.

Reinforcing bars RG1601 and RW1301 shall be galvanized. All other reinforcing bars shall be epoxy coated.

All concrete shall be Class 30.

The Contractor shall determine all dimensions and details necessary for installation.

Post spacing/detailing:

Post spacing is measured along \bar{C} of anchor bolts.

Intermediate posts shall be equally spaced with maximum spacing not to exceed 2400 mm.

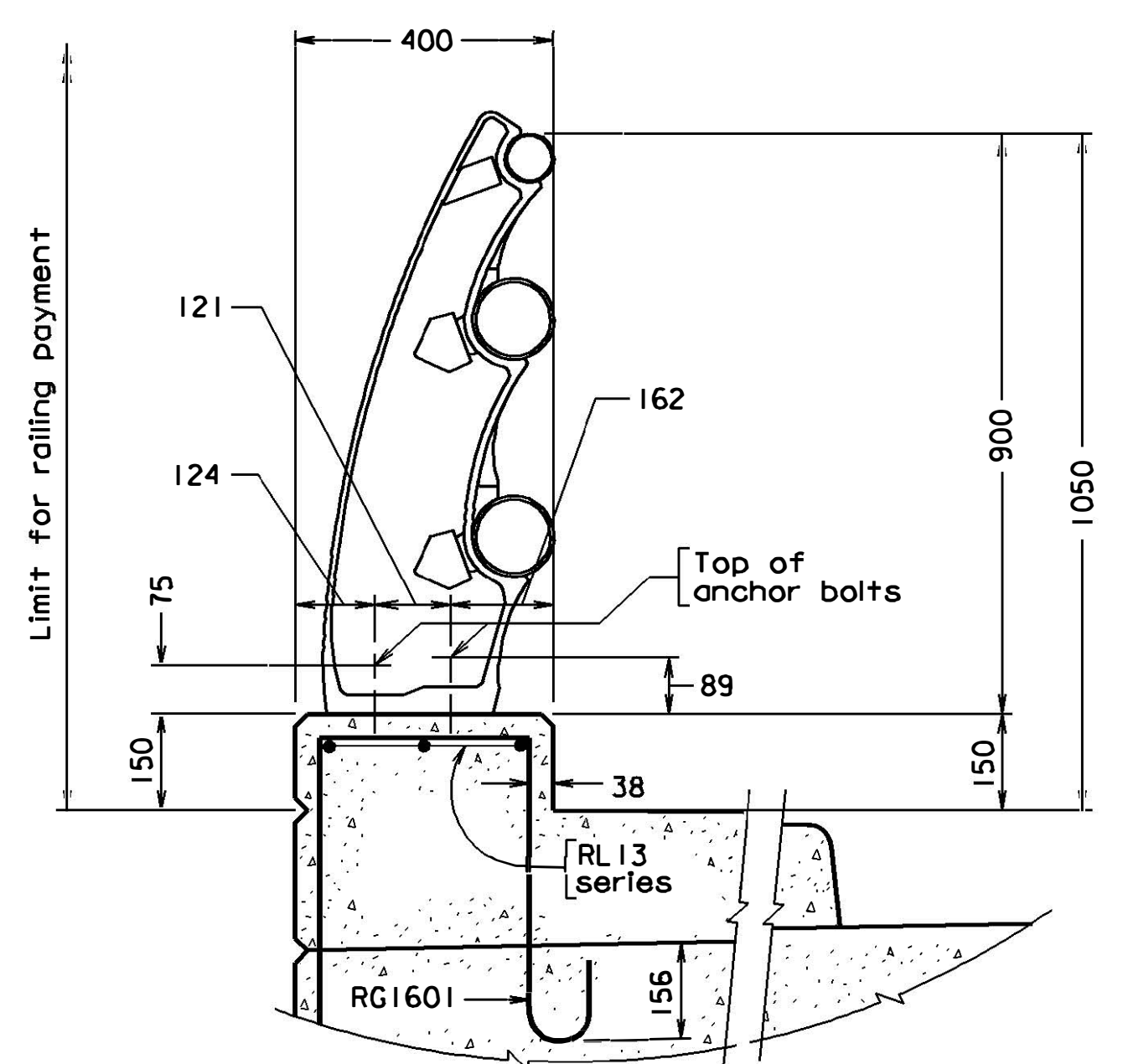
Rails to be continuous over a minimum of three posts before splicing.

Spacing of grooves to be approximately 2400 mm.

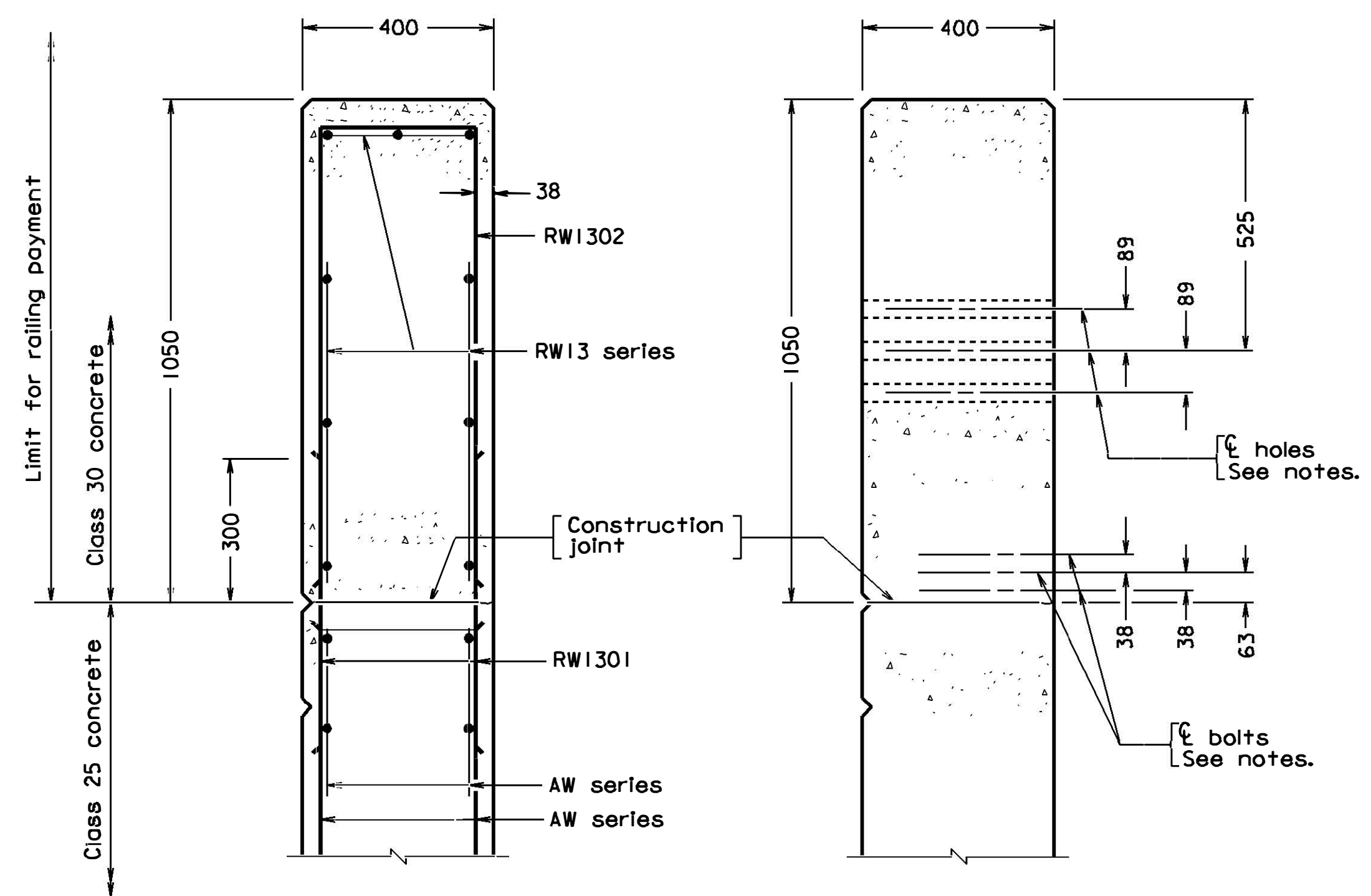
Terminal walls are detailed to take guardrail attachment GR-FOA-1. Holes for guardrail attachment shall be formed with sleeves of 38 mm nominal dia. pipe.

For miscellaneous details (MBMR-18), see sheet 22.

All dimensions are shown in millimeters (mm) unless otherwise noted. Symbol $\bar{\phi}$ = diameter.



SECTION A-A



SECTION B-B

SECTION B-B

REINFORCING STEEL SCHEDULE					
RG1601				RW1302	
Mark	No.	Size	Pin $\bar{\phi}$	Length	Location
*RG1601		*16	95	1350	Curb
*RL13		*13	—		Curb
*RW1301		*13	—	600	Terminal wall and wing
*RW1302		*13	76	2260	Terminal wall and wing
*RW13		*13	—		Terminal wall and wing

*Included in payment for railing.

Dimensions in bending diagram are out-to-out of bars.

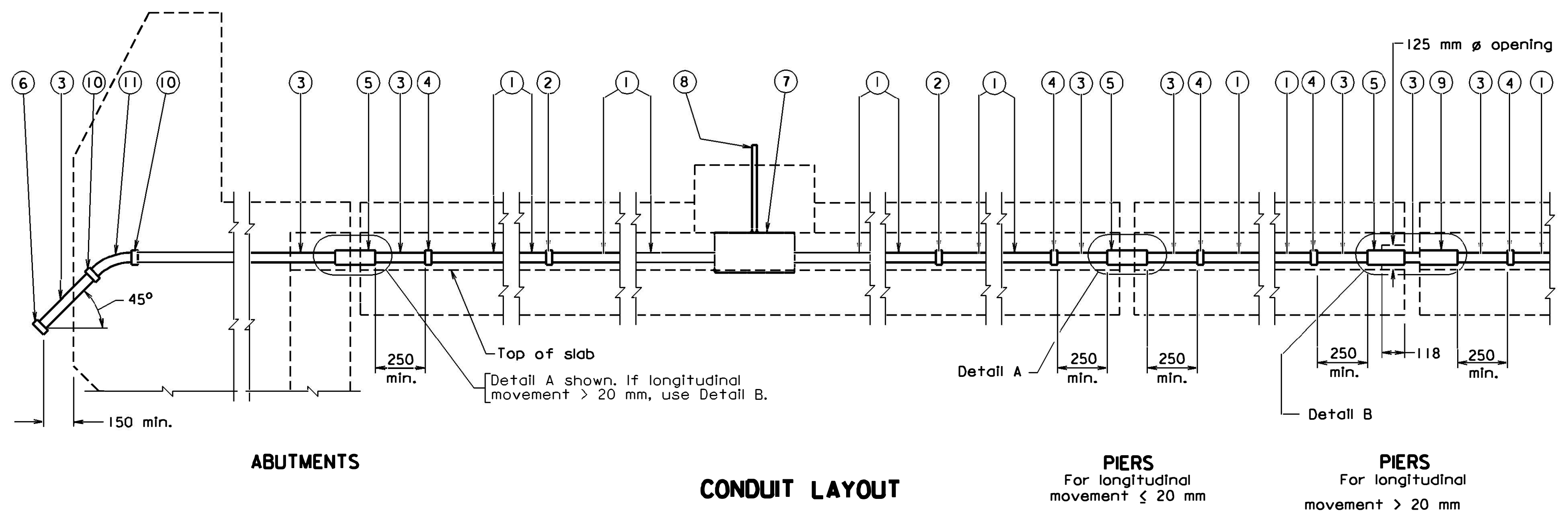
STRUCTURE AND BRIDGE DIVISION					
ALUMINUM RAILING					
No.	Description	Date	Designed:	Date	Plan No.
			Drawn: ...		
	Revisions		Checked:		

Not to scale unless otherwise noted.

B2848 1021



- ① 51 mm ϕ nonmetallic conduit
- ② Nonmetallic coupling
- ③ 51 mm ϕ metal conduit
- ④ Adapter to connect nonmetallic conduit to metal conduit
- ⑤ Metal expansion and deflection fitting
- ⑥ 51 mm ϕ pipe cap
- ⑦ 200 x 200 x 400 formed junction chamber
- ⑧ 25 mm ϕ metal conduit
- ⑨ Metal expansion fitting
- ⑩ Pipe coupling
- ⑪ 51 mm ϕ 45° 325 mm R steel elbow



Notes:

Close adherence to the manufacturer's requirements in regard to clearances for the installation of deflection fittings shall be observed.

Junction chamber frame and cover to be galvanized, after fabrication, in accordance with AASHTO M-111 (ASTM A123).

Cost of Bridge Conduit System and anchorages shall be included in price bid for railing.

Anchor bolt specifications:
 Nuts (Top)--- ASTM B211M Alloy 6262-T9 or 6061-T6.
 (Bottom)--- ASTM F568 Class 4.6.
 Thread series for all nuts to be ANSI B1.13M.
 Washers--- ASTM B209M Alloy Alclad 2024-T3 or T4, 56 mm ϕ x 4.2 mm.
 Nuts and washers of like material shall be used together.
 Rods--- 25 mm diameter, ASTM A276, type 430 or 410 annealed, hot-finished. Threads on rods may be rolled or cut 88 mm at each end of rod shall be threaded. Each rod shall be supplied with 3 washers and 3 nuts.

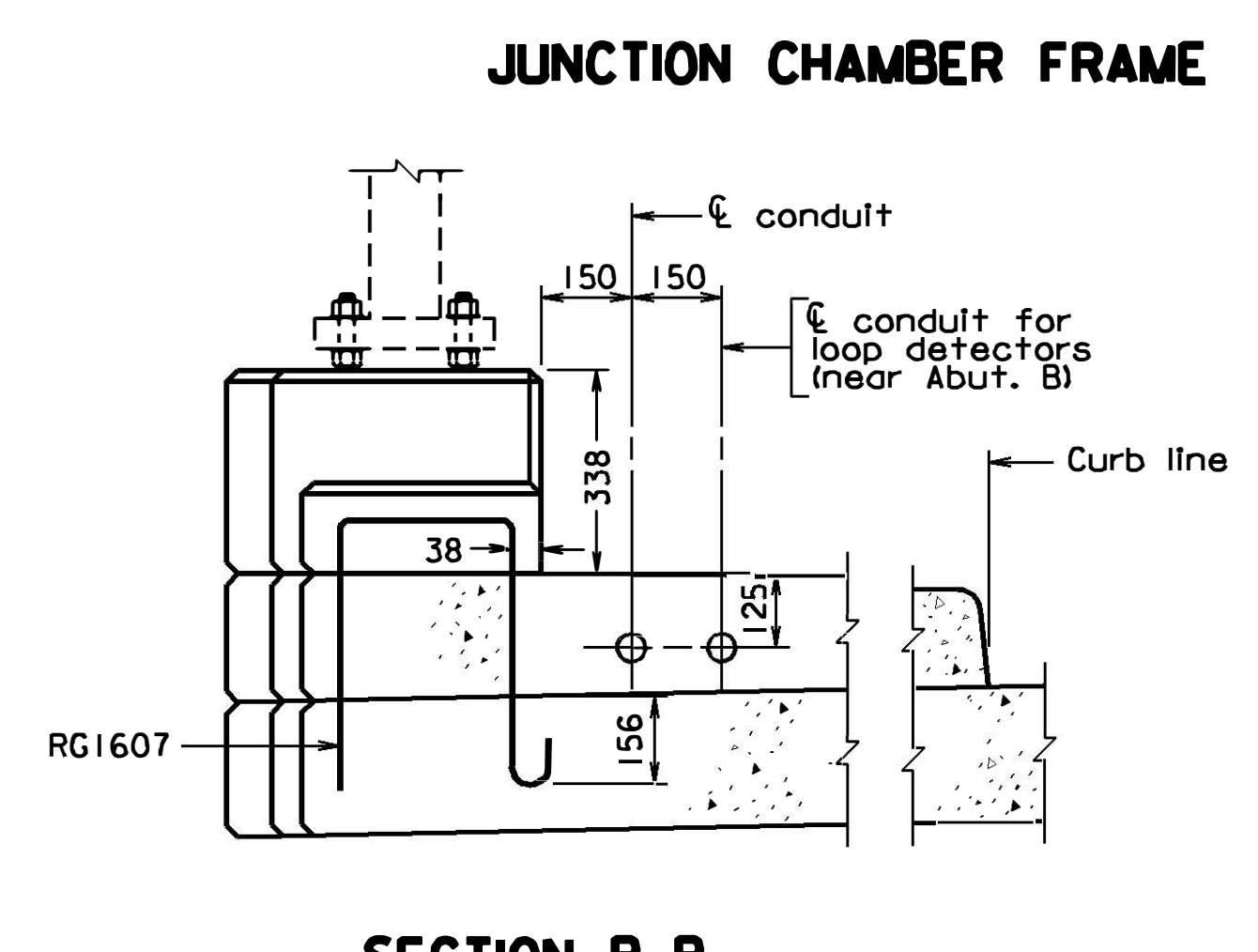
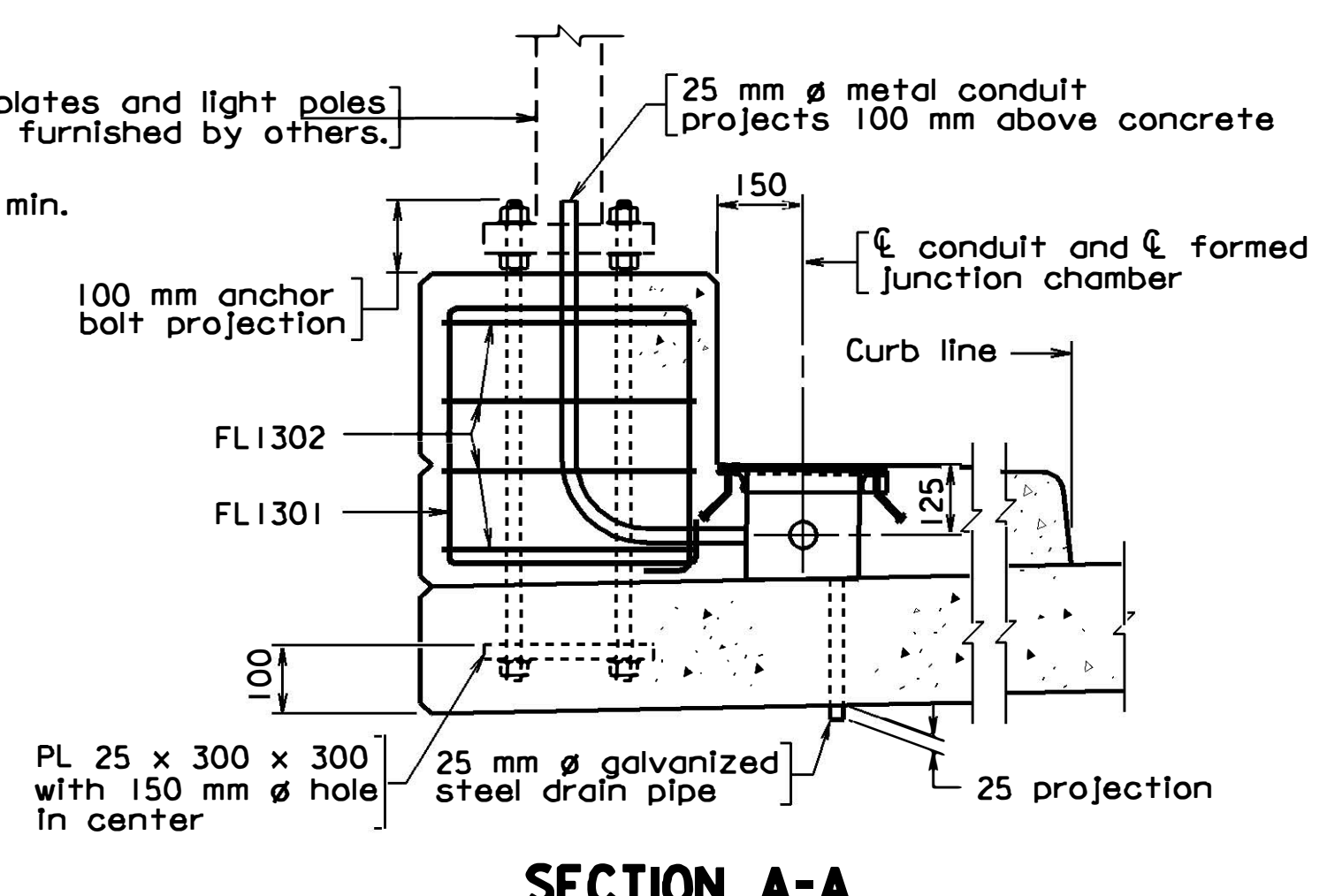
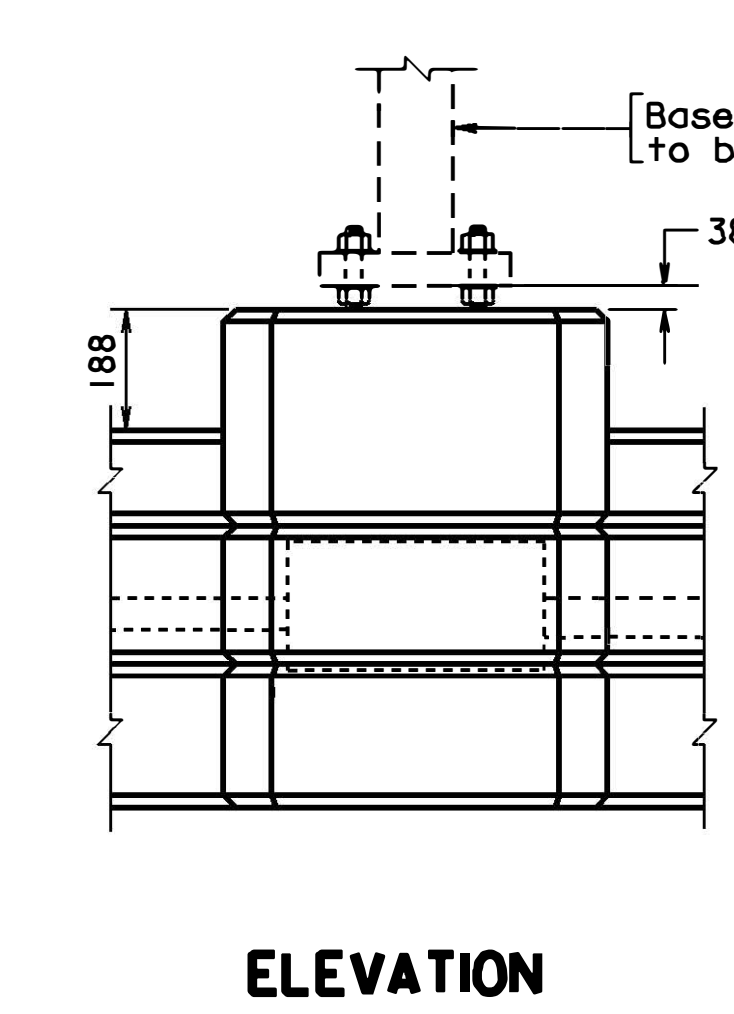
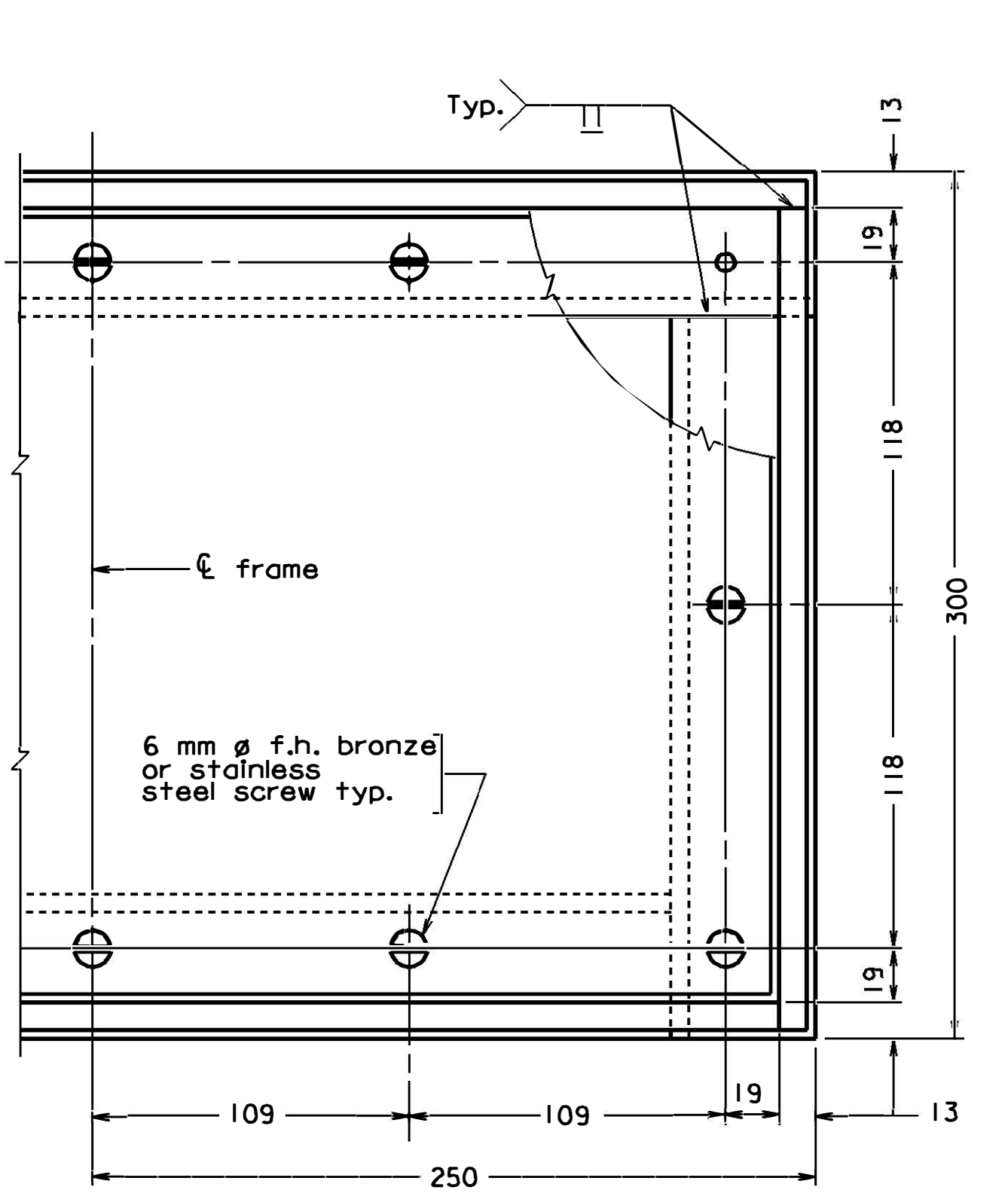
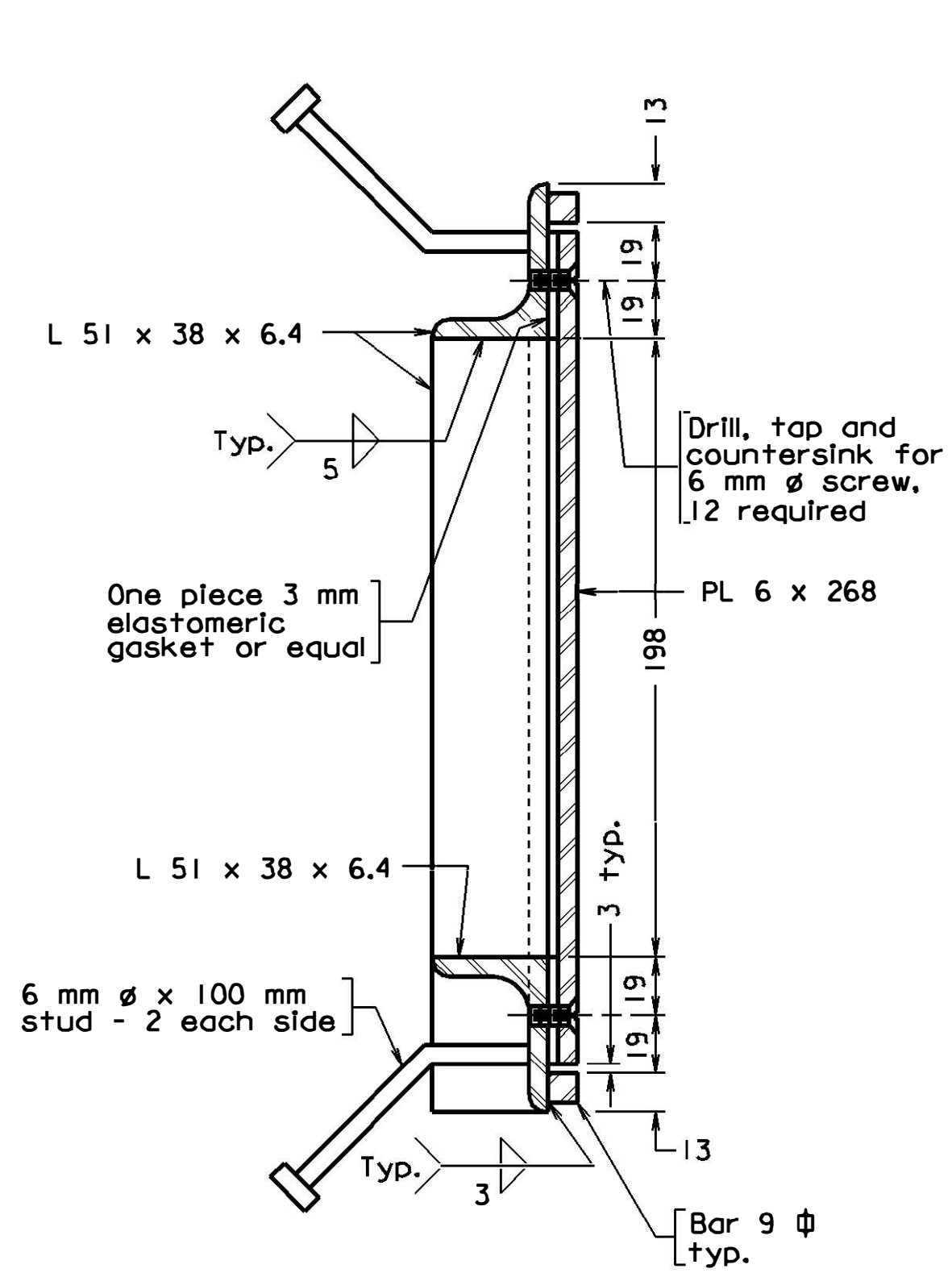
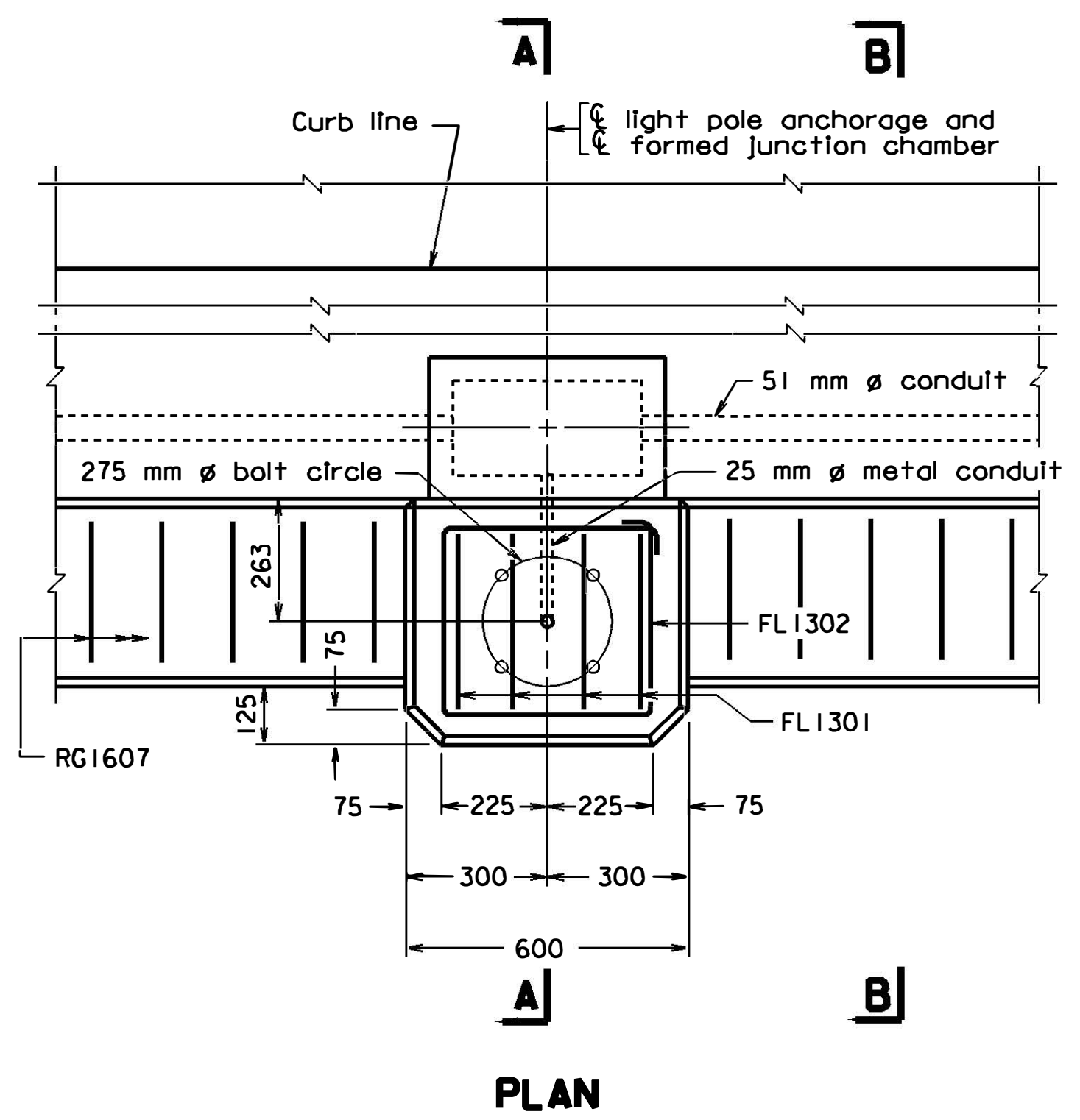
Longitudinal movement is the maximum amount of movement of the expansion and deflection fitting calculated for placement at 16 °C and shall be adjusted in accordance with manufacturer's requirements. The amount of movement shall be increased or decreased for every 5 °C temperature drop or rise respectively by t.

The Contractor shall determine all dimensions and details necessary for installation.

For location of light pole foundation, see sheet 1.

For location of loop detectors, see sheet 17 and 28.

All dimensions are shown in millimeters (mm) unless otherwise noted. Symbol ϕ = diameter.



Abutment	Pier	Longitudinal movement	t	Detail Type
A		5	I	A
B		5	I	A

When deck is continuous over pier, expansion and deflection fitting detail is not required.

REINFORCING STEEL SCHEDULE					
FL1301			FL1302		
Mark	No.	Size	Pin ϕ	Length	Location
FL1301		#13	51	1850	Light base
FL1302		#13	51	1950	Light base
RG1601		#16			
All reinforcing steel shall be epoxy coated. Dimensions in bending diagram are out-to-out of bars. Bar RG1601 (galvanized) is detailed and accounted for on aluminum railing sheet.					

STRUCTURE AND BRIDGE DIVISION					
BRIDGE CONDUIT SYSTEM					
No.	Description	Date	Designed:	Date	Plan No.
Revisions			Drawn:		Sheet No.
			Checked:		23 of 30

b2848.1023

Not to scale

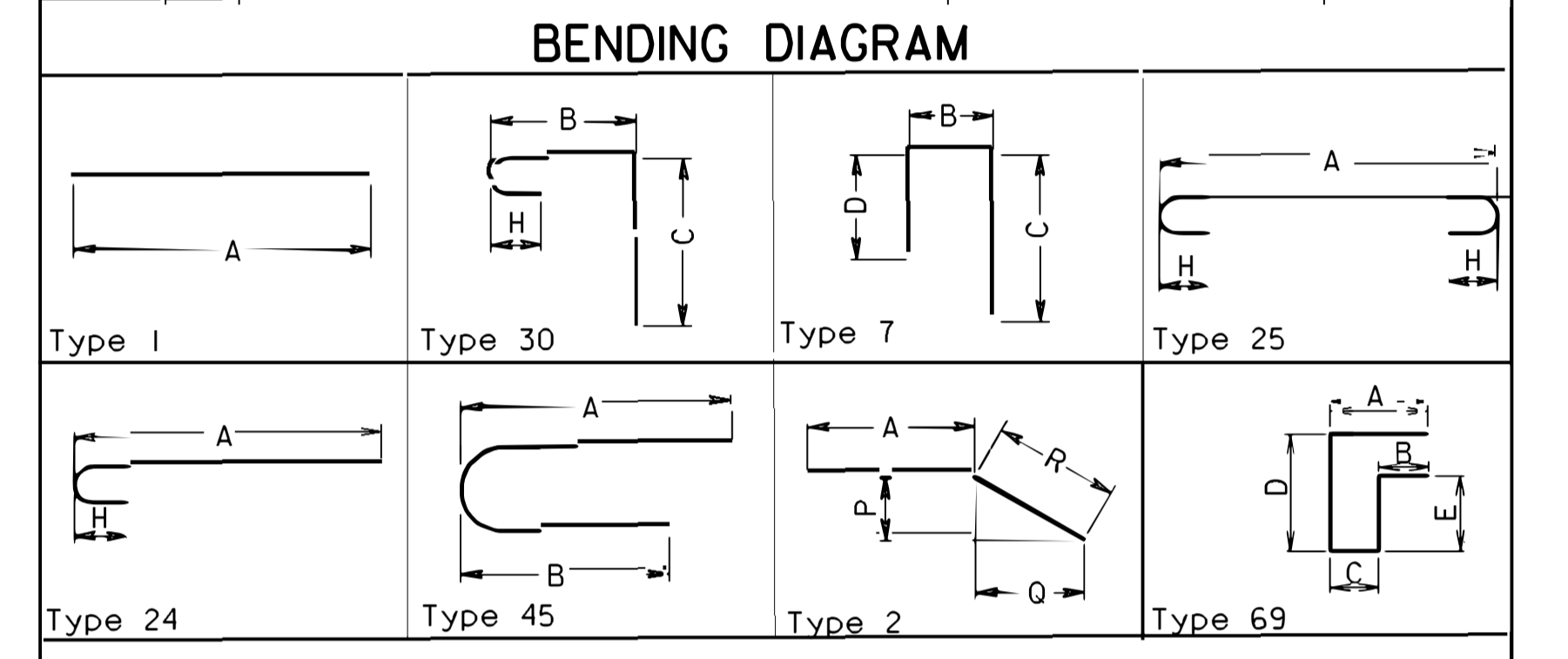


REINFORCING STEEL SCHEDULE						DIMENSION TABLE																		
MARK	NO.	BAR SIZE	PIN DIA. mm	LENGTH mm	WEIGHT kg	LOCATION	MARK	TYPE	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	V mm	N		
ABUTMENT A FOOTING																								
AF1901	36	19	450	3150	253	FOOTING	AF1901	45	1450	1450														
AF1902	56	19	450	3350	419	FOOTING	AF1902	45	1550	1550														
AF1903	4	19	450	3950	35	FOOTING	AF1903	45	1850	1850														
AF1904	56	19		2300	288	FOOTING	AF1904	I	2300															
AF1905	4	19		18290	164	FOOTING	AF1905	I	18290															
AF1906	2	19		11500	51	FOOTING	AF1906	I	11500															
AF1907	2	19		14130	63	FOOTING	AF1907	I	14130															
AF2508	9	25		18290	654	FOOTING	AF2508	I	18290															
AF2509	2	25		1730	14	FOOTING	AF2509	I	1730															
AF1910	4	19		1550	14	FOOTING	AF1910	I	1550															
AF2511	22	25		3100	271	FOOTING	AF2511	I	3100															
AF1912	4	19		3450	31	FOOTING	AF1912	I	3450															
AF2513	26	25		3100	320	FOOTING	AF2513	I	3100															
AF1914	6	19		3100	42	FOOTING	AF1914	I	3100															
AF1315	14	13		1000	14	FOOTING	AF1315	I	1000															
AF2516	14	25	152	2280	127	FOOTING	AF2516	24	2000							203								
AF2517	2	25		2300	18	FOOTING	AF2517	I	2300															
AF1318	107	13		1500	160	FOOTING	AF1318	I	1500															
AF1319	151	13		2100	315	FOOTING	AF1319	I	2100															
AF2520	9	25		14130	505	FOOTING	AF2520	I	14130															
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					3758																			
ABUTMENT A - NEAT EPOXY COATED																								
AH1301	28	30	13	18290	509	SEAT/BACKWALL	AH1301	I	18290															
AH1302	28	30	13	13300	370	SEAT/BACKWALL	AH1302	I	13300															
AH1603	84	16		3000	391	SEAT	AH1603	I	3000															
AH1604	7	16		1080	12	SEAT	AH1604	I	1080															
AH1306	2	13		6000	17	BACKWALL	AH1306	I	6000															
AV1301	157	13	51	3190	497	SEAT	AV1301	30		1335	1750					102								
AV1302	101	13	51	3220	323	BACKWALL	AV1302	7		190	1887	2100	1187	600										
AV1303	101	13		1040	105	BACKWALL	AV1303	30		335	600	2400				102								
AV1304	101	13		2150	216	SEAT	AV1304	I	2150															
AW1301	14	13		3780	53	WINGWALL	AW1301	I	3780															
AW1902	14	19		3480	109	WINGWALL	AW1902	I	3480															
AW1303	16	13		2380	38	WINGWALL	AW1303	I	2375															
AW1304	12	13		3080	37	WINGWALL	AW1304	I	3080															
AW1305	8	13		5230	42	WINGWALL	AW1305	I	5230															
AW1306	8	13		3080	24	WINGWALL	AW1306	I	3080															
AW2207	8	22		2900	71	WINGWALL	AW2207	I	2900															
AW1308	16	13		5100	81	WINGWALL	AW1308	I	5100															
AW1309	22	13		2850	62	WINGWALL	AW1309	I	2850															
AW1310	14	13		2100	29	WINGWALL	AW1310	I	2100															
AW1611	11	16	95	1750	30	WINGWALL	AW1611	25	1400							127								
AW1612	14	16	95	1850	40	WINGWALL	AW1612	25	1500							127								
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					3039																			
WALL FOOTING																								
WF1301	39	13		1800	70	FOOTING	WF1301	I	1800															
WF2502	38	25	152	2280	344	FOOTING	WF2502	24	2000							203								
WF1903	24	19	450	2350	126	FOOTING	WF1903	45	1050	1050														
WF1904	6	19		8700	117	FOOTING	WF1904	I	8700															
WF1905	8	19		3600	64	FOOTING	WF1905	I	3600															
WF2506	22	25		8700	760	FOOTING	WF2506	I	8700															
WF2907	98	29		3600	1785	FOOTING	WF2907	I	3600															
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					3266																			
STEM - NEAT EPOXY COATED																								
WH1301	12	13		8620	103	STEM	WH1301	I	8620															
WH1302	12	13		8450	101	STEM	WH1302	I	8450															
WH1303	6	13	475 TO	8620	27	STEM	WH1303	I	VARY															
WH1304	6	13	300 TO	8450	26	STEM	WH1304	I	VARY															
WH1305	1	13		8720	9	STEM	WH1305	I	8720															
WH1306	1	13		8550	8	STEM	WH1306	I	8550															
WV1301	39	13		2400 TO	119	STEM	WV1301	I	VARY															
WV1602	38	16		3000 TO	215	STEM	WV1602	I	VARY															
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					608																			
ABUTMENT B FOOTING																								
AF1921	40	19		2600	232	FOOTING	AF1921	I	2600															
AF1922	6	19		18290	245	FOOTING	AF1922	I	18290															
AF1923	4	19		15200	136	FOOTING	AF1923	I	15200															
AF1924	2	19		14000	63	FOOTING	AF1924	I	14000															
AF2525	11	25		18290	799	FOOTING	AF2525	I	18290															
AF2526	7	25		15300	426	FOOTING	AF2526	I	15300															
AF2527	4	25		13700	218	FOOTING	AF2527	I	13700															
AF1928	8	19		3300	59	FOOTING	AF1928	I	3300															
AF2529	16	25		7600	483	FOOTING	AF2529	I	7600															
AF2930	56	29		3300	935	FOOTING	AF2930	I	3300															
AF1931	6	19		6800	91	FOOTING	AF1931	I	6800															
AF1632	196	16		2600	791	FOOTING	AF1632	I	2600															
AF1333	22	13		1300	28	FOOTING	AF1333	I	1300															
AF2534	22	25		2500	219	FOOTING	AF2534	I	2500															
AF1635	116	16		1600	288	FOOTING	AF1635	I	1600															
AF1636	155	16		2200	529	FOOTING	AF1636	I	2200															
AF2537	2	25	152	2950	23	FOOTING	AF2537	2	1300					841	1433	1650								
AF1938	2	19		1500	7	FOOTING	AF1938	I	1500															
AF1339	128	19	450	2250	643	FOOTING	AF1339	45	1000	1000														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					6216																			

DIMENSION VARIATION TABLE									
MARK	NO. EA. LEN.	D							

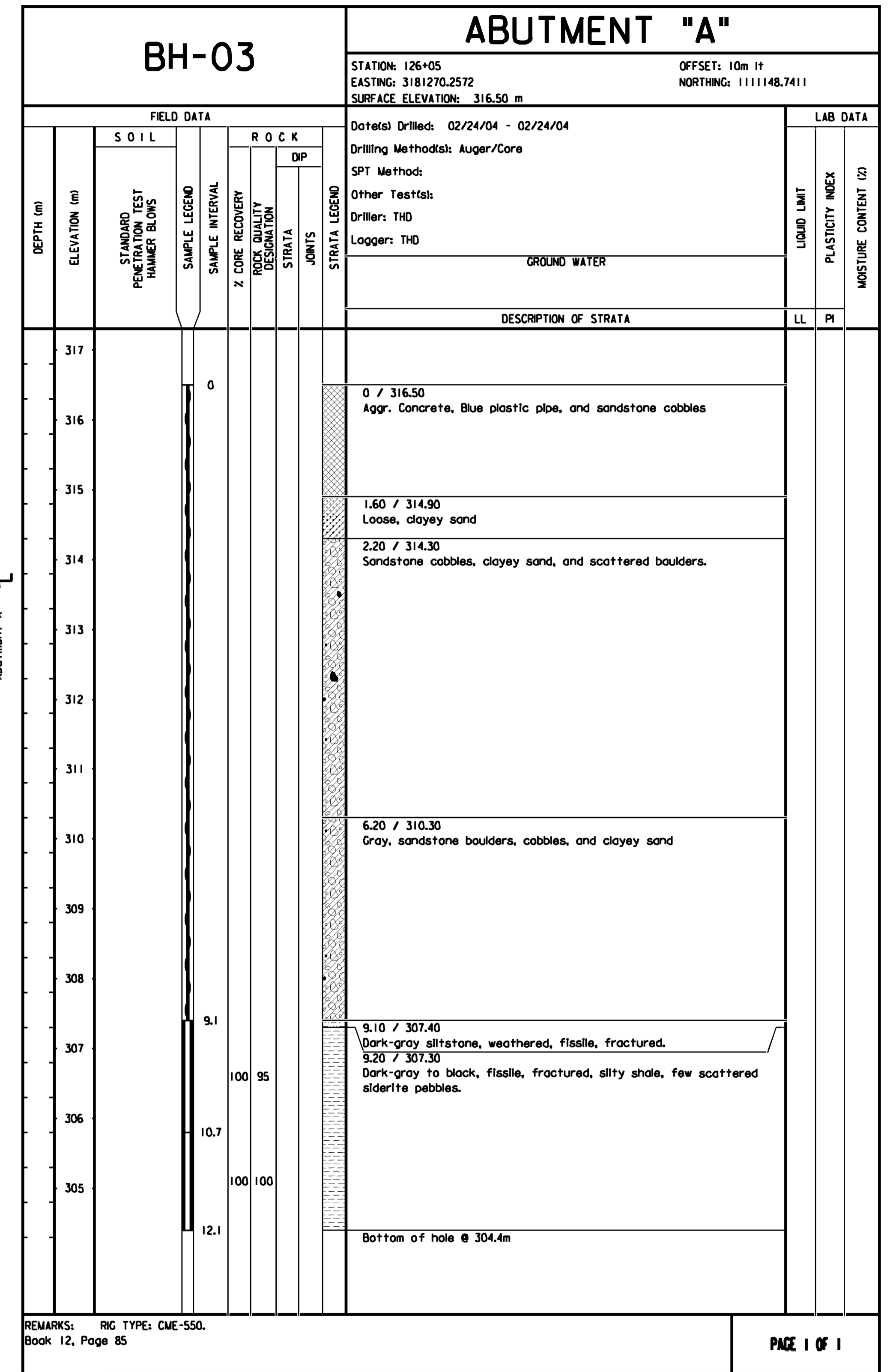
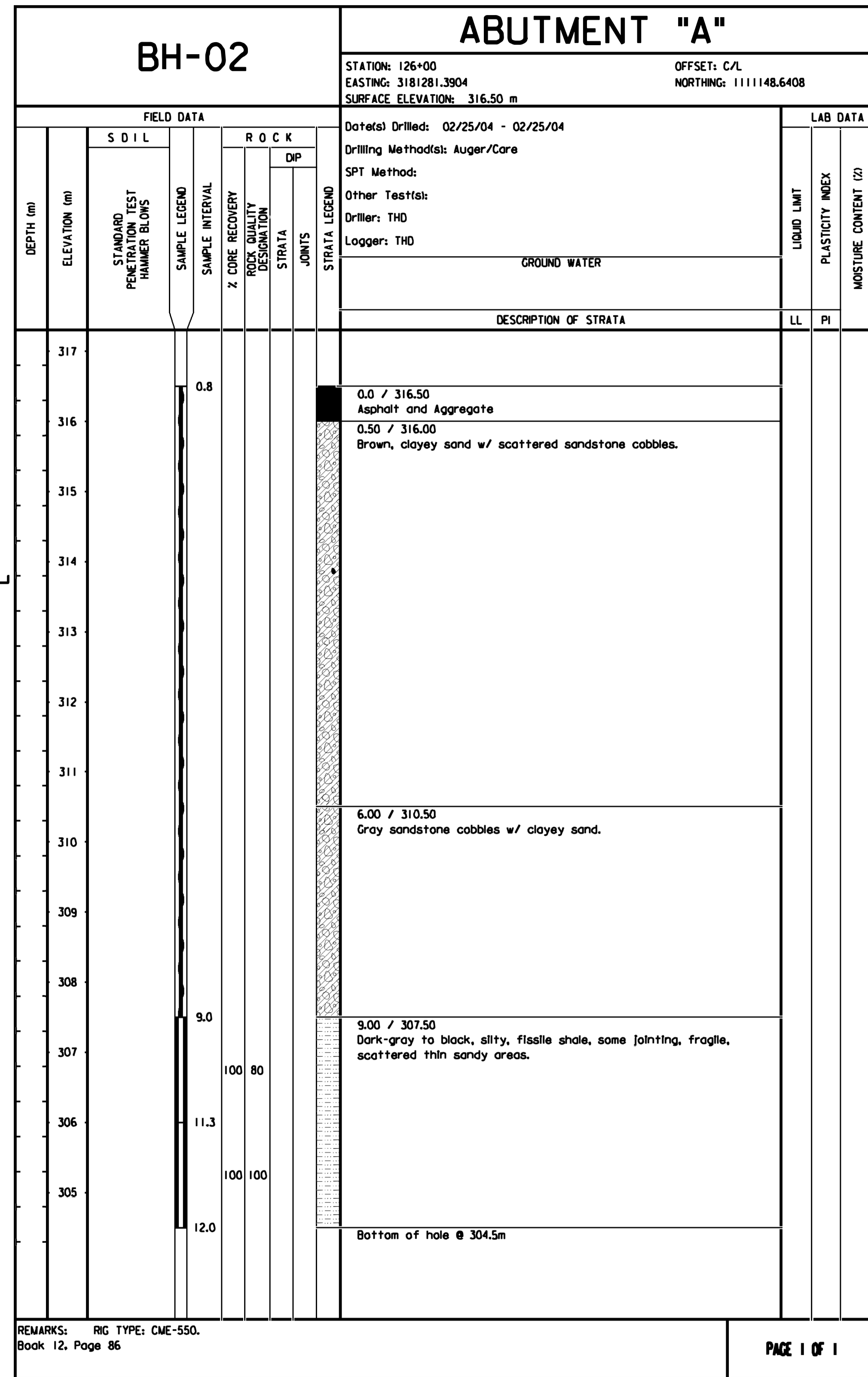
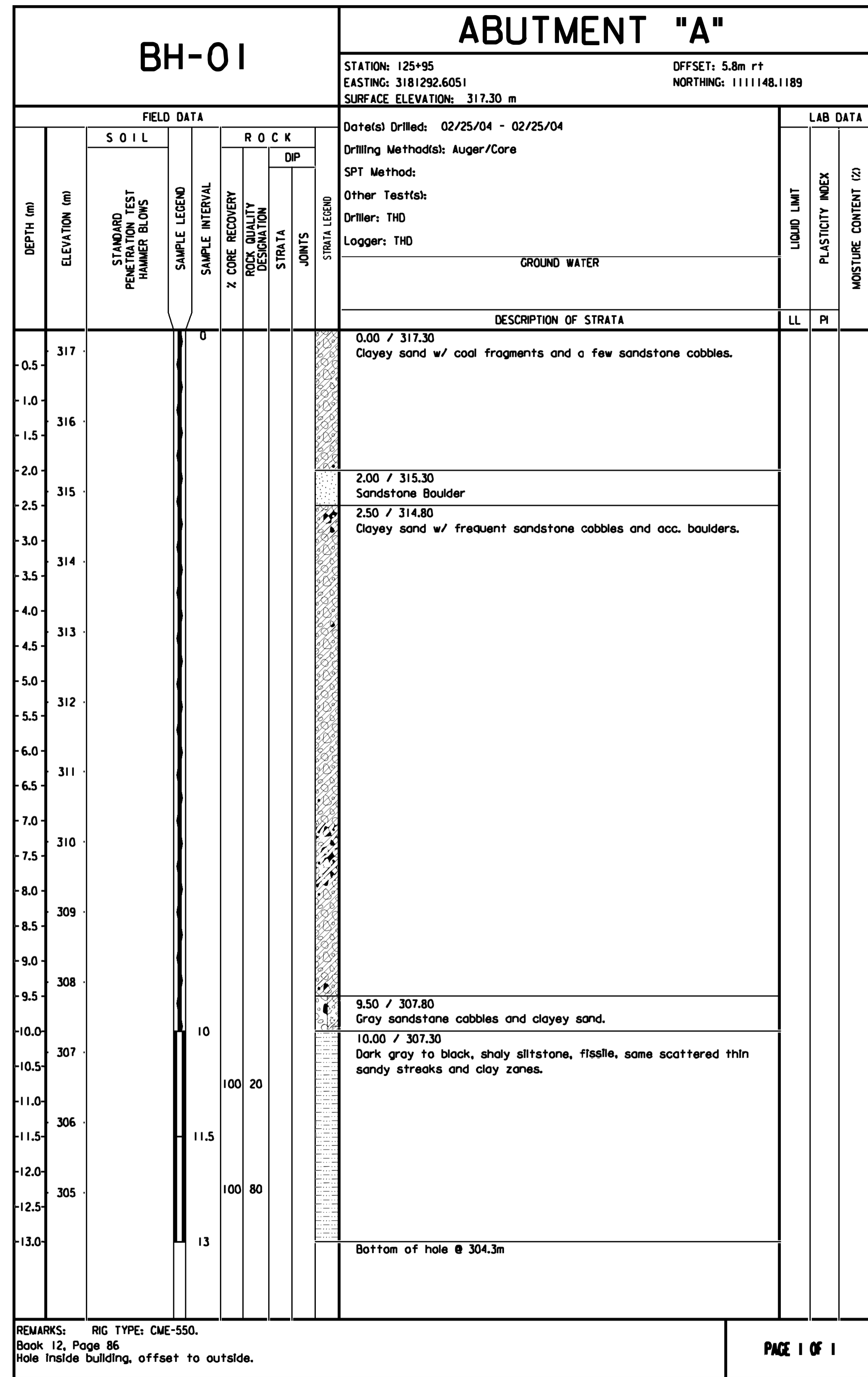
REINFORCING STEEL SCHEDULE							DIMENSION TABLE																	
MARK	NO.	BAR SIZE	PIN DIA. mm	LENGTH mm	WEIGHT kg	LOCATION	MARK	TYPE	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	V mm	N		
ABUTMENT B NEAT EPOXY COATED																								
AH1309	36	38	13	18290	655	69+	SEAT - BACKWALL	AH1309	I	18290														
AH1310	32	34	13	15400	490	520	SEAT - BACKWALL	AH1310	I	15400														
AH1311	2	13		10000		20	SEAT - BACKWALL	AH1311	I	10000														
AH1312	2	13		8300		17	SEAT - BACKWALL	AH1312	I	8300														
AH1613	7	16		1100		12	SEAT	AH1613	I	1100														
AH1614	7	16		3300		36	SEAT	AH1614	I	3300														
AH1615	77	16		3000		359	BACKWALL	AH1615	I	3000														
AV1305	163	13	51	4140		670	SEAT	AV1305	30							102								
AV1306	108	13	51	3220		346	BACKWALL	AV1306	7		1335													
AV1307	108	13	51	1040		112	BACKWALL	AV1307	30		190	2700												
AV1308	108	13		3200		344	SEAT	AV1308	I	3200														
AW1314	14	13		6500		90	WINGWALL	AW1314	I	6500														
AW1315	22	13		4520		99	WINGWALL	AW1315	I	4520														
AW1916	22	19		4030		198	WINGWALL	AW1916	I	4030														
AW1317	16	13		2400		38	WINGWALL	AW1317	I	2400														
AW1318	9	13		2500		22	WINGWALL	AW1318	I	2500														
AW2219	9	22		2700		74	WINGWALL	AW2219	I	2700														
AW1320	22	13		7200		157	WINGWALL	AW1320	I	7200														
AW1321	14	13		6050		84	WINGWALL	AW1321	I	6050														
AW1322	42	13		2100		88	WINGWALL	AW1322	I	2100														
AW1623	18	16	95	1550		43	WINGWALL	AW1623	25	1200														
AW1624	14	16		2350		51	WINGWALL	AW1624	25	2000														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					4005	++++																		
WALL FOOTING																								
WF1308	20	13		1500		30	FOOTING	WF1308	I	1500														
WF2509	20	25	152	2780		221	FOOTING	WF2509	24	2500														
WF1910	18	19	450	2250		90	FOOTING	WF1910	45	1000		1000												
WF1911	6	19		4900		66	FOOTING	WF1911	I	4900														
WF1912	6	19		3600		48	FOOTING	WF1912	I	3600														
WF2513	22	25		4900		428	FOOTING	WF2513	I	4900														
WF2914	52	29		3600		947	FOOTING	WF2914	I	3600														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					1831																			
STEM - NEAT EPOXY COATED																								
WH1307	28	13		4850		135	STEM	WH1307	I	4850														
WH1308	12	13		4200		29	STEM	WH1308	I	VARY														
WH1309	2	13	76	5260		10	STEM	WH1309	2	5050				95	193	210								
WV1303	20	13		3150		83	STEM	WV1303	I	VARY														
WV1904	20	19		2900		174	STEM	WV1904	I	VARY														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					432																			
SUPERSTRUCTURE EPOXY COATED																								
SC1601	82	16		1150		1229	SLAB	SC1601	I	VARY														
SC1602	258	16		18290		7324	SLAB	SC1602	I	18290														
SC1603	104	16		10500		941	SLAB	SC1603	I	VARY														
SC1604	154	16		11200		2677	SLAB	SC1604	I	11200														
SC1605	106	16		18130		1574	SLAB	SC1605	I	VARY														
SL1301	700	13		9140		6660	SLAB	SL1301	I	9140		9572												
SL1302	350	13		11450		3983	SLAB	SL1302	I	11450														
ES1301	4	13	76	13030		52	SLAB	ES1301	2	12400			281	570	630									
ES1302	8	13	76	18290		145	SLAB	ES1302	2	17690			311	520	600									
ES1303	4	13	76	20600		82	SLAB	ES1303	2	14400			3273	5272	6200									
ES1904	370	19		1800		1488	SLAB	ES1904	I	1800														
SW1001	210	10		1850		218	SIDEWALK	SW1001	I	1850														
SW1002	32	10		9140		172	SIDEWALK	SW1002	I	9140														
SW1003	16	10		11400		102	SIDEWALK	SW1003	I	11400														
SW1004	5	10		2050		6	SIDEWALK	SW1004	I	2050														
SW1005	5	10		2240		6	SIDEWALK	SW1005	I	2240														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					26659	23760																		
DS 301	126	3	51	3350		419	END DIAPHRAGM	DS 301	69	450		450	138	1230	1180									
DL 901	176	19		1400		551	END DIAPHRAGM	DL 901	I	1400														
DL 902	32	19		2400		172	END DIAPHRAGM	DL 902	I	2400														
DL 903	96	19		2400		229	END DIAPHRAGM	DL 903	I	2400														
DL 904	2	19		1400		6	END DIAPHRAGM	DL 904	I	1400														
DL 905	6	19		1400		8	END DIAPHRAGM	DL 905	I	1400														
DL 906	10	19		1650		37	END DIAPHRAGM	DL 906	I	1650														
DL 907	30	19		1650		49	END DIAPHRAGM	DL 907	I	1650														
DL 908	2	19		2300		10	END DIAPHRAGM	DL 908	I	2300														
DL 909	6	19		2300		14	END DIAPHRAGM	DL 909	I	2300														
DL 910	2	19		2450		11	END DIAPHRAGM	DL 910	I	2450														
DL 911	6	19		2450		15	END DIAPHRAGM	DL 911	I	2450														
TOTAL WEIGHT IN PRECEDING GROUP OF BARS					1520																			

DIMENSION VARIATION TABLE									
MARK	NO. E.A. LEN.	DIMEN- SION	FROM mm	TO mm	VARY BY mm	DIMEN- SION	FROM mm	TO mm	VARY BY mm
WH1308	2	A	725	4200	695				
WV1303	1	A	3150	5150	105				
WV1904	1	A	2900	4900	105				
SC1601	2	A	1150	18170	426				
SC1603	4	A	1160	10500	374				
SC1605	2	A	1000	18130	329				



NOTES:
Dimensions in Bending Diagram are out-to-out of bars.

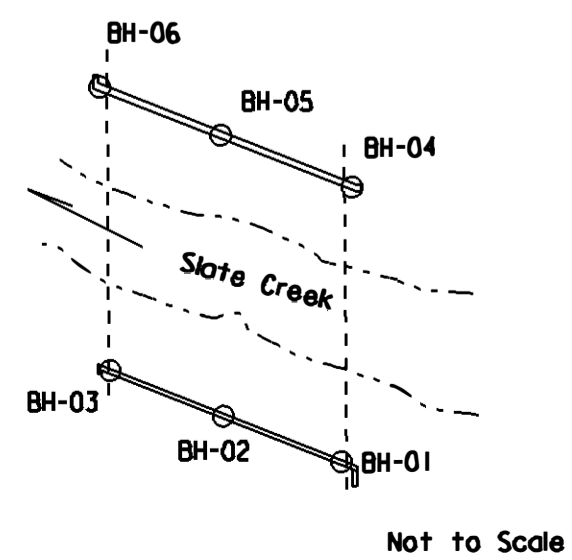
REINFORCING STEEL SCHEDULE II			
Extended deck slab	5/8/08	Designed: _____	Date: _____
No. _____	Description _____	Drawn: _____	Plan No. _____
Revisions		Checked: _____	Sheet No. 25 OF 30



THE SUBSURFACE INFORMATION SHOWN ON THE BORING LOGS IN THESE PLANS WAS OBTAINED WITH REASONABLE CARE AND RECORDED IN GOOD FAITH SOLELY FOR USE BY THE DEPARTMENT IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE DEPARTMENT HAS NO REASON TO SUSPECT THAT SUCH INFORMATION IS NOT REASONABLY ACCURATE AS AN APPROXIMATE INDICATION OF THE SUBSURFACE CONDITIONS AT THE SITES WHERE THE BORINGS WERE TAKEN. THE DEPARTMENT DOES NOT IN ANY WAY WARRANT OR GUARANTEE THAT SUCH DATA CAN BE PROJECTED AS INDICATIVE OF CONDITIONS BEYOND THE LIMITS OF THE BORINGS SHOWN; AND ANY SUCH PROJECTIONS BY BIDDERS ARE PURELY INTERPRETIVE AND ALTOGETHER SPECULATIVE. FURTHER, THE DEPARTMENT DOES NOT IN ANY WAY GUARANTEE, EITHER EXPRESSLY OR BY IMPLICATION, THE SUFFICIENCY OF THE INFORMATION FOR BID PURPOSES.

THE BORING LOGS ARE MADE AVAILABLE TO BIDDERS IN ORDER THAT THEY MAY HAVE ACCESS TO SUBSURFACE DATA IDENTICAL TO THOSE WHICH ARE POSSESSED BY THE DEPARTMENT, AND ARE NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INTERPRETATION AND JUDGMENT BY THE BIDDERS.

Book 12



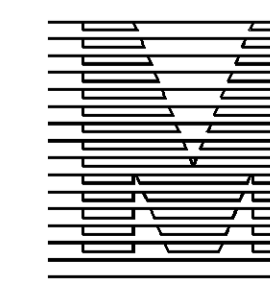
Not to Scale

Note: See Material and Sample Symbols List.

Legend:
 * Groundwater, initially encountered
 * Groundwater, stabilized
 RQD Rock Quality Designation

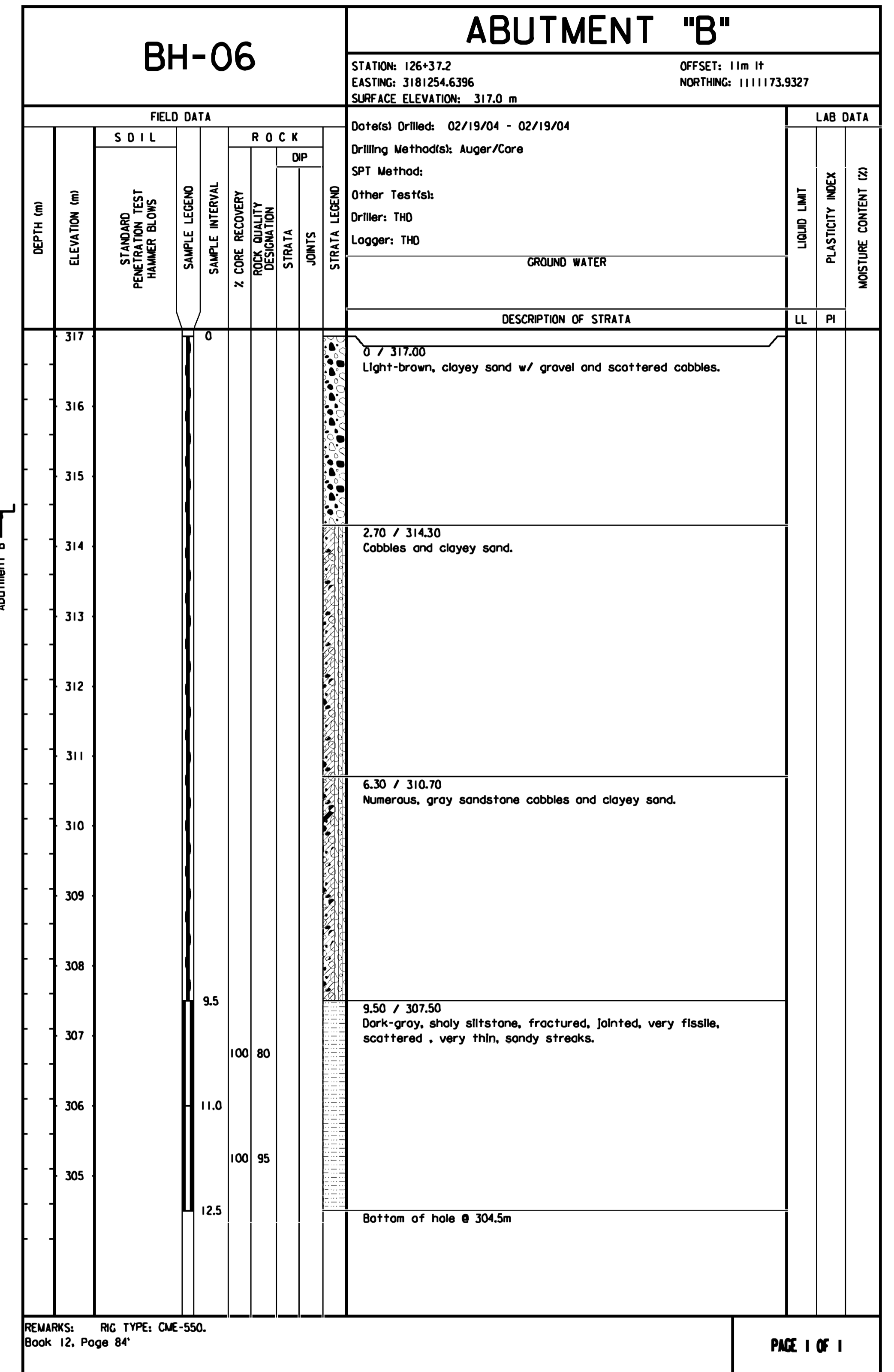
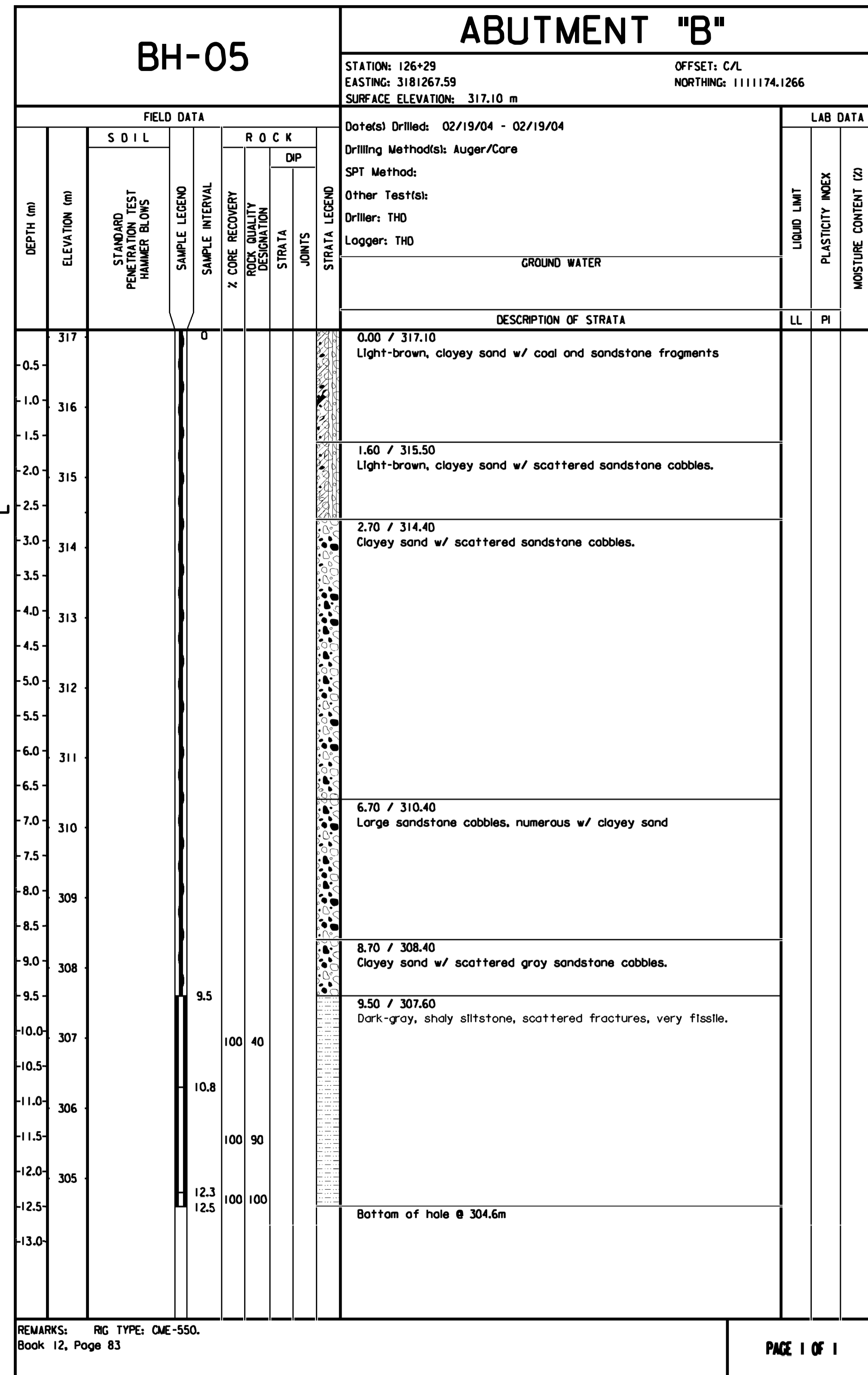
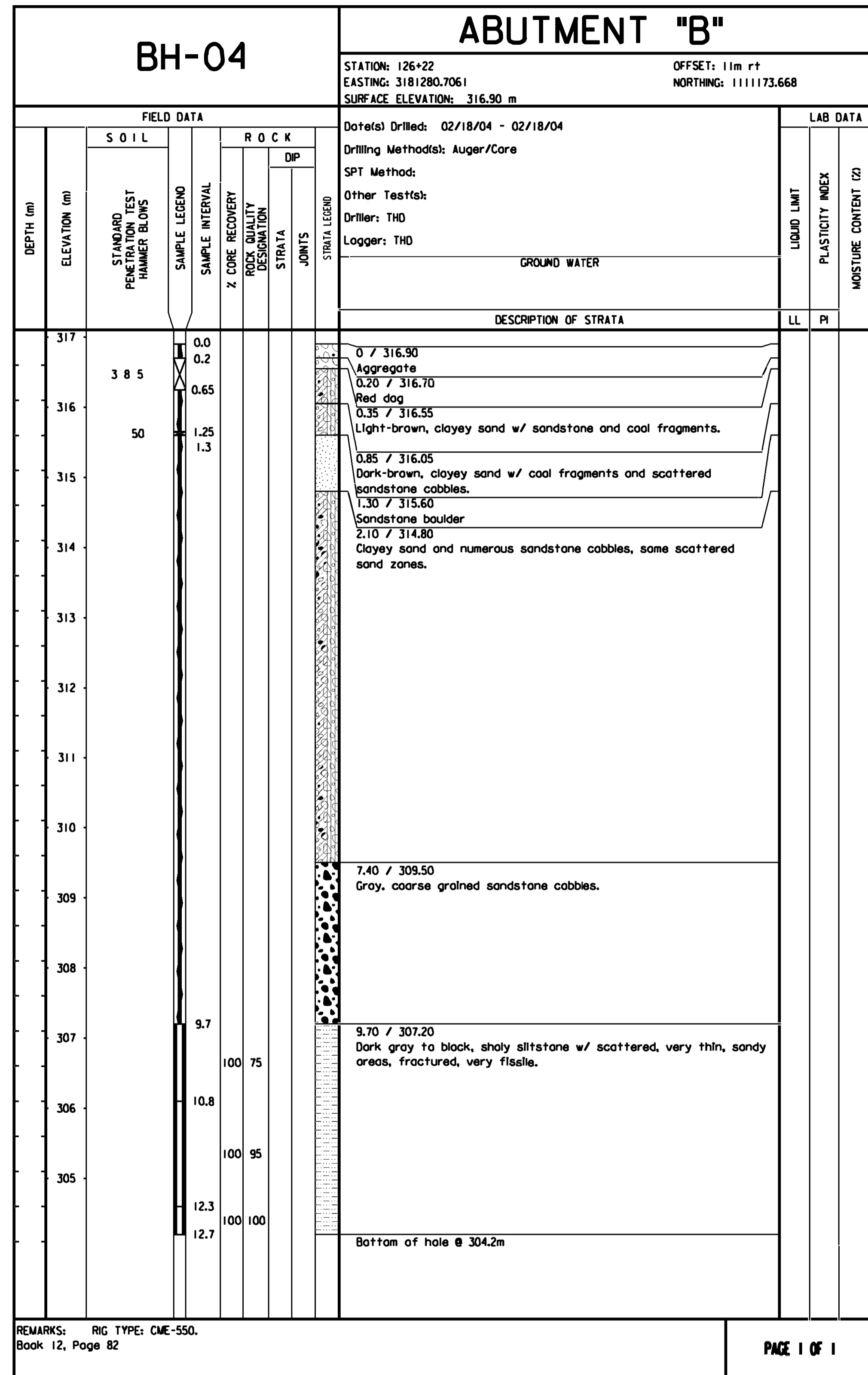
211525 SPT blow counts

BC 51-04-01
 SHEET 1 OF 2



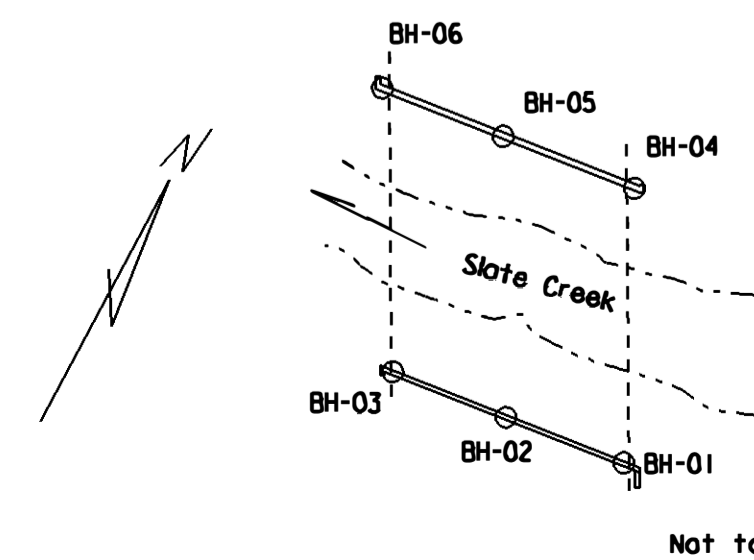
No.	Description	Date	Date	Plan No.	Sheet No.
	Revisions	Checked:			26 of 30

SPT LOG: C:\P148030101\02148.1.0111\020302\0214



THE SUBSURFACE INFORMATION SHOWN ON THE BORING LOGS IN THESE PLANS WAS OBTAINED WITH REASONABLE CARE AND RECORDED IN GOOD FAITH SOLELY FOR USE BY THE DEPARTMENT IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE DEPARTMENT HAS NO REASON TO SUSPECT THAT SUCH INFORMATION IS NOT REASONABLY ACCURATE AS AN APPROXIMATE INDICATION OF THE SUBSURFACE CONDITIONS AT THE SITES WHERE THE BORINGS WERE TAKEN. THE DEPARTMENT DOES NOT IN ANY WAY WARRANT OR GUARANTEE THAT SUCH DATA CAN BE PROJECTED AS INDICATIVE OF CONDITIONS BEYOND THE LIMITS OF THE BORINGS SHOWN; AND ANY SUCH PROJECTIONS BY BIDDERS ARE PURELY INTERPRETIVE AND ALTOGETHER SPECULATIVE. FURTHER, THE DEPARTMENT DOES NOT IN ANY WAY GUARANTEE, EITHER EXPRESSLY OR BY IMPLICATION, THE SUFFICIENCY OF THE INFORMATION FOR BID PURPOSES.

THE BORING LOGS ARE MADE AVAILABLE TO BIDDERS IN ORDER THAT THEY MAY HAVE ACCESS TO SUBSURFACE DATA IDENTICAL TO THOSE WHICH ARE POSSESSED BY THE DEPARTMENT, AND ARE NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INTERPRETATION AND JUDGMENT BY THE BIDDERS.

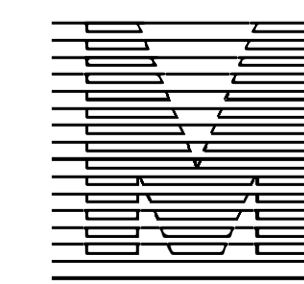


Note: See Material and Sample Symbols List.

Legend:
 * Groundwater, initially encountered
 * Groundwater, stabilized
 RQD Rock Quality Designation

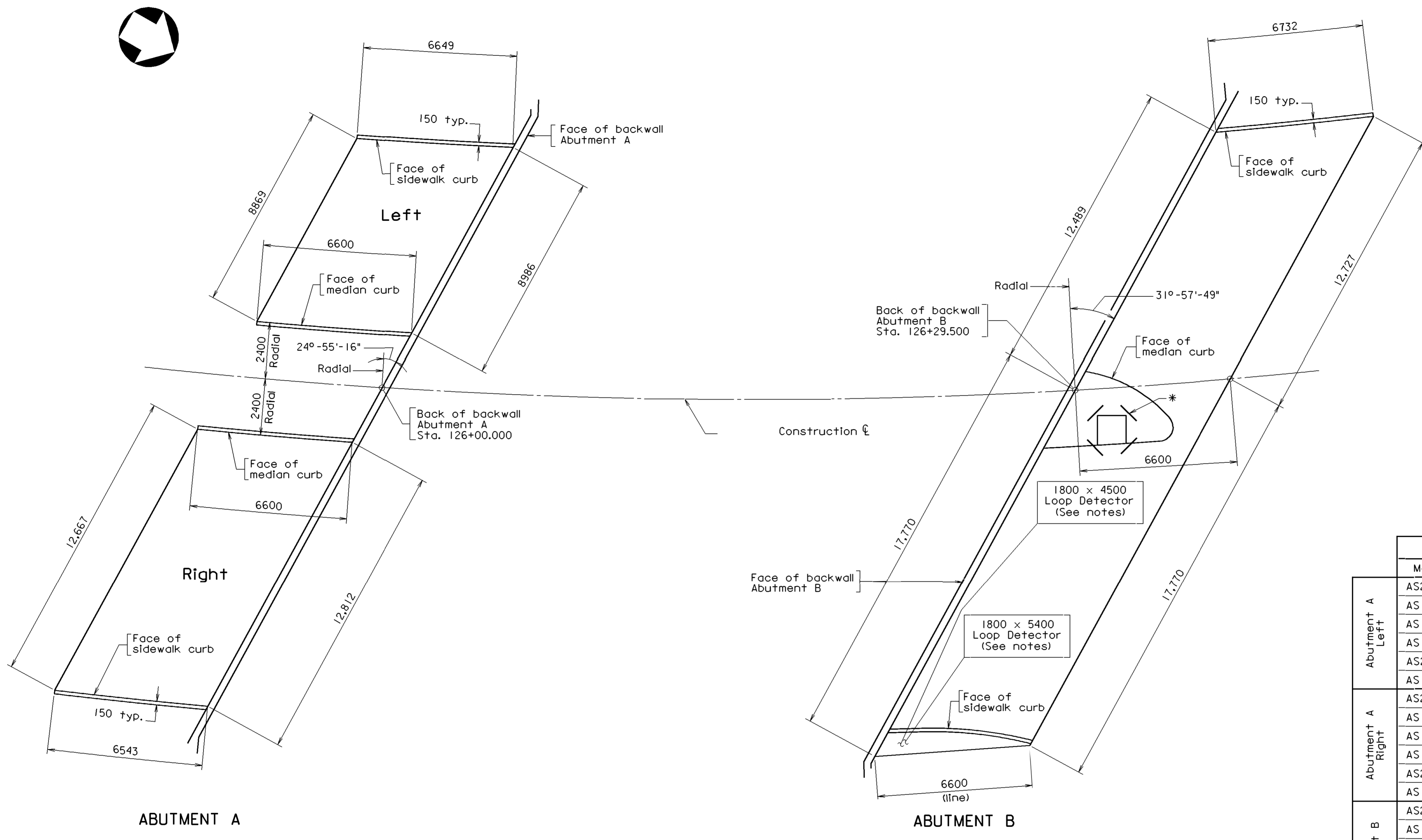
211525 SPT blow counts

BC 51-04-01
SHEET 2 OF 2



No.	Description	Date	Date	Plan No.	Sheet No.
	Revisions				27 of 30

SPT LOG COMPILATION BY: L. J. B. 11/11/03 10:00:00 AM



Notes:

All longitudinal dimensions are measured along arcs, unless otherwise noted.

For additional details, see sheets 29 & 30.

For loop detectors on deck slab, see sheet 17.

△ Loop detectors shall be installed in approach slab by signal contractor prior to pouring concrete.

* See road plans for drop inlet (DI) location. Cut reinforcing steel to clear DI; place cut lengths of reinforcing steel diagonally at corners of the opening.

All dimensions are shown in millimeters (mm) unless otherwise noted.

△ Sidewalk curbs, median end, median curbs and loop detectors are to be installed on the finished roadway surface.

REINFORCING STEEL SCHEDULE						
	Mark	No.	Size	Pin ø	Length	Location
Abutment A Left	AS2501	61	#25	—	6450	Bottom longitudinal
	AS1602	31	#16	—	6450	Top longitudinal
	AS1603	45	#16	—	6100	Top and bottom transverse
	AS1604	45	#16	—	3570	Top and bottom transverse
	AS2508	1	#25	—	6520	Bottom longitudinal (edge)
Abutment A Right	AS1609	1	#16	—	6520	Top longitudinal (edge)
	AS2501	83	#25	—	6450	Bottom longitudinal
	AS1602	42	#16	—	6450	Top longitudinal
	AS1603	45	#16	—	6100	Top and bottom transverse
	AS1605	45	#16	—	7390	Top and bottom transverse
Abutment B	AS2506	1	#25	—	6370	Bottom longitudinal (edge)
	AS1607	1	#16	—	6370	Top longitudinal (edge)
	AS2501	175	#25	—	6450	Bottom longitudinal
	AS1602	88	#16	—	6450	Top longitudinal
	AS1610	90	#16	—	12,190	Top and bottom transverse
	AS1611	45	#16	—	7140	Top and bottom transverse
	AS2512	1	#25	—	6550	Bottom longitudinal (edge)
	AS1613	1	#16	—	6550	Top longitudinal (edge)

ABUTMENT A

ABUTMENT B

APPROACH SLABS LAYOUT
Scale: 1 = 100

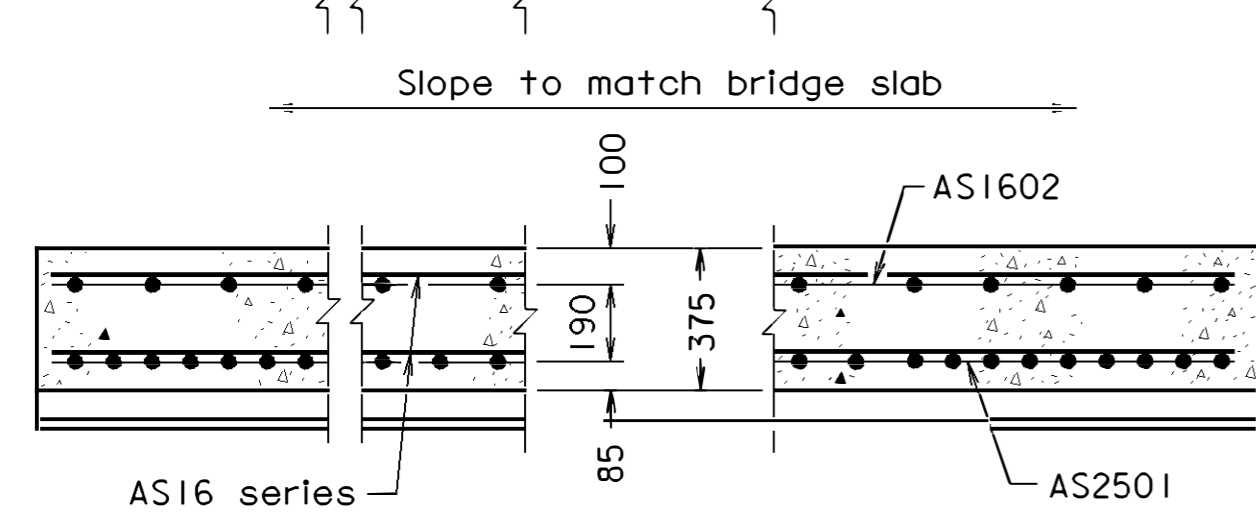
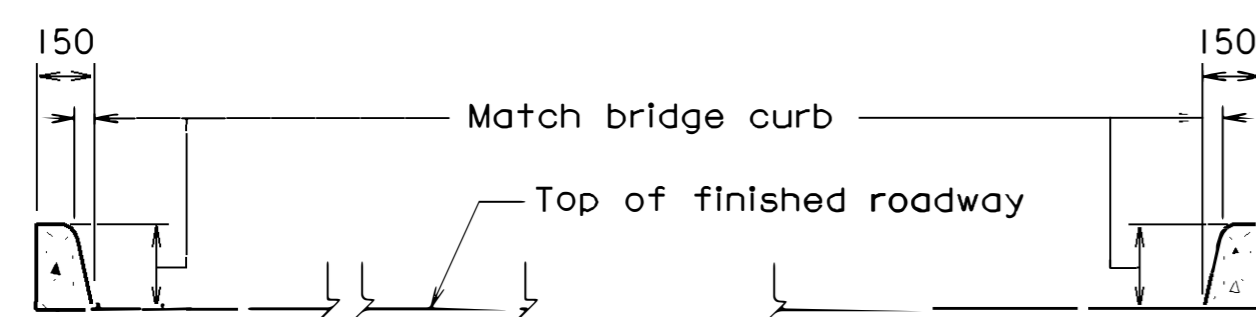
	ESTIMATED QUANTITIES		
	Concrete Class 30 m ³ ⊗	Reinforcing Steel kg ⊗	Asphalt Concrete Type SM-12.5A Metric Ton △
Abutment A - Left	21.0	2585	8
Abutment A - Right	29.7	3525	9
Abutment B	65.8	* 7660	19
Totals	116.5	13,770	34

⊗ Denotes items to be paid for on basis of plan quantities in accordance with current Road and Bridge Specifications.

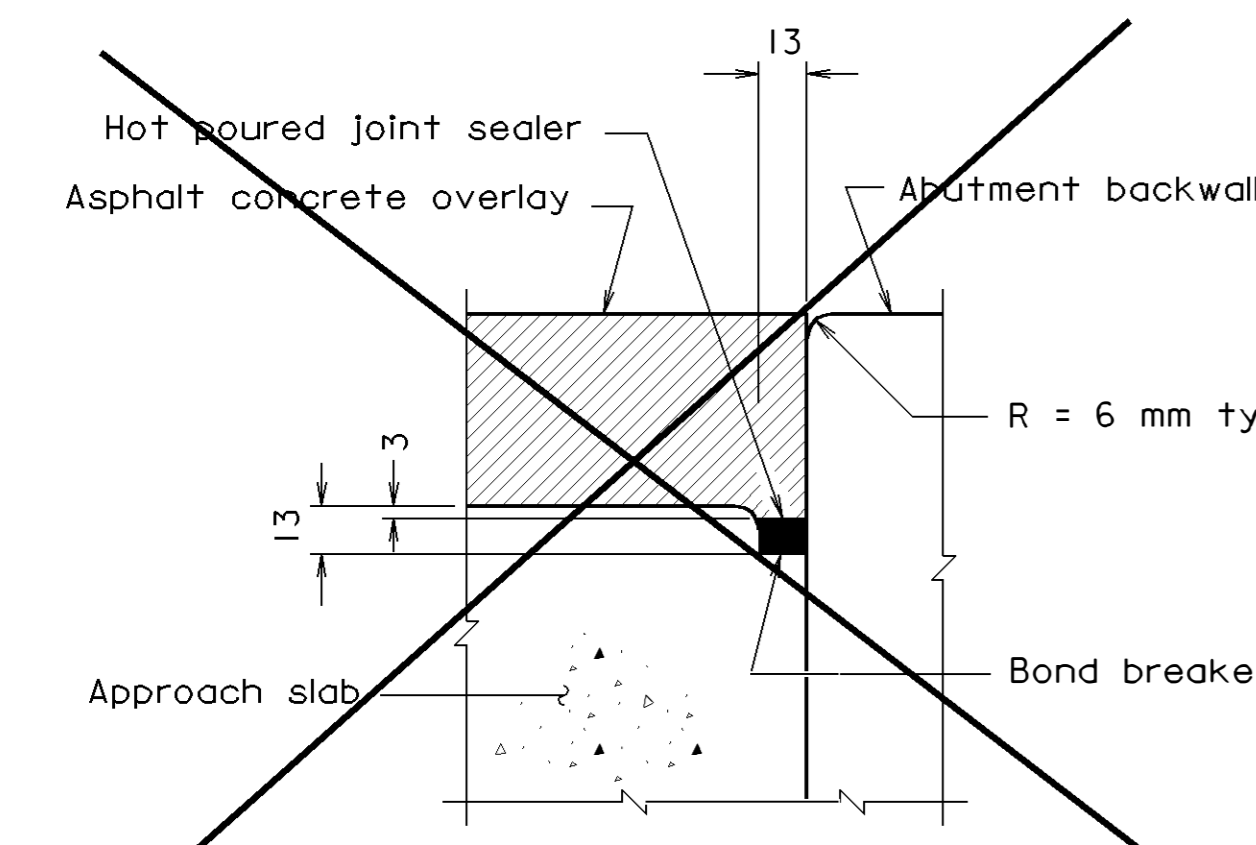
* Reinforcing steel quantity includes 57 kg epoxy-coated welded wire fabric in median.

STRUCTURE AND BRIDGE DIVISION			
APPROACH SLABS LAYOUT			
△	Changed notes	5/8/08	
No.	Description	Date	Designed: _____ Drawn: _____ Checked: _____
Revisions			Date _____ Plan No. _____ Sheet No. 28 of 30

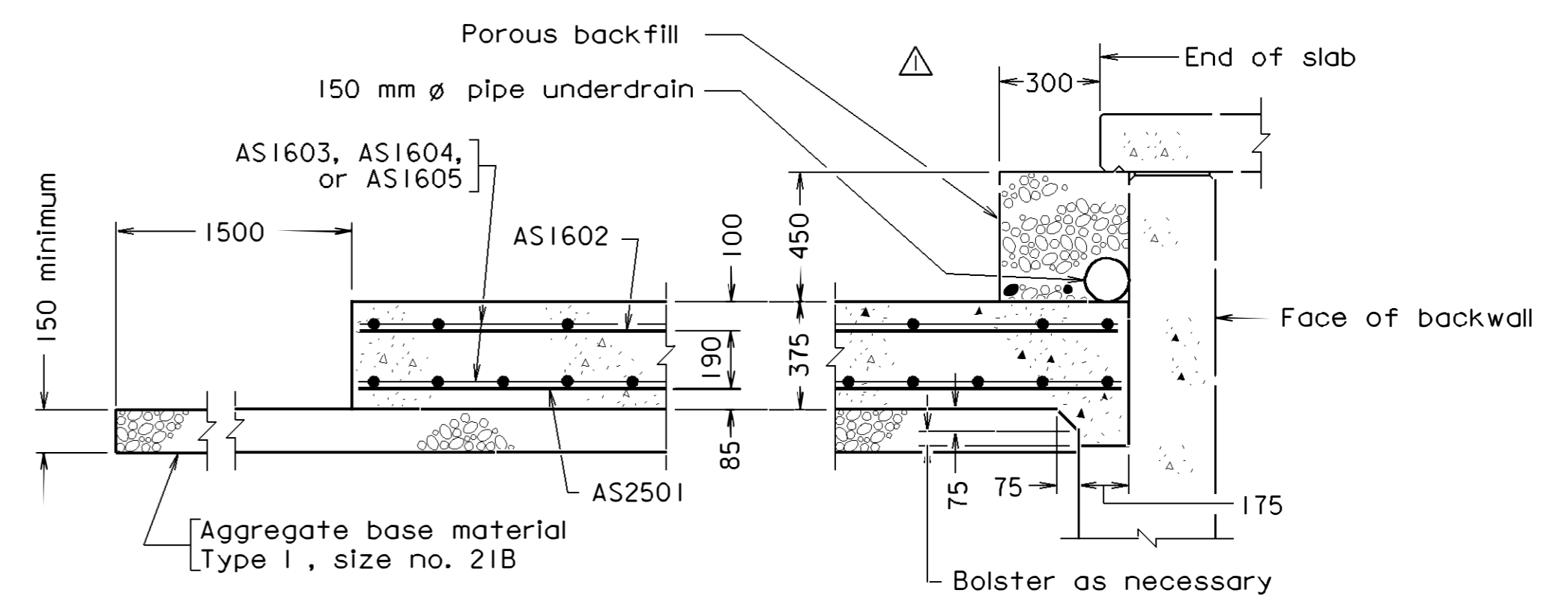
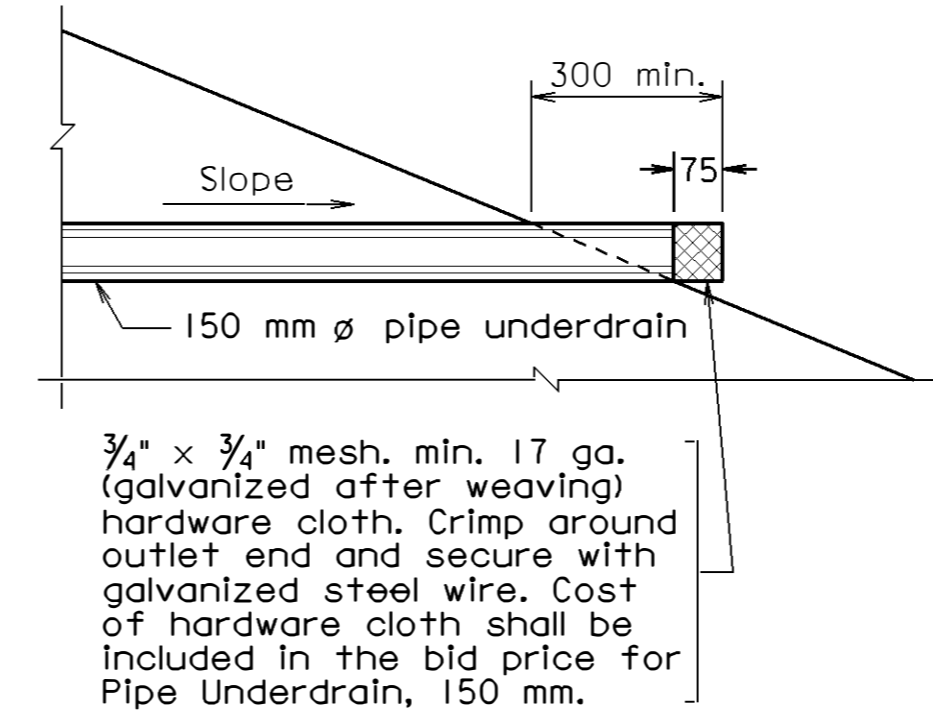
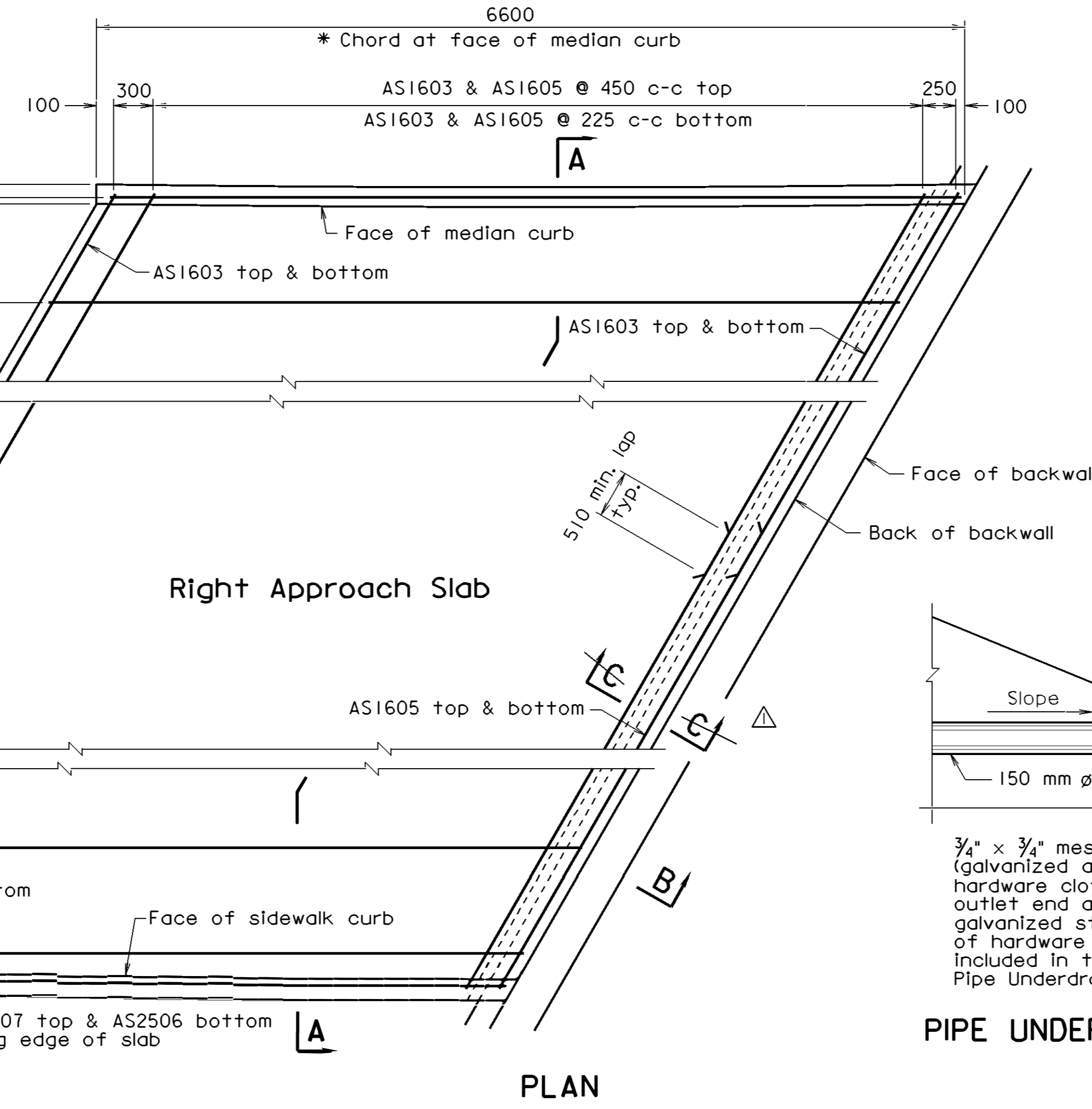
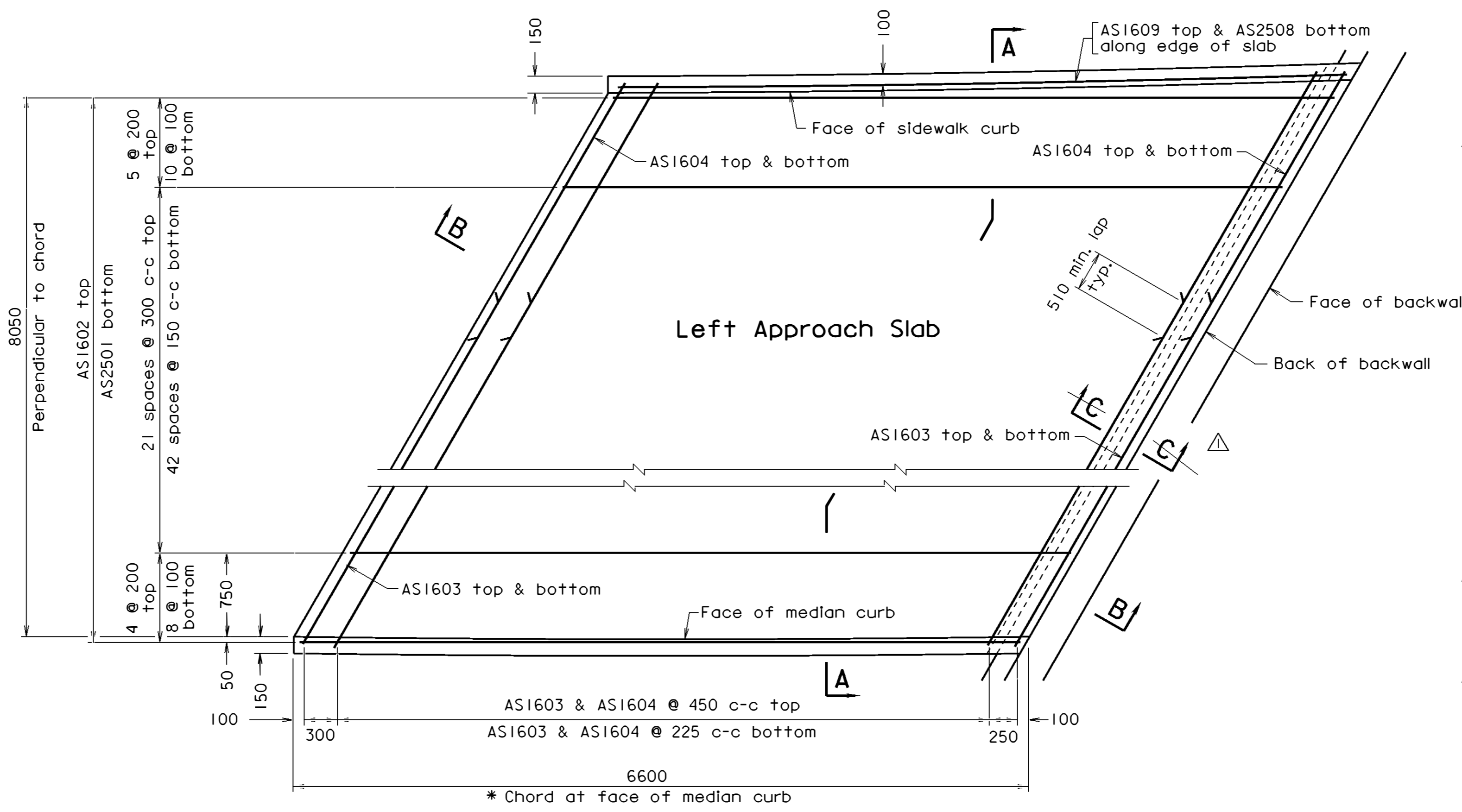
b2848 1028r1



SECTION A-A



SECTION C-C



Notes:

- Capacity: MS18 loading and alternate military loading.
- All joints that are to be sealed shall be free of cracked and spalled areas and their faces shall be free of all foreign matter, curing compound, oils, greases and dirt. All faces must be sand-blasted or brushed with a mechanical rotary wire brush. Just prior to sealing, the joint shall be blown out with oil-free compressed air.
- Deformed reinforcing bars shall conform to ASTM A615M, and shall have a yield strength of 420 MPa. All reinforcing bar dimensions except for bending diagram are to centers of bars.
- The cost for the aggregate material below the approach slab and including the 1500 mm extension will be included in the price bid for concrete for the approach slab and no additional compensation will be allowed.
- Structural approach slabs are not included in the bridge contract.
- Prime aggregate base material with 1.8 liters per m². Liquid Asphalt Material Type RC-70, RC-250 or MC-250 if aggregate base is exposed for more than 2 weeks.
- * Spacings for reinforcing steel bars are parallel and perpendicular to the longitudinal chord at the face of median curb unless otherwise noted.
- For layout geometry of median barrier, see the road plans.
- For estimated quantities and reinforcing steel schedule, see sheet 28.
- All dimensions are shown in millimeters (mm) unless otherwise noted. Symbol ø = diameter.
- △ Pipe underdrain shall conform to the requirements of Section 232.
- The pipe underdrain shall follow the cross slope of the roadway over the approach slab. The pipe underdrain shall extend to 300 mm past the edge of the side slope and be located to provide free drainage away from the structure. The slope towards the side slopes shall be no less than two percent (2%). Porous backfill shall be placed around the pipe underdrain as detailed and as directed by the Engineer. The porous backfill shall extend 300 mm off the end of the deck extension over the buried approach slab and then 450 mm off the end of the deck extension to the outside edge of wings. The porous backfill shall be paid for as Porous Backfill when it is a bid item and when porous backfill is not a bid item it shall be included in the bid price for the buried approach slab. The bid price shall be full compensation for all labor, tools, materials, equipment, and incidentals required for the satisfactory completion of the work.

b28481029r1

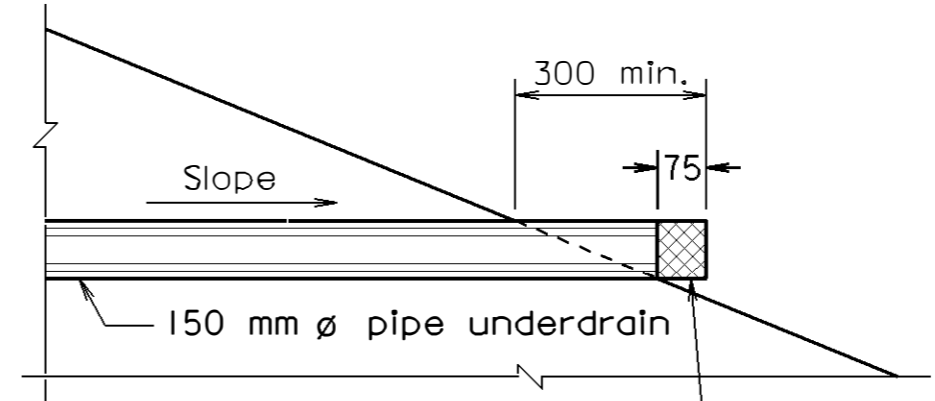
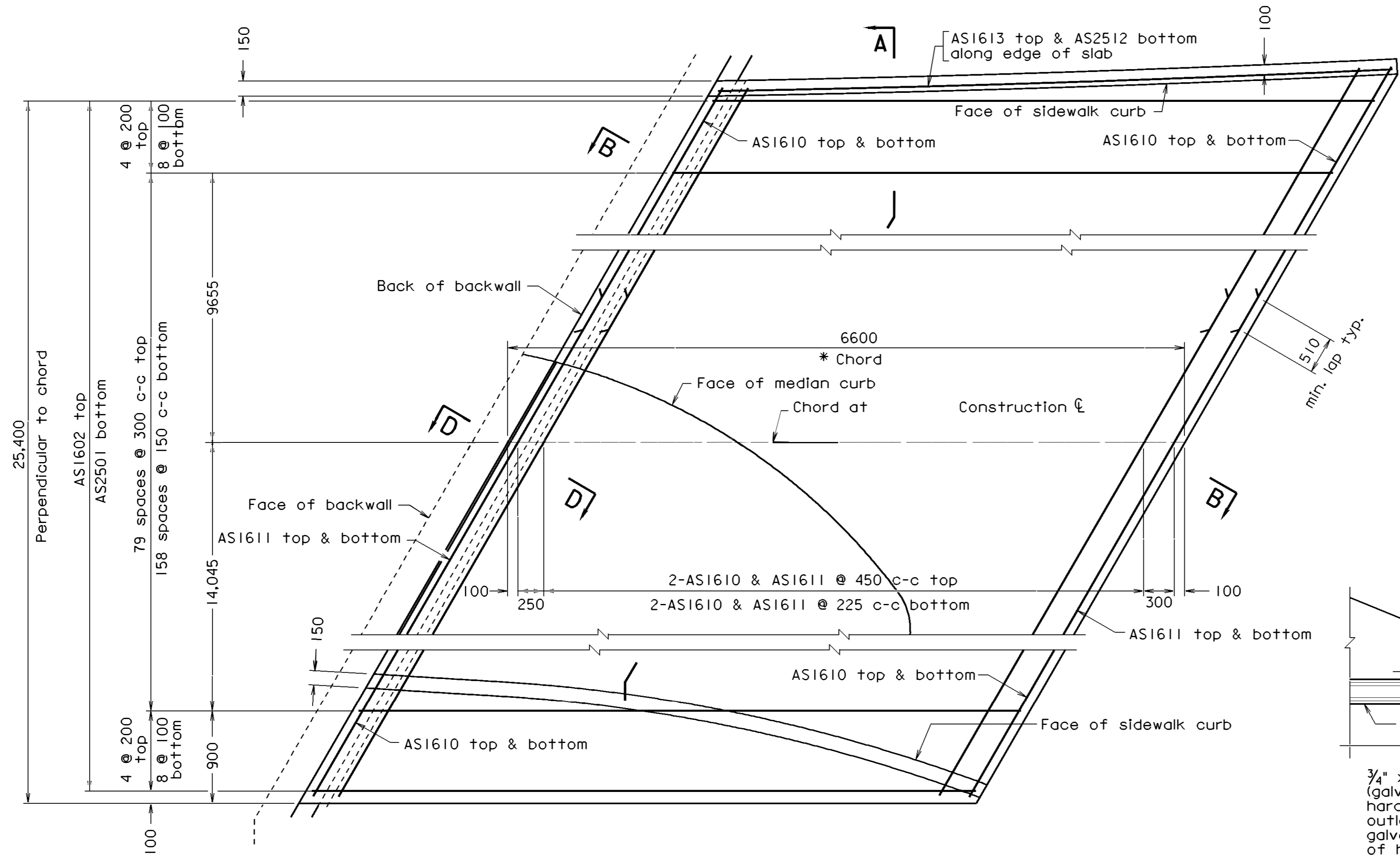


STRUCTURE AND BRIDGE DIVISION					
△ BURIED APPROACH SLABS ABUTMENT A					
△	Changed to buried	5/8/08	Designed: ..	Date	Plan No.
No.	Description	Date	Drawn:		Sheet No.
Revisions			Checked:		29 of 30

Not to scale

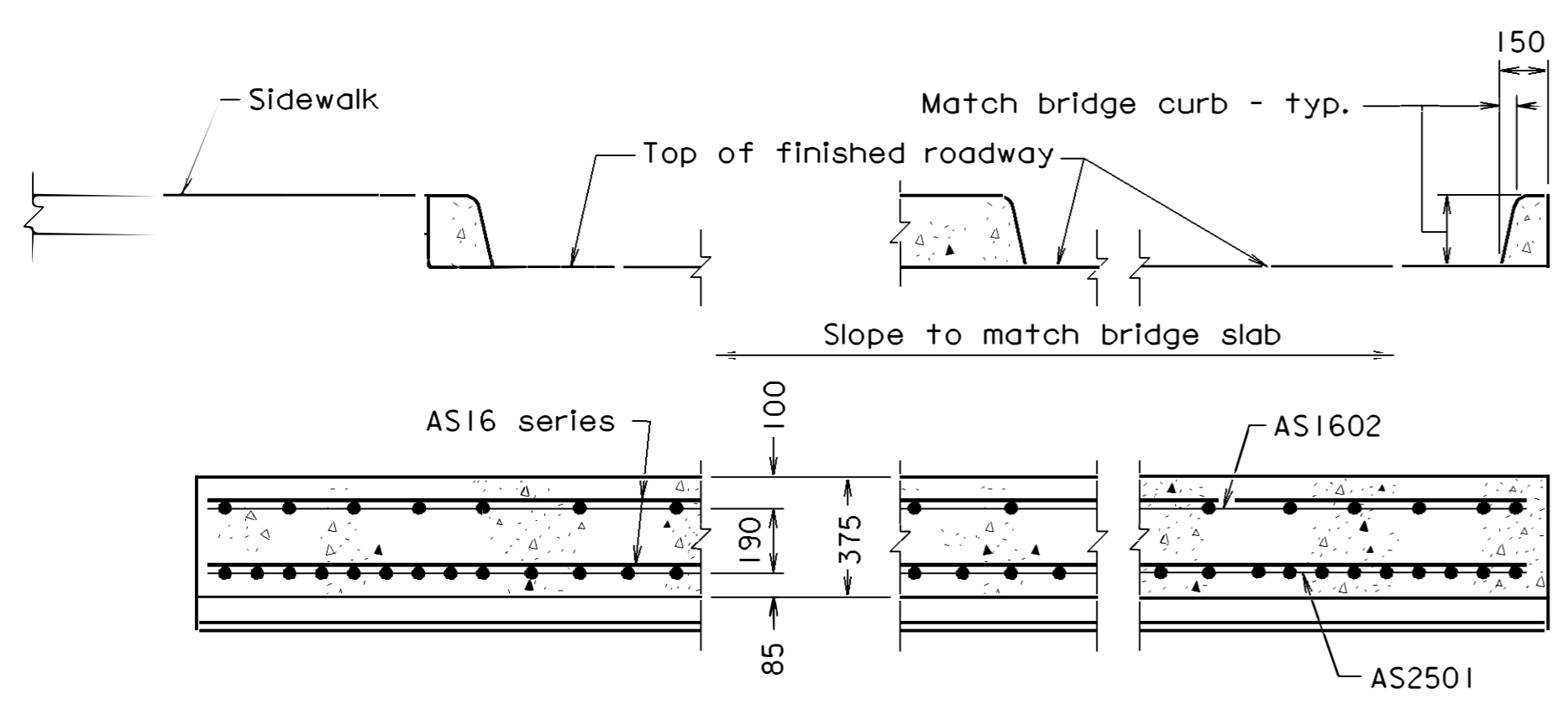
Notes:

- Capacity: MS18 loading and alternate military loading.
- All joints that are to be sealed shall be free of cracked and spalled areas and their faces shall be free of all foreign matter, curing compound, oils, greases and dirt. All faces must be sand blasted or brushed with a mechanical rotary wire brush. Just prior to sealing, the joint shall be blown out with oil free compressed air.
- Deformed reinforcing bars shall conform to ASTM A615M, and shall have a yield strength of 420 MPa. All reinforcing bar dimensions except for bending diagram are to centers of bars.
- The cost for the aggregate material below the approach slab and including the 1500 mm extension will be included in the price bid for concrete for the approach slab and no additional compensation will be allowed.
- Structural approach slabs are not included in the bridge contract.
- Prime aggregate base material with 1.8 liters per m². Liquid Asphalt Material Type RC-70, RC-250 or MC-250 if aggregate base is exposed for more than 2 weeks.
- * Spacings for reinforcing steel bars are parallel and perpendicular to the longitudinal chord at the Rte. 460 Construction ϕ unless otherwise noted.
- For layout geometry of median and sidewalk, see the road plans.
- For estimated quantities and reinforcing steel schedule, see sheet 28.
- For loop detectors on deck slab, see sheet 17. Loop detectors shall be installed in approach slab by signal contractor prior to pouring concrete.
- All dimensions are shown in millimeters (mm) unless otherwise noted. Symbol ϕ = diameter.
- Pipe underdrain shall conform to the requirements of Section 232.
- The pipe underdrain shall follow the cross slope of the roadway over the approach slab. The pipe underdrain shall extend to 300 mm past the edge of the side slope and be located to provide free drainage away from the structure. The slope towards the side slopes shall be no less than two percent (2%). Porous backfill shall be placed around the pipe underdrain as detailed and as directed by the Engineer. The porous backfill shall extend 300 mm off the end of the deck extension over the buried approach slab and then 450 mm off the end of the deck extension to the outside edge of wings. The porous backfill shall be paid for as Porous Backfill when it is a bid item and when porous backfill is not a bid item it shall be included in the bid price for the buried approach slab. The bid price shall be full compensation for all labor, tools, materials, equipment, and incidentals required for the satisfactory completion of the work.
- For preformed elastomeric joint sealer details see sheet 19.

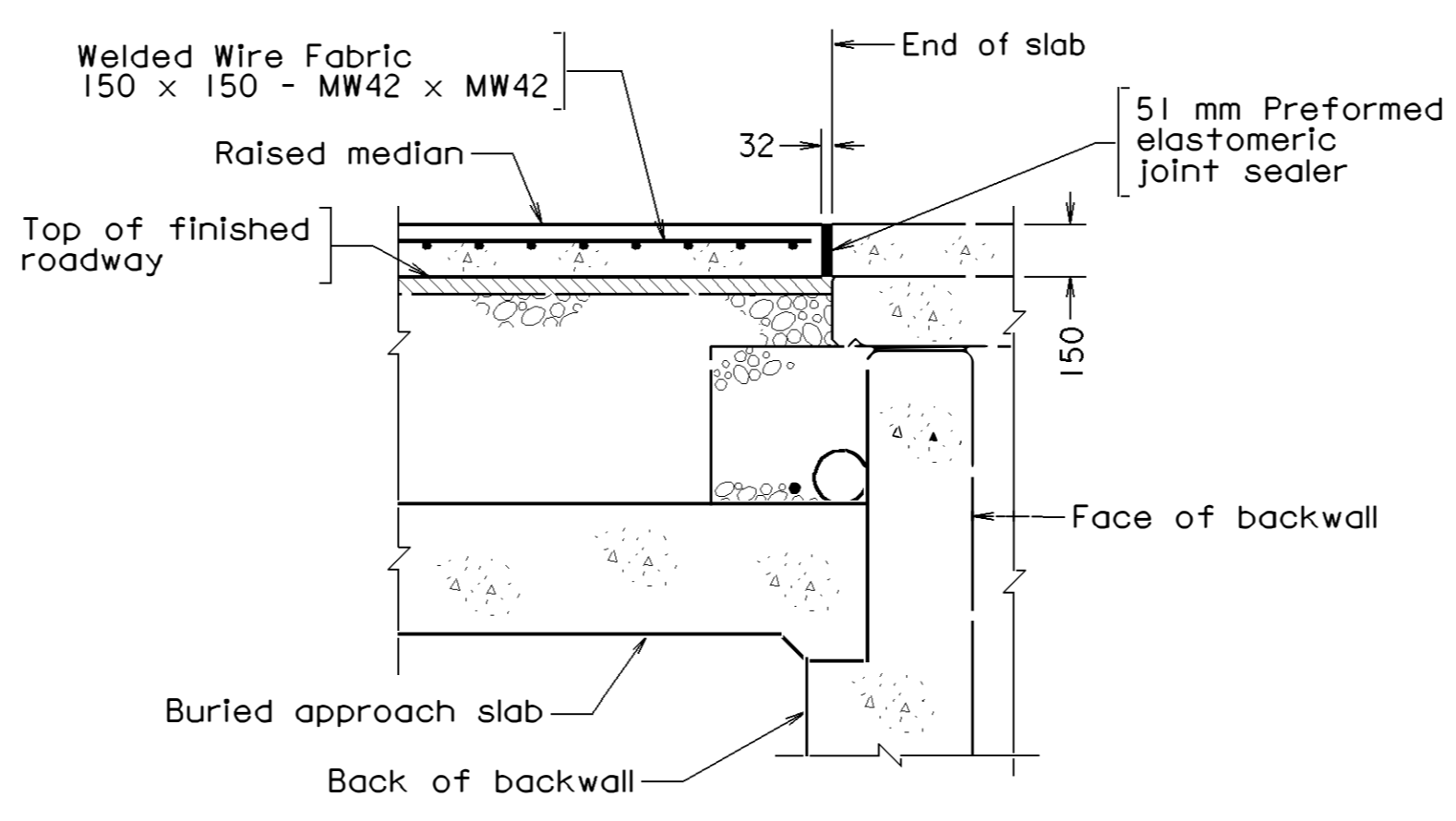


$\frac{3}{4}$ " x $\frac{3}{4}$ " mesh, min. 17 ga. (galvanized after weaving) hardware cloth. Crimp around outlet end and secure with galvanized steel wire. Cost of hardware cloth shall be included in the bid price for Pipe Underdrain, 150 mm.

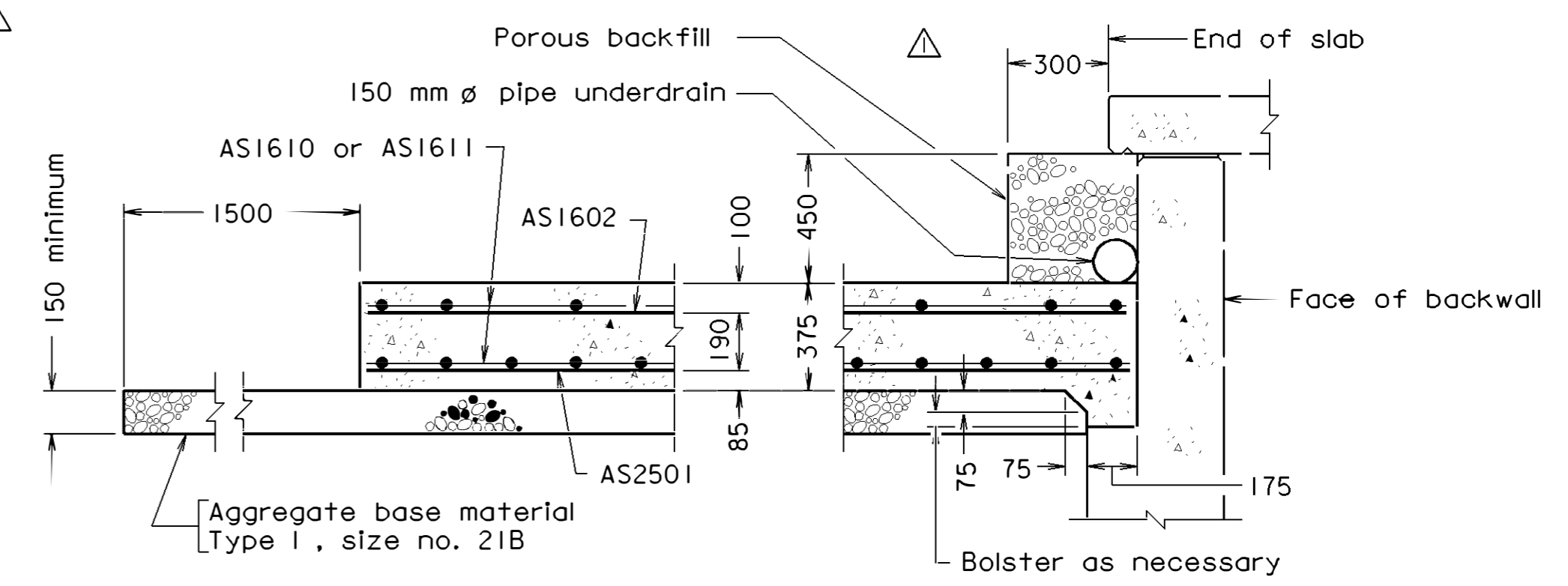
PLAN



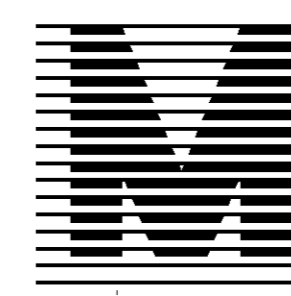
SECTION A-A



SECTION D-D



SECTION B-B



STRUCTURE AND BRIDGE DIVISION					
BURIED APPROACH SLAB ABUTMENT B					
△	Changed to buried	5/8/08	Designed: ..	Date	Plan No.
No.	Description	Date	Drawn:	Sheet No.	
Revisions			Checked: ..	30 of 30	

Not to scale

b28481030r1