

APPENDIX 'I'

KILDONAN SETTLERS BRIDGE AS- BUILT



THE CITY OF WINNIPEG

WORKS AND OPERATIONS DIVISION
STREETS AND TRANSPORTATION DEPARTMENT

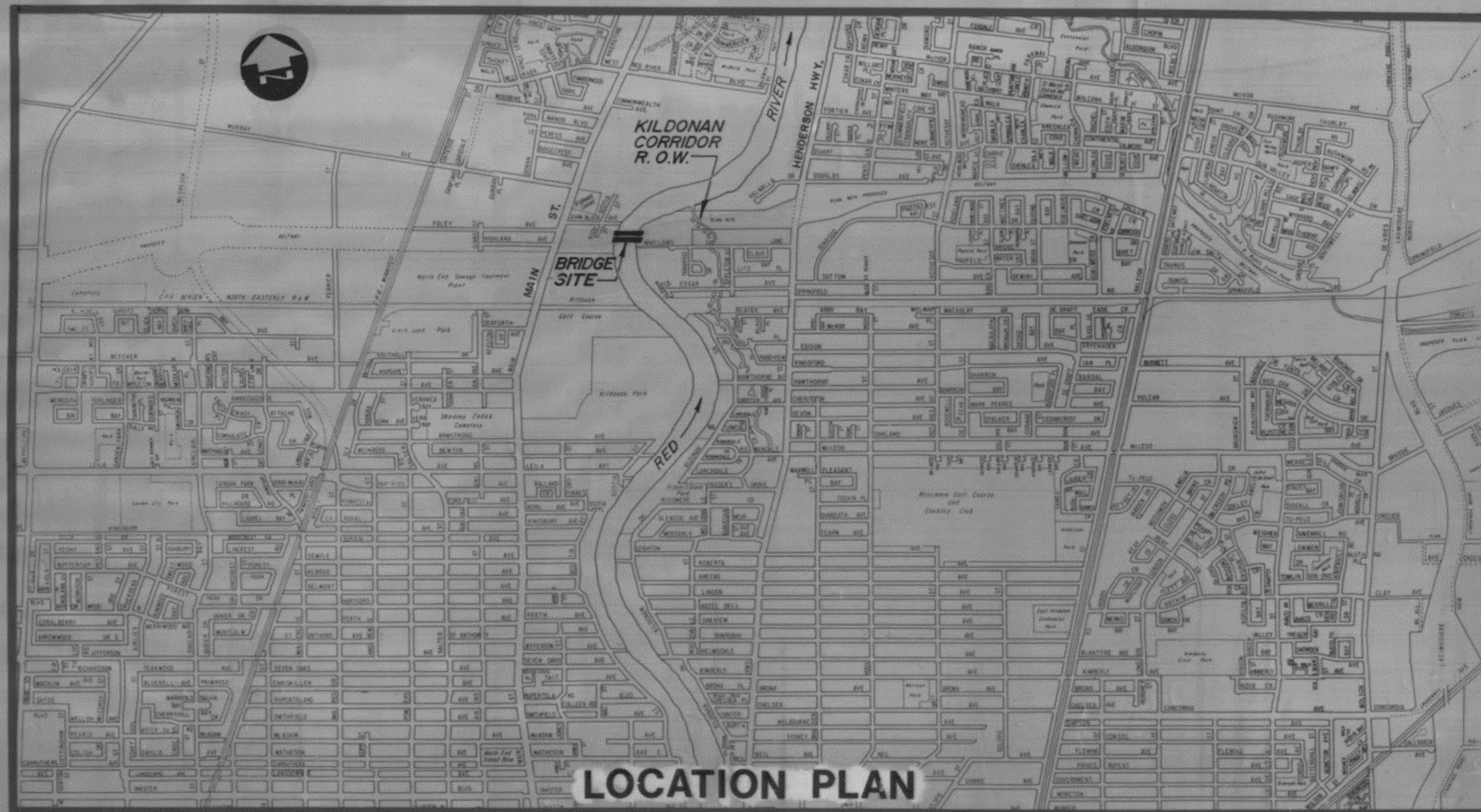
KILDONAN CORRIDOR

FROM HENDERSON HIGHWAY TO MAIN STREET

KILDONAN CORRIDOR BRIDGE OVER RED RIVER

P.D. NO. 89-5

ALTERNATIVE	DRAWINGS
1. CONCRETE GIRDER ALTERNATIVE	B216-89-01C TO 72C
2. STEEL GIRDER ALTERNATIVE	B216-89-01S TO 71S



LOCATION PLAN

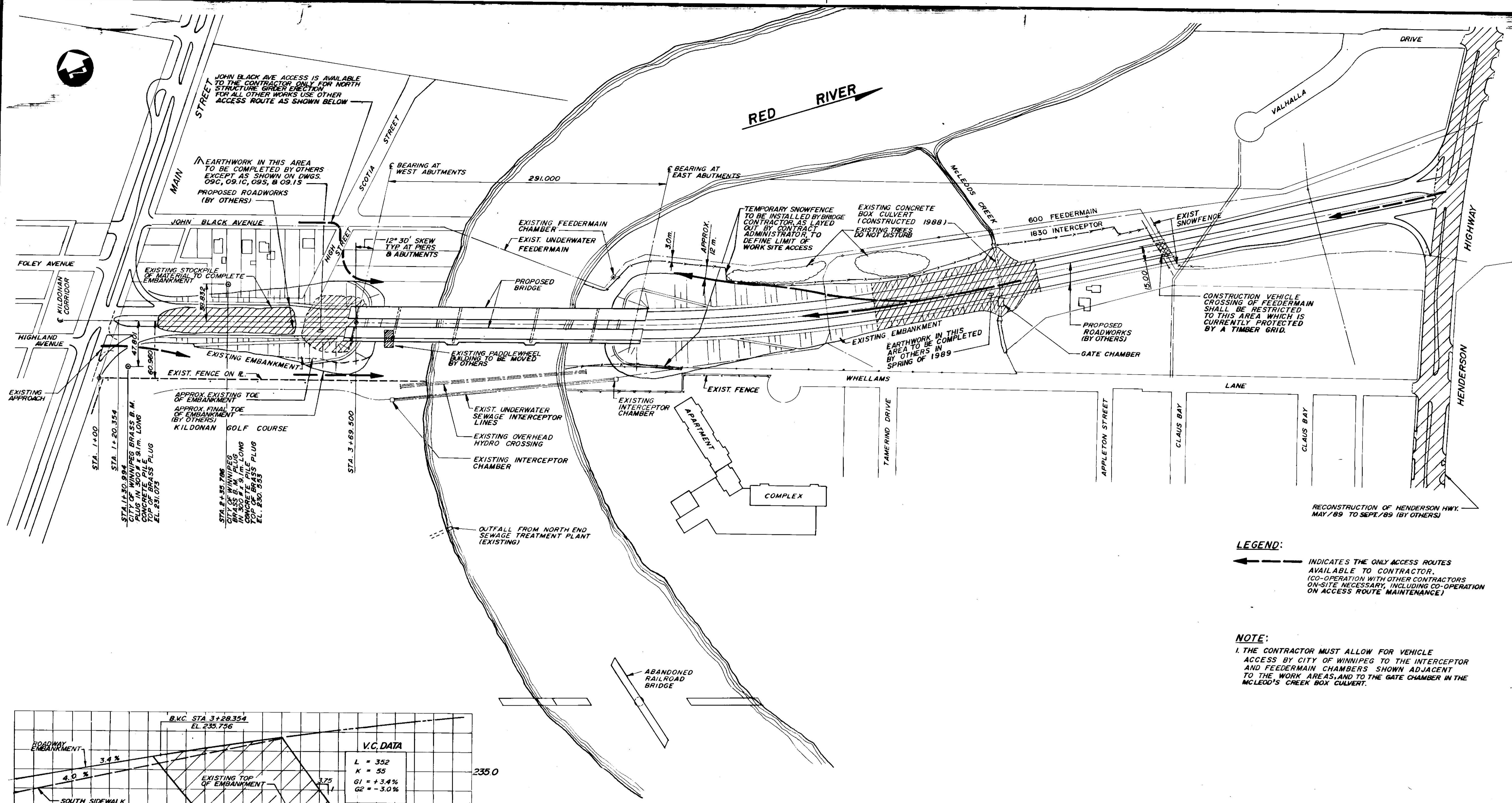


[Signature]
 RELEASED FOR CONSTRUCTION
 MANAGER OF STREETS & TRAFFIC

1989-04-07
DATE

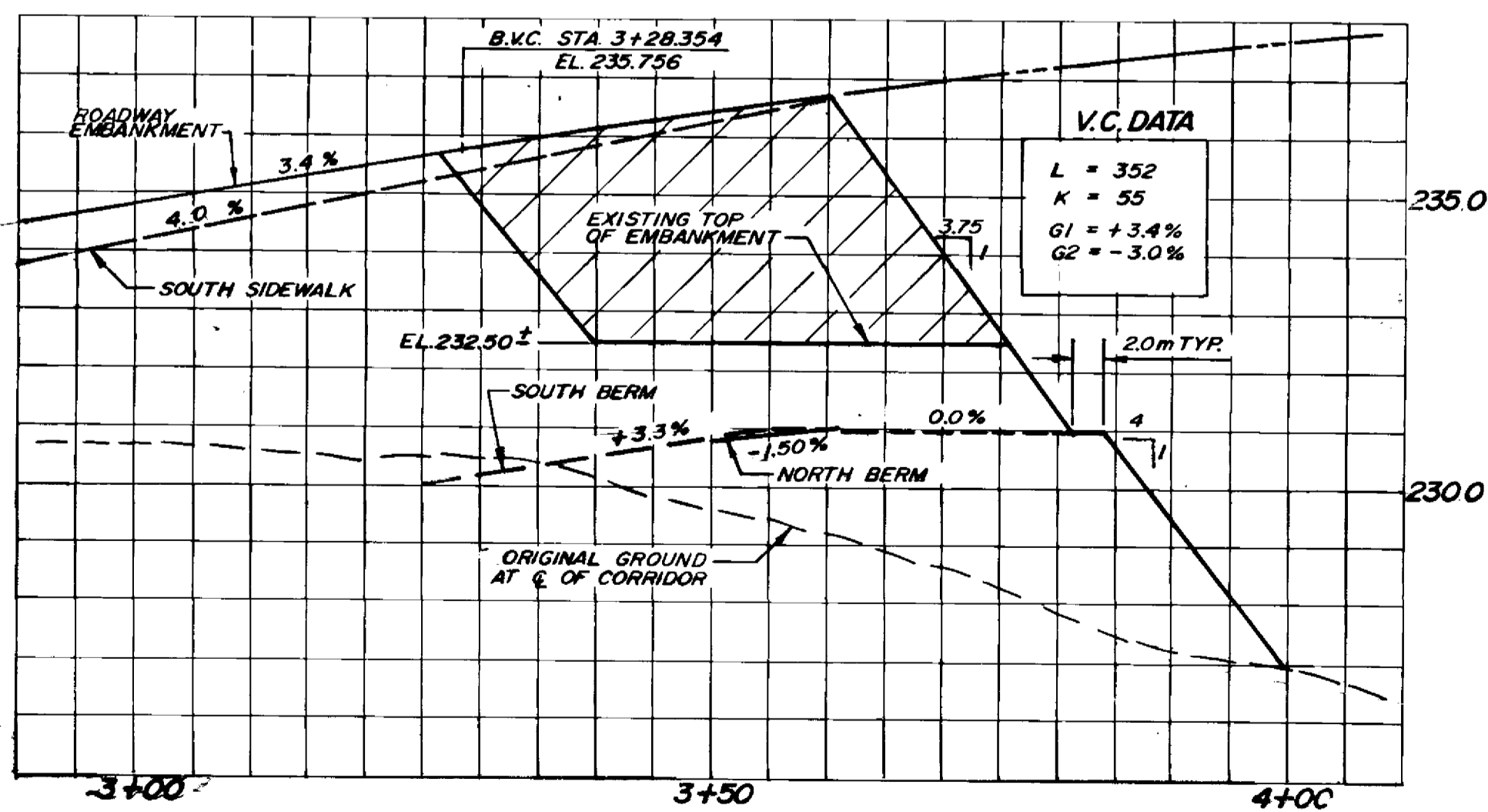
B-5828-01

DWG. NO. B216-89-01C
B216-89-01S
COVER SHEET



LEGEND:
 - - - - - INDICATES THE ONLY ACCESS ROUTES AVAILABLE TO CONTRACTOR.
 (CO-OPERATION WITH OTHER CONTRACTORS ON-SITE NECESSARY, INCLUDING CO-OPERATION ON ACCESS ROUTE MAINTENANCE)

NOTE:
 1. THE CONTRACTOR MUST ALLOW FOR VEHICLE ACCESS BY CITY OF WINNIPEG TO THE INTERCEPTOR AND FEEDERMAIN CHAMBERS SHOWN ADJACENT TO THE WORK AREAS, AND TO THE GATE CHAMBER IN THE MCLEOD'S CREEK BOX CULVERT.



SITE PLAN
 1/2000

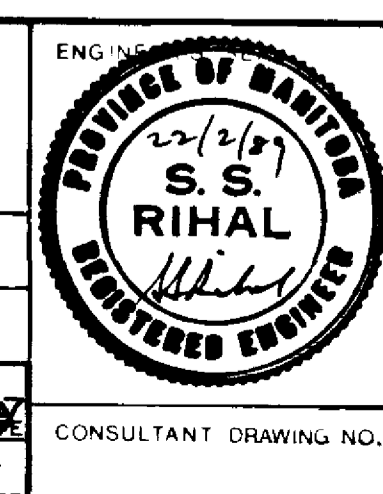
RECORD DRAWING
 APPROVED BY: *[Signature]* DATE: 20.11.28

WEST EMBANKMENT PROFILE
 1/500 HOR.
 1/100 VERT.

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE <i>[Signature]</i> DATE:		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
NO. REVISIONS	DATE	BY

DILLON
 Consulting Engineers - Planners
 Environmental Scientists

DESIGNED BY: W.P.S.	CHECKED BY: SSR
DRAWN BY: N.B.G.	APPROVED BY: <i>[Signature]</i>
HOR. SCALE: AS SHOWN	VERTICAL: AS SHOWN
DATE: MAR. 1989	DATE: 1989-01-08

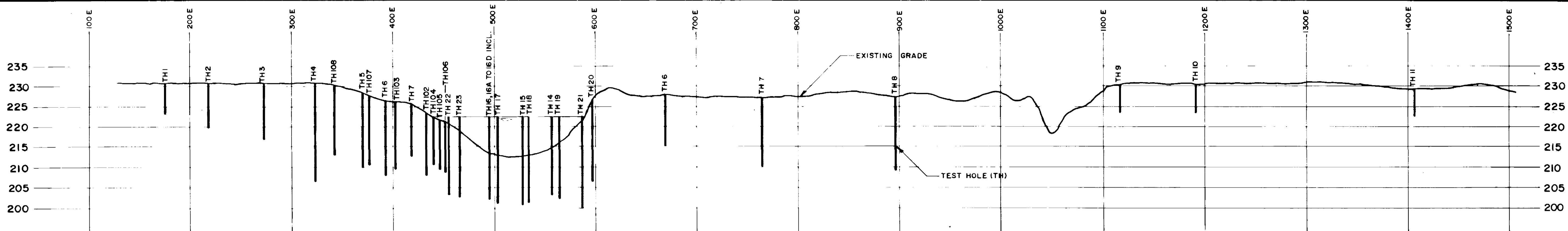


THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
 CONCRETE GIRDER ALTERNATIVE

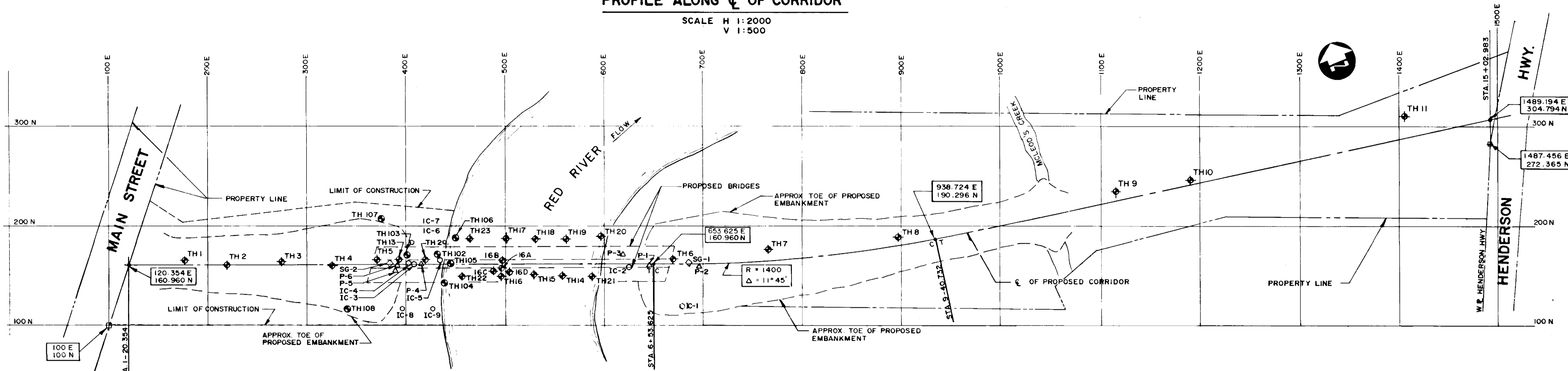
SITE PLAN AND LOCATION OF PROPOSED WORKS

CITY DRAWING NUMBER: B216-89-03C
 B216-89-03S
B-5828-03



PROFILE ALONG C OF CORRIDOR

SCALE H 1:2000
V 1:500



TEST HOLE KEY PLAN

SCALE 1:2000

TEST HOLE COORDINATES		
TEST HOLE NO.	EASTING	NORTHING
1	175.445	165.519
2	218.265	160.737
3	272.715	163.844
4	323.254	160.213
5	368.427	165.481
6	662.144	167.225
7	757.060	177.865
8	884.768	191.751
9	1114.005	233.669
10	1191.024	245.267
11	1432.488	310.599
12	N.R.	N.R.
13	N.R.	N.R.
14	552.361	149.403
15	523.482	150.538
16	490.709	149.423
16 A	N.R.	N.R.
16 B	491.217	157.113
16 C	N.R.	N.R.
16 D	N.R.	N.R.
17	N.R.	N.R.
18	524.737	186.963
19	559.134	186.777
20	590.996	190.017
21	581.599	149.113
22	452.299	149.423
23	460.293	187.427

N.R. = NOT RECORDED

TEST HOLE COORDINATES		
TEST HOLE NO.	EASTING	NORTHING
102	432.444	170.891
103	402.344	169.569
104	440.566	140.542
105	445.860	162.124
106	451.207	187.530
107	373.309	206.880
108	341.192	115.923

COORDINATES FOR GEOTECHNICAL INSTRUMENTATION		
BORE HOLE NO.	EASTING	NORTHING
△ P-1	649.060	160.620
△ P-2	696.020	160.750
△ P-3	618.850	170.960
△ P-4	415.700	161.170
△ P-5	390.010	158.880
△ P-6	391.350	162.600
○ IC-1	679.890	116.450
○ IC-2	624.400	160.100
○ IC-3	407.260	161.440
○ IC-4	400.200	166.920
○ IC-5	435.700	170.500
○ IC-6	404.520	186.420
○ IC-7	439.230	186.420
○ IC-8	390.250	122.010
○ IC-9	425.950	122.010
◇ SG-1	687.400	161.560
◇ SG-2	382.500	161.740

LEGEND

- △ P PIEZOMETER
- IC INCLINOMETER
- ◇ SG SLOPE INDICATOR GAUGE

NOTES

1. SOIL LOGS FOR TEST HOLES TH 1 TO TH 23 WERE COPIED FROM A GEOTECHNICAL REPORT BY DYREGROV & BURGESS, CONSULTING GEOTECHNICAL ENGINEERS, DATED FEB. 17, 1988.
2. SOIL LOGS FOR TEST HOLES TH 102 TO TH 108 WERE COPIED FROM FROM A GEOTECHNICAL REPORT BY DYREGROV AND BURGESS CONSULTING GEOTECHNICAL ENGINEERS, DATED JAN. 19, 1989.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE PIEZOMETER, INCLINOMETER AND SLOPE INDICATOR GAUGE DURING CONSTRUCTION.
4. SLICKENSLIDES WERE NOTED IN IC3 AT 11.0, 11.0, 11.6, 12.2, 12.8, 13.4 AND 14.0 m DEPTHS.

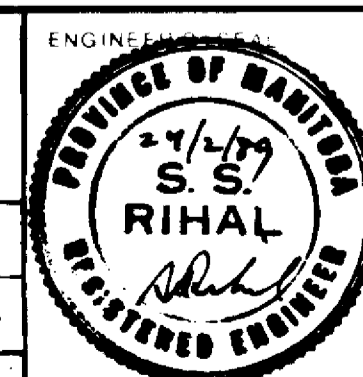
RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 70.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES
NA
DATE: _____
NOTE: _____

NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: N.A.
CHECKED BY: S.S.R.
DRAWN BY: K.C.
APPROVED BY: *[Signature]*
HORIZ SCALE: AS SHOWN
VERTICAL: AS SHOWN
DATE: MARCH 89



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOIL LOGS - SHEET 1 OF 4
CITY DRAWING NUMBER: B216-89-04C
B216-89-04S
B-5828-04

TEST HOLE NO. 1			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.63	0	
	230.43	0.2	FILL CLAY-BLACK
	230.13	0.5	CLAY-SILTY BROWN STIFF, ALLUVIAL
	228.63	2.0	SILT-TAN, WET TO SATURATED, FIRM
	226.93	3.7	CLAY-MOTTLED BROWN, HIGH PLASTIC, STIFF, LACUSTRINE
	223.03	7.6	END HOLE AT 7.6 m SEE PAGE AND CAVING FROM 2.4 TO 2.7 m

TEST HOLE NO. 2			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.91	0	
	230.31	0.6	FILL-CLAY, SILT, SOME GRAVEL
		1.0	CLAY-BLACK
		2.6	CLAY-SILTY, BROWN, STIFF
	228.31	2.6	SILT-TAN, SATURATED
	227.11	3.8	CLAY-MOTTLED BROWN, HIGHLY PLASTIC, FIRM TO STIFF, LACUSTRINE
			--- GREY
	220.21	10.7	END HOLE AT 10.7 m SKEWAGE AND CAVING FROM SILT LAYER

TEST HOLE NO. 3			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.58	0	
	230.38	0.2	TOPSOIL
			CLAY-SILTY, BROWN, STIFF
	228.18	2.4	SILT-TAN, WET TO SATURATED
			--- GREY
	216.88	13.7	END OF HOLE 13.7 m IN CLAY

TEST HOLE NO. 4			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.64	0	
	229.44	1.2	FILL-CLAY, CONCRETE RUBBLE
	228.54	2.1	CLAY-SILTY, BROWN
	227.64	3.0	SILT-TAN, WET TO SATURATED
			CLAY-MOTTLED BROWN, HIGHLY PLASTIC, STIFF TO FIRM, LACUSTRINE
			--- GREY
	217.04	13.6	CLAY-GREY, HIGH PLASTIC LACUSTRINE
	212.54	18.1	SILT (GLACIAL TILL) SANDY, GRAVELLY, WET, LOOSE TO 19.5 m MEDIUM DENSE BELOW 19.5 m
	210.24	20.4	END HOLE AT 20.4 m SMOOTH AUGER REFUSAL POSSIBLE BEDROCK AT 20.4 m WATER INFLOW FROM 20.4 m WATER LEVEL STABILIZED AT 9.4 m IN ABOUT 15 MINUTES

TEST HOLE NO. 5			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	228.72	0	
	227.72	1.0	FILL-SILTY, CLAY
	227.52	1.2	CLAY-BLACK
	226.32	2.4	CLAY-SILTY, BROWN, ALLUVIAL
			CLAY-MOTTLED BROWN, HIGHLY PLASTIC, STIFF TO FIRM, LACUSTRINE
			--- GREY
	212.72	16.0	SILT-(GLACIAL TILL) SANDY GRAVELLY, CLAYEY, LOOSE
	210.02	18.7	END OF HOLE AT 18.7 m -POSSIBLE BEDROCK -NO SKEWAGE

TEST HOLE NO. 6			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	227.47	0	
			CLAY-SILTY, SOME SAND, ALLUVIAL, STIFF TO 1.2 m, SOFT FROM 1.2 m TO 3.3 m
	223.37	4.1	SAND-LITTLE TO SOME SILT, TRACE TO SOME CLAY, FINE TO MEDIUM GRAINED
			--- SATURATED
	220.07	7.4	VERY DENSE MED. GRAIN, SATURATED
			SILT-SOME SAND, SOME TO LITTLE CLAY, FIRM TO STIFF
	215.47	12.0	
	214.97	12.5	CLAY-SILTY, VERY STIFF, ALLUVIAL
			END OF HOLE AT 12.5 m STANDPIPE PIEZOMETERS SP1 AND SP2 INSTALLED

TEST HOLE NO. 7			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	227.13	0	
	226.93	0.2	TOPSOIL
			SILT-SANDY, SOME CLAY, BROWN, ALLUVIAL
	224.93	2.2	SAND-SOME SILT, TRACE CLAY SATURATED
	222.53	4.6	SILT-SOME SAND AND CLAY, GREY, WET, FIRM.
	218.93	8.2	SAND-FINE GRAINED, GREY, SATURATED
	218.13	9.0	SILT-SOME SAND AND CLAY
	217.53	9.6	CLAY-GREY, HIGHLY PLASTIC, FIRM 100 mm GRAVEL LAYER, SHELLS
			--- CLAY AND GLACIAL TILL
	211.63	15.5	SILT-(GLACIAL TILL) WET, LOOSE, CLAYEY
	210.93	16.2	END HOLE AT 16.2 m SMOOTH AUGER REFUSAL WATER SKEWAGE 20 MIN. AFTER COMPLETION OF DRILLING 600 mm CASING TO 10 m DEPTH POSSIBLE BEDROCK AT 16.2 m

TEST HOLE NO. 8			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	227.17	0	
	226.82	0.3	FILL-CLAY, CONCRETE RUBBLE
	225.92	1.2	SILT-CLAYEY, BROWN, STIFF, ALLUVIAL
			SAND-FINE GRAINED, SOME SILT, BROWN
			--- SATURATED
			--- GREY
	218.67	8.5	SILT-SOME SAND AND CLAY, WET, STIFF TO FIRM
			--- 50 mm GRAVEL LAYER
	214.67	12.5	CLAY-GREY, HIGHLY PLASTIC, STIFF TO FIRM
			--- GRAVELLY
	211.37	15.8	SILT-(GLACIAL TILL) SANDY, GRAVELLY, SOME CLAY, TAN, SEEPAGE FROM 16.5 m
	209.47	17.7	END OF HOLE AT 17.7 m ROUGH AUGER REFUSAL AT 17.7 m WATER LEVEL AT 7.2 m ON COMPLETION OF DRILLING 600 mm CASING TO 4.6 BELOW GRADE

TEST HOLE NO. 9			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.08	0	
	229.78	0.3	TOPSOIL
			CLAY-SILTY, BROWN, STIFF, LACUSTRINE
	226.48	3.6	SILT-TAN, SATURATED
	225.88	4.2	CLAY - MOTTLED BROWN HIGHLY PLASTIC STIFF
	223.68	6.4	END OF HOLE AT 6.4 m

RECORD DRAWING
 APPROVED BY: *[Signature]* DATE: _____

TEST HOLE NO. 10			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.02	0	
	229.82	0.2	TOPSOIL
			CLAY-SILTY, BROWN, HIGHLY PLASTIC, STIFF
	226.72	3.3	SILT-TAN, SATURATED
	226.02	4.0	CLAY-MOTTLED BROWN, HIGHLY PLASTIC, STIFF
	223.92	6.1	END HOLE AT 6.1 m

TEST HOLE NO. 11			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	229.49	0	
	229.29	0.2	TOPSOIL
			CLAY-SILTY, BROWN, STIFF
	227.49	2.0	SILT-TAN, SATURATED
	226.49	3.0	CLAY-MOTTLED BROWN, HIGHLY PLASTIC, STIFF
	223.39	6.1	END HOLE AT 6.1 m

TEST HOLE NO. 12			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	226.74	0	
	226.14	0.6	FILL-CLAY, SOME GRAVEL
			CLAY-SILTY, BROWN, STIFF, ALLUVIAL, MEDIUM TO HIGHLY PLASTIC
			--- GREY
	217.64	9.1	CLAY-MOTTLED BROWN TO GREY, HIGHLY PLASTIC, LACUSTRINE
	213.94	12.8	END OF HOLE AT 12.8 m INSTALL PNEUMATIC PIEZOMETER

TEST HOLE NO. 13			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	227.60	0	
	227.20	0.4	FILL-CLAY, SOME GRAVEL
			CLAY-SILTY, BROWN, ALLUVIAL
	225.60	2.0	CLAY-MOTTLED BROWN, HIGHLY PLASTIC, STIFF TO FIRM, LACUSTRINE
	210.60	17.0	SILT-(GLACIAL TILL) SANDY AND GRAVELLY, BOULDERY
	209.00	18.6	END HOLE AT 18.6 m IN GLACIAL TILL BACKFILL WITH SAND TO 14.9 m PLACE PNEUMATIC PIEZOMETER AT 14.9 m SAND TO 14.2 m BENTONITE TO 13.1 m

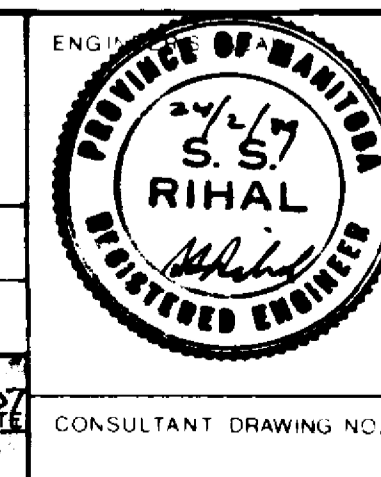
TEST HOLE NO. 14			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	223.64	0	
			WATER
	216.04	7.6	OVER BURDEN SOILS
	215.14	8.5	GLACIAL TILL
	210.34	13.3	LIMESTONE BEDROCK
			SOUND ROCK
			25 mm CLAY SEAM AT 15.2 m
			SOUND ROCK
			25 mm CLAY SEAM AT 16.7 m
			SOUND ROCK
			NO CLAY SEAMS
	204.54	19.1	END HOLE AT 19.1 m ROCK SURFACE ESTIMATED AT ELEV. 210.38 m TOP 150 mm UNSOUND

LOCATION APPROVED UNDERGROUND STRUCTURES
 SUPV. U/G STRUCTURES DATE COMMITTEE _____
 NOTE: LOCATION OF UNDERGROUND STRUCTURES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	DATE	BY	DATE

DILLON
 Consulting Engineers - Planners
 Environmental Scientists

DESIGNED BY: N/A	CHECKED BY: S.S.R.
DRAWN BY: A.B.	APPROVED BY: <i>[Signature]</i>
HOR. SCALE: N/A	ACCEPTED BY: <i>[Signature]</i>
VERTICAL: N/A	DATE: MAR 1999



THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION

KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE
 SOIL LOGS - SHEET 2 OF 4

CITY DRAWING NUMBER: B216-89-05C
 B216-89-05S
B-5828-05

TEST HOLE NO. 102			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	226.52	0	
	226.42	0.1	TOPSOIL
			CLAY (RIVER SILT) -SILTY, TRACE TO SOME SAND -MOIST -FIRM TO SOFT -BROWN TO GREY -WET
			---SATURATED
			---WET
			---SATURATED
			---MOIST
			---FIRM TO STIFF
	213.52	13.0	CLAY -MOTTLED BROWN TO GREY -HIGHLY PLASTIC -STIFF TO FIRM
	213.22	13.3	GLACIAL TILL INCLUSIONS SLICKENSLIDES
	211.72	14.8	GLACIAL TILL
	211.02	15.5	-SILTY, SANDY, GRAVELLY -CLAY SEAMS THROUGHOUT -TAN, SOFT

NOTES:
1. HEAVY SEEPAGE UPON DRILLING TO 15.5 m.
2. AUGER REFUSAL AT 15.8 m ON PROBABLE BEDROCK. WATER LEVEL AT 6.0 m UPON COMPLETION OF DRILLING.
3. SLIGHT SEEPAGE AND CAVING FROM ABOUT 5 AND 8 m.

TEST HOLE NO. 103			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	227.11	0	
	225.61	1.5	FILL -CLAY -TRACE GRAVEL
			CLAY (RIVER SILT) -SILTY -STIFF TO FIRM -SAND SEAMS AT 3 m -HIGHLY PLASTIC
	220.61	6.5	
	220.11	7.0	SILT -TAN FIRM, MOIST TO WET
	219.21	7.9	CLAY -MOTTLED BROWN TO 7.9 m -GREY BELOW 7.9 m -HIGHLY PLASTIC -STIFF TO FIRM
			SLICKENSLIDES
			---GLACIAL TILL INCLUSIONS
			---CORRELY AND/OR BOULDERY
	210.11	17.0	

NOTES:
1. AUGER REFUSAL AT 16.8 m ON PROBABLE BEDROCK.
2. WATER LEVEL AT 5.5 m UPON COMPLETION OF DRILLING.
3. SLIGHT SEEPAGE FROM ABOUT 5.0 m WHILE DRILLING.

TEST HOLE NO. 104			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	223.22	0	
			CLAY -SILTY -DARK GREY -HIGHLY PLASTIC -FIRM TO SOFT
	220.52	2.7	
			SILT -DARK GREY -MOIST TO WET -FIRM TO SOFT
			---SAND INCLUSIONS ---SEEPAGE SEAMS
			---SAND SEAMS ---WET TO SATURATED
	215.62	7.6	
	215.02	8.2	CLAY -SILTY, GREY, STIFF
			CLAY -MOTTLED BROWN -HIGHLY PLASTIC -FIRM
	215.02	10.4	GLACIAL TILL -CLAYEY, SILTY, GRAVELLY, SANDY -BROWN, SOFT

NOTE:
HOLE TERMINATED AT 11.6 m. CAVING OR SQUEEZING OF HOLE BETWEEN 6.0 AND 7.3 m.

TEST HOLE NO. 105			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	223.24	0	
	221.74	1.5	CLAY -SILTY -DARK GREY -HIGHLY PLASTIC -FIRM TO SOFT
			SILT -DARK GREY -SOME SAND -WET TO SATURATED -SOFT TO VERY SOFT
	218.04	5.2	
			SILT -DARK GREY -FIRM -MOIST
	214.64	8.6	
	214.44	8.8	SILT -TAN, MOIST CLAY -MOTTLED BROWN -HIGHLY PLASTIC -FIRM SLICKENSLIDES
	211.84	11.4	GLACIAL TILL
	211.04	12.2	-SILTY, SANDY, GRAVELLY, TAN

NOTES:
1. AUGER REFUSAL AT 12.2 m.
2. WATER ROSE TO 3.0 m FROM GRADE IMMEDIATELY UPON COMPLETION.
3. SEEPAGE AT 2.1 m FROM GRADE. HOLE CAVING IN FROM 2.4 TO 5.2 m.
4. HOLE SLEEVED TO 3.0 m.

TEST HOLE NO. 106			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	223.30	0	
	222.10	1.2	CLAY -SILTY -DARK GREY -MEDIUM PLASTIC
			SILT -SOME SAND -DARK GREY -WET TO SATURATED -SOFT TO VERY SOFT
	219.10	4.2	
			SILT -DARK GREY -MOIST TO WET -SOFT TO FIRM
	213.70	9.6	
	213.30	10.0	CLAY -MOTTLED BROWN -HIGHLY PLASTIC -FIRM
			SLICKENSLIDES
	211.40	11.9	GLACIAL TILL
	210.80	12.5	-SILTY, SANDY, GRAVELLY -TAN, SOFT

NOTES:
1. AUGER REFUSAL AT 12.5 m. WATER ROSE TO 3.3 m FROM GRADE UPON COMPLETION.
2. CAVING AND SQUEEZING OF HOLE BETWEEN 2.4 AND 6.2 m.

TEST HOLE NO. 107			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	230.63	0	
	229.43	1.2	CLAY AND SILT -FROZEN
			SILT -TAN -SOFT -MOIST
	226.93	3.7	
			CLAY (CH) -SILTY -HIGHLY PLASTIC -STIFF -BROWN -GREY AT 5.7 m
			NOTE: -NO SLICKEN SLIDES DETECTED
	213.43	17.2	TRACE OF GLACIAL TILL AT END OF HOLE AT 17.2 m

TEST HOLE NO. 108			
SOIL SYMBOL	ELEV. (m)	DEPTH (m)	SOIL DESCRIPTION
	228.87	0	
	228.57	0.3	SAND AND GRAVEL FILL
			CLAY -ALLUVIAL -SILTY, BROWN, FISSURED, MEDIUM PLASTIC, STIFF
	226.37	2.5	
			CLAY (CH) -SILTY -HIGHLY PLASTIC -STIFF TO MEDIUM STIFF -BROWN -LACUSTRINE -GREY AT 6.1 m
			NOTE: NO SLICKENSLIDES DETECTED
	212.37	16.5	GLACIAL TILL -SILTY, TAN, SOFT
	211.62	17.15	-END OF HOLE AT 17.25 m

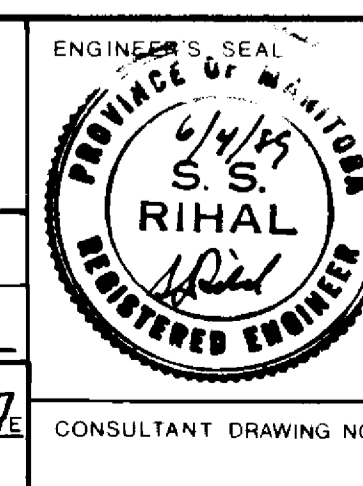
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APPROVED BY: *N/A* DATE: _____

LOCATION APPROVED UNDERGROUND STRUCTURES
N/A
SUPV. U/G STRUCTURES DATE COMMITTEE
NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. ELEV.	
NO. REVISIONS	DATE BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	N/A	CHECKED BY	S.S.R.
DRAWN BY	C.R.B.	APPROVED BY	<i>[Signature]</i>
HOR. SCALE	N/A	AUTHORIZED BY	<i>[Signature]</i> 1989-03-07
VERTICAL	N/A	STREETS & BRIDGE ENGINEER DATE	
DATE	MARCH, 1989	ACCEPTED BY	<i>[Signature]</i> 1989-03-07
		BRIDGE ENGINEER DATE	

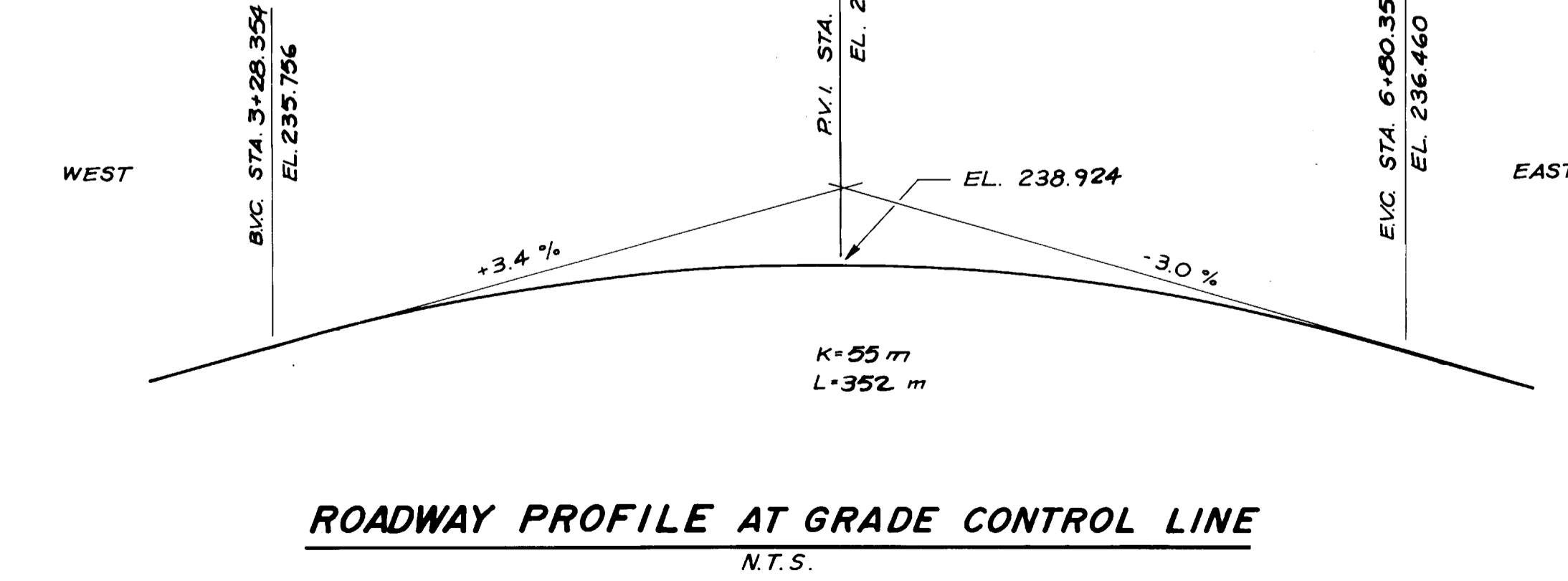
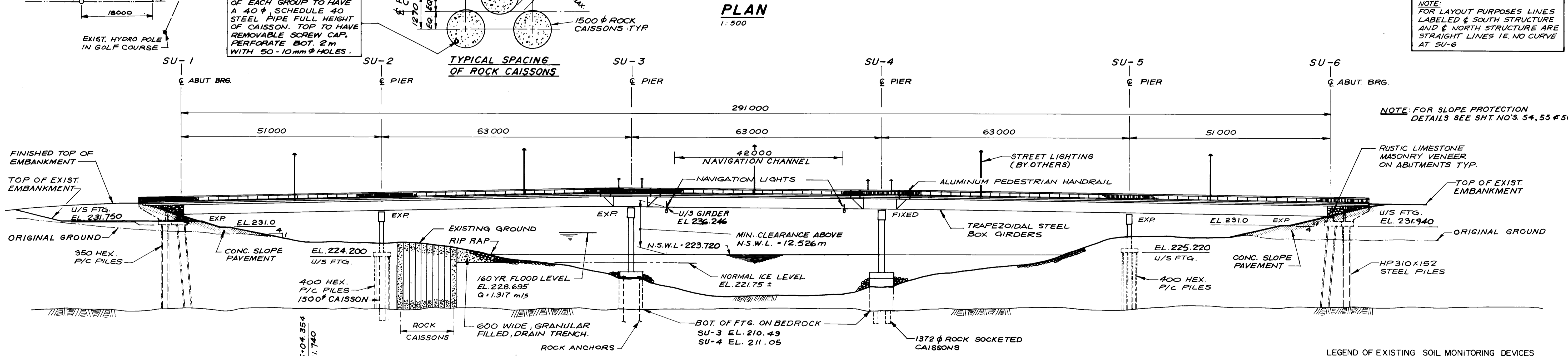
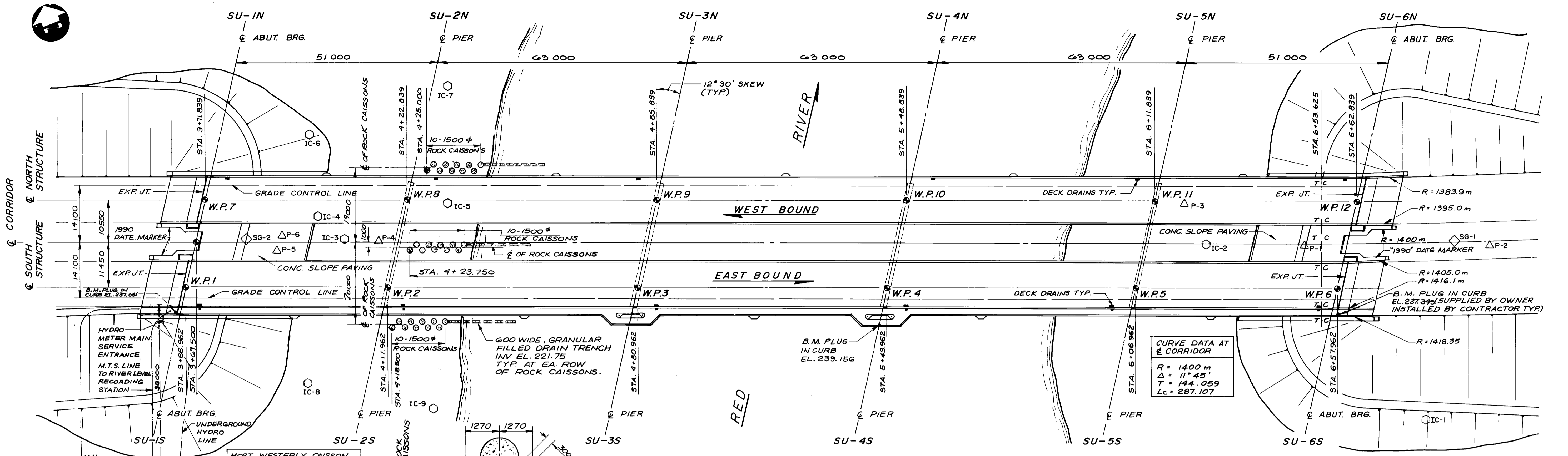


THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

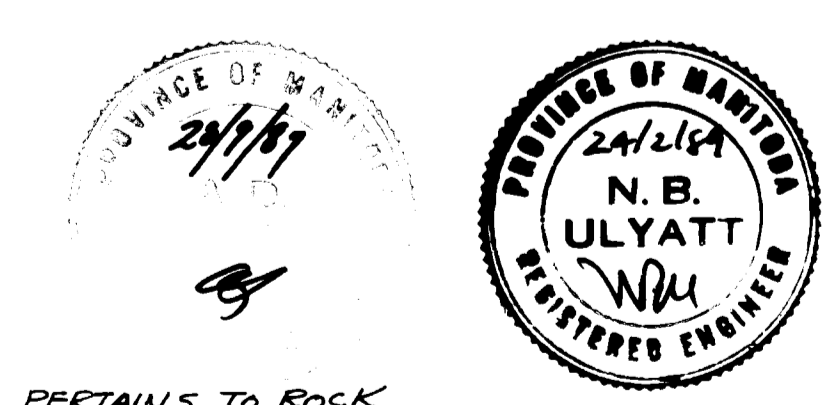
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOIL LOGS - SHEET 4 OF 4

CITY DRAWING NUMBER: B216-89-06.1C
B216-89-06.1S
B-5828-07

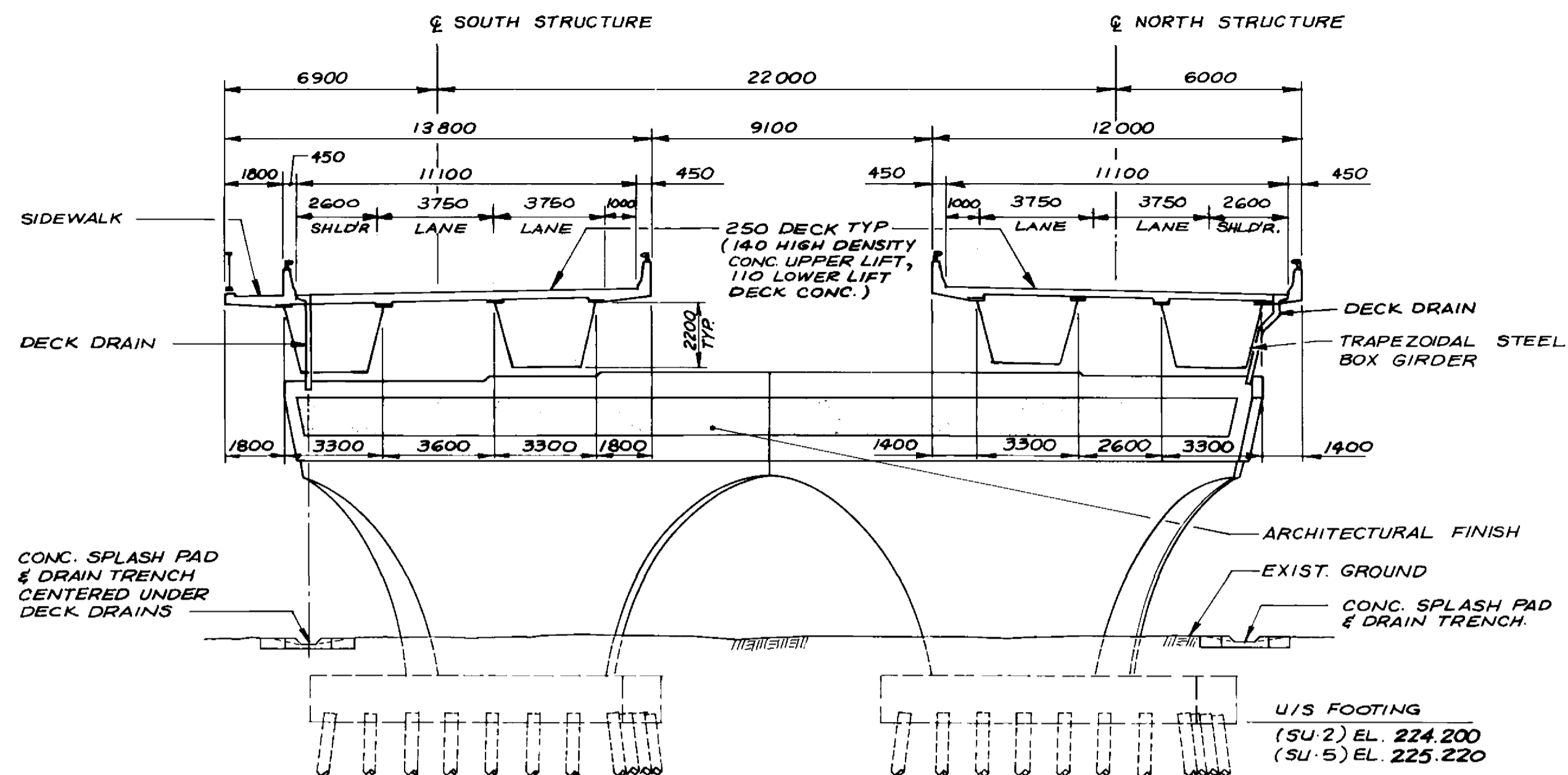
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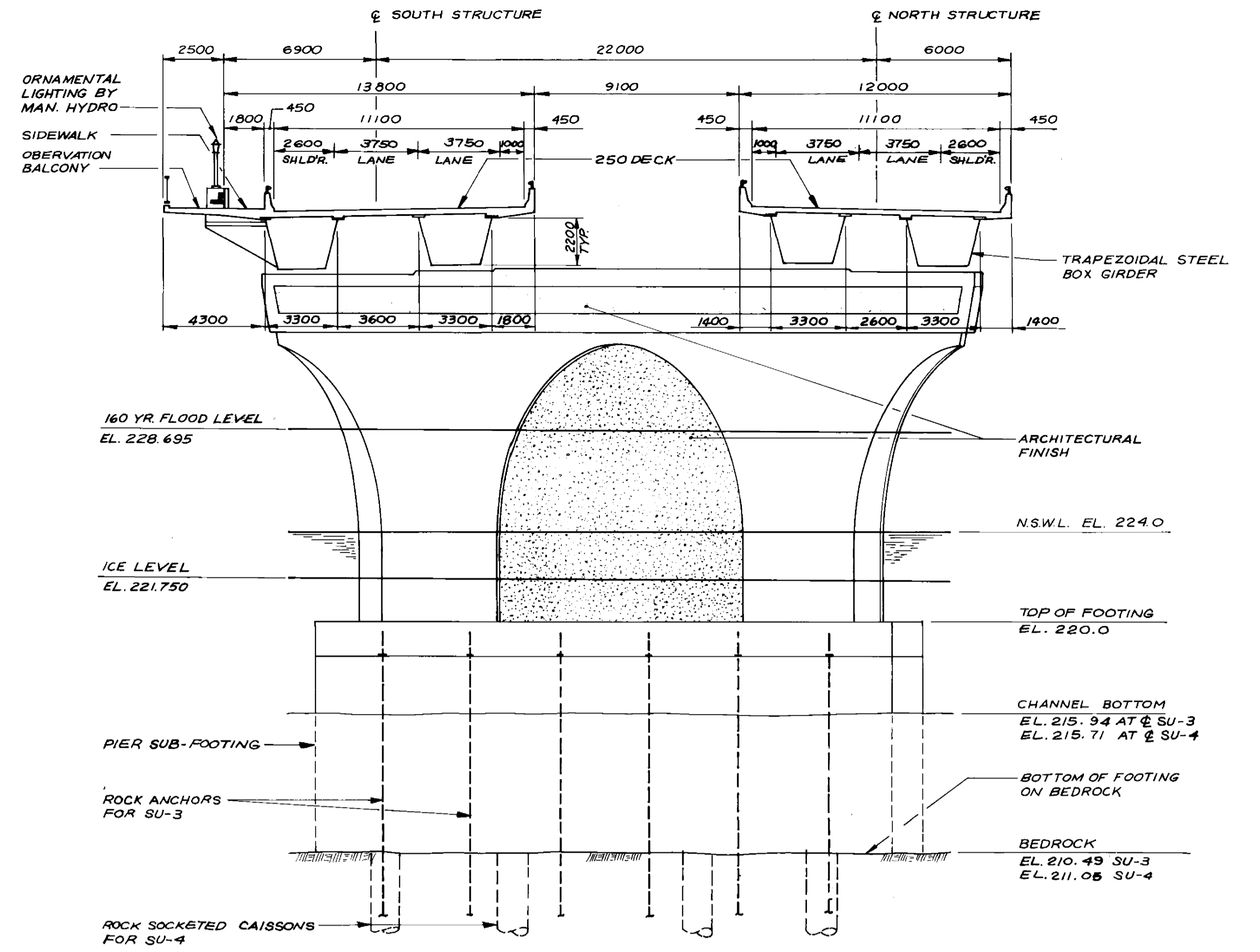
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APPROVED BY: [Signature] DATE: 90.11.28



LOCATION APPROVED UNDERGROUND STRUCTURES N/A SUPV U/G STRUCTURES COMMITTEE DATE		DILLON Consulting Engineers - Planners Environmental Scientists		ENGINEER PROVINCE OF MANITOBA 2/2/89 S.S. RIHAL REGISTERED ENGINEER		THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		DESIGNED BY: S.S.R. DRAWN BY: S.K.B. HOR SCALE: AS SHOWN VERTICAL: AS SHOWN DATE: MAR. 1989	CHECKED BY: N.B.U. APPROVED BY: [Signature] AUTHORIZED BY: [Signature] ACCEPTED BY: [Signature]	PROVINCE OF MANITOBA 2/2/89 R. HIL REGISTERED ENGINEER		KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE GENERAL ARRANGEMENT SHEET 1 OF 2	
NO REVISIONS DATE BY		CITY DRAWING NUMBER: B216-89-075 SHEET OF:		CONSULTANT DRAWING NO.		B-5828-08	

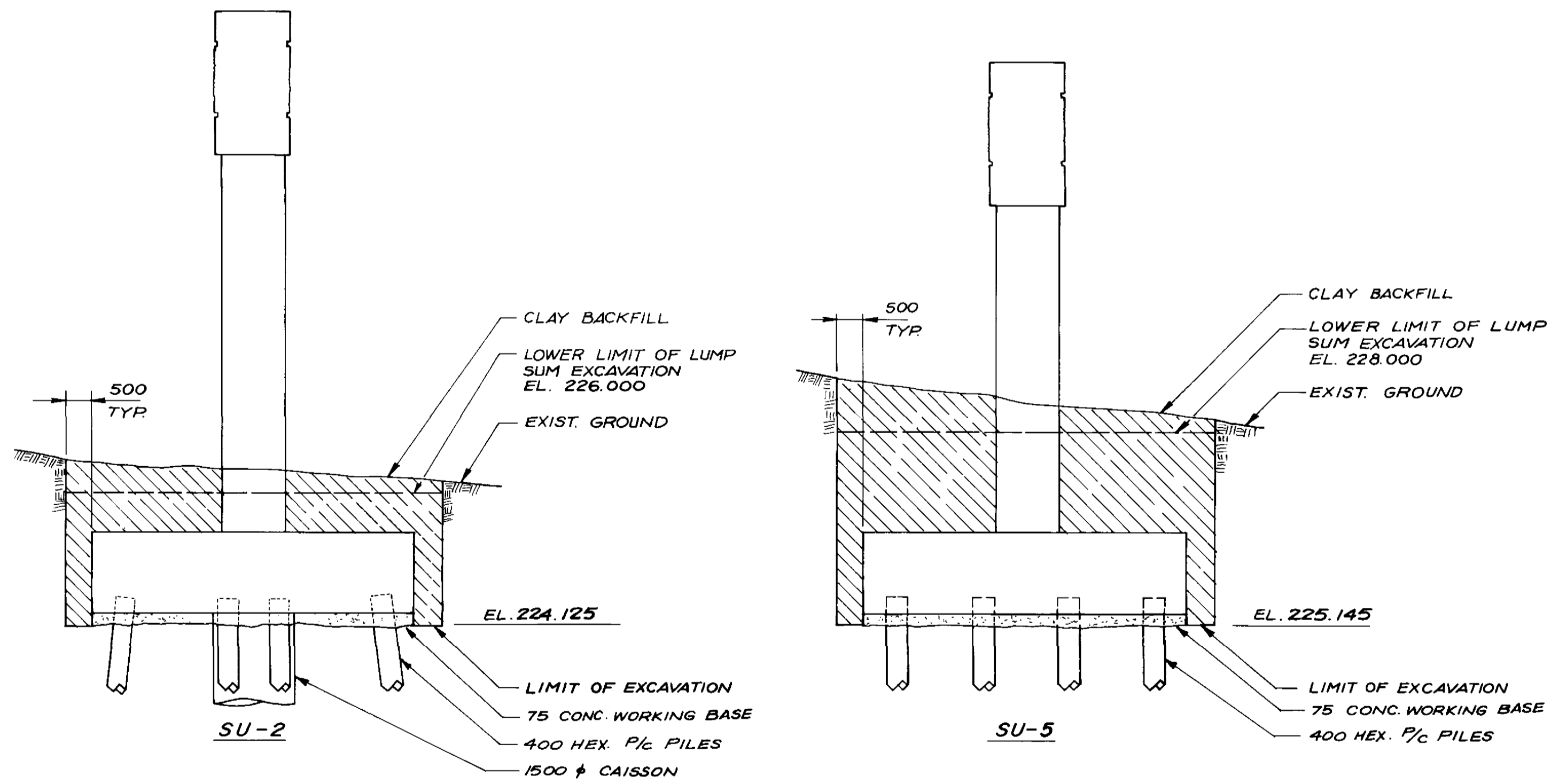


**SECTION AT WEST PIER SU-2
EAST PIER SU-5 SIMILAR**
1:150

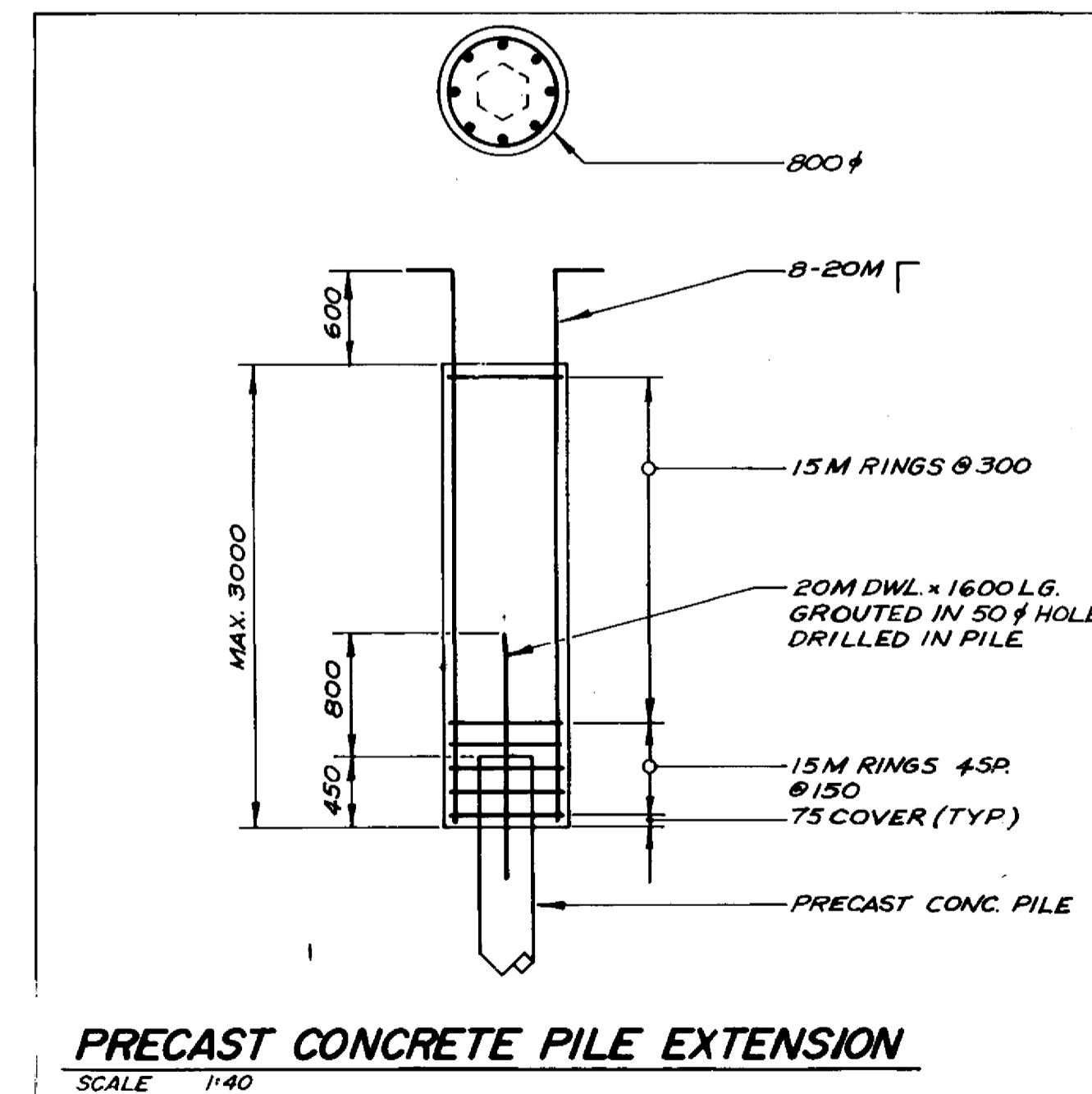


**SECTION AT RIVER PIER SU-3
RIVER PIER SU-4 SIMILAR**
1:150

NOTE:
PIER SU-3 IS SIMILAR TO PIER SU-4 EXCEPT ROCK ANCHORS WERE INSTALLED AT SU-3 SUB-FOOTING AND ROCK SOCKETED CAISSONS WERE INSTALLED AT SU-4 SUB-FOOTING AS SHOWN & NOTED ON THE DRAWING.



EXCAVATION & BACKFILL FOR LAND PIERS
1:75

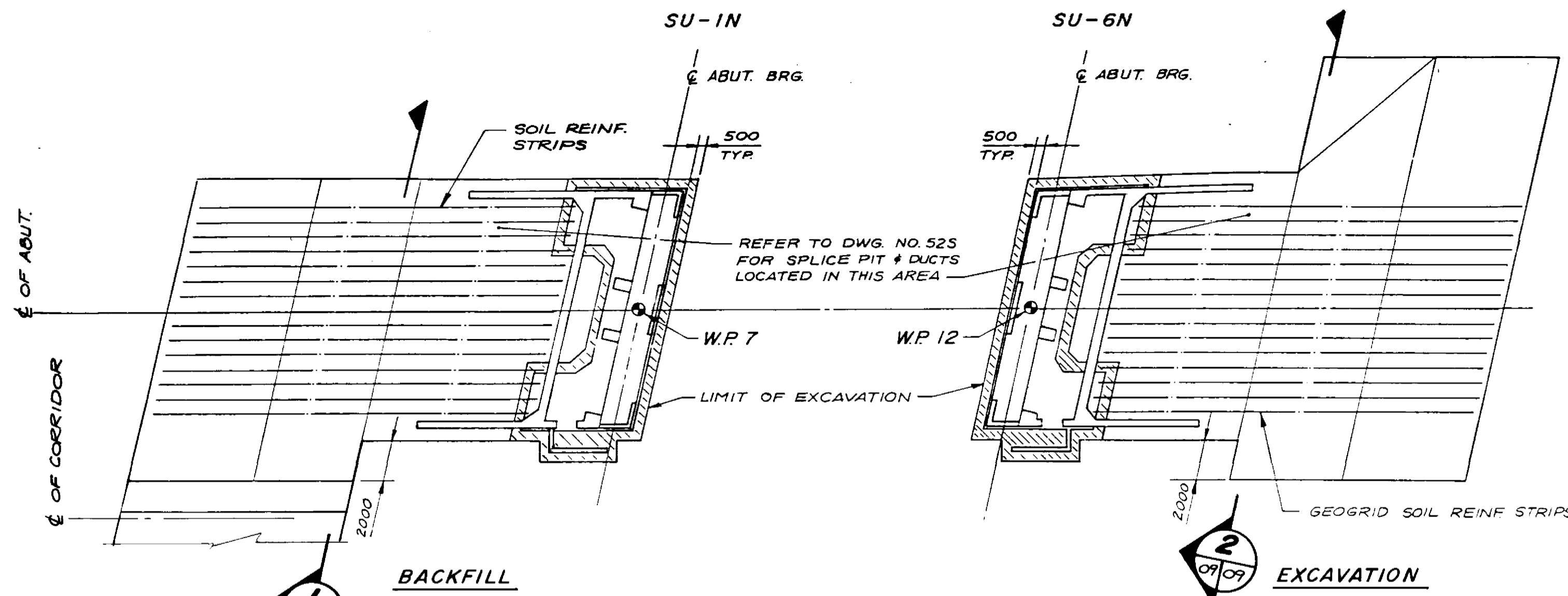


PRECAST CONCRETE PILE EXTENSION
SCALE 1:40



<p>LOCATION APPROVED UNDERGROUND STRUCTURES NA</p> <p>SUPV. U/G STRUCTURES COMMITTEE DATE</p> <p>NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.</p>	<p>B.M. ELEV.</p> <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																
<p>DESIGNED BY S.S.R.</p> <p>DRAWN BY S.K.B.</p> <p>HOR. SCALE AS SHOWN</p> <p>VERTICAL AS SHOWN</p> <p>1 BRIDGE RAISED TO INCREASE NAV. CLEARANCE 2760 BY D.M.M.</p>	<p>ENGINEER'S SEAL</p> <p>DILLON Consulting Engineers • Planners Environmental Scientists</p> <p>CHECKED BY N.B.U.</p> <p>APPROVED BY N.B. Ulyati</p> <p>REGISTERED ENGINEER</p> <p>CONSULTANT DRAWING NO.</p> <p>DATE MAR. 1989</p>																

<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT</p> <p>KILDONAN CORRIDOR BRIDGE</p> <p>STEEL GIRDER ALTERNATIVE</p> <p>GENERAL ARRANGEMENT</p> <p>SHEET 2 OF 2</p>	<p>CITY DRAWING NUMBER B216-89-08S</p> <p>SHEET OF</p> <p>B-5828-09</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------

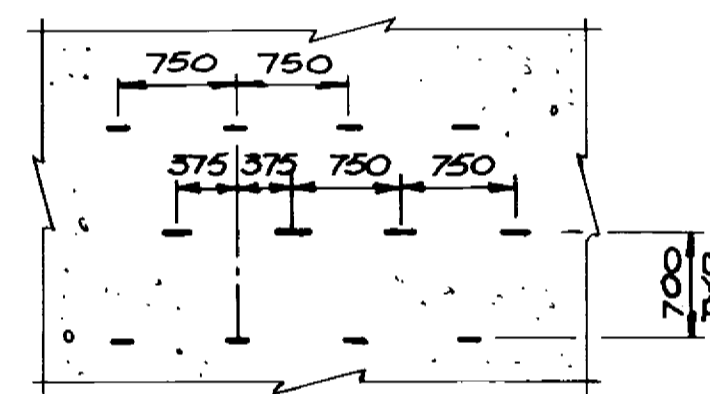


PLAN OF NORTH STRUCTURE ABUTMENTS

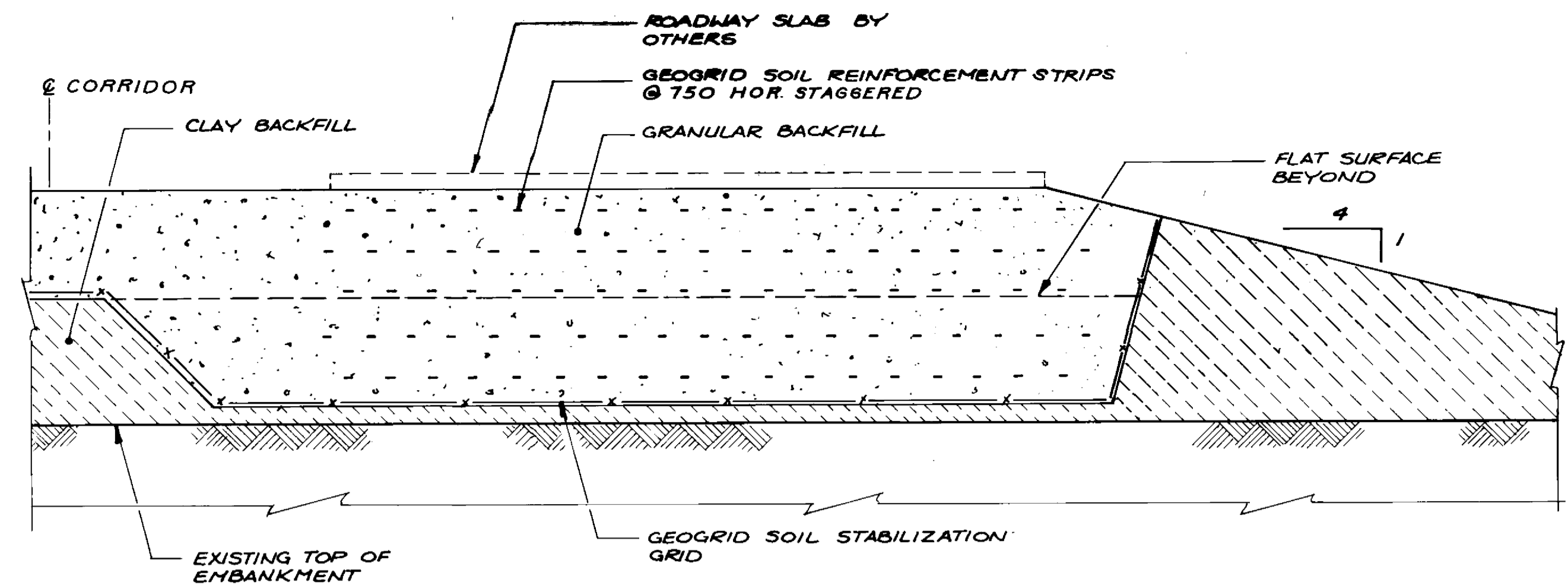
1:200

NORTH STRUCTURE

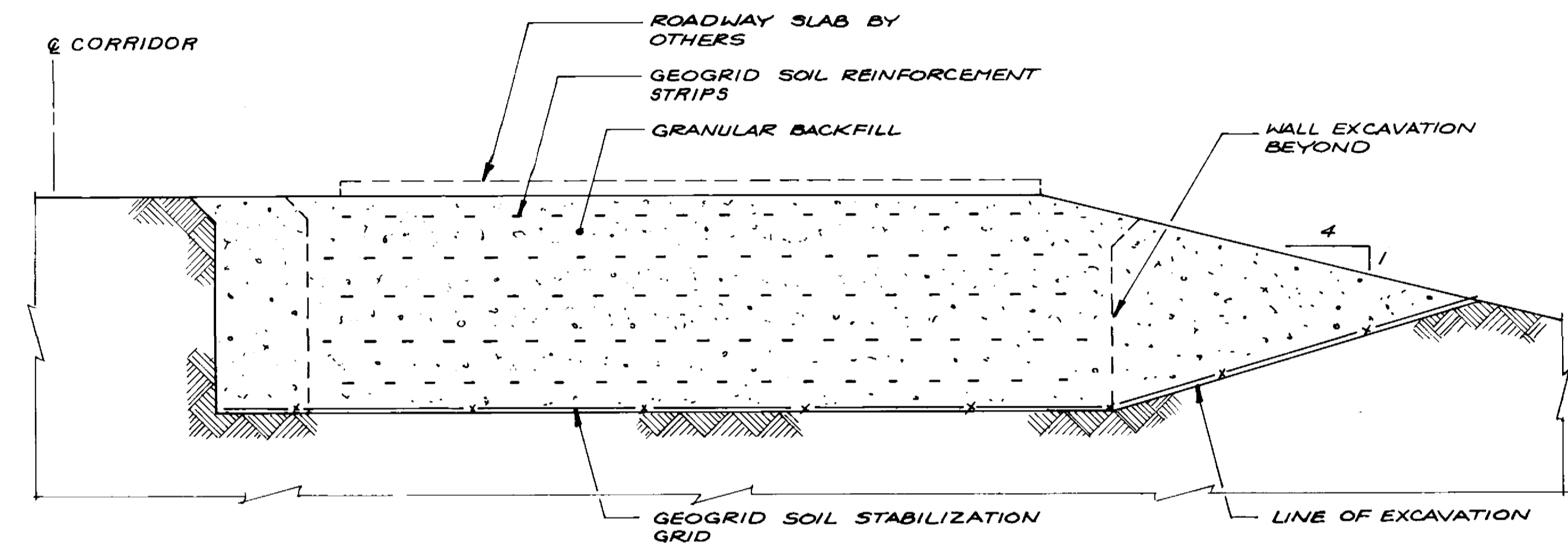
1. CONSTRUCT CONCRETE ABUTMENTS AND WINGWALLS AND APPLY WATERPROOFING.
2. PLACE CLAY BACKFILL AT FRONT AND BACK AS SHOWN.
3. INSTALL DRAINAGE PIPE.
4. PLACE GEOGRID SOIL STABILIZATION GRID TO THE LIMITS SHOWN ON THE DRAWING.
5. PLACE AND COMPACT GRANULAR BACKFILL IN LIFTS OF 150 mm (MAX.).
6. PLACE GEOGRID SOIL REINFORCEMENT STRIPS PARALLEL TO THE ROADWAY CENTRELINE.



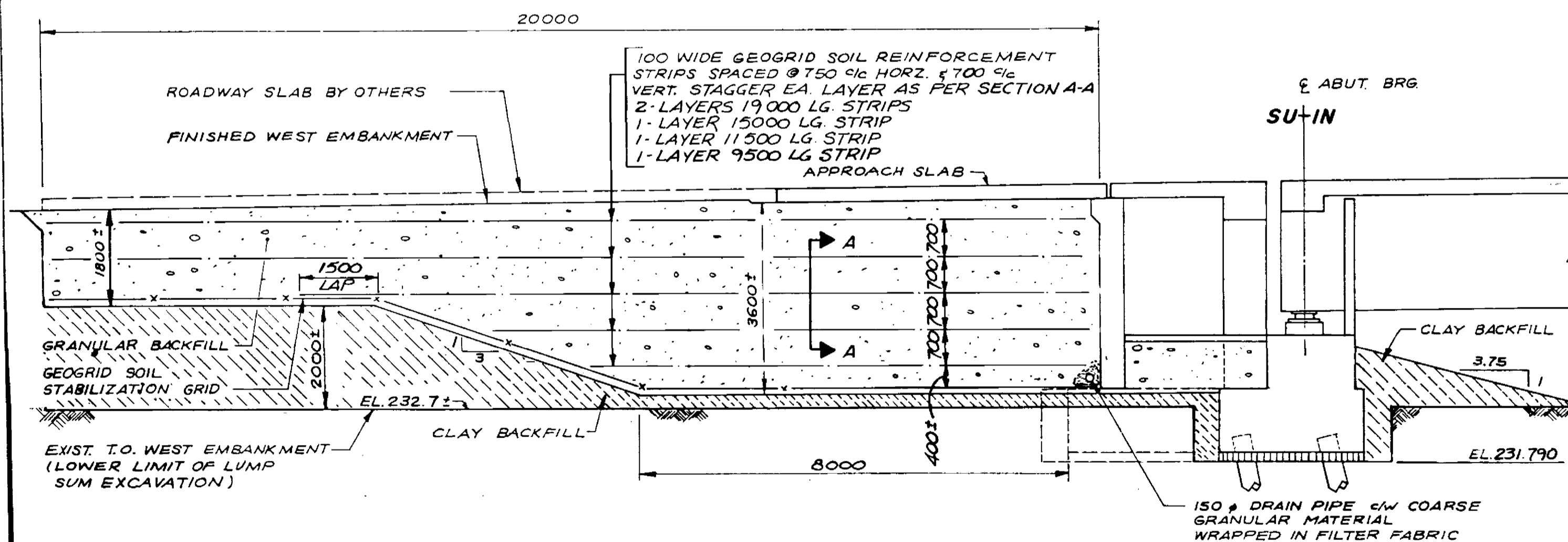
SECTION A-A



SECTION 1
1:75

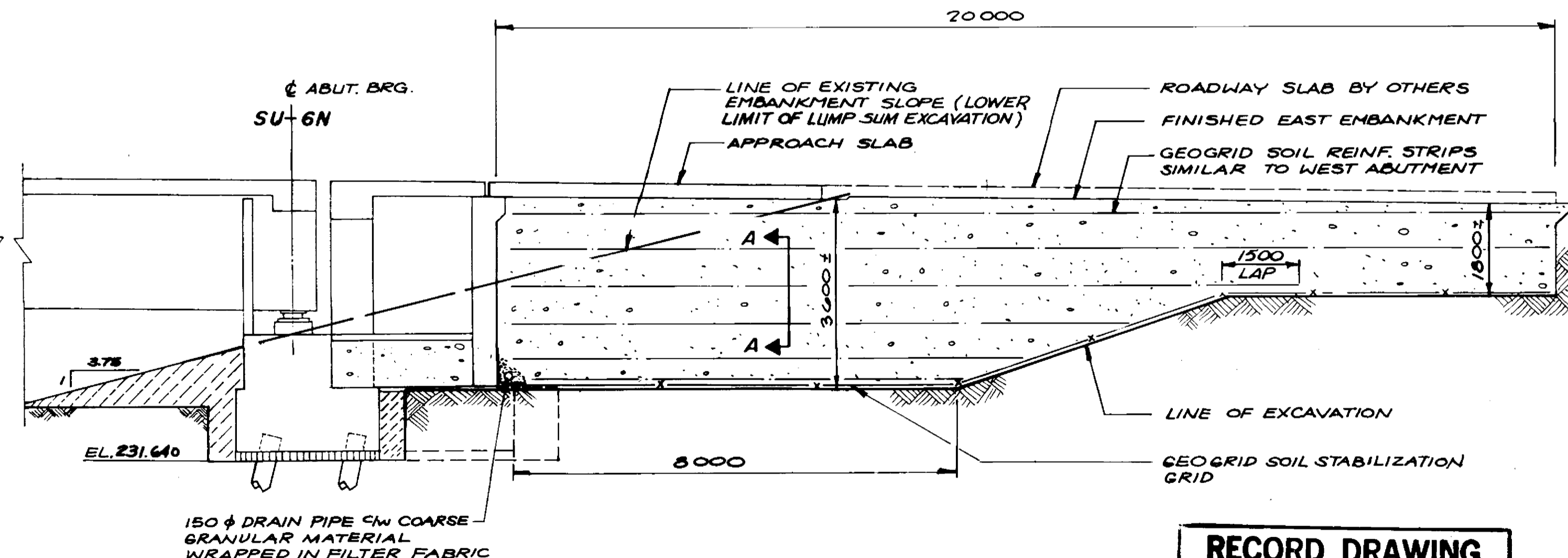


SECTION 2
1:75



SECTION AT WEST ABUTMENT

1:75



SECTION AT EAST ABUTMENT

1:75

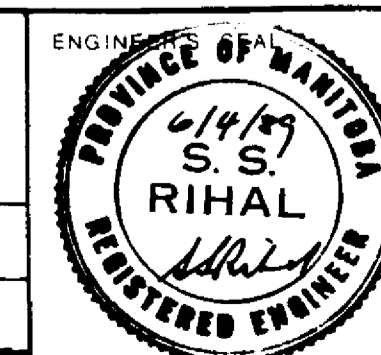
RECORD DRAWING

APPROVED BY: *R. J. H.* DATE: 70.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES NA	B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	
1 BRIDGE RAISED TO INCREASE MAX. CLEARANCE 27681 DM.W.	
NO. REVISIONS	DATE BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

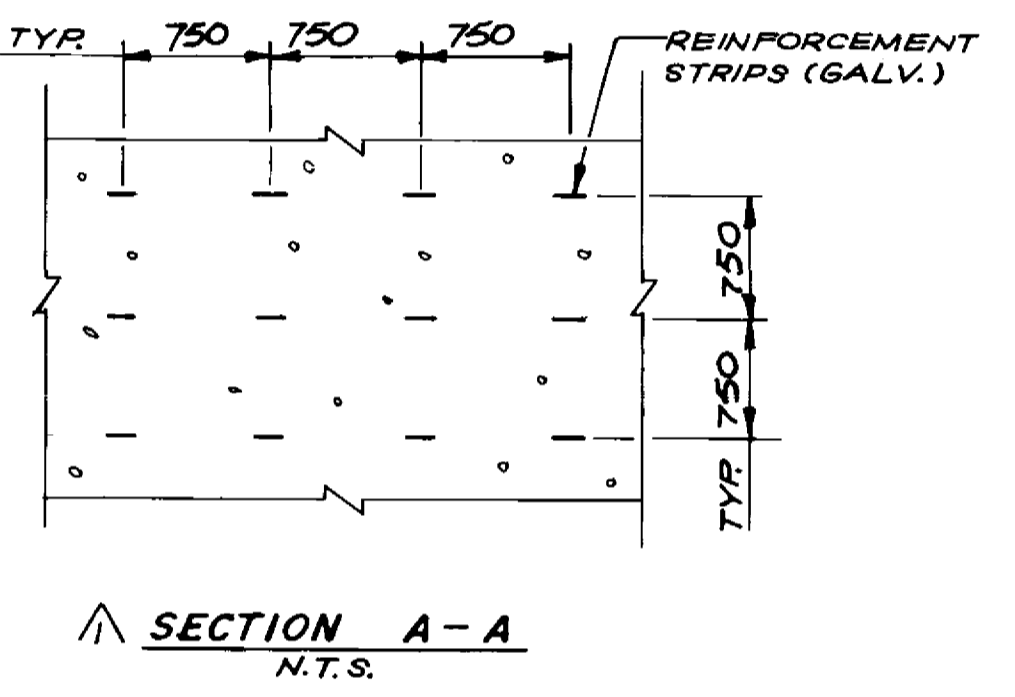
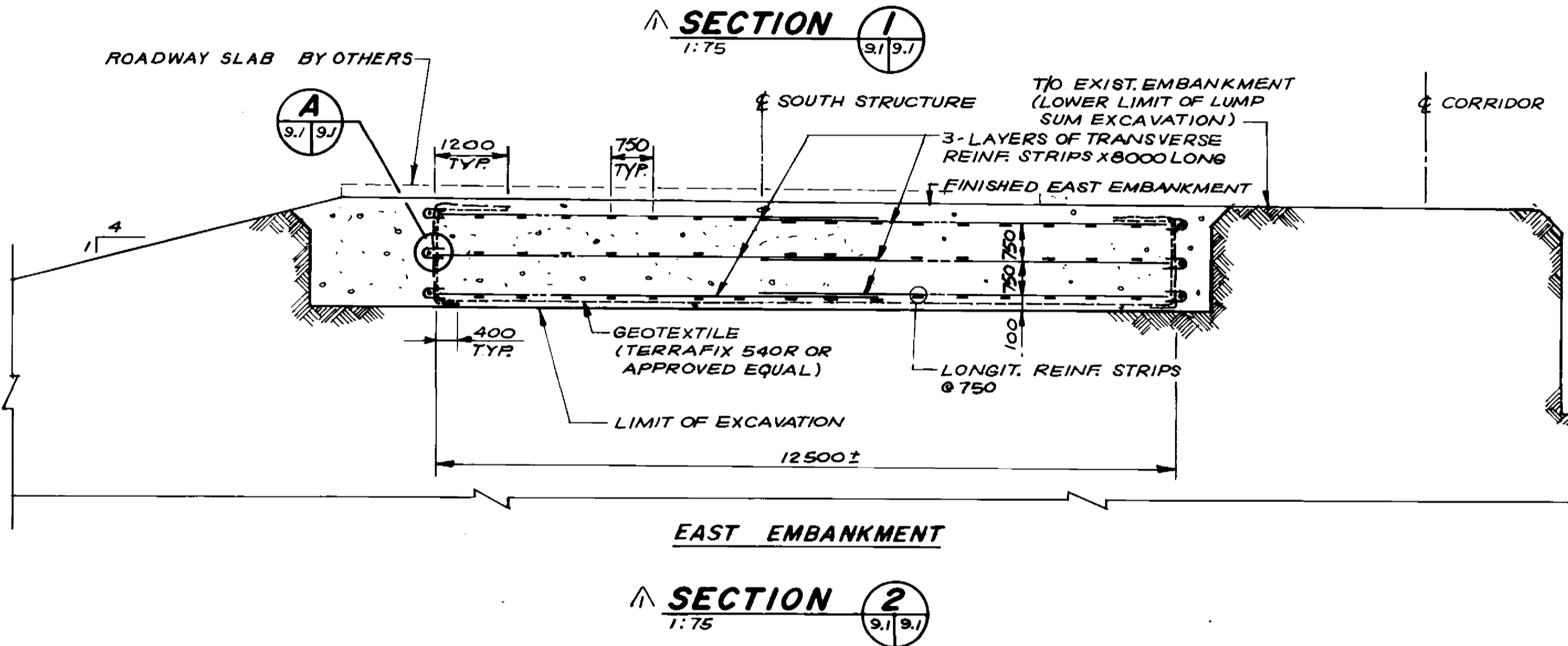
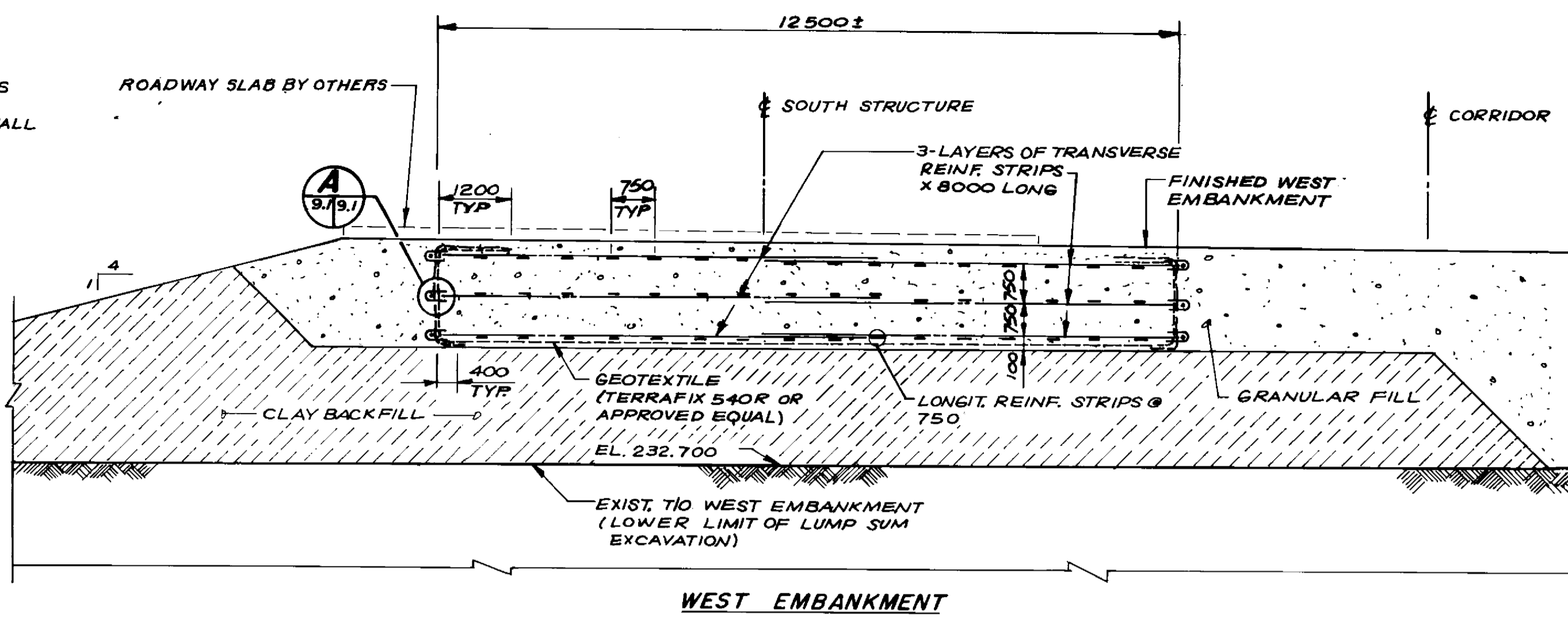
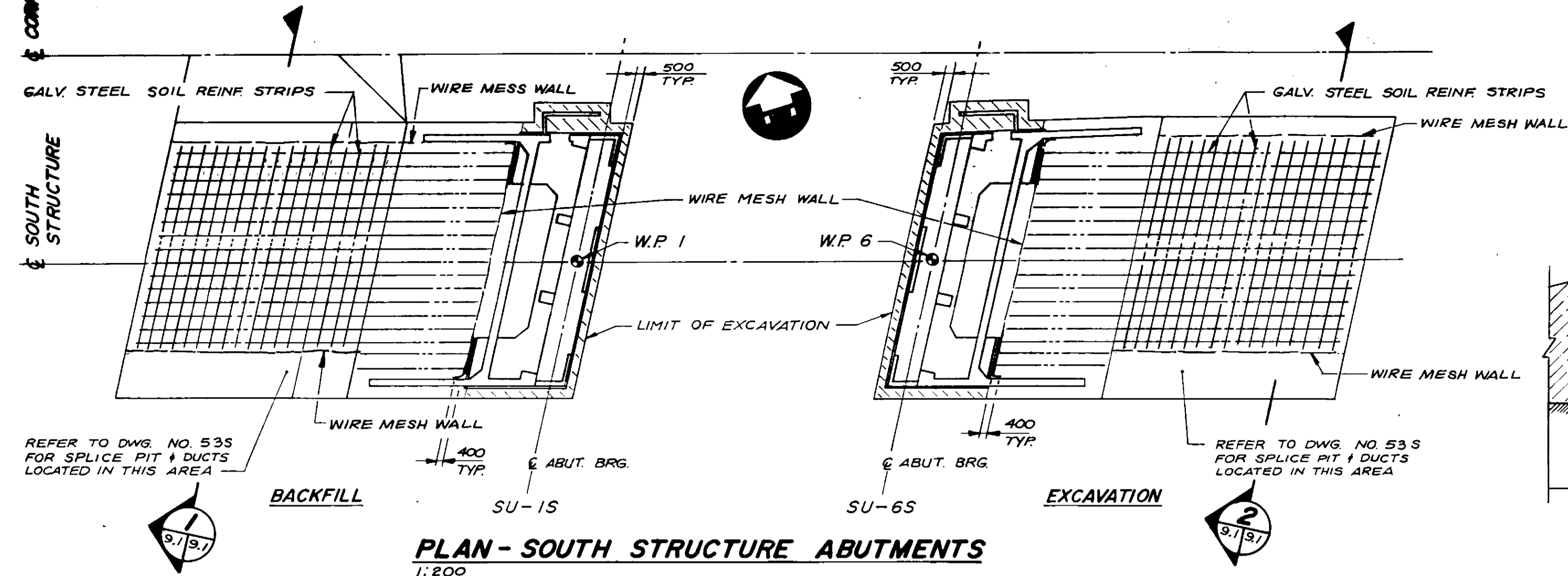
DESIGNED BY: S.S.R.	CHECKED BY: N.B.U.
DRAWN BY: K.C./S.K.B.	APPROVED BY: <i>[Signature]</i>
HOR. SCALE: AS SHOWN	VERTICAL: AS SHOWN
DATE: MAR. 1989	DATE: <i>[Signature]</i>



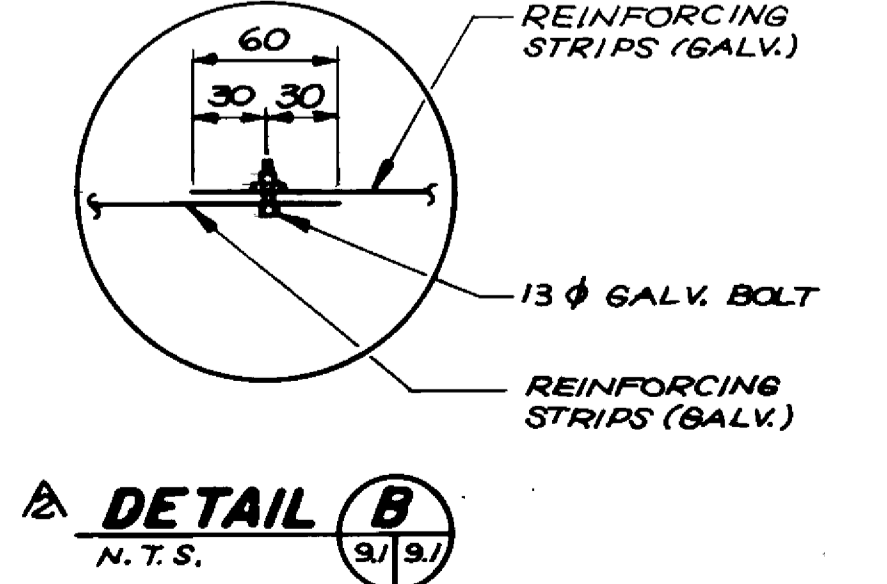
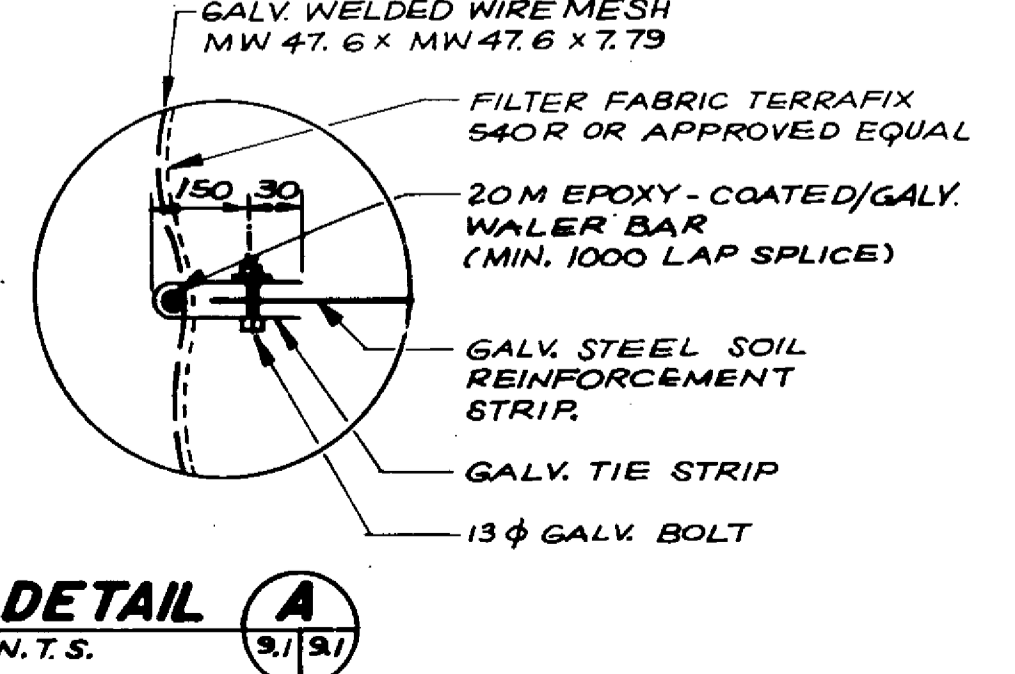
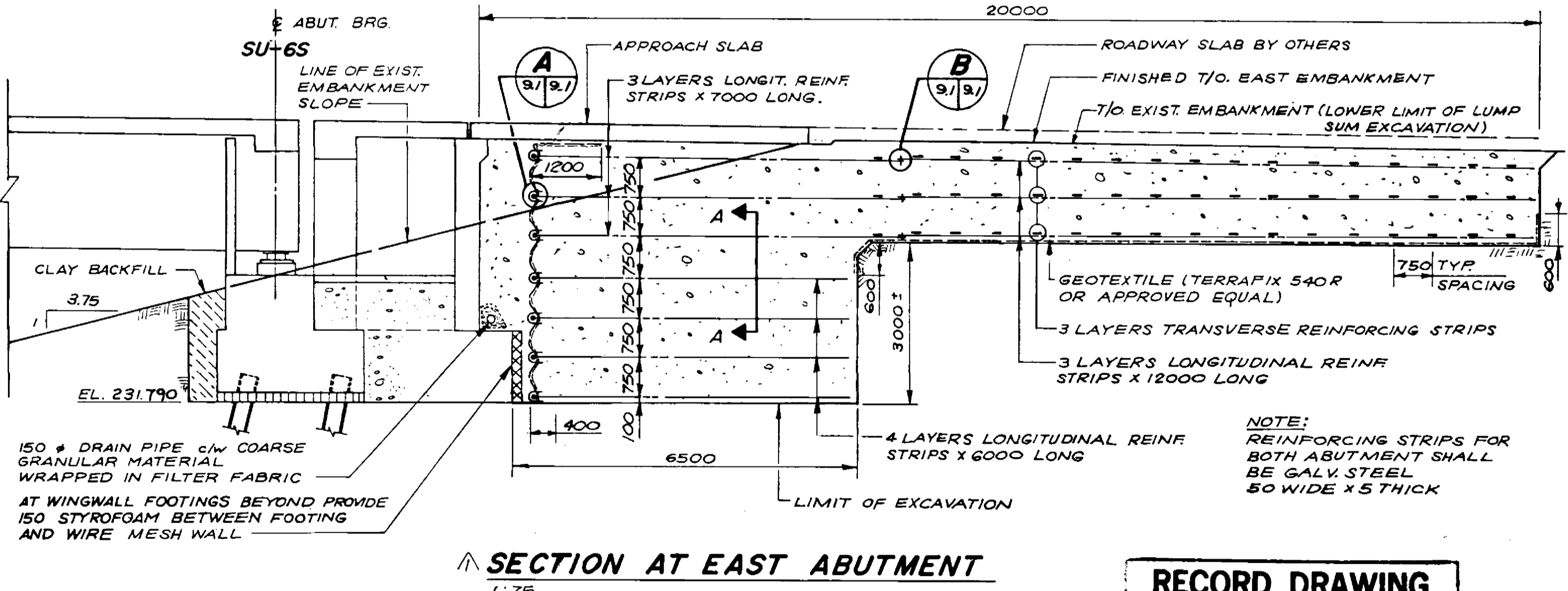
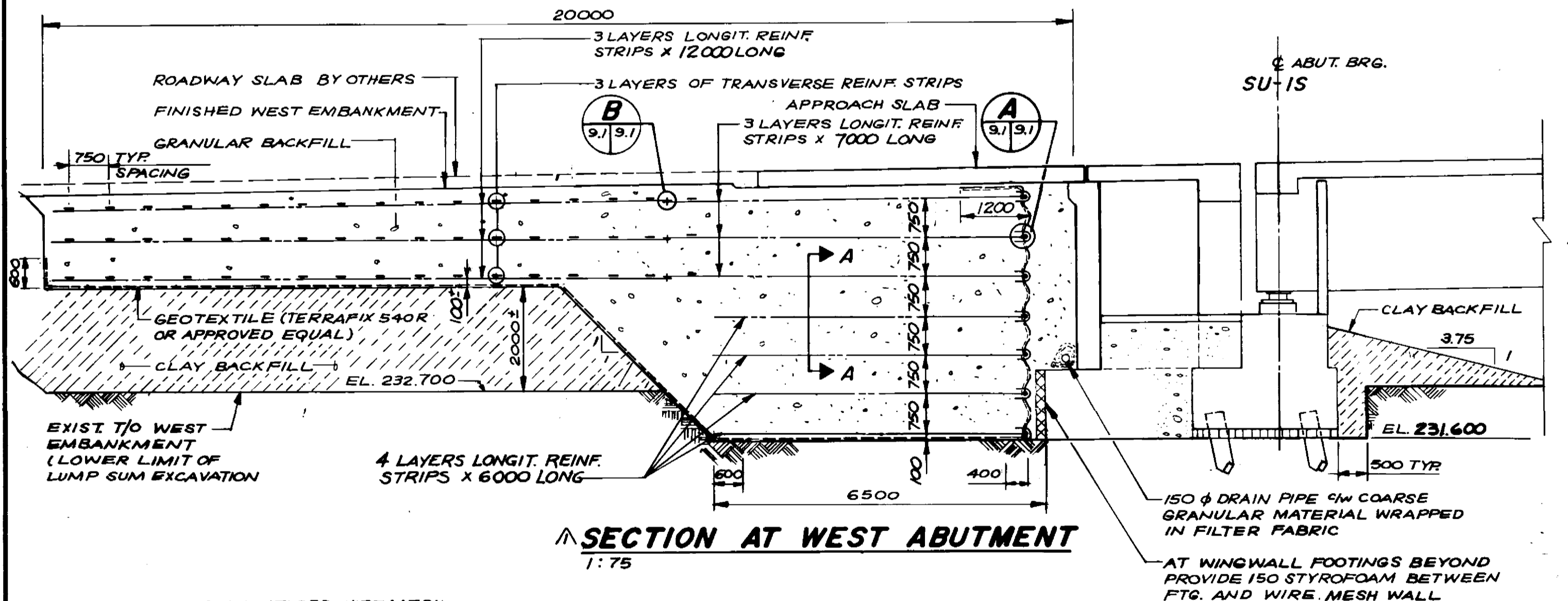
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
EXCAVATION AND BACKFILL
AT NORTH STRUCTURE
ABUTMENTS

CITY DRAWING NUMBER: B216-89-09s
SHEET OF:
B-5828-10



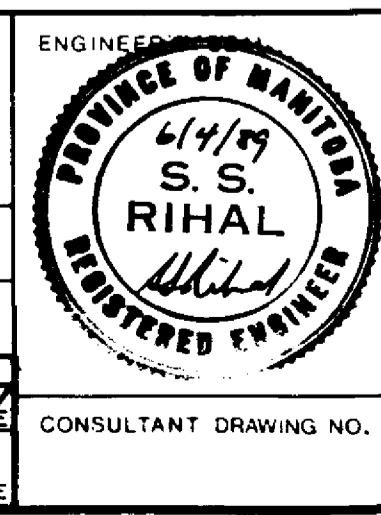
- SOUTH STRUCTURE**
1. CONSTRUCT CONCRETE ABUTMENTS AND WINGWALLS AND APPLY WATERPROOFING.
 2. PLACE CLAY BACKFILL AT FRONT AS SHOWN.
 3. INSTALL DRAINAGE PIPE.
 4. PLACE 150 mm STYROFOAM ALONG ABUTMENT FOOTING.
 5. CONSTRUCT REINFORCED EARTH WIRE MESH WALL IN STAGES IN CONJUNCTION WITH PLACING COMPACTED GRANULAR BACKFILL IN 150 mm (MAXIMUM) LIFTS AND STEEL REINFORCING STRIPS AS SHOWN ON THE DRAWINGS.
 6. PLACE STEEL REINFORCING STRIPS PARALLEL TO THE ROADWAY CENTRELINE.
 7. OVERLAPS AND SPLICES FOR WIRE MESH, FILTER FABRIC, AND STEEL REINFORCING STRIPS, SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. SPLICE LENGTHS FOR WALER BARS SHALL BE 1000 mm (MINIMUM).
 8. REMOVE ALL FALSEWORK FOR WIRE MESH WALL AND PLACE GRANULAR BACKFILL BETWEEN WIRE MESH WALL AND ABUTMENT BACKMALL.



RECORD DRAWING
 APPROVED BY: *[Signature]* 90.11.28
 DATE

LOCATION APPROVED UNDERGROUND STRUCTURES NA	B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE	DATE
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	NO. REVISIONS

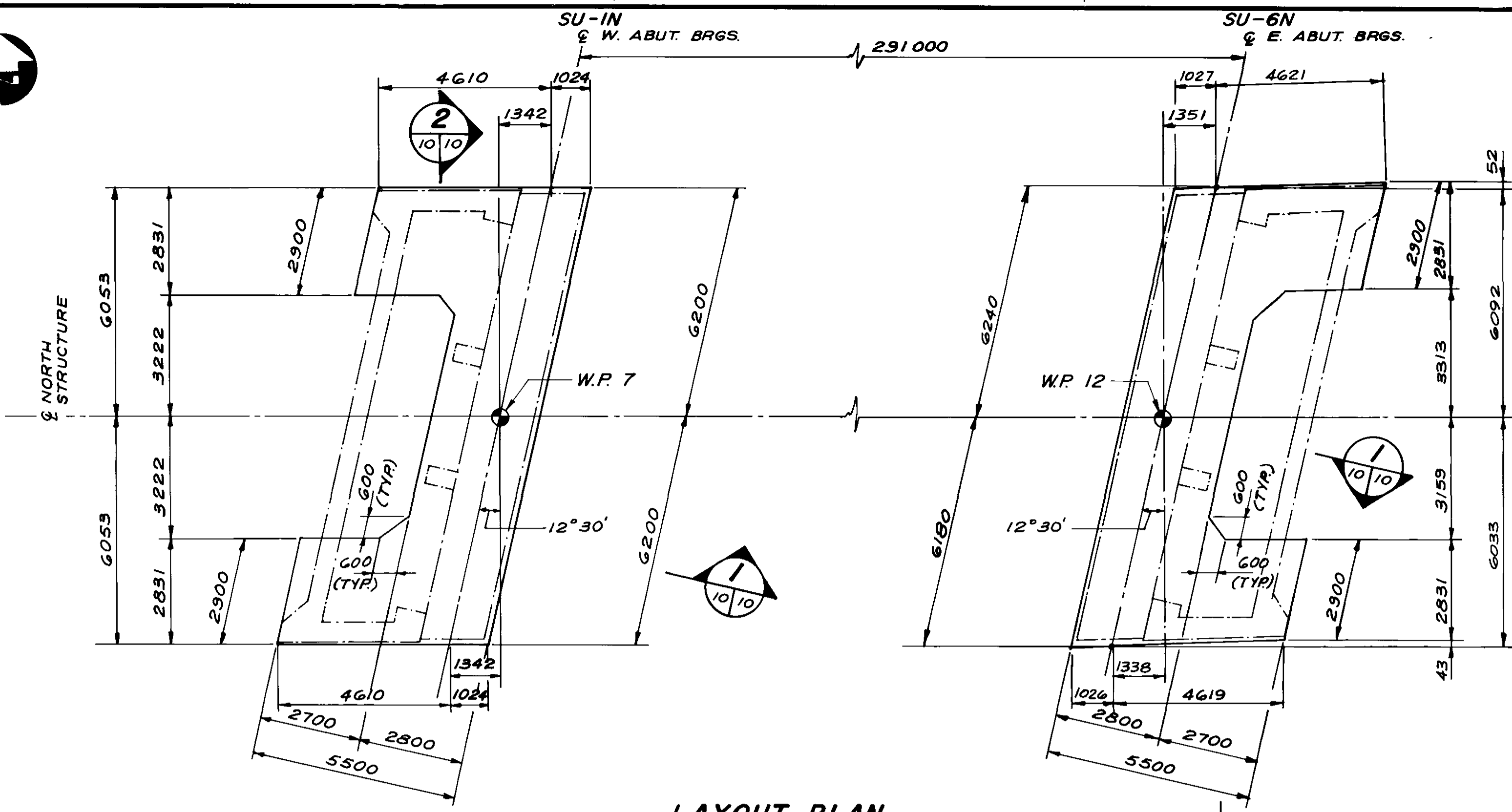
DILLON Consulting Engineers - Planners Environmental Scientists	
DESIGNED BY: SSR	CHECKED BY: N.B.U.
DRAWN BY: N.B.G. / S.B.	APPROVED BY: <i>[Signature]</i>
HOR SCALE: AS SHOWN	VERTICAL: AS SHOWN
DATE: MAR 1989	DATE: MAR 1989



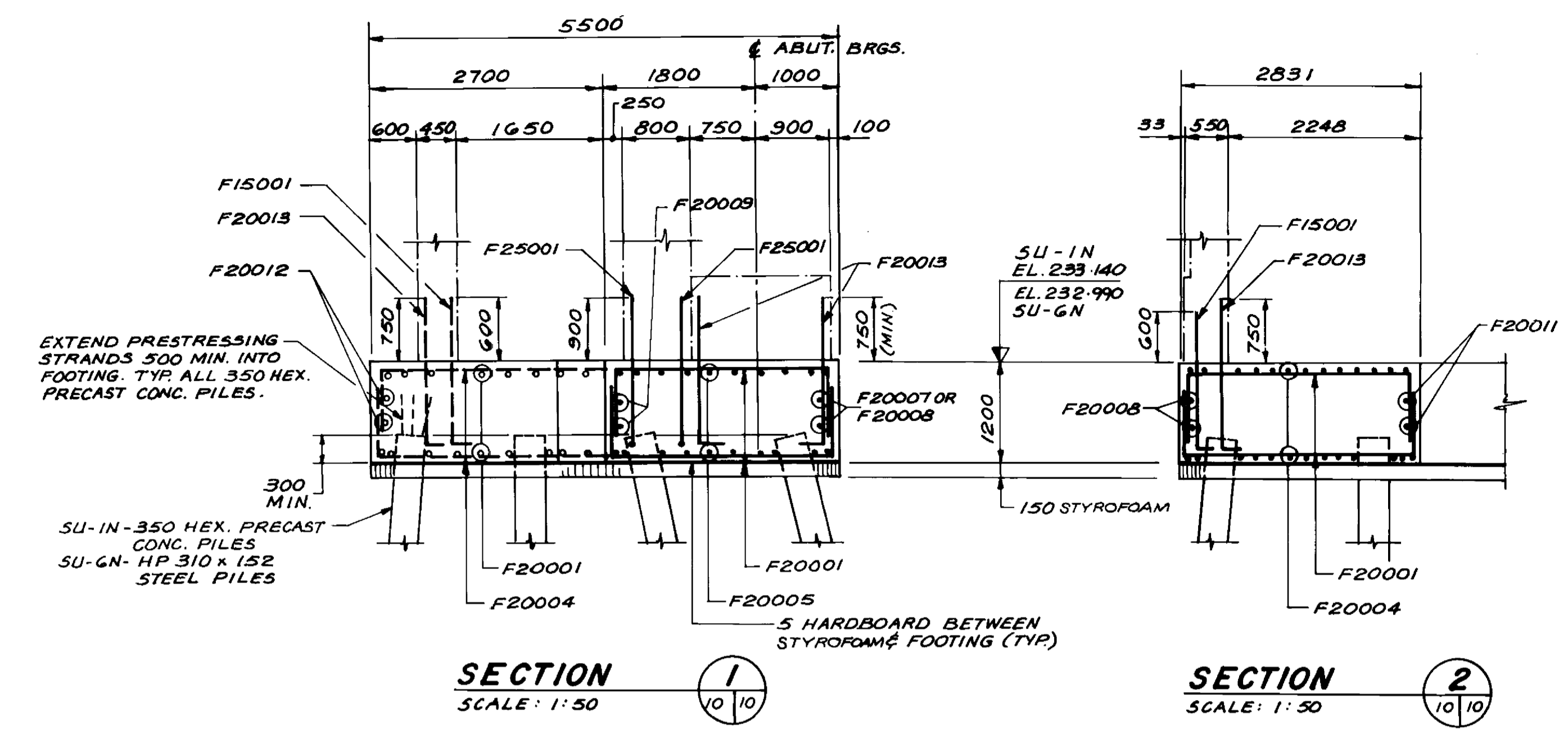
THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE
 EXCAVATION AND BACKFILL
 AT SOUTH STRUCTURE
 ABUTMENTS

CITY DRAWING NUMBER: **B216-89-09.1S**
 SHEET OF: **B-5828-II**

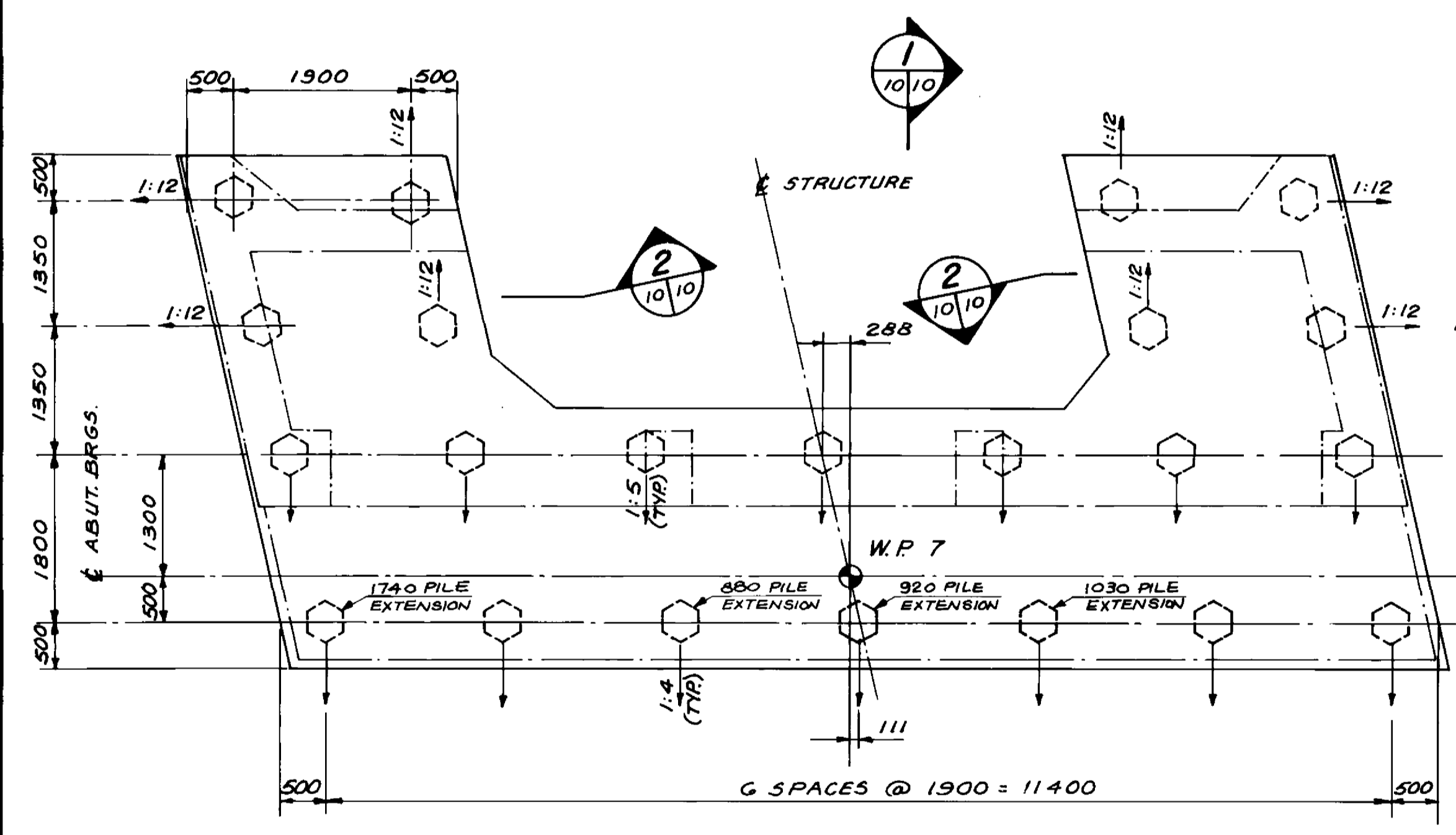


LAYOUT PLAN
SCALE: 1:100

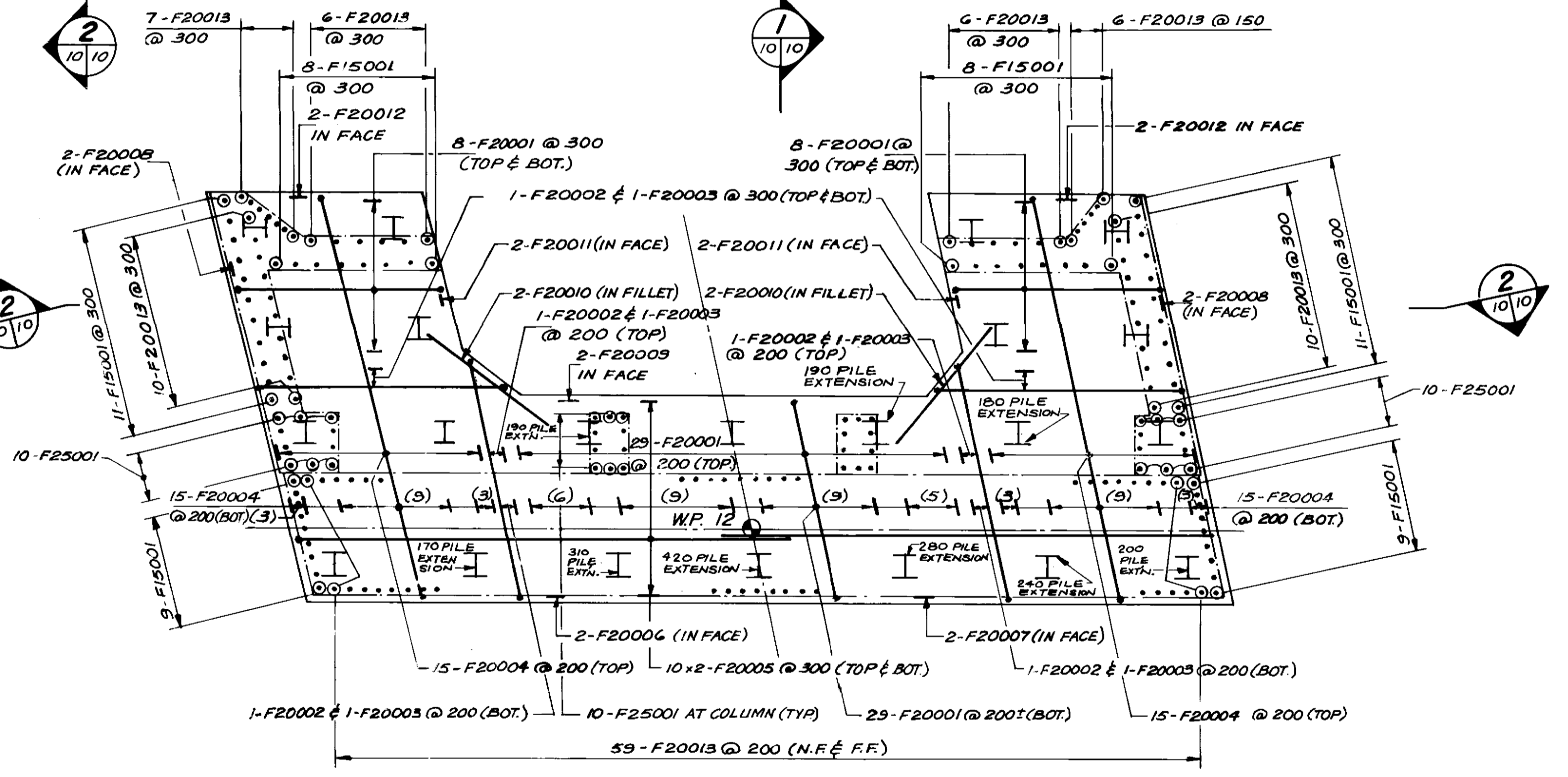


SECTION 1
SCALE: 1:50

SECTION 2
SCALE: 1:50



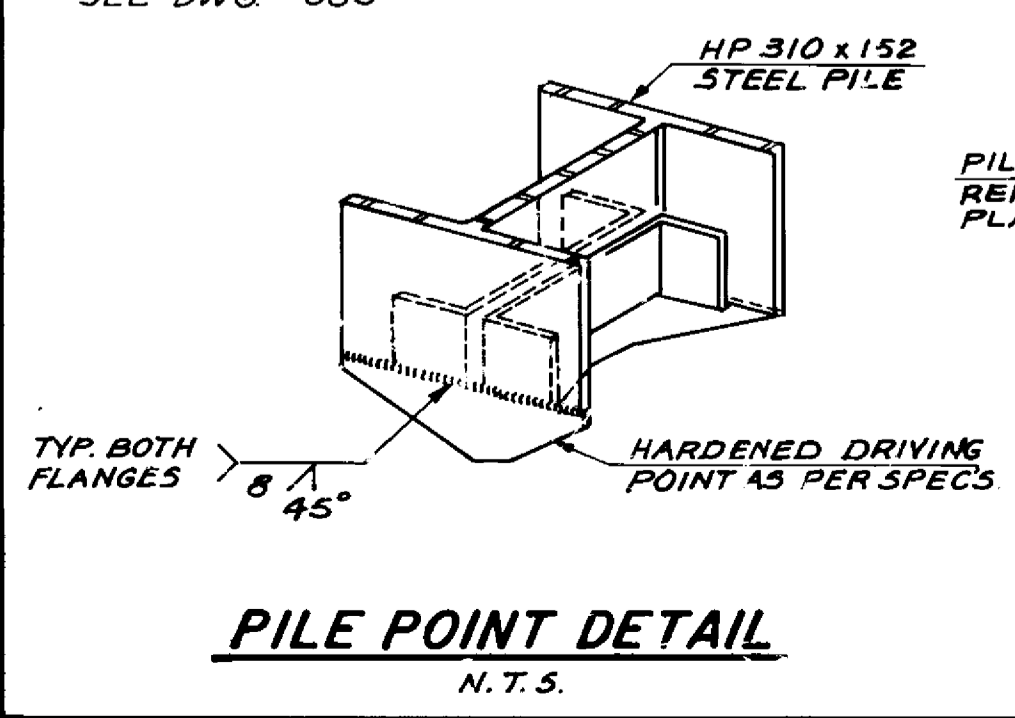
PLAN OF FOOTING AT SU-IN
SCALE: 1:50



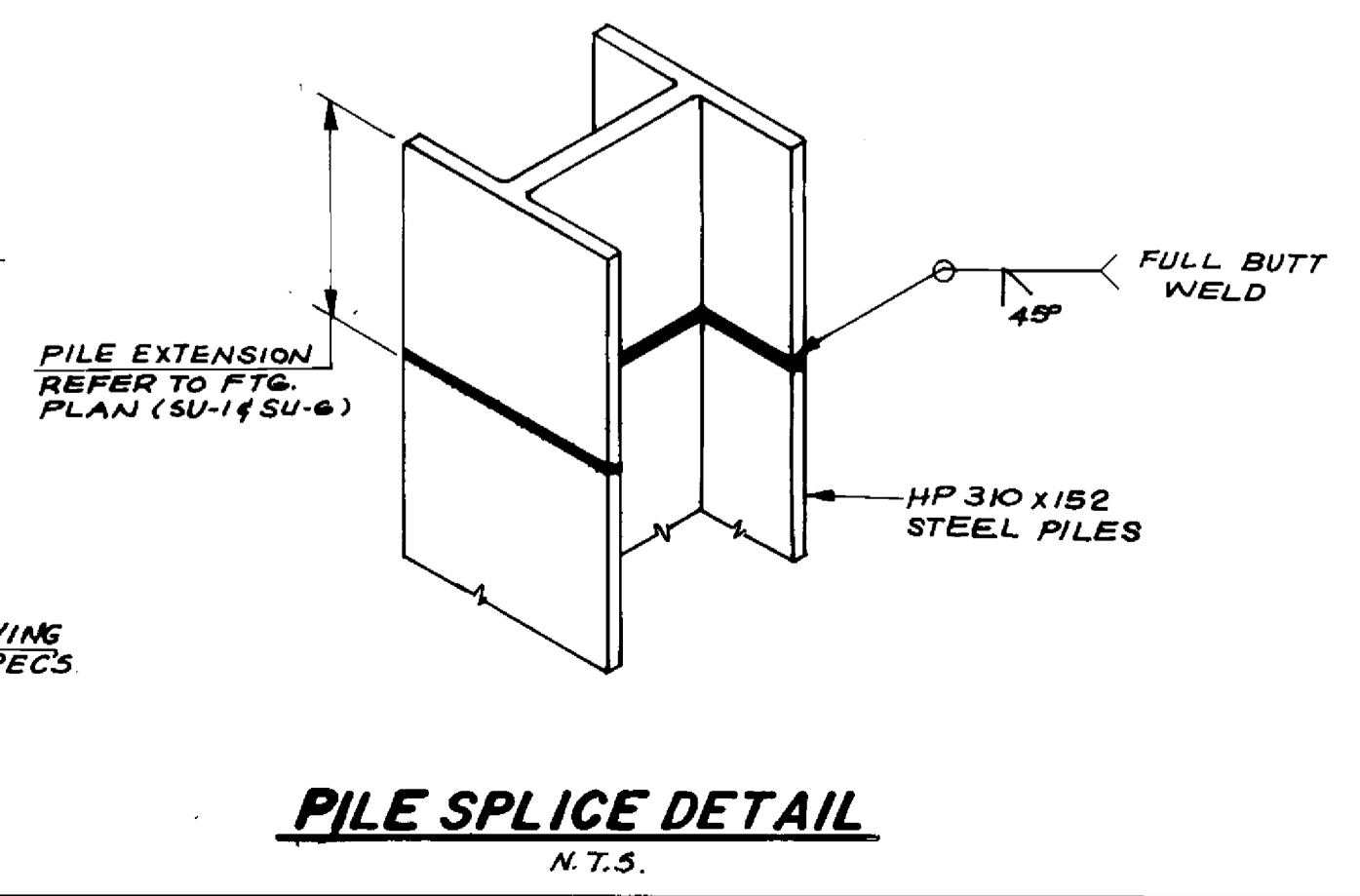
PLAN OF FOOTING AT SU-6N
SCALE: 1:50

- NOTES:**
- ALL PILES ARE 350 HEX PRECAST CONCRETE PILES
 - SUPPLY 22 PILES x 23.0m LONG
 - PILES ARE BATTERED IN DIRECTION OF ARROW AT RATIO INDICATED
 - FOR REINFORCING SEE PLAN OF FOOTING AT SU-6N
 - FOR CONC. PILE EXTENSION DETAIL SEE DWG. -085

- NOTES:**
- ALL PILES ARE HP 310 x 152 STEEL PILES
 - SUPPLY 22 PILES x 23.0m LONG
 - FOR PILE LAYOUT AND BATTER SEE PLAN OF FOOTING AT SU-IN
 - FOR STEEL PILE POINT AND PILE EXTENSION SEE DETAIL ON THIS SHEET.



PILE POINT DETAIL
N.T.S.



PILE SPLICE DETAIL
N.T.S.

RECORD DRAWING
APPROVED BY: [Signature] DATE: 7.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES		B/W ELEV.	
N.A.			
SUPV. U/G STRUCTURES COMMITTEE	DATE		
NOTE:	LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
1	BRIDGE RAISED TO INCREASE NAV. CLEARANCE 274/51	D.M.W.	
NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: M.V./SSR
CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y.
APPROVED BY: [Signature]
HORIZ. SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: MAR. 1989

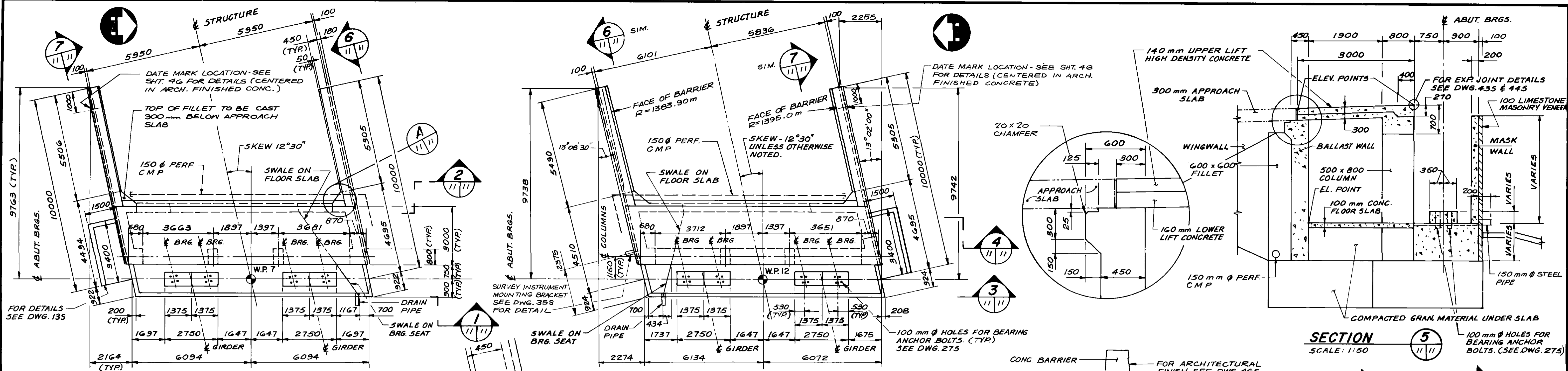
PROVINCE OF MANITOBA
N.B.
JULYATT
REGISTERED ENGINEER

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
NORTH STRUCTURE
ABUTMENTS SU-IN AND SU-6N
FOOTING LAYOUT AND REINFORCEMENT

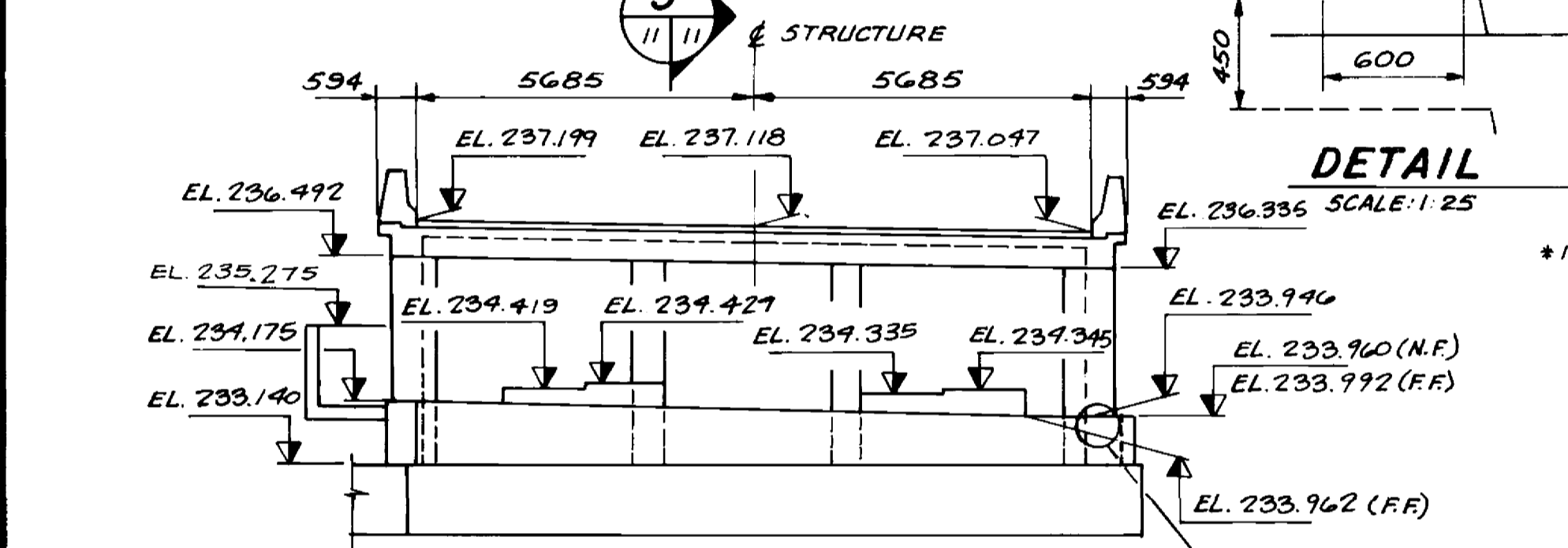
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SHEET OF: []
DATE: 7.11.28

B-5828-12

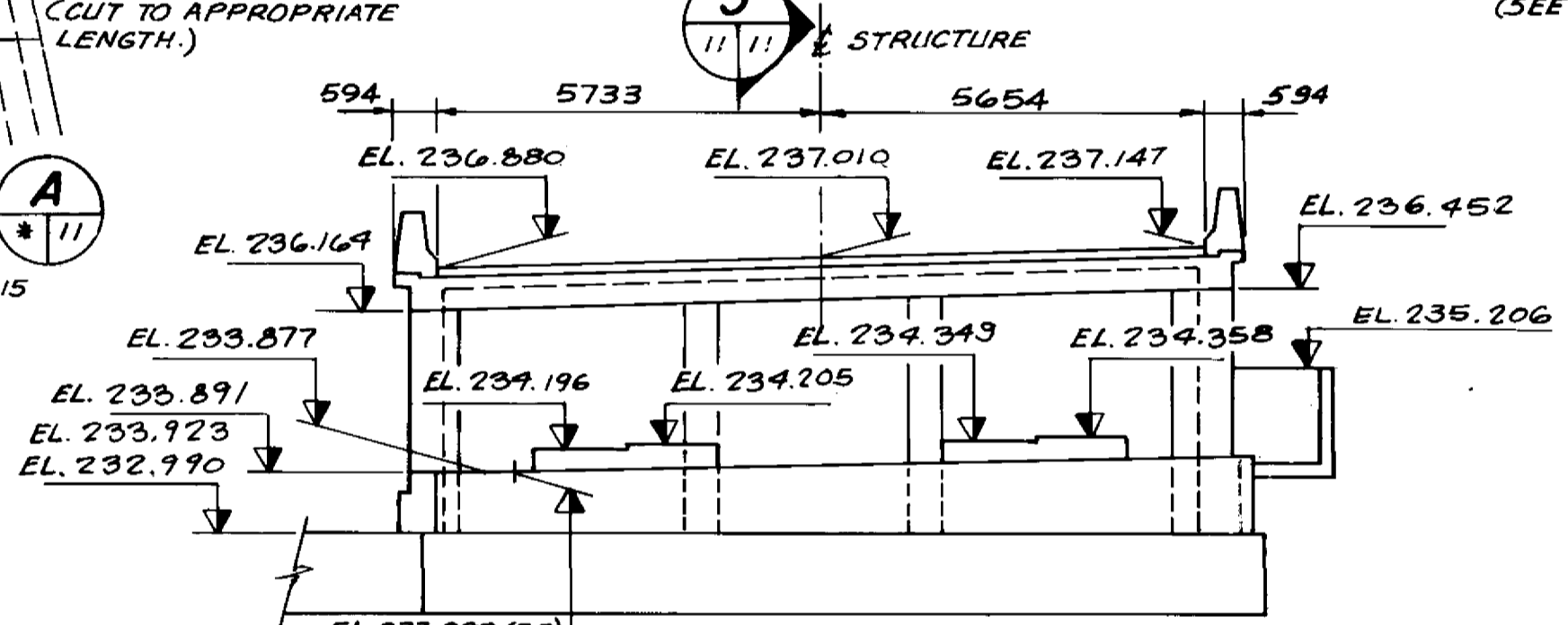


ABUTMENT PLAN AT SU-IN
SCALE: 1:100

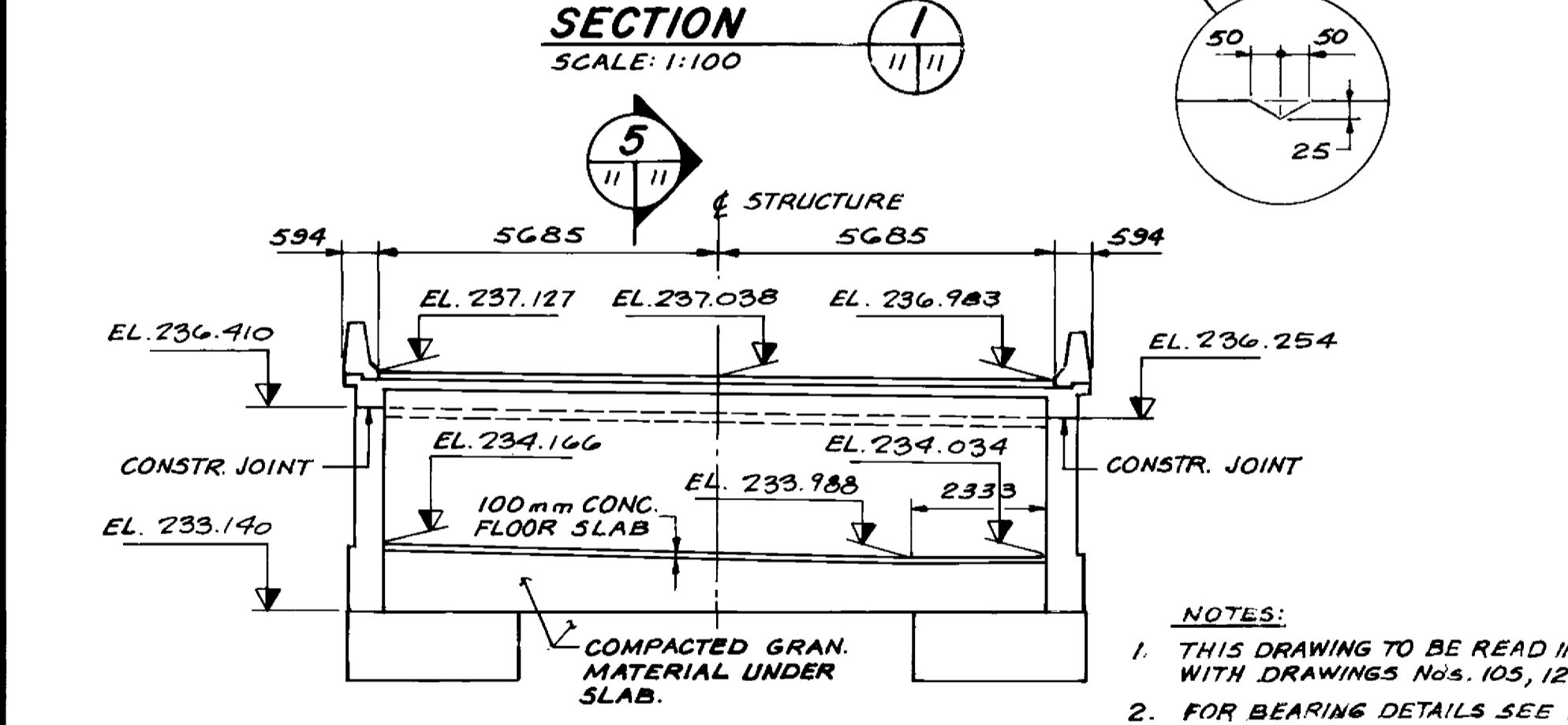
ABUTMENT PLAN AT SU-6N
SCALE: 1:100



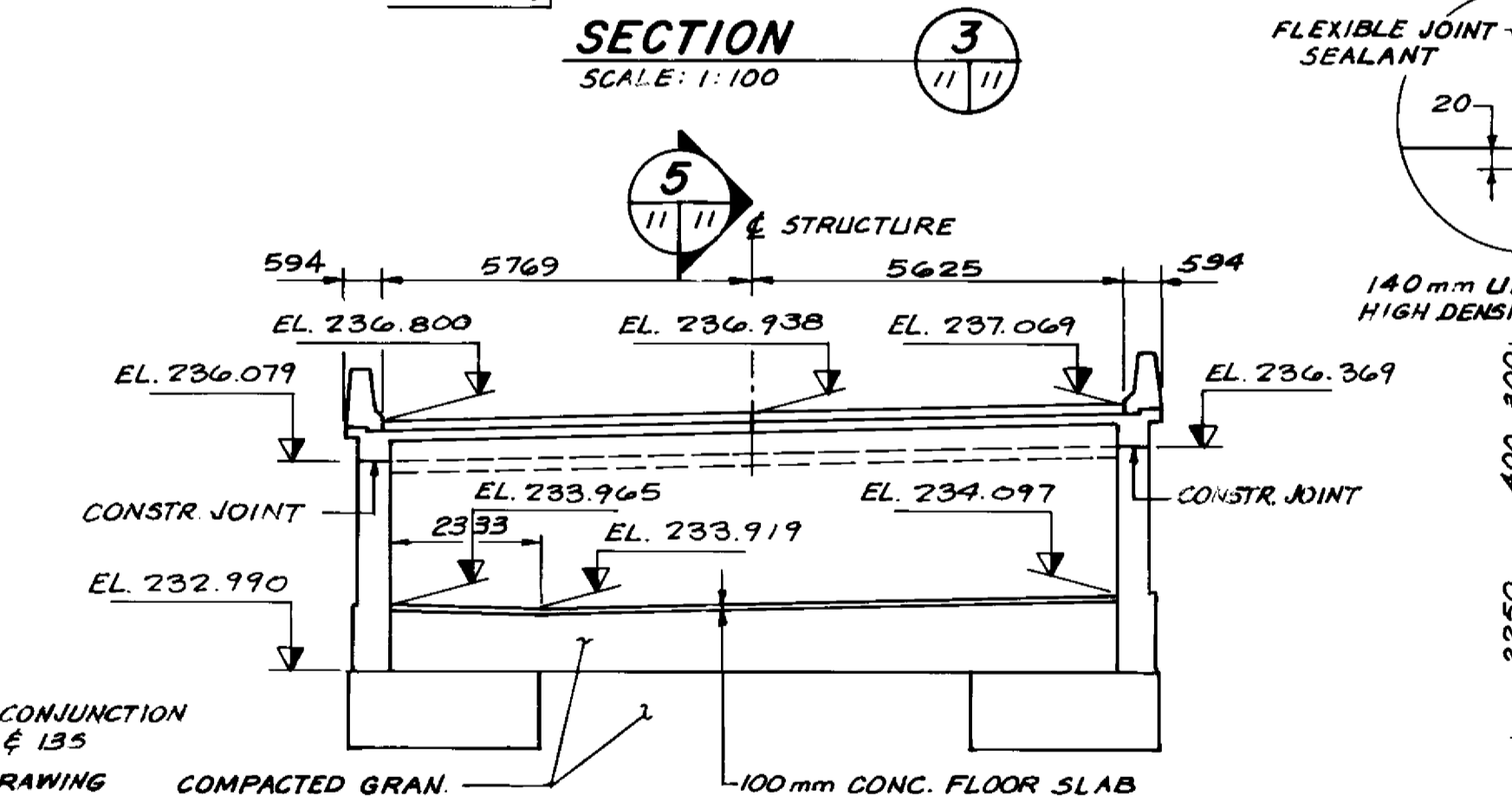
SECTION 1
SCALE: 1:100



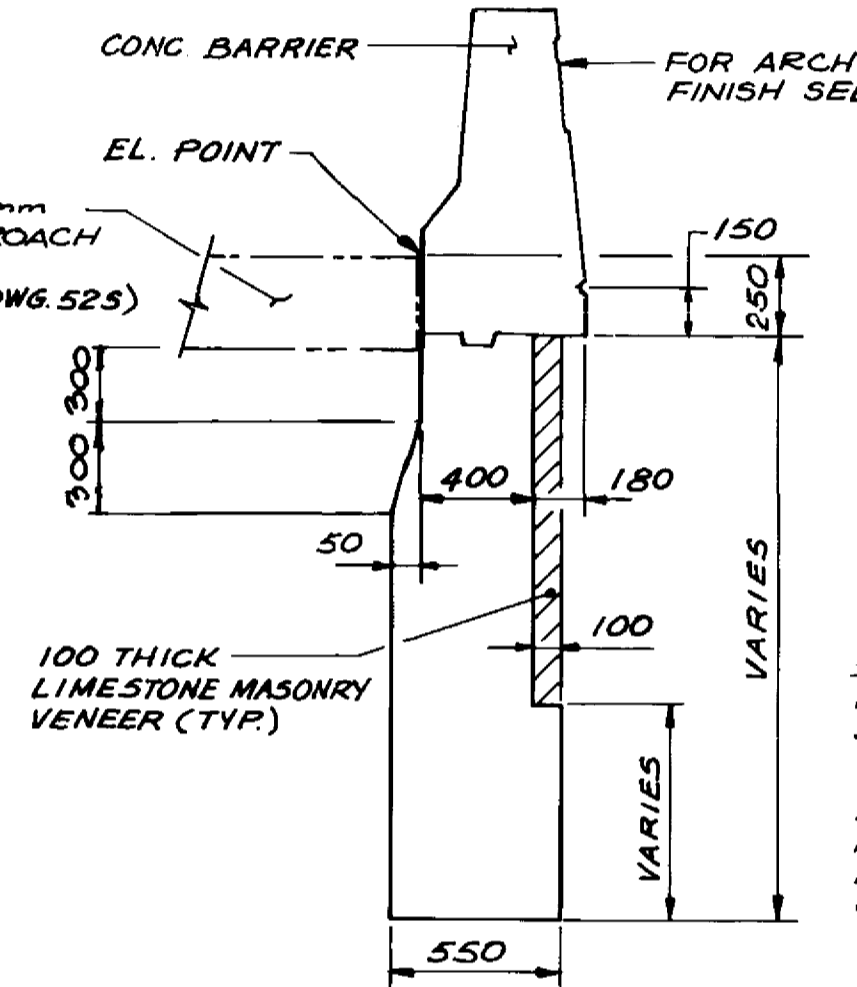
SECTION 3
SCALE: 1:100



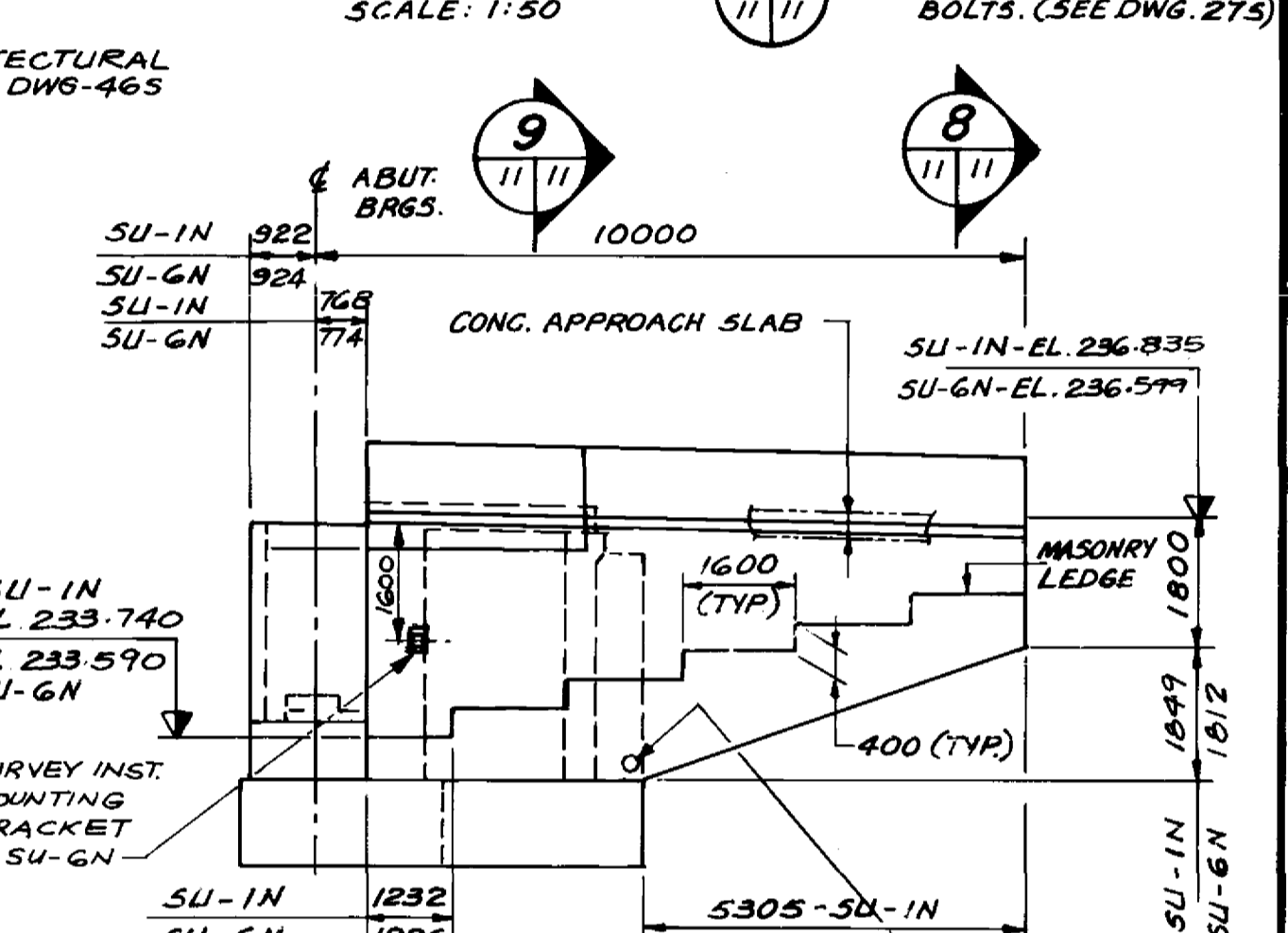
SECTION 2
SCALE: 1:100



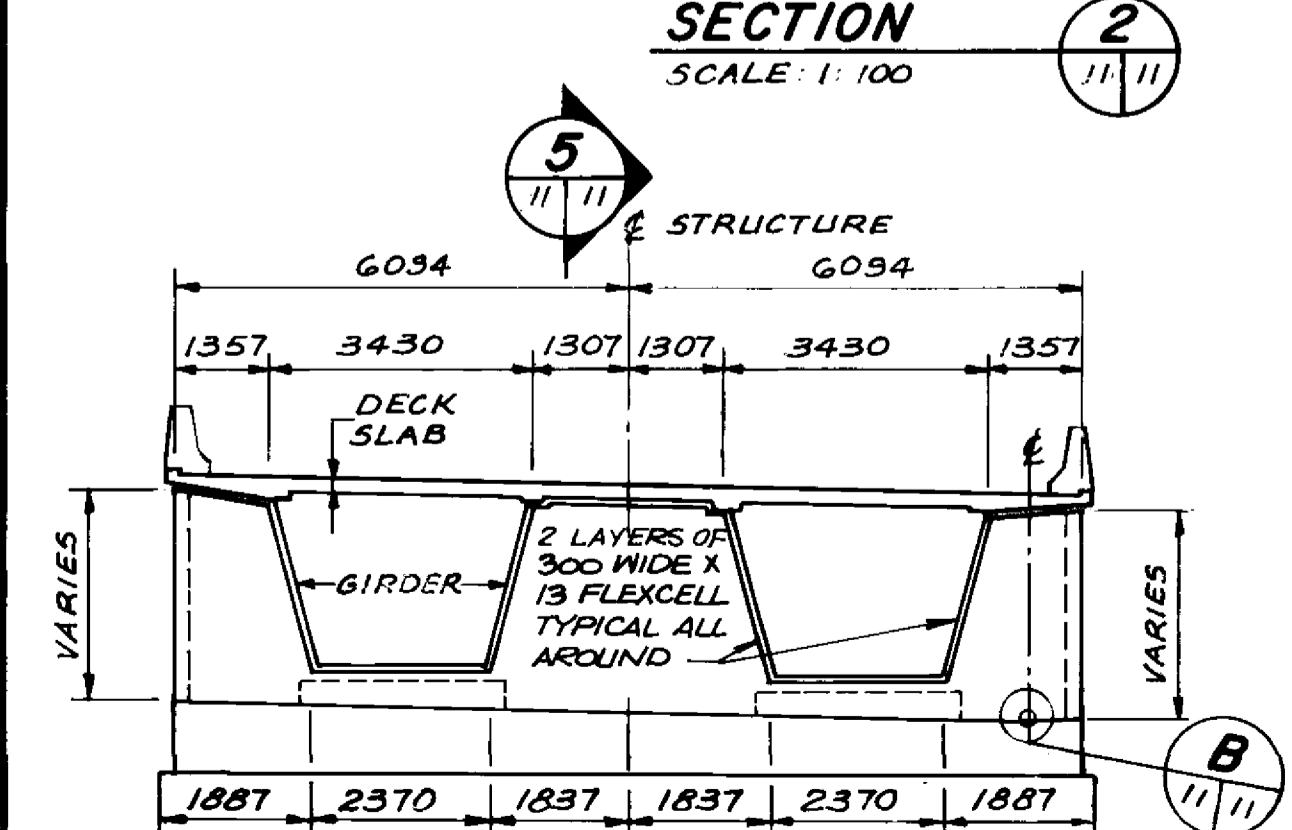
SECTION 4
SCALE: 1:100



SECTION 8
SCALE: 1:25

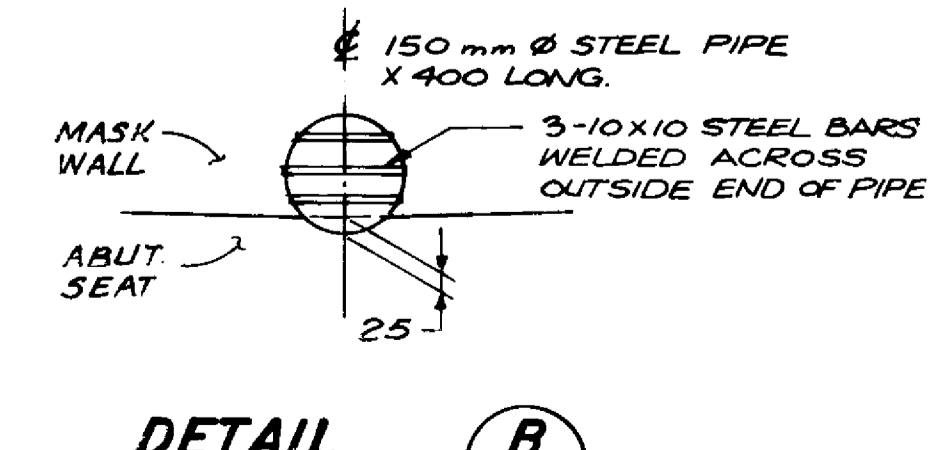


SECTION 5
SCALE: 1:50



MASK WALL ELEVATION
SCALE: 1:100

- NOTES:**
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS NOS. 105, 125 & 135
 2. FOR BEARING DETAILS SEE DRAWING No. 275
 3. FALSEWORK SUPPORTING CHAMBER SLAB TO REMAIN IN PLACE UNTIL CONCRETE IN LOWER & UPPER LIFT HAS REACHED A STRENGTH OF 30 MPa.
 4. CONCRETE IN CHAMBER SLAB UPPER LIFT & CONCRETE BARRIERS SHALL NOT BE PLACED UNTIL LOWER LIFT CONCRETE HAS REACHED A STRENGTH OF 20 MPa.



DETAIL B
SCALE: 1:15

RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES
SUPV. U/G STRUCTURES COMMITTEE DATE: _____
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

DESIGNED BY	M.V./S.S.R.	CHECKED BY	C.I.D./N.B.U.
DRAWN BY	A.G.Y.	APPROVED BY	[Signature]
HOR SCALE	AS NOTED	AUTHORIZED BY	[Signature]
VERTICAL	AS NOTED	ACCEPTED BY	[Signature]
NO. REVISIONS	DATE	DATE	DATE

DILLON
Consulting Engineers - Planners
Environmental Scientists

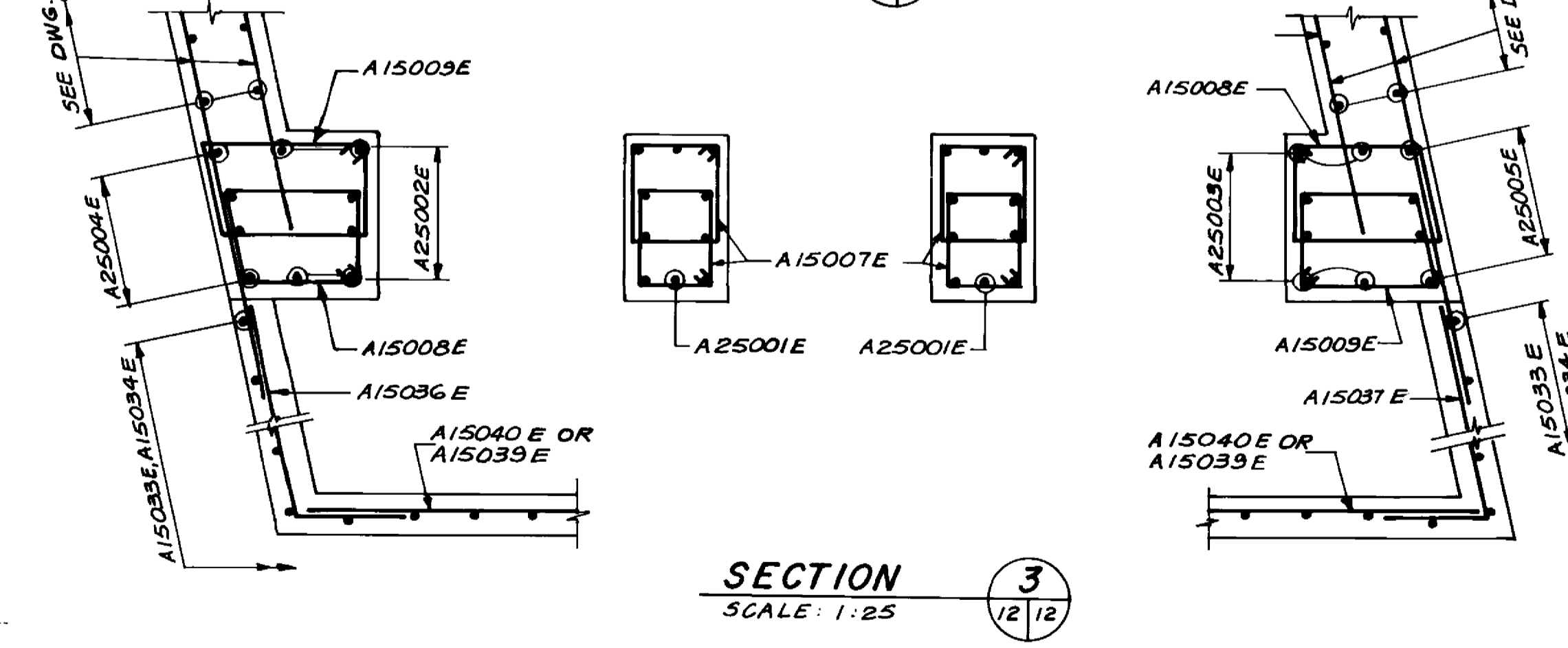
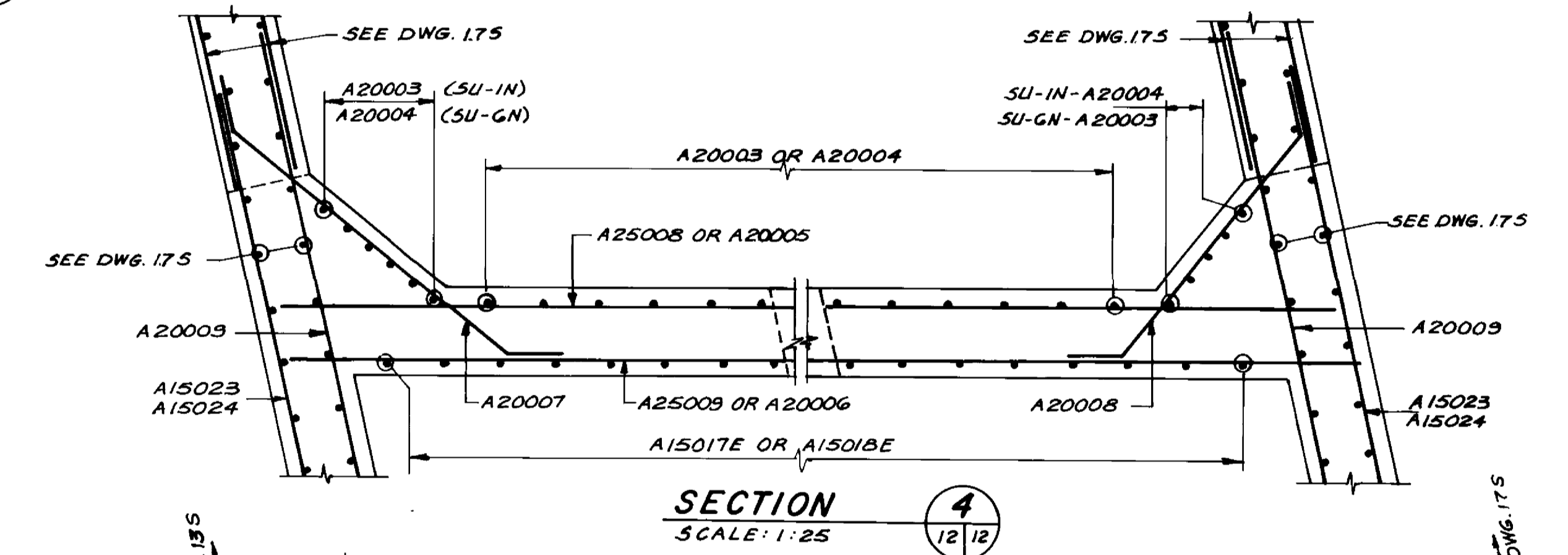
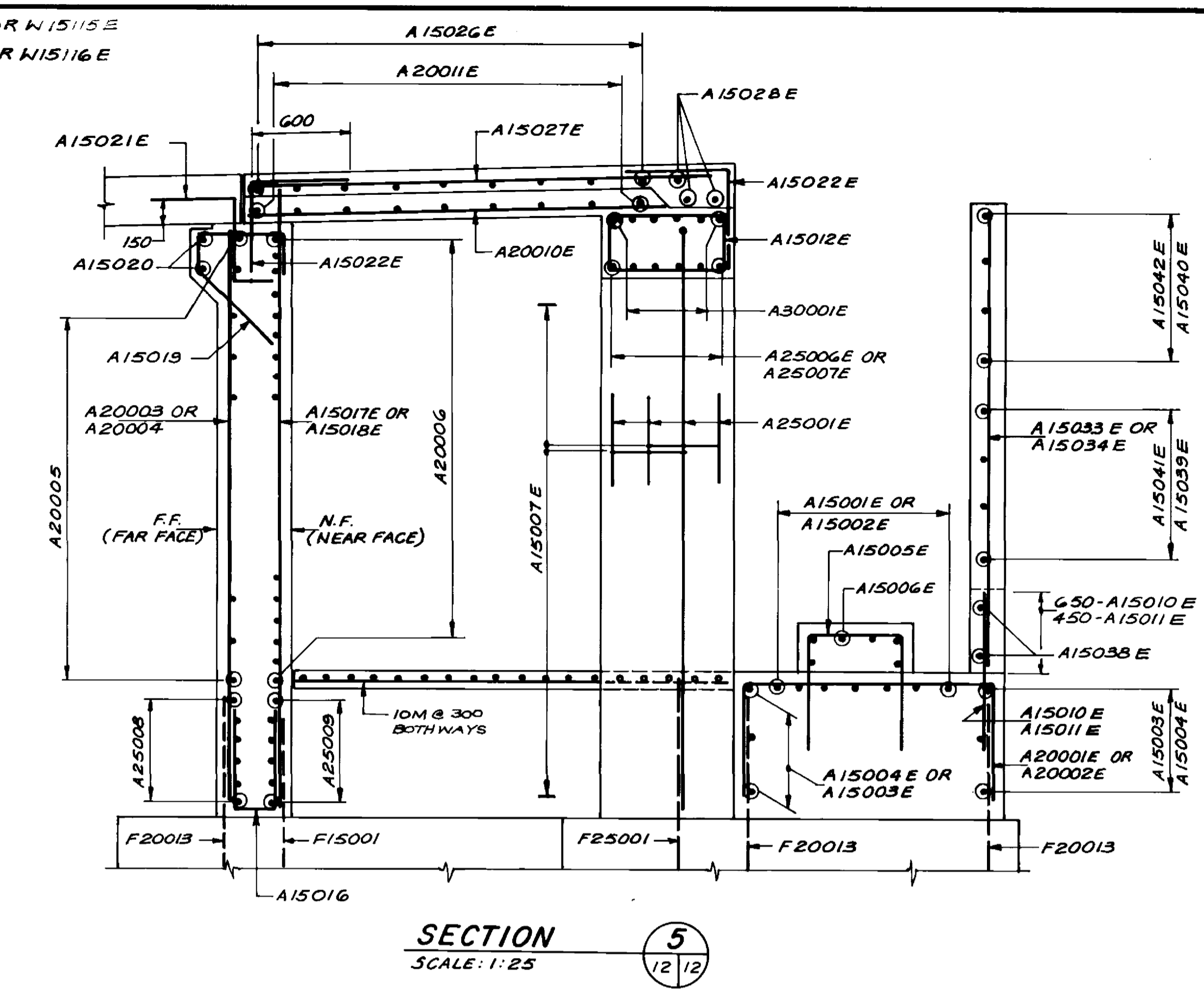
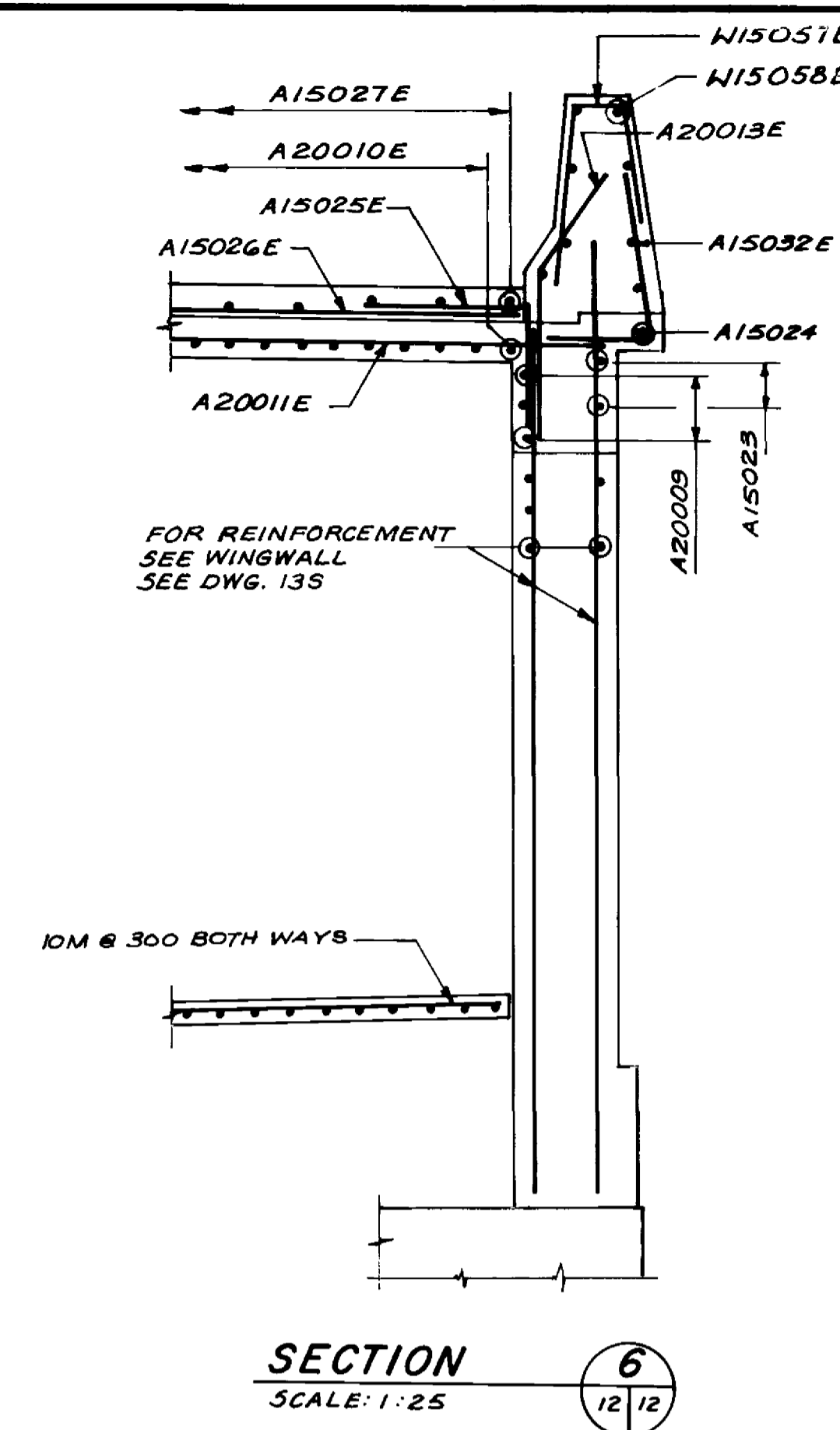
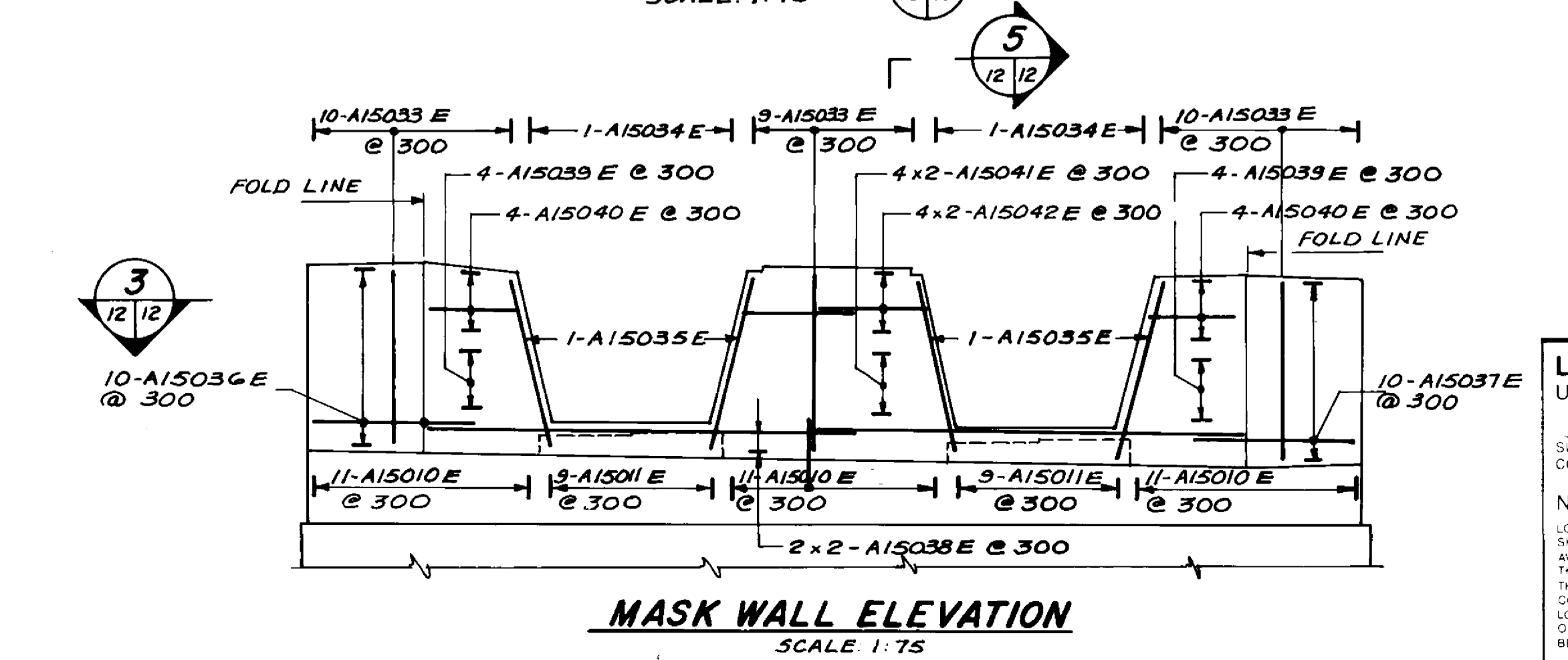
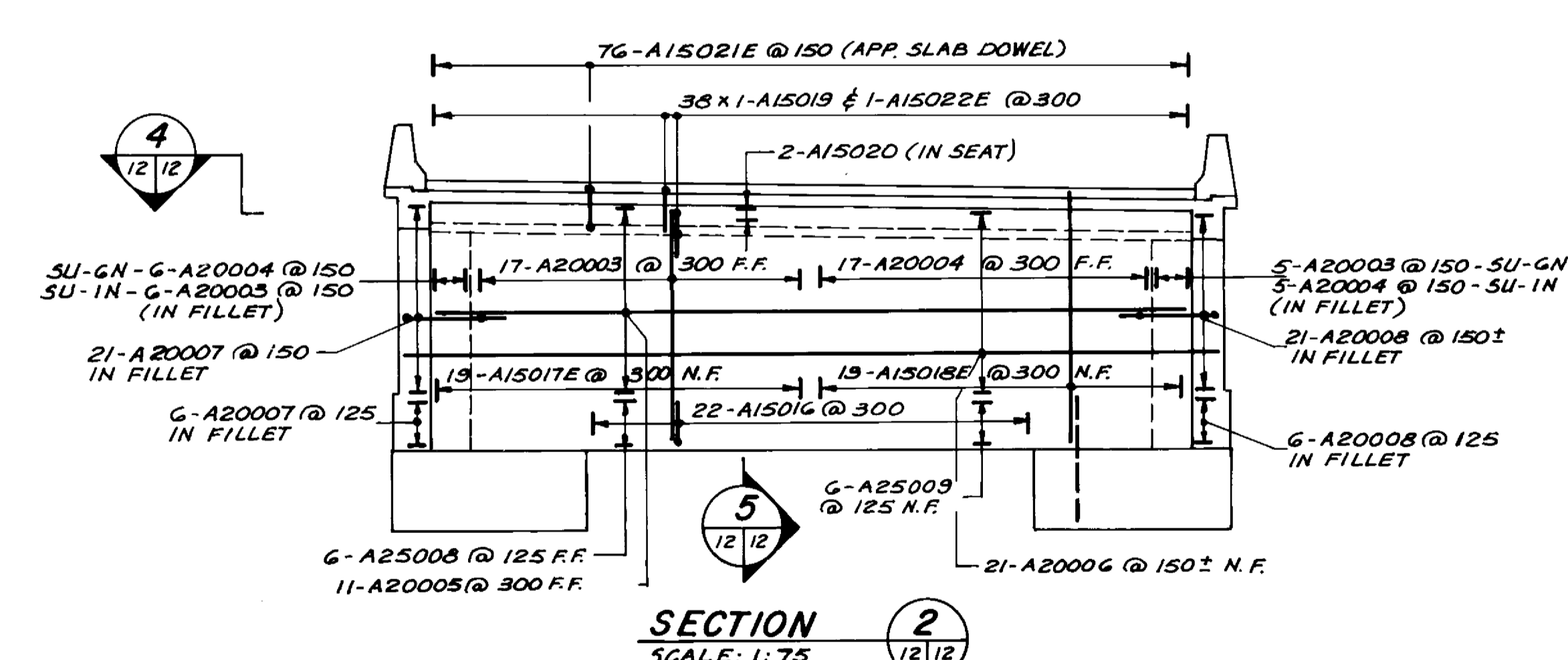
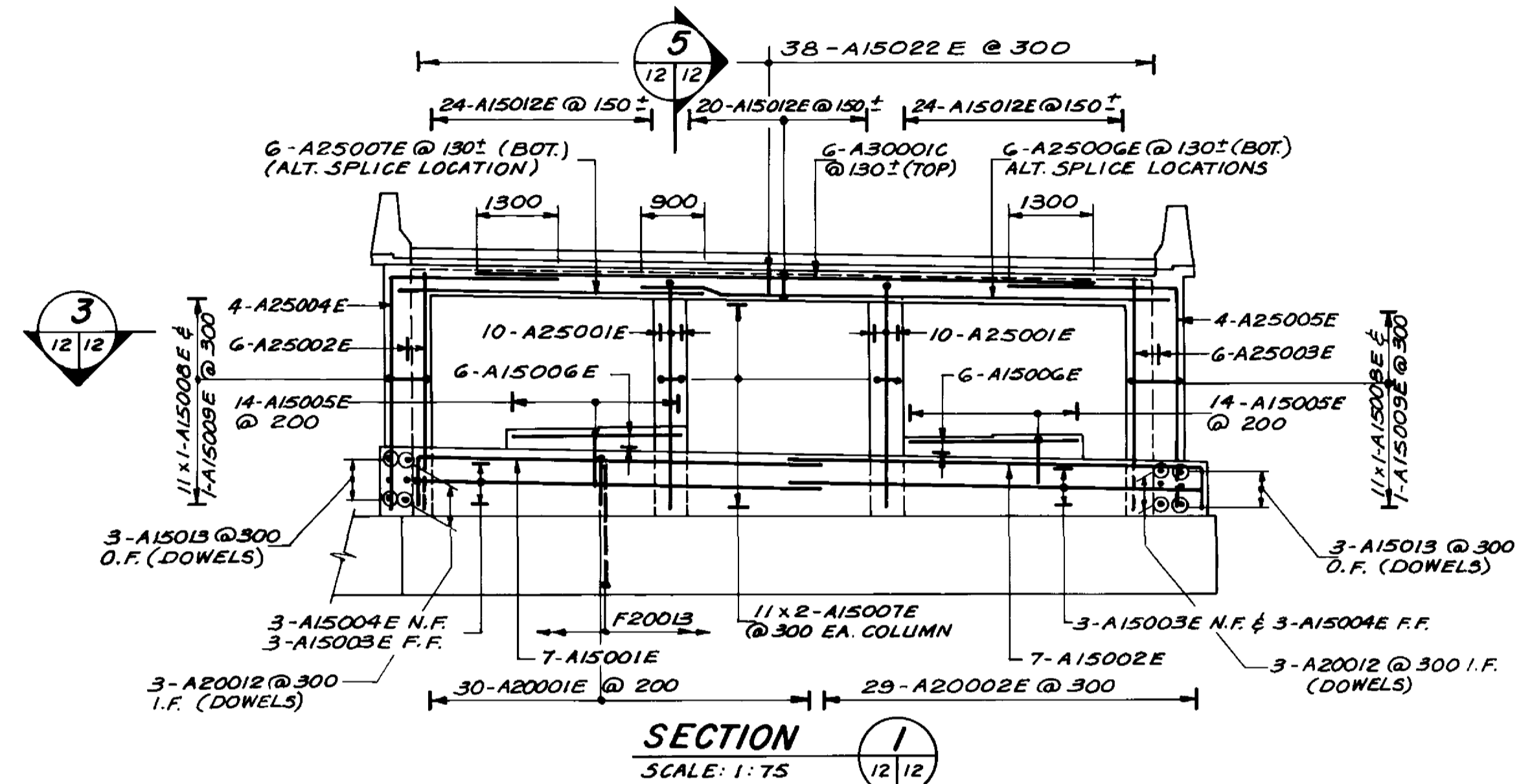
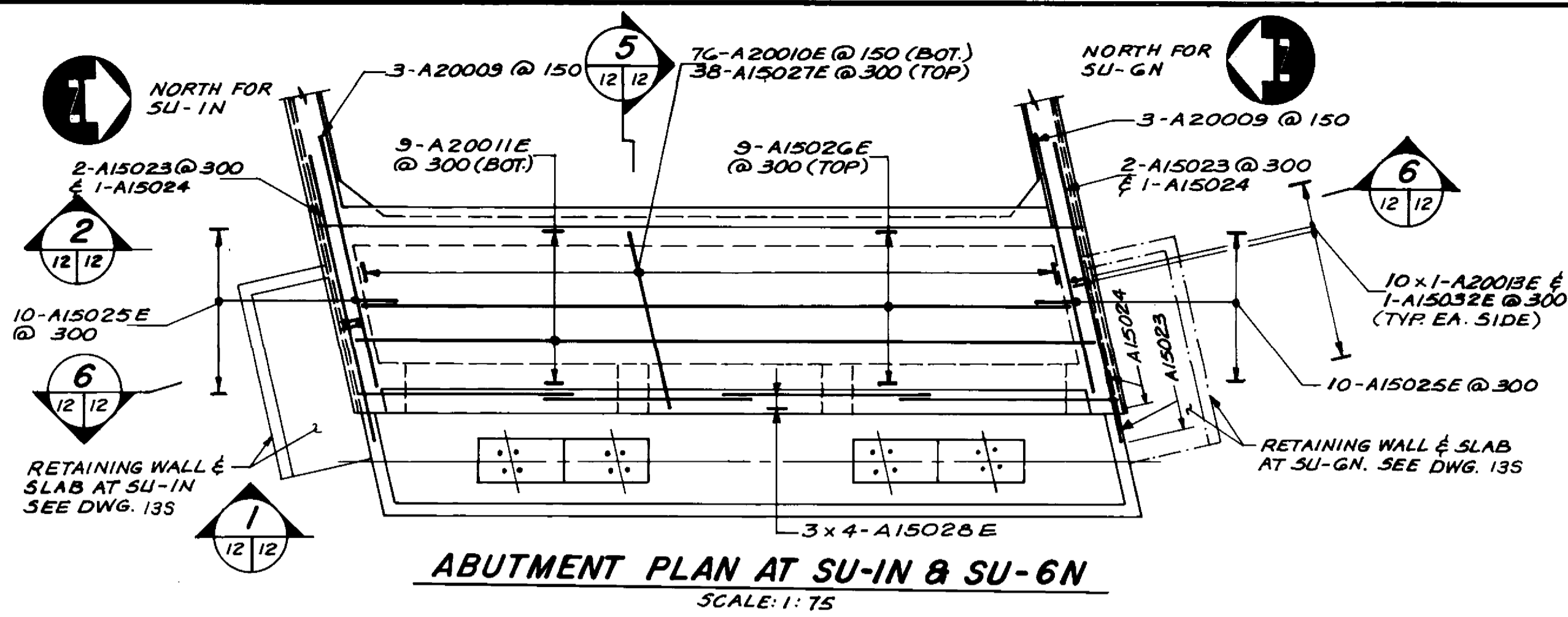
PROVIDE OPERATIONAL
24/24
N.B. ULYATT
REGISTERED ENGINEER

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE

STEEL GIRDER ALTERNATIVE
NORTH STRUCTURE
ABUTMENTS SU-IN AND SU-6N
LAYOUT

CITY DRAWING NUMBER: B216-89-115
SHEET OF: B-5828-13

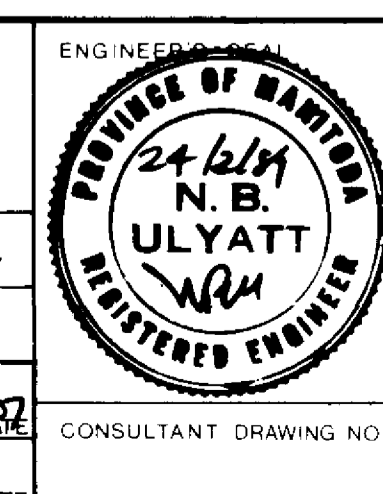


NOTE: REINFORCEMENT SHOWN AT SU-IN, SU-GN SIMILAR BUT OPPOSITE HAND.

RECORD DRAWING
 90.11.28
 APPROVED BY: [Signature]

LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.
DESIGNED BY: M.V./SSR.	CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y.	APPROVED BY: [Signature]
DATE: MAR. 1989	DATE: [Blank]

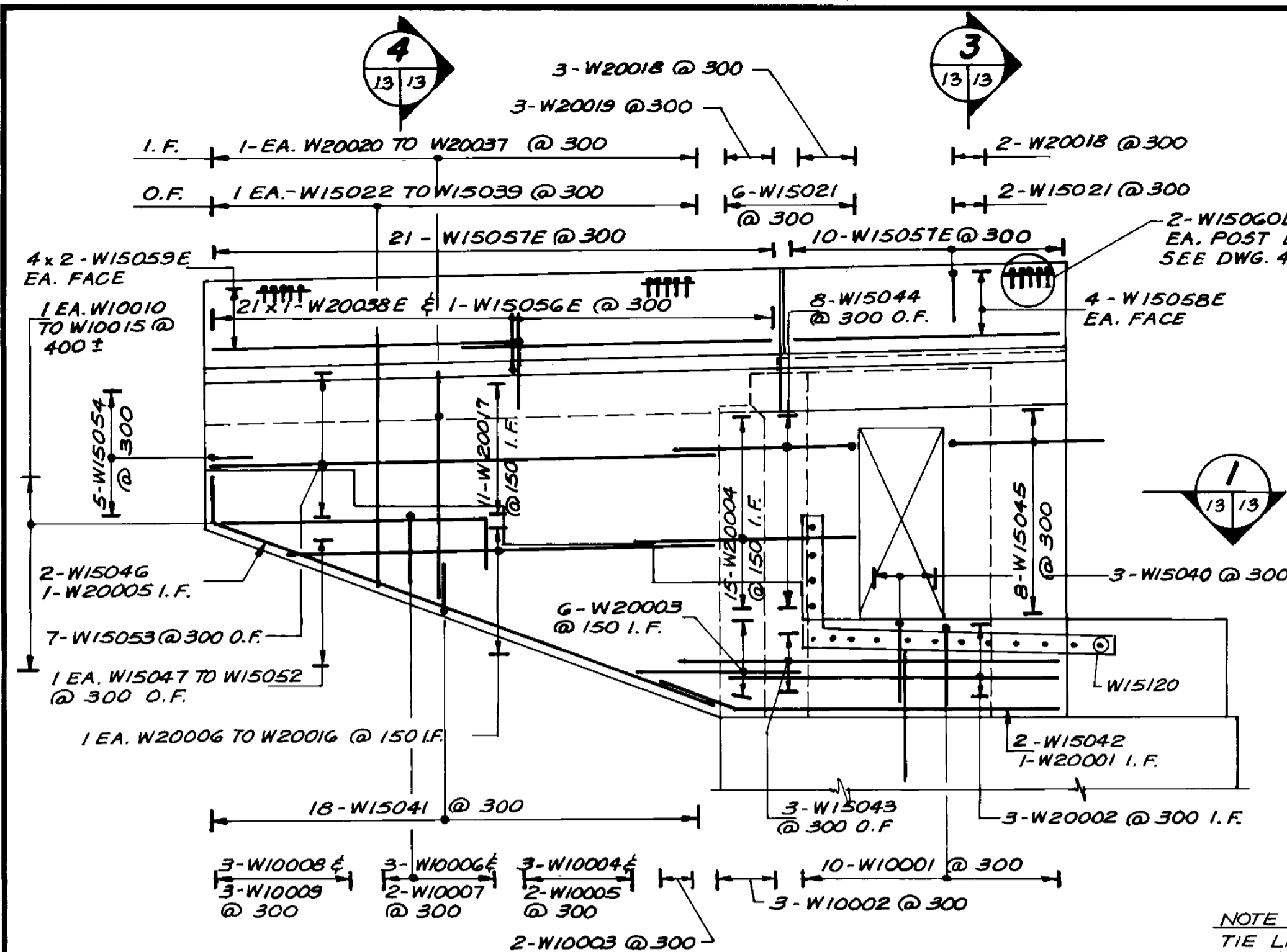
DILLON
 Consulting Engineers - Planners
 Environmental Scientists



THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

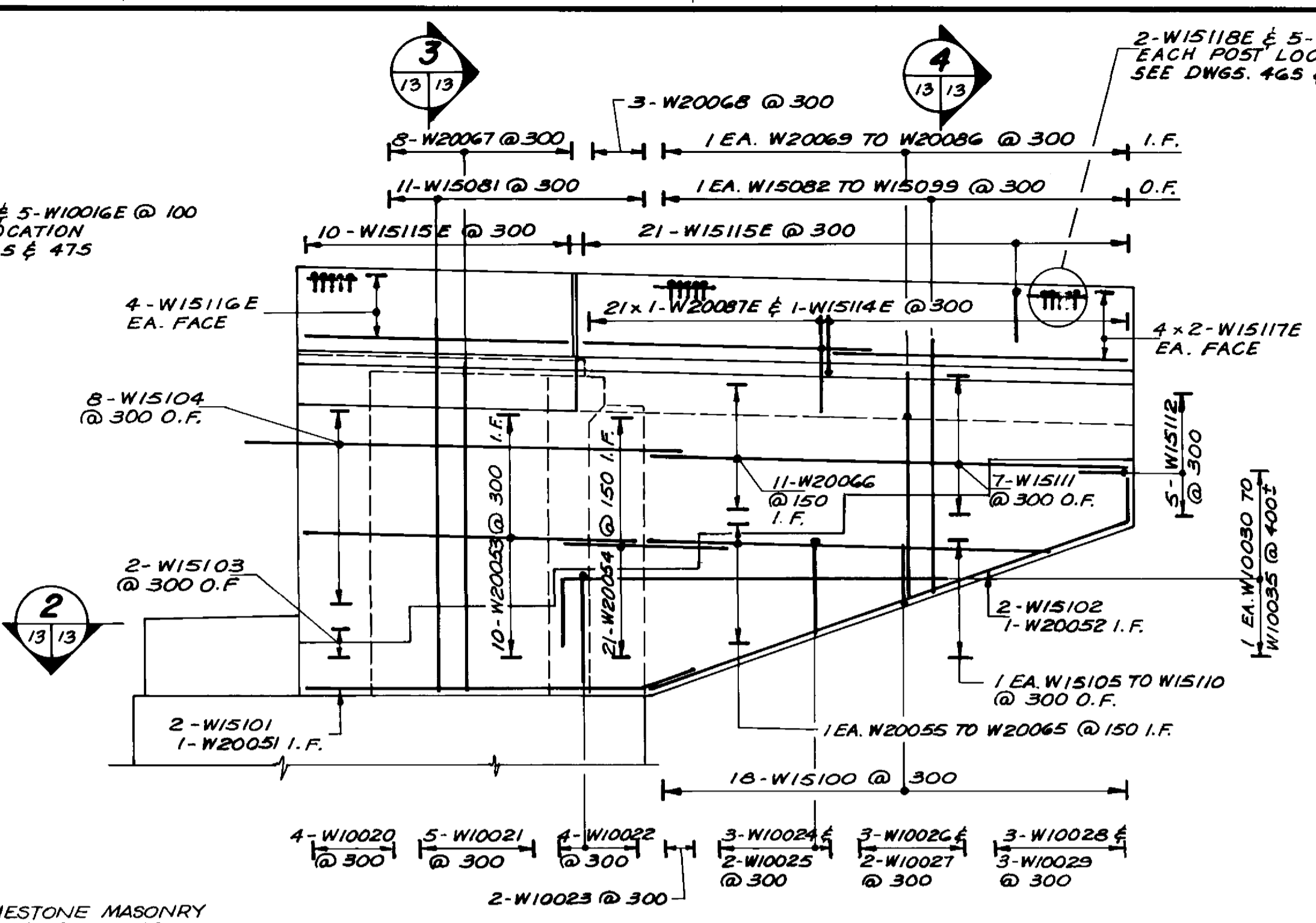
KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE
 NORTH STRUCTURE
 ABUTMENTS SU-IN AND SU-6N
 REINFORCEMENT

CITY DRAWING NUMBER: B216-89-12S
 SHEET OF: [Blank]
B-5828-14

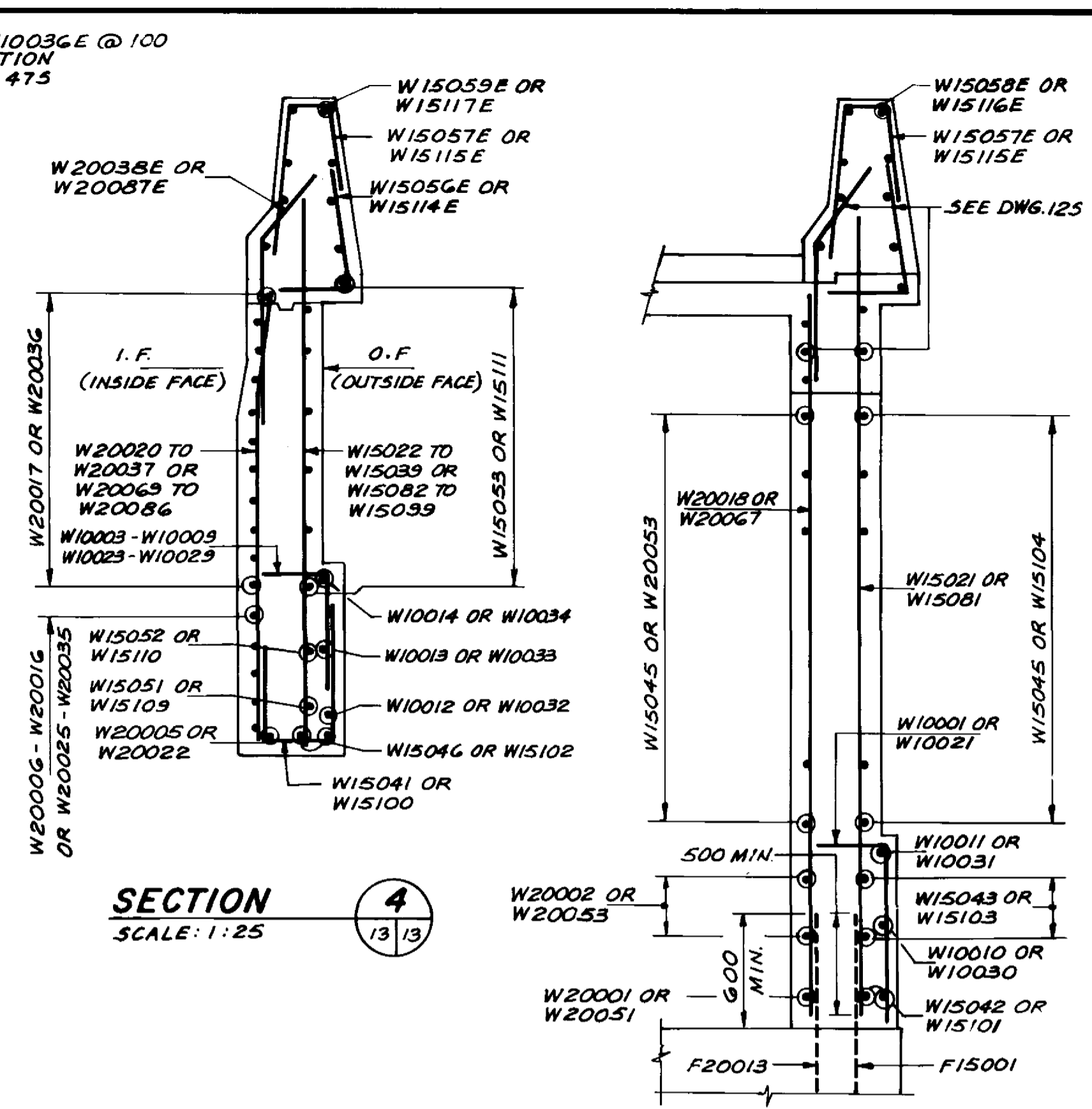


SU-IN & SU-6N - SOUTH WALLS
SCALE: 1:50

NOTE:
TIE LIMESTONE MASONRY VENEER TO CONC. BACKUP WALL WITH NOT LESS THAN 0.41mm THICK x 22mm WIDE CORROSION RESISTANT STRAPS @ MAX. SPACING OF 400 VERT. & 800 HORIZ.

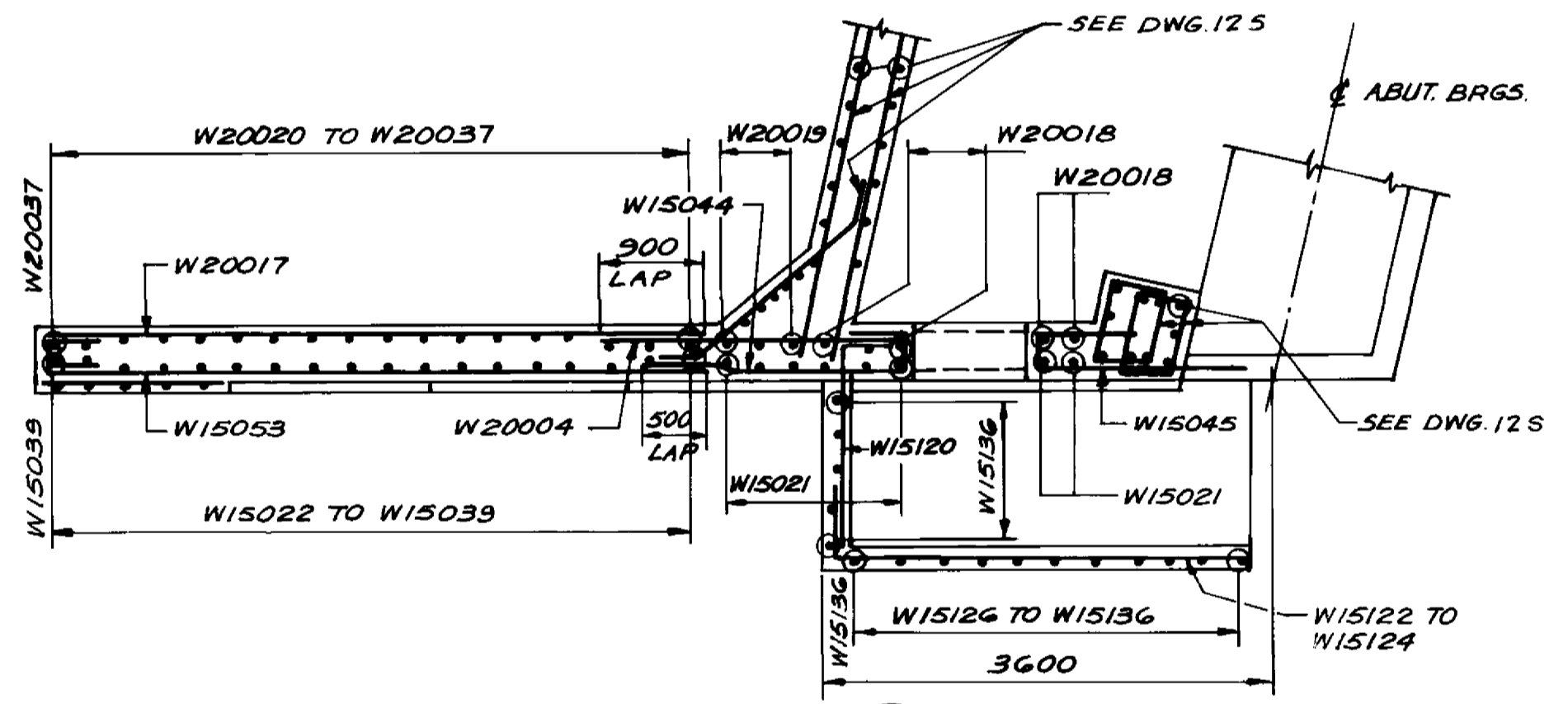


SU-IN & SU-6N - NORTH WALLS
SCALE: 1:50

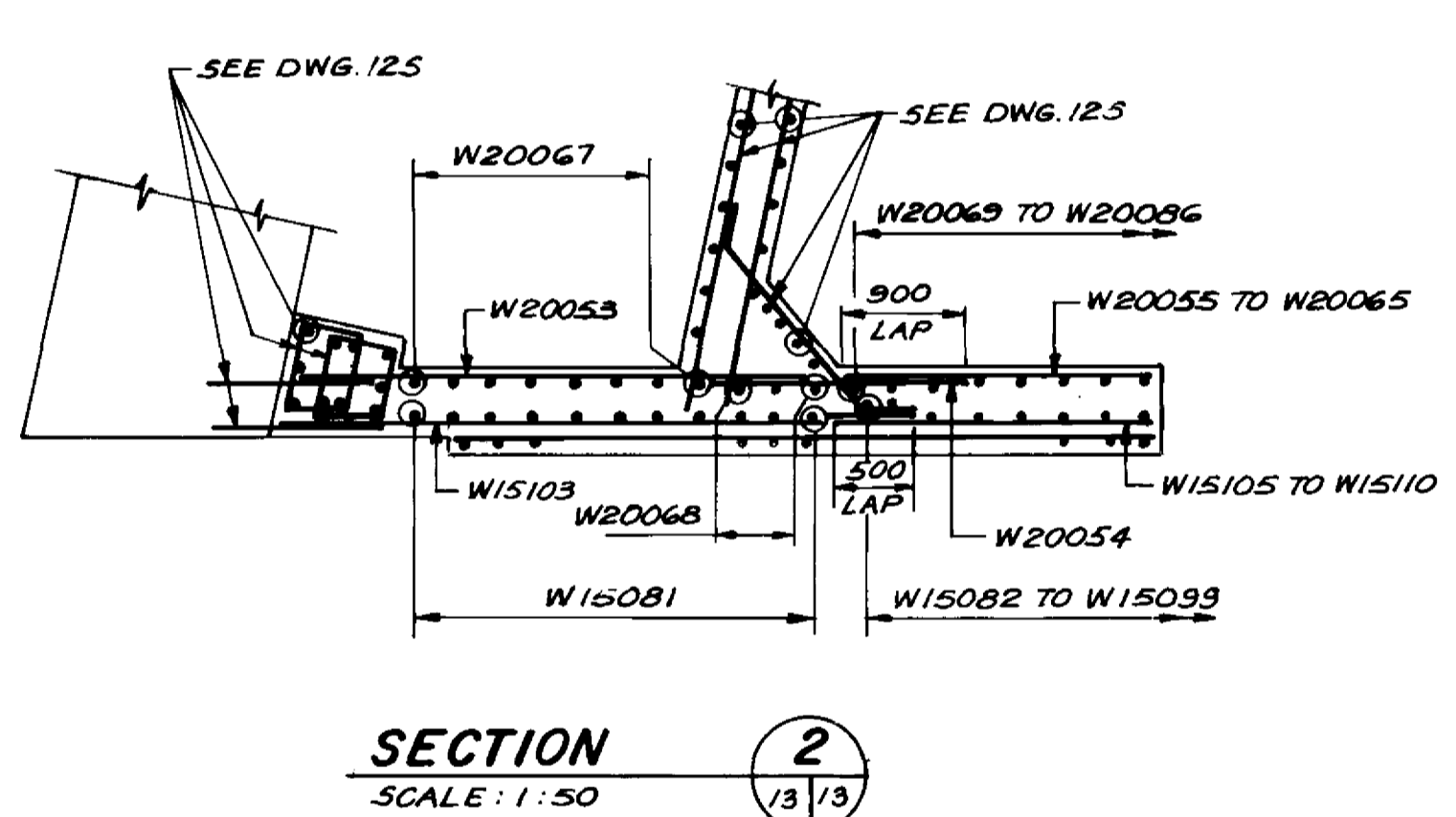


SECTION 4
SCALE: 1:25

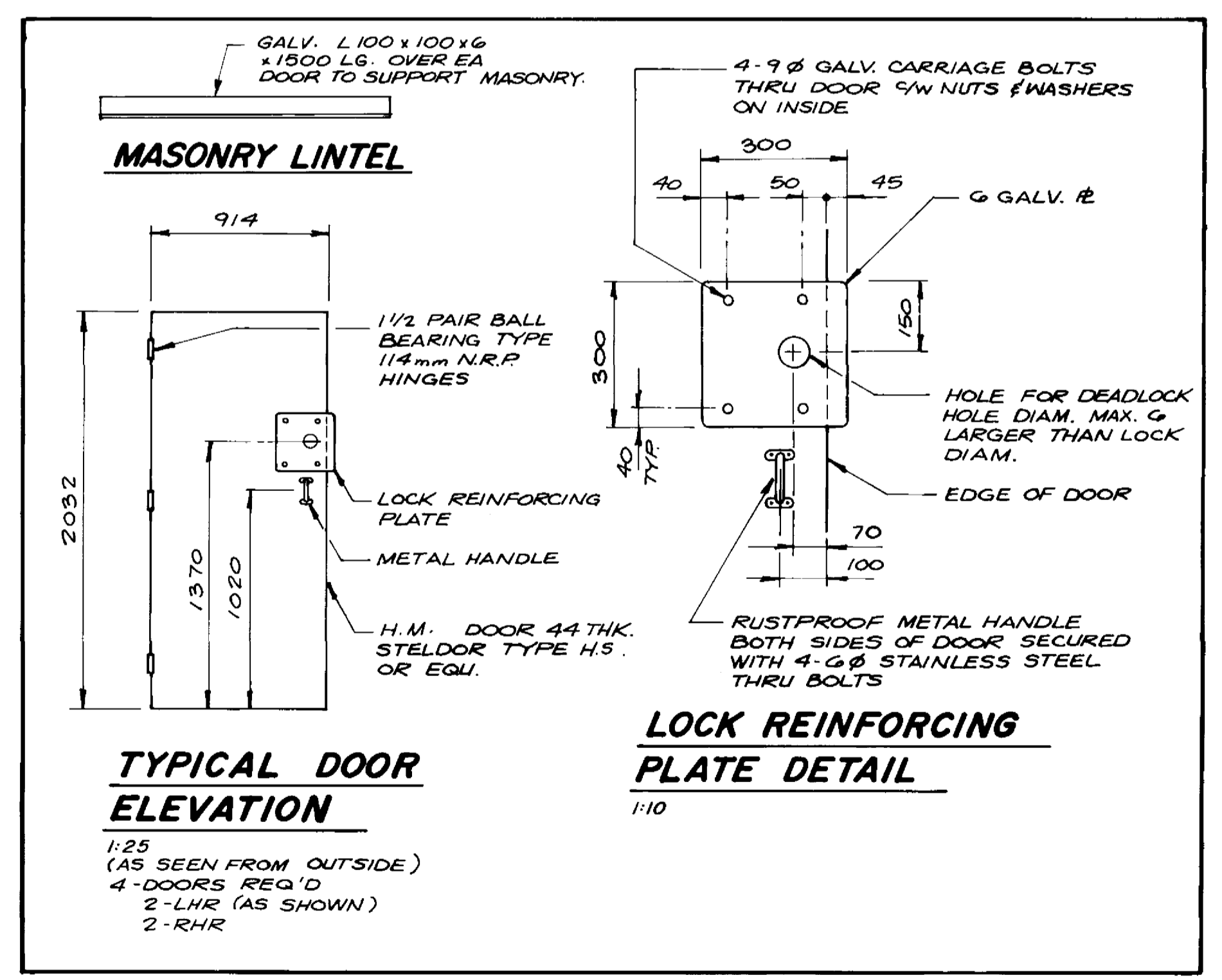
SECTION 3
SCALE: 1:25



SECTION 1
SCALE: 1:50



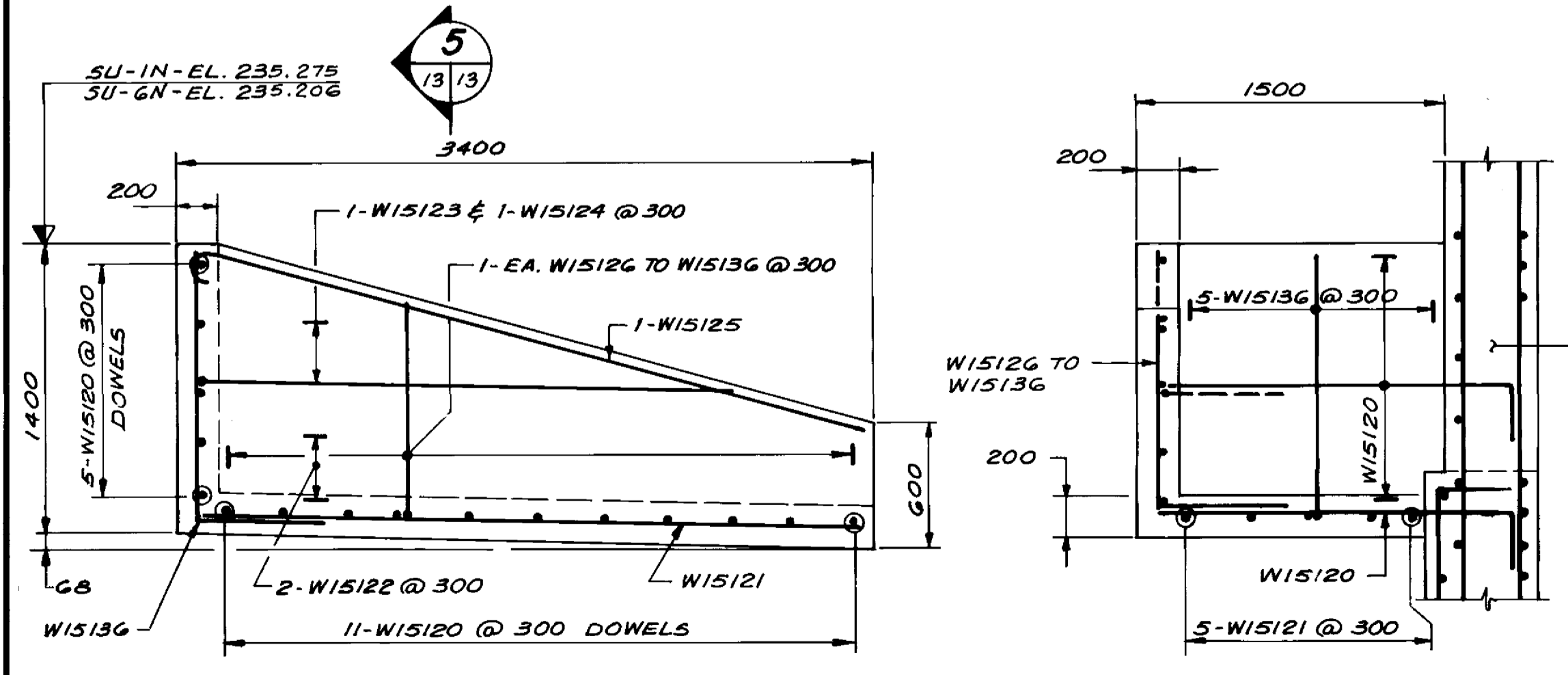
SECTION 2
SCALE: 1:50



MASONRY LINTEL

TYPICAL DOOR ELEVATION

LOCK REINFORCING PLATE DETAIL



ELEVATION

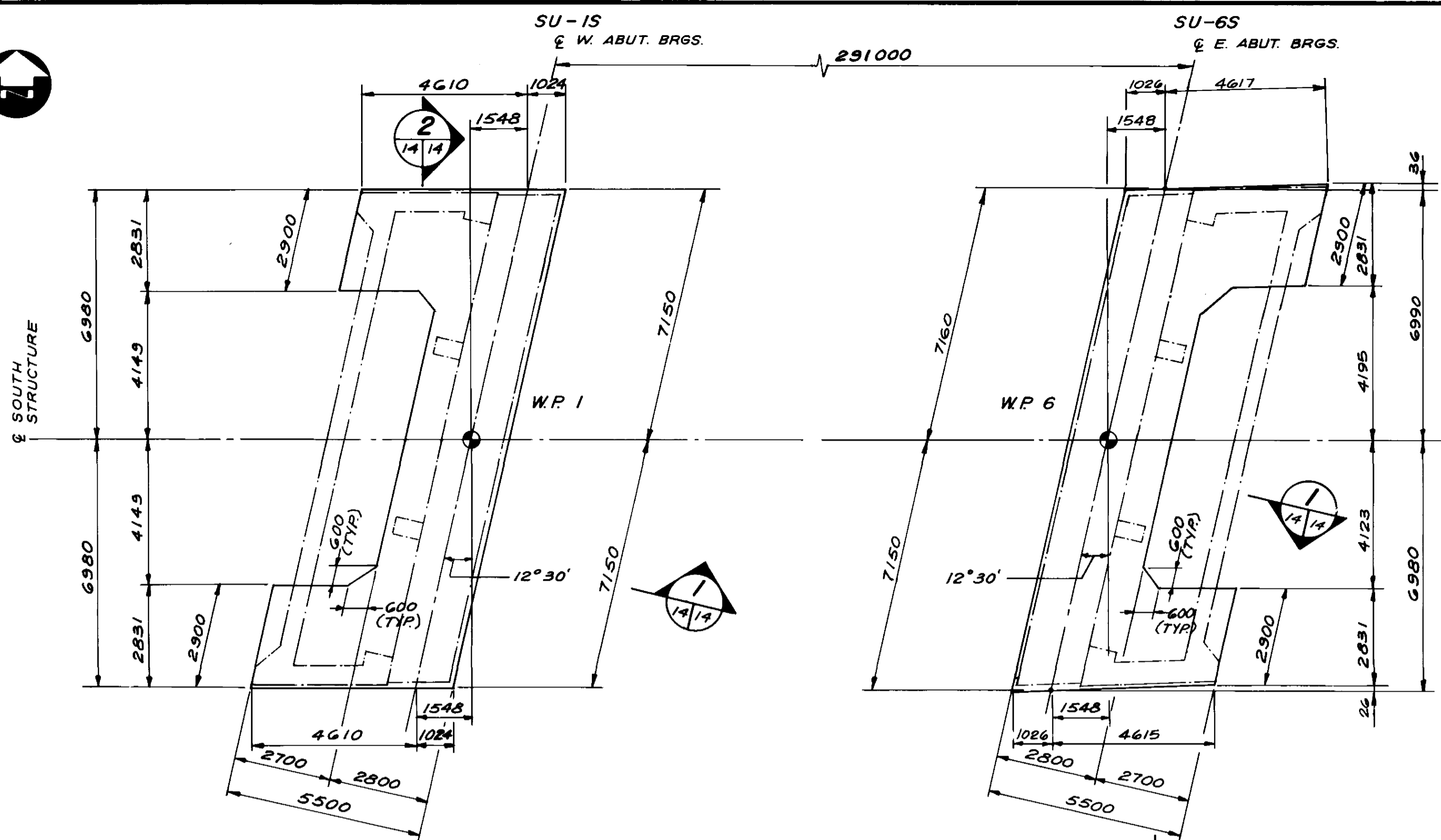
SECTION 5
SCALE: 1:25

RETAINING WALL AT DOOR
SCALE: 1:25

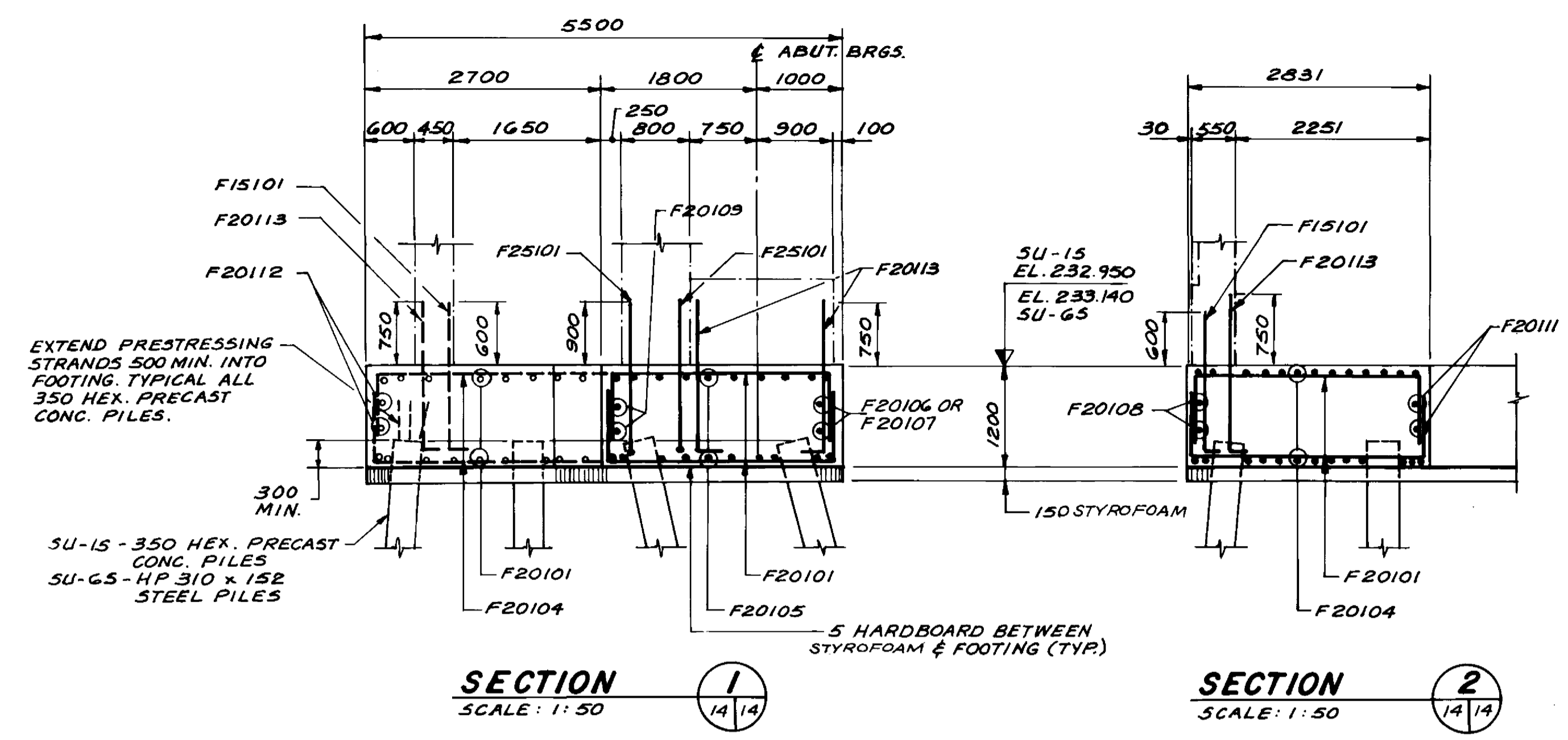
NOTE:
REINFORCEMENT SHOWN AT SU-IN, SU-6N SIMILAR BUT OPPOSITE HAND.

RECORD DRAWING
APPROVED BY: [Signature] DATE: 29.11.28

<p>LOCATION APPROVED UNDERGROUND STRUCTURES NA</p> <p>SUPV. U/G STRUCTURES COMMITTEE DATE</p> <p>NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.</p>	<p>B.M. LEVEL</p> <p>NO. REVISIONS</p> <p>DATE</p>	<p>DILLON Consulting Engineers - Planners Environmental Scientists</p> <p>DESIGNED BY: M.V./S.S.R. CHECKED BY: C.I.D./N.B.U. DRAWN BY: A.G.Y. APPROVED BY: [Signature] H.R. SCALE: AS NOTED VERTICAL: AS NOTED</p> <p>DATE: MAR. 1989</p>	<p>ENGINEER</p> <p>PROVINCE OF MANITOBA N.B. ULYATT REGISTERED ENGINEER</p> <p>CONSULTANT DRAWING NO.</p>	<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT</p> <p>KILDONAN CORRIDOR BRIDGE</p> <p>STEEL GIRDER ALTERNATIVE NORTH STRUCTURE WINGWALLS REINFORCEMENT</p>	<p>CITY DRAWING NUMBER: B216-89-135</p> <p>SHEET OF</p> <p>B-5828-15</p>
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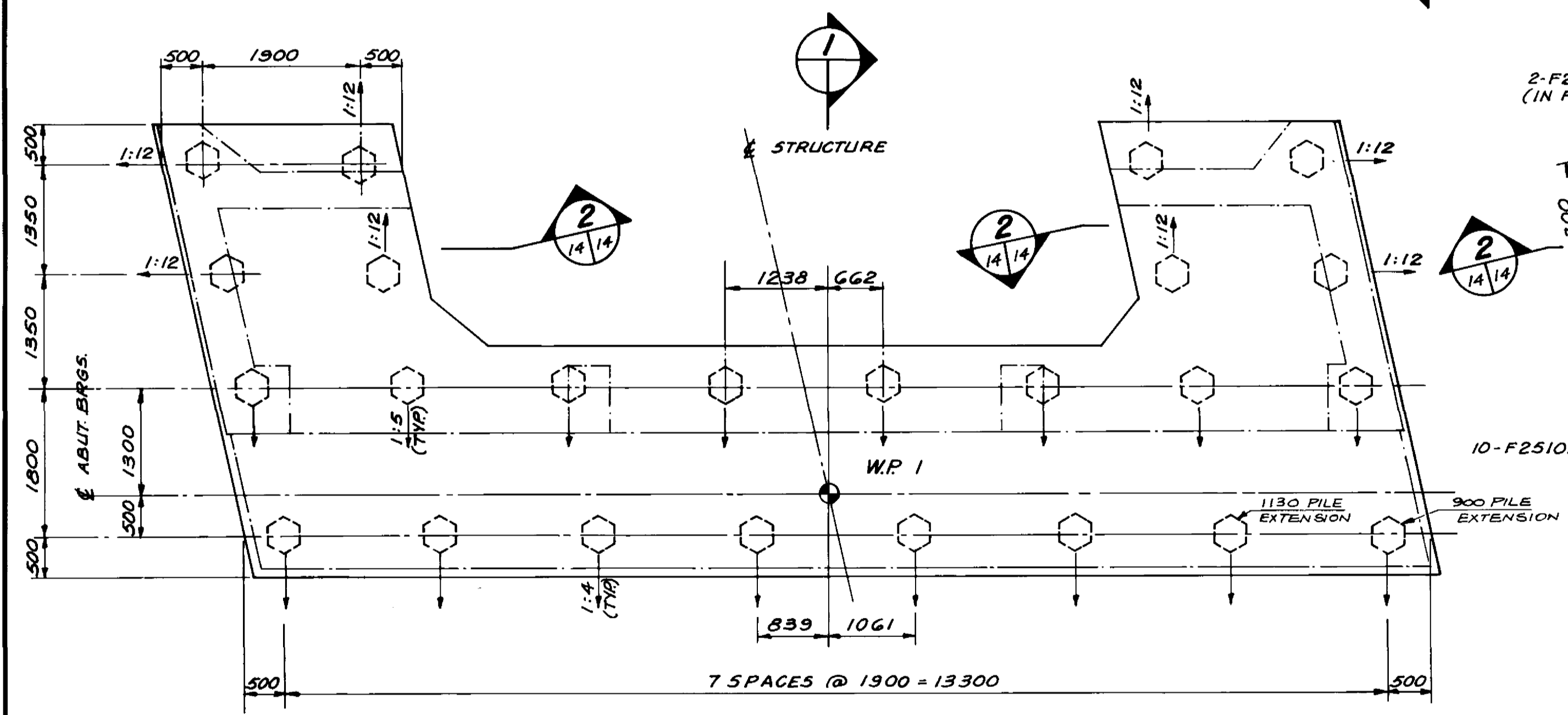


LAYOUT PLAN
SCALE: 1:100



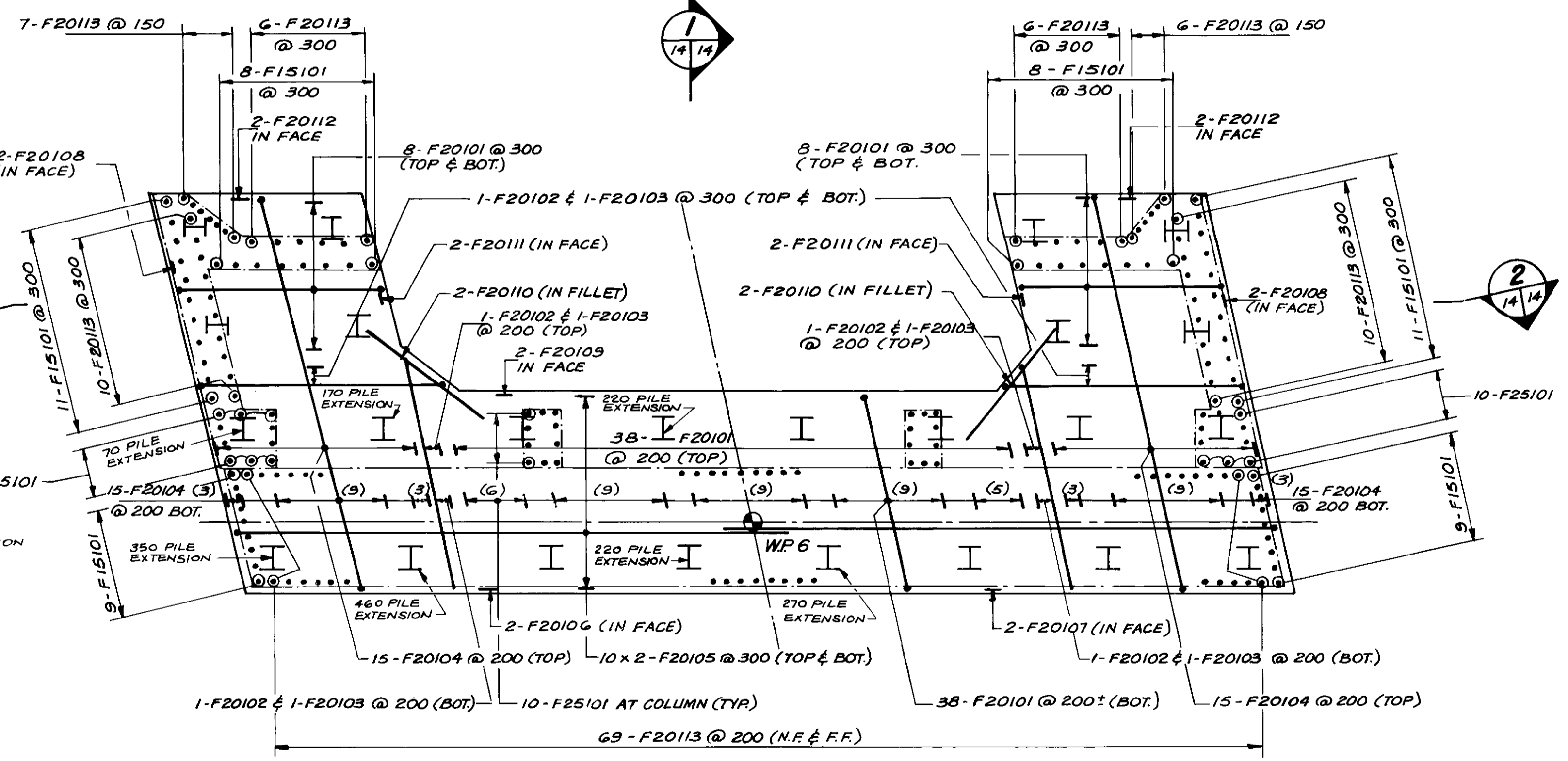
SECTION 1
SCALE: 1:50

SECTION 2
SCALE: 1:50



PLAN OF FOOTING AT SU-15
SCALE: 1:50

- NOTES:**
- ALL PILES ARE 350 HEX PRECAST CONCRETE PILES
 - SUPPLY 24 PILES x 23.0m LONG
 - PILES ARE BATTERED IN DIRECTION OF ARROW AT RATIO INDICATED
 - FOR REINFORCEMENT SEE PLAN OF FOOTING AT SU-65
 - FOR CONCRETE PILE EXTENSION DETAIL SEE DWG. -085



PLAN OF FOOTING AT SU-65
SCALE: 1:50

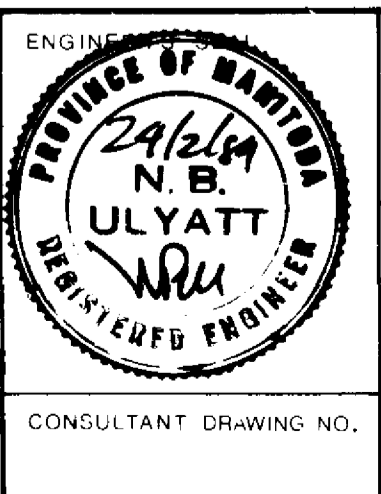
- NOTES:**
- ALL PILES ARE HP 310 x 152 STEEL PILES
 - SUPPLY 24 PILES x 23.0m LONG
 - FOR PILE LAYOUT AND BATTER SEE PLAN OF FOOTING AT SU-15
 - FOR STEEL PILE POINT AND PILE EXTENSION DETAIL SEE DRAWING NO. 105.

RECORD DRAWING
APPROVED BY: [Signature] DATE: 20.11.20

LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	
1 BRIDGE RAISED TO INCREASE NAV. CLEARANCE 27/6/87 DRAW	
NO. REVISIONS	DATE BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./S.S.R.	CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y.	APPROVED BY: [Signature]
HOR. SCALE: AS NOTED	VERTICAL: AS NOTED
DATE: MAR 1989	DATE: [Signature]



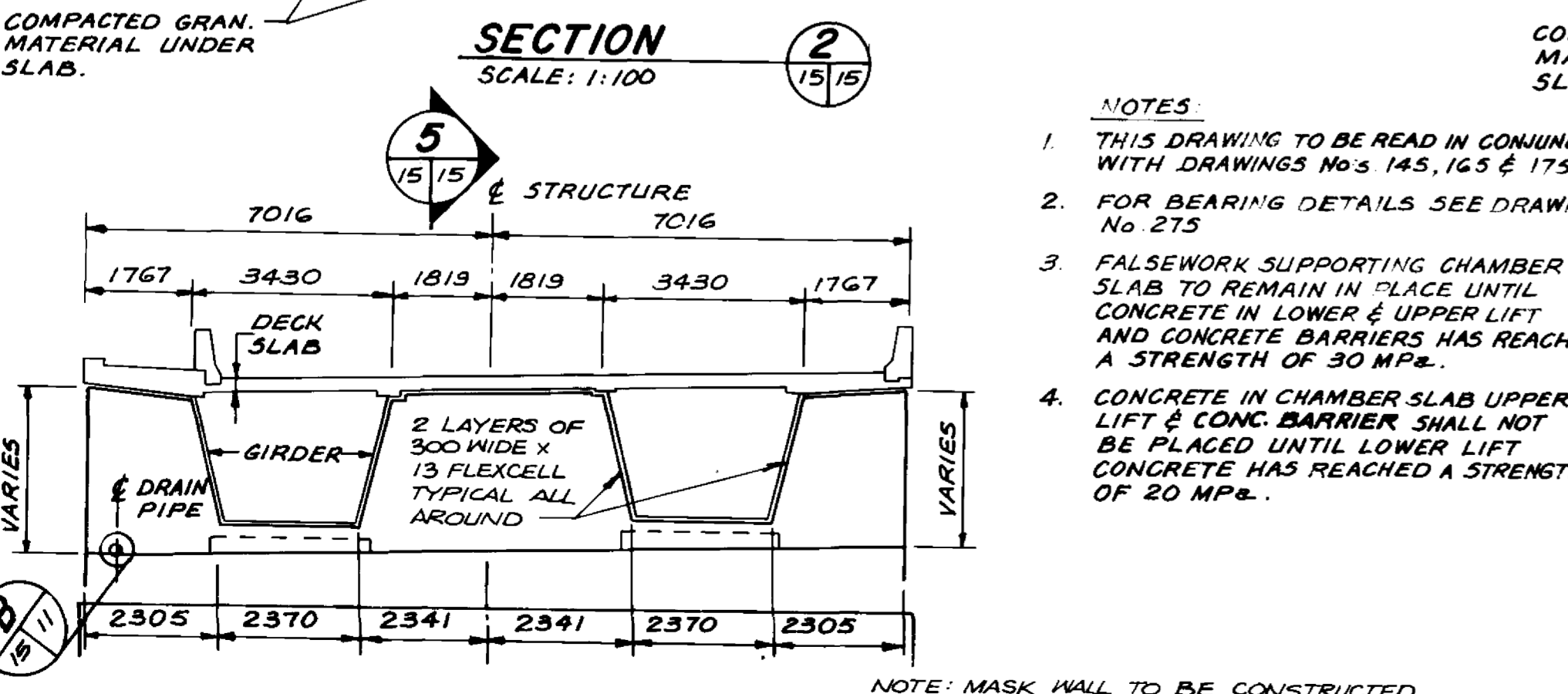
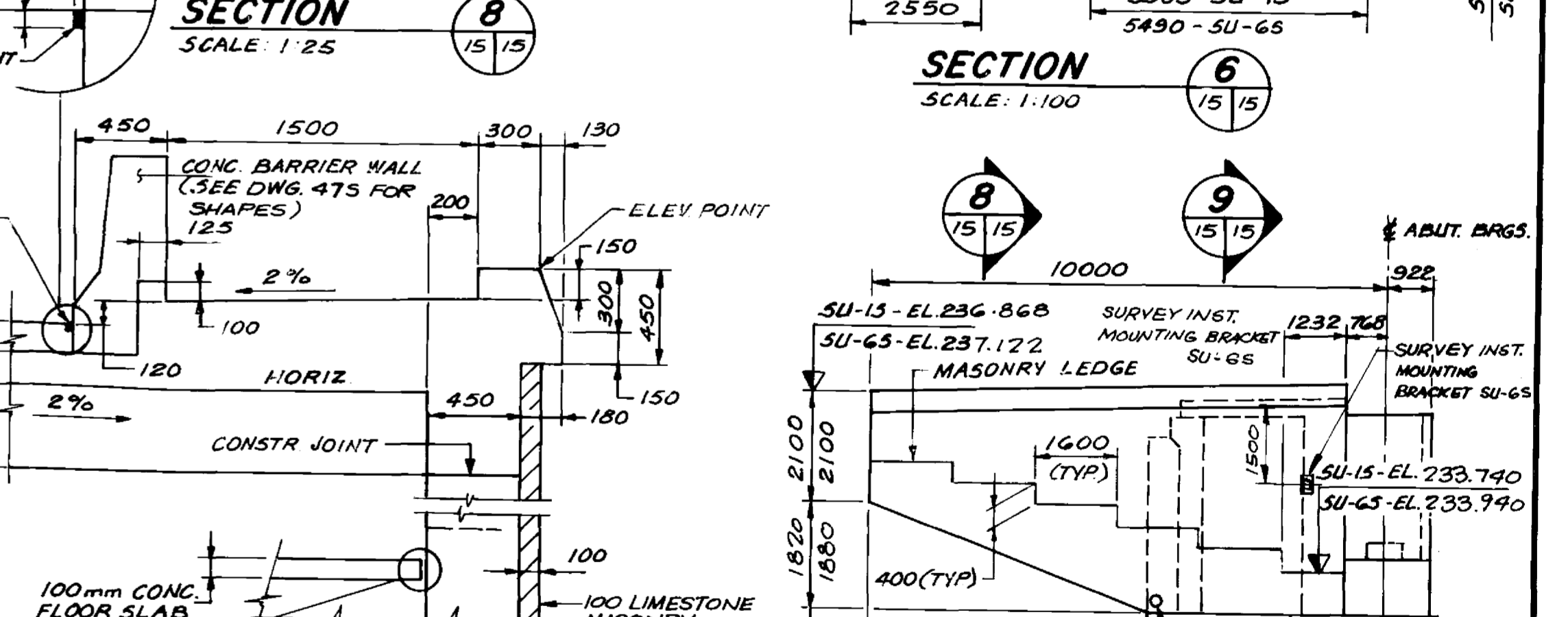
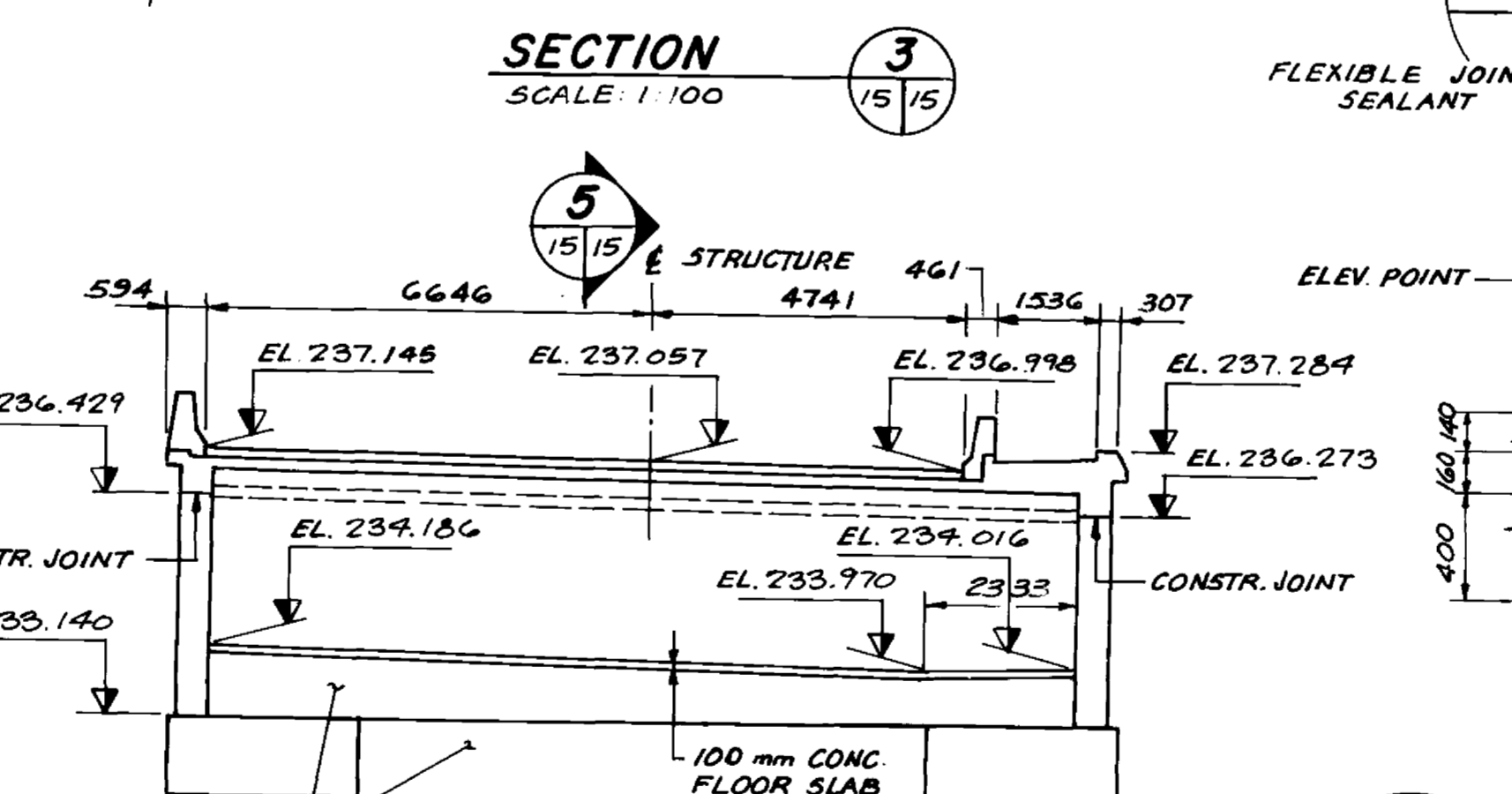
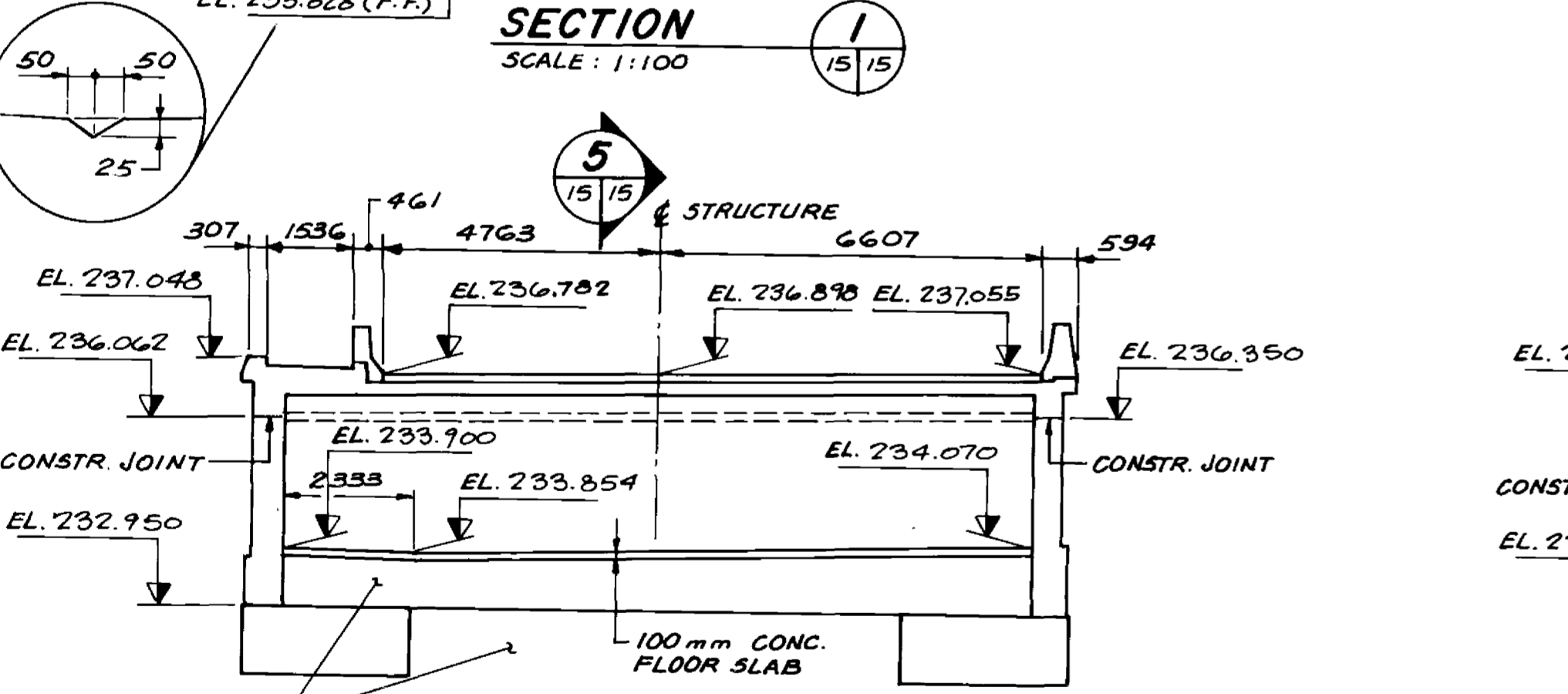
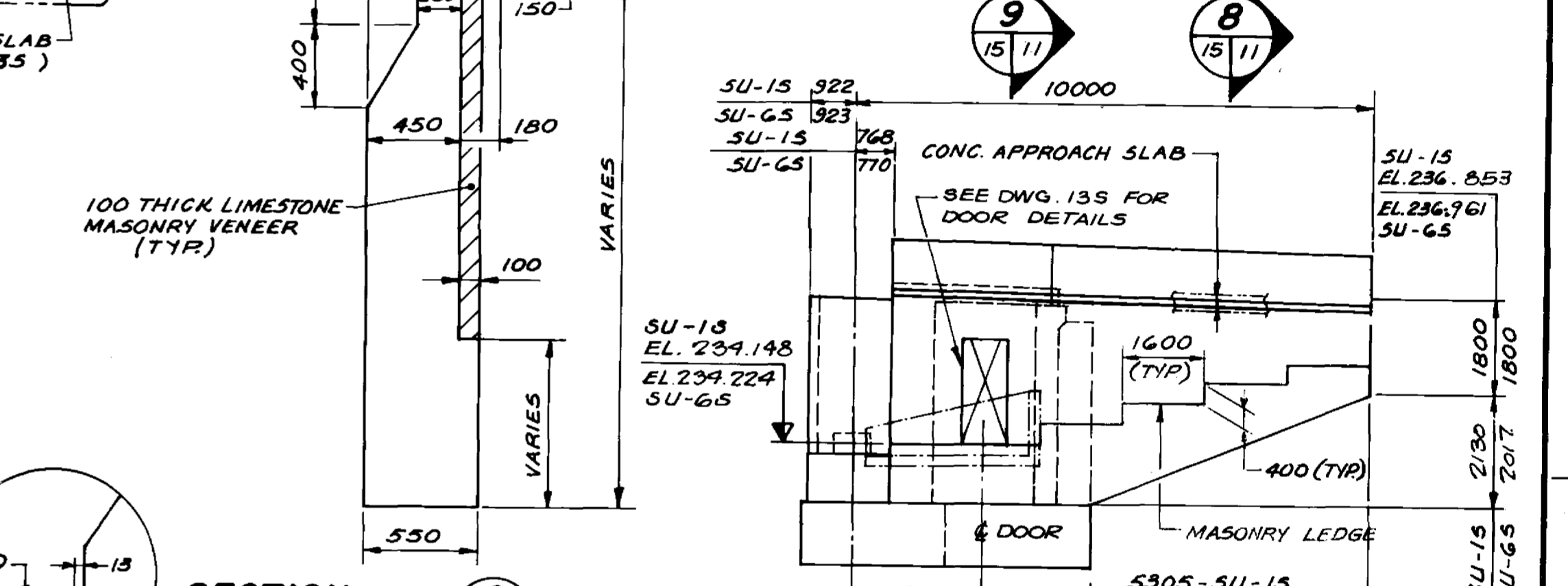
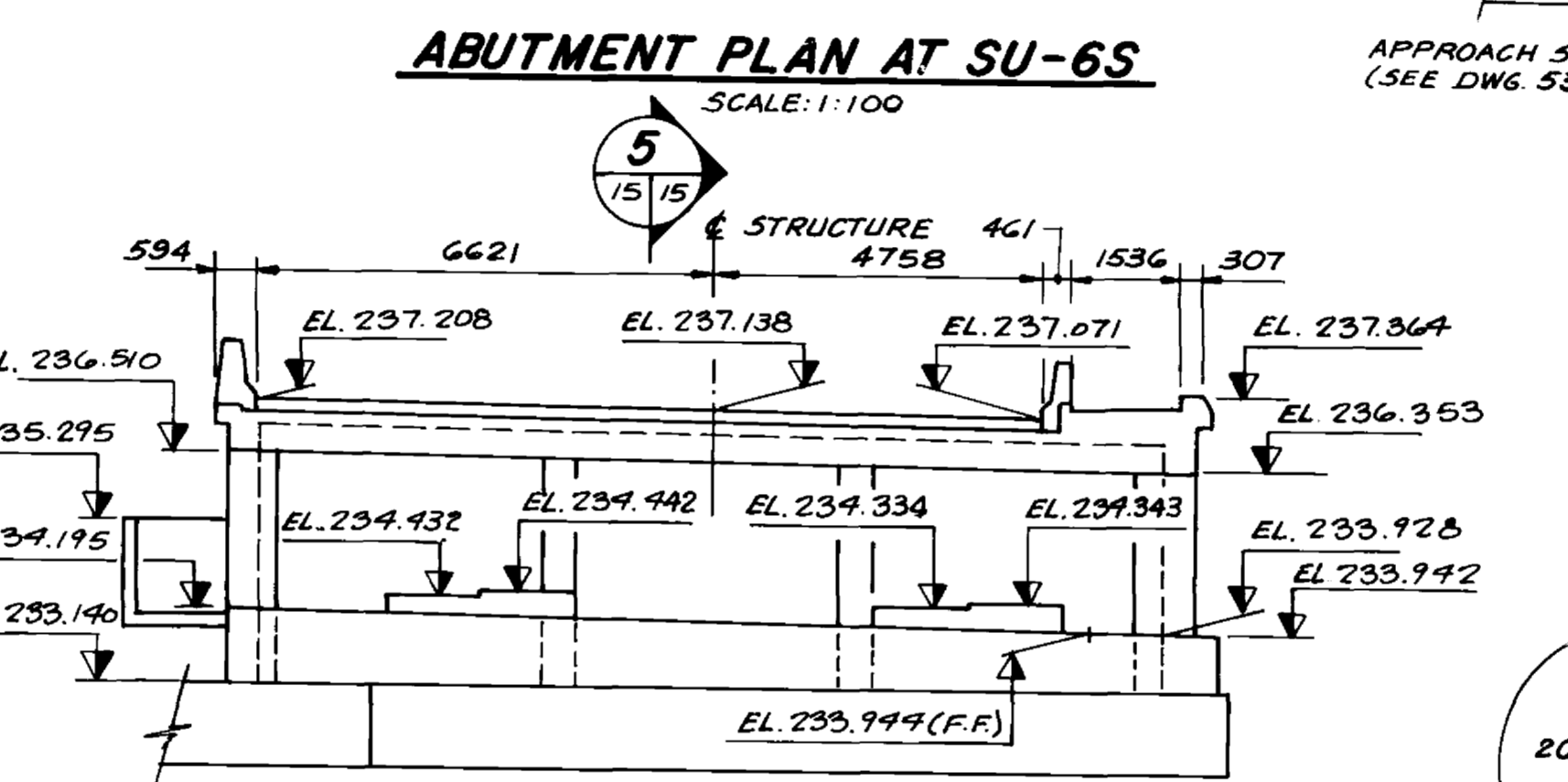
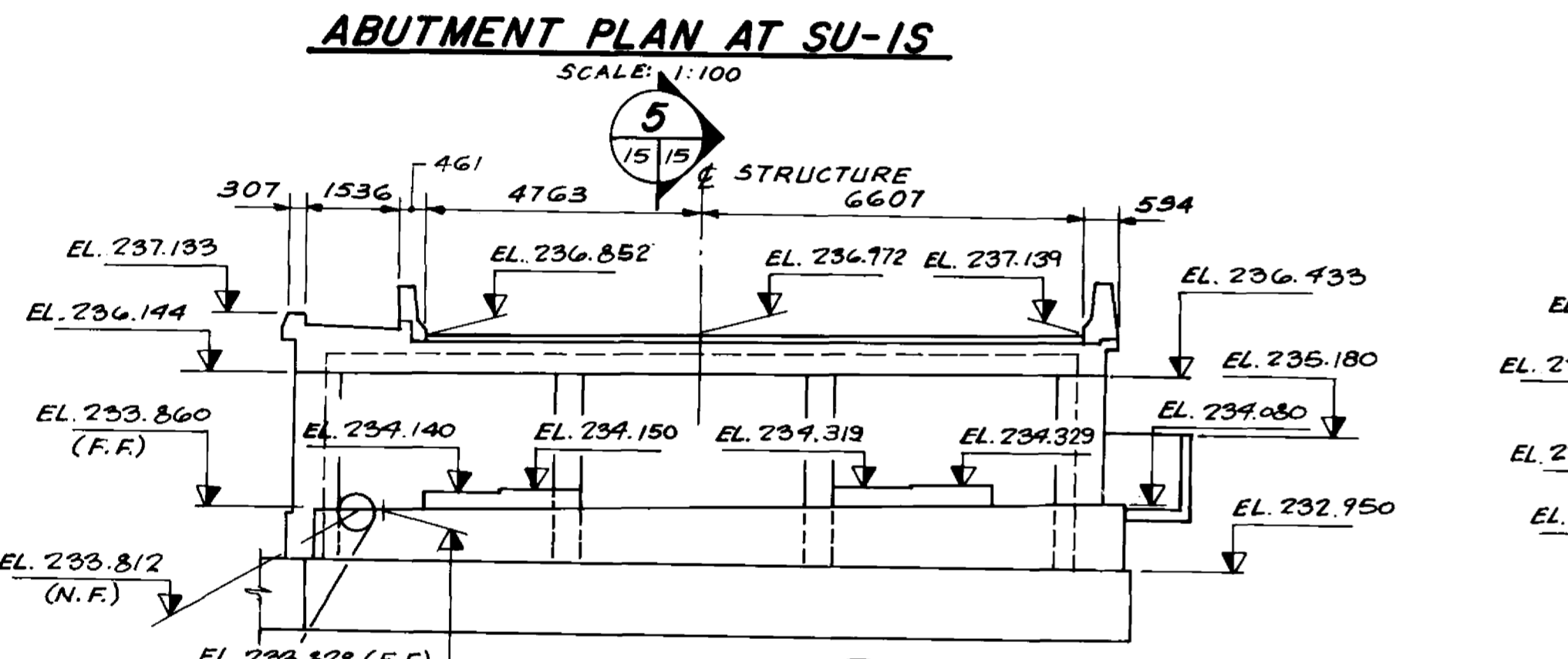
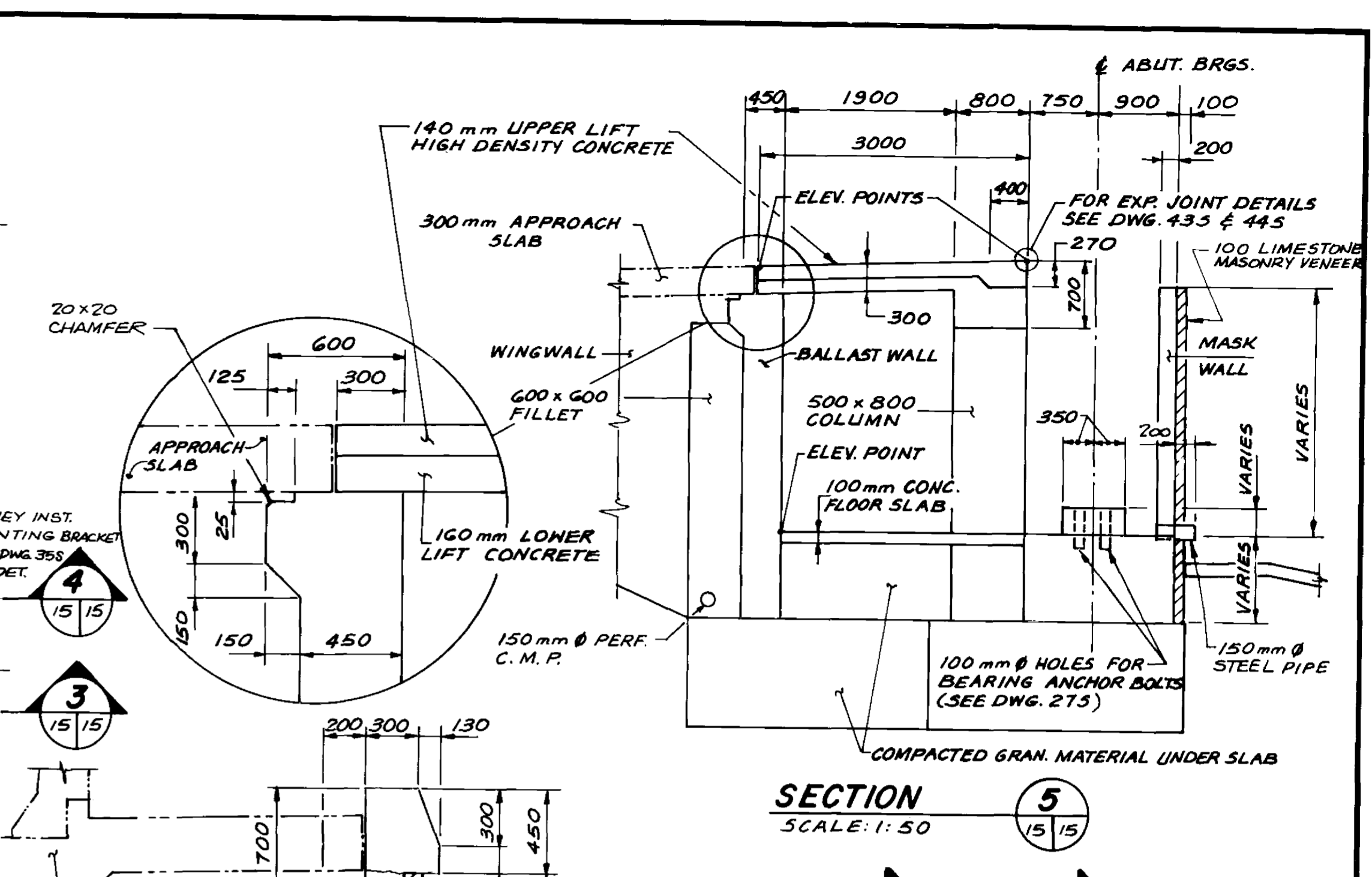
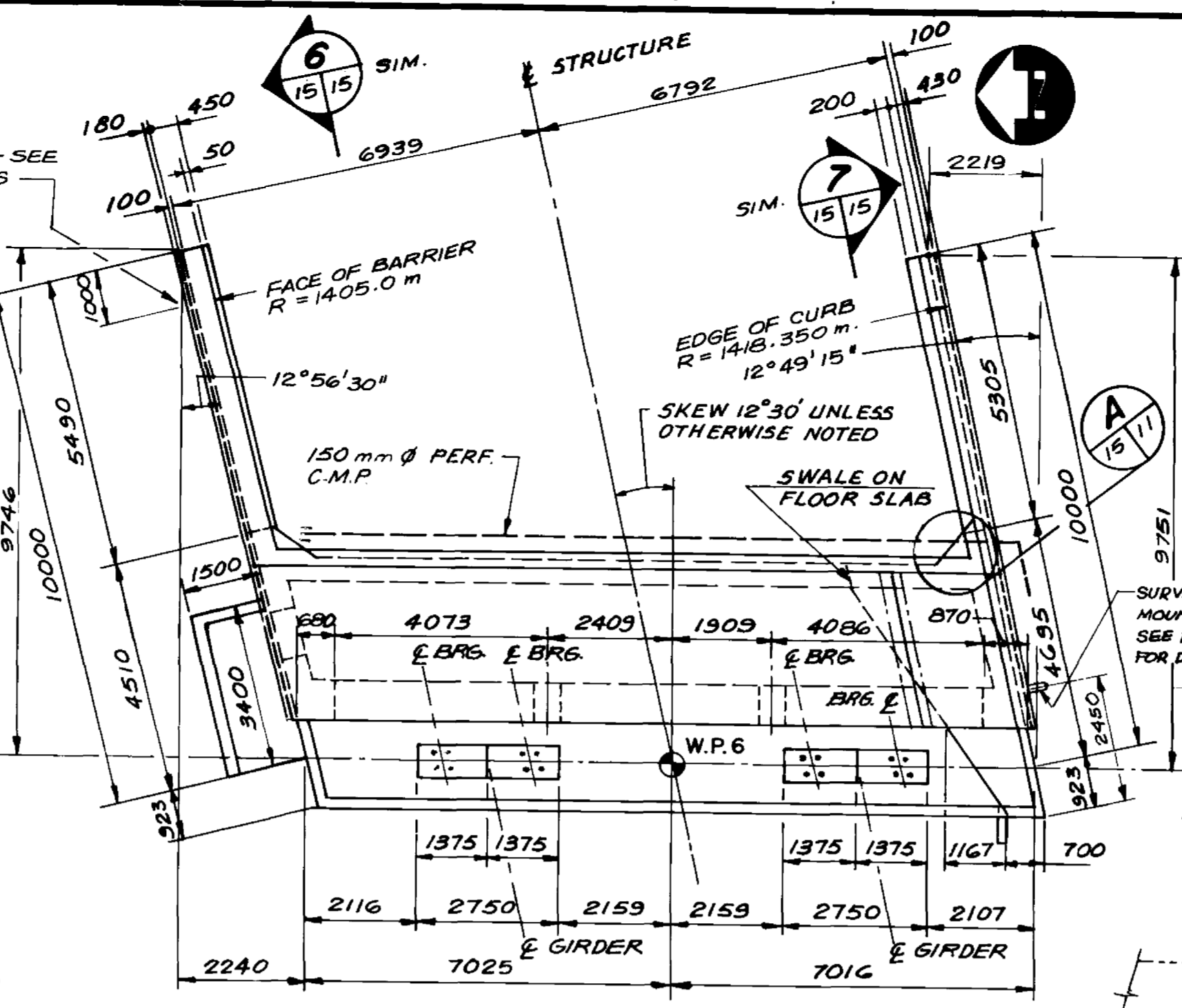
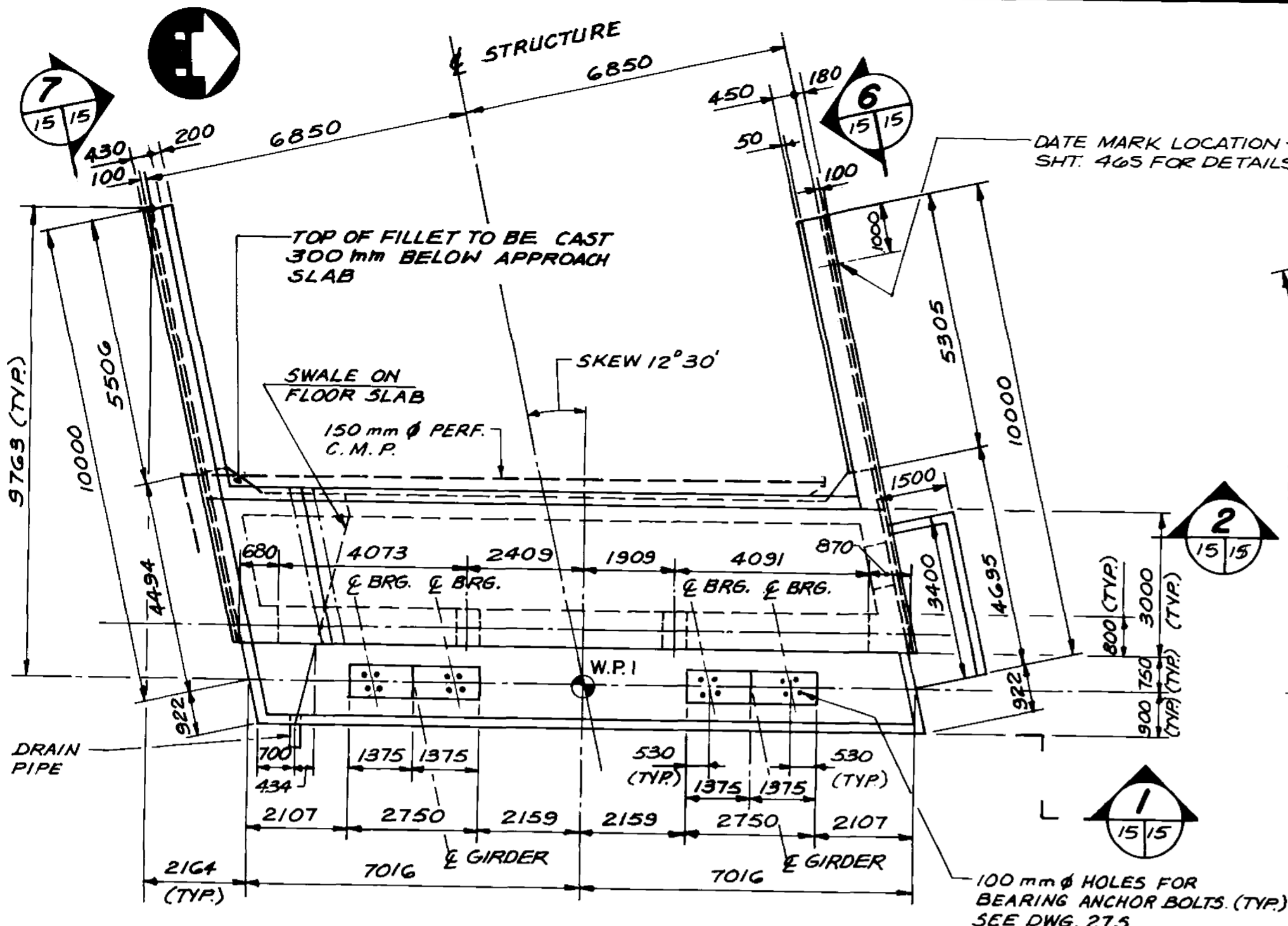
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE CITY DRAWING NUMBER B216-89-14S

STEEL GIRDER ALTERNATIVE SHEET OF

SOUTH STRUCTURE
ABUTMENTS SU-15 AND SU-65
FOOTING LAYOUT AND REINFORCEMENT

B-5828-16



- NOTES**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS Nos 145, 165 & 175
 - FOR BEARING DETAILS SEE DRAWING No 275
 - FALSEWORK SUPPORTING CHAMBER SLAB TO REMAIN IN PLACE UNTIL CONCRETE IN LOWER & UPPER LIFT AND CONCRETE BARRIERS HAS REACHED A STRENGTH OF 30 MPa.
 - CONCRETE IN CHAMBER SLAB UPPER LIFT & CONC. BARRIER SHALL NOT BE PLACED UNTIL LOWER LIFT CONCRETE HAS REACHED A STRENGTH OF 20 MPa.

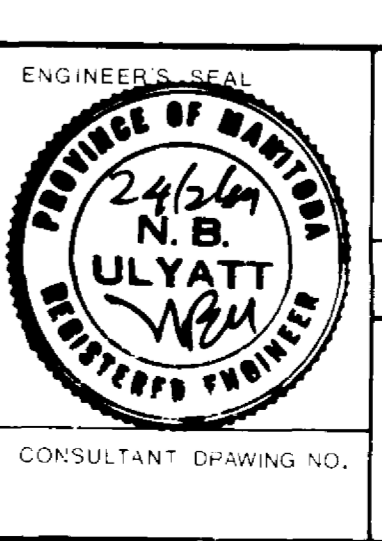
LOCATION APPROVED UNDERGROUND STRUCTURES		B M ELEV
NA		
SUPV U/G STRUCTURES COMMITTEE	DATE	
NOTE:		
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		
1	BRIDGE RAISED TO INCREASE NAVIGATION CLEARANCE	28/04/89
NO	REVISIONS	DATE BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./S.S.R.
CHECKED BY: C/D/N.B.U.
DRAWN BY: A.G.Y.
APPROVED BY: [Signature]

HOR SCALE: AS NOTED
VERTICAL: AS NOTED

DATE: MAR 1989



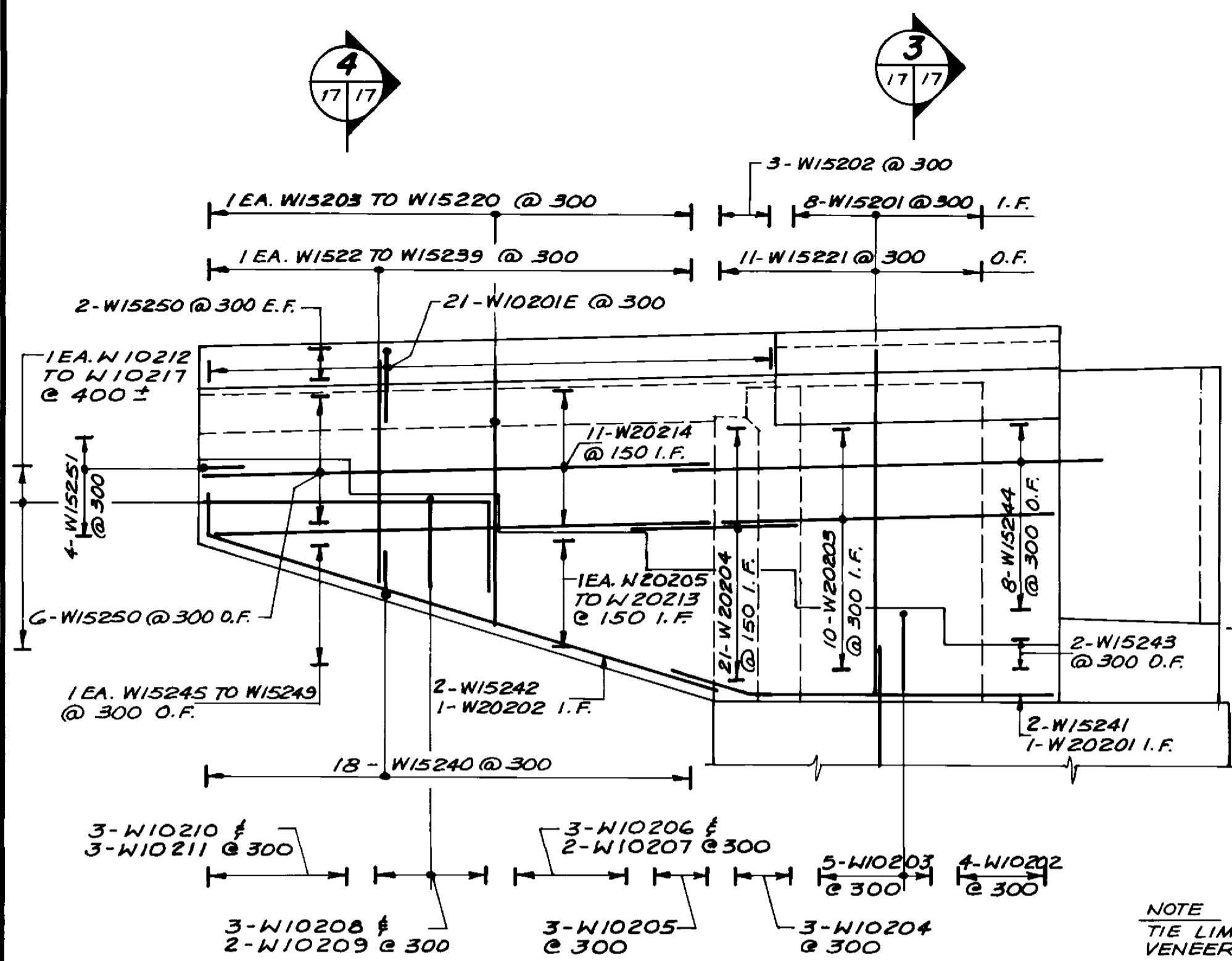
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
ABUTMENTS SU-1S AND SU-6S
LAYOUT

CITY DRAWING NUMBER: B216-89-155
SHEET OF: []

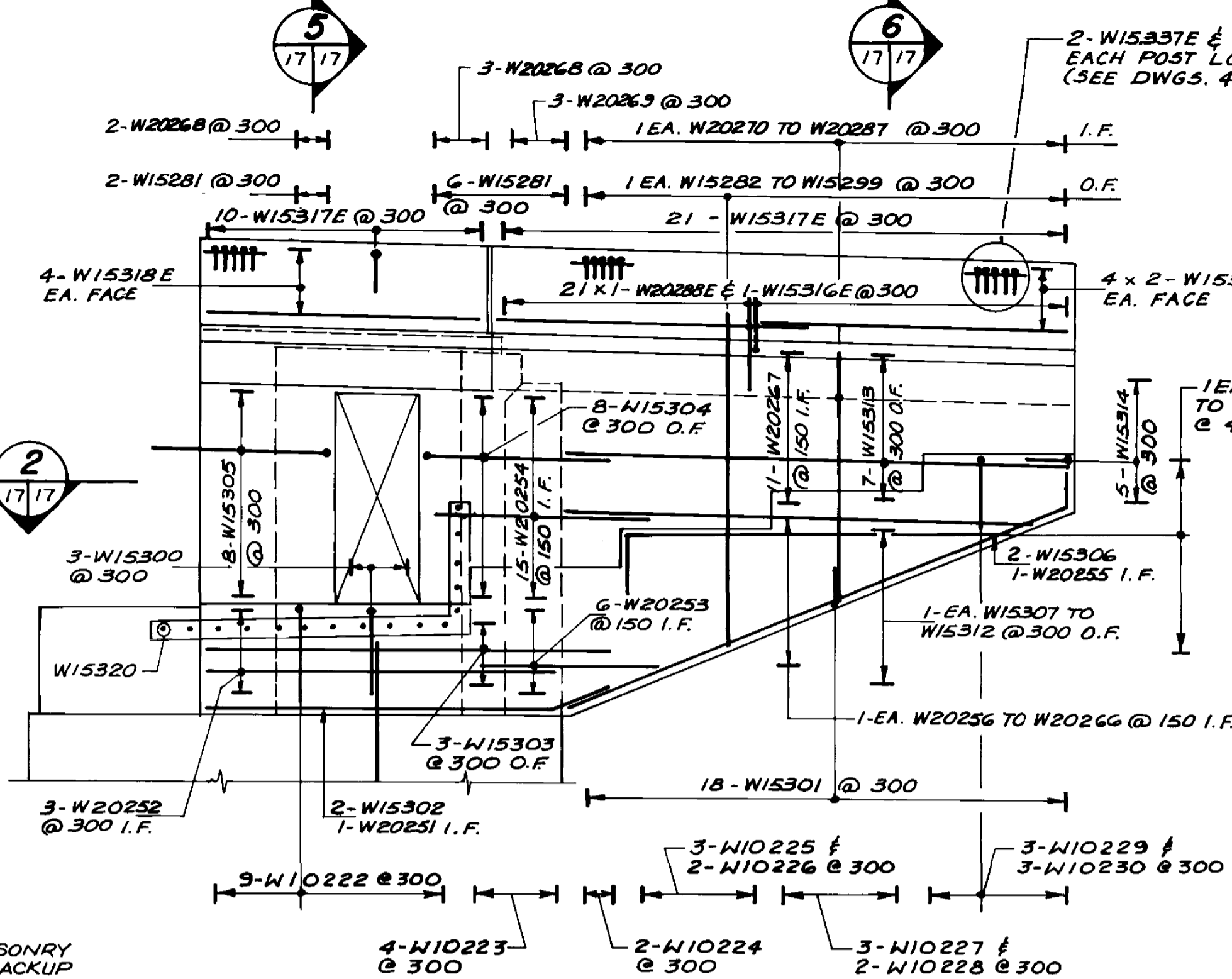
DATE: 90.11.28

APPROVED BY: [Signature]

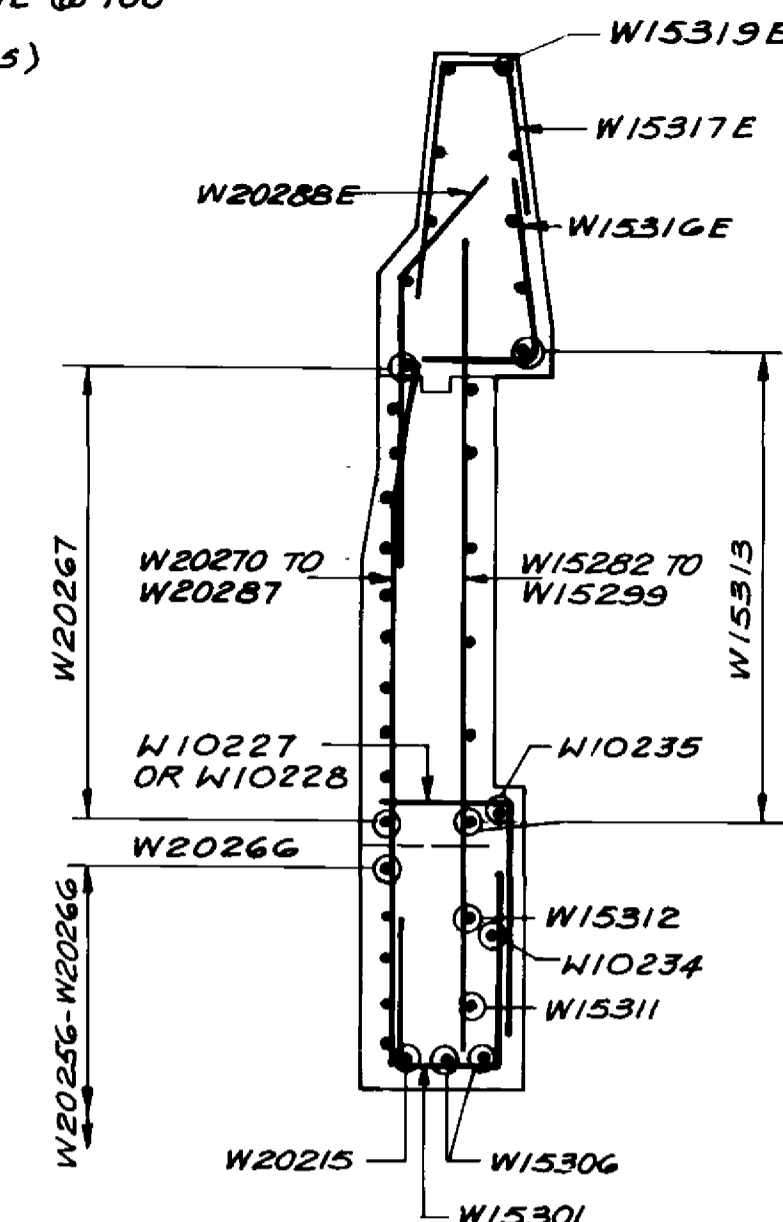


SU-IS & SU-6S - SOUTH WALLS
SCALE: 1:50

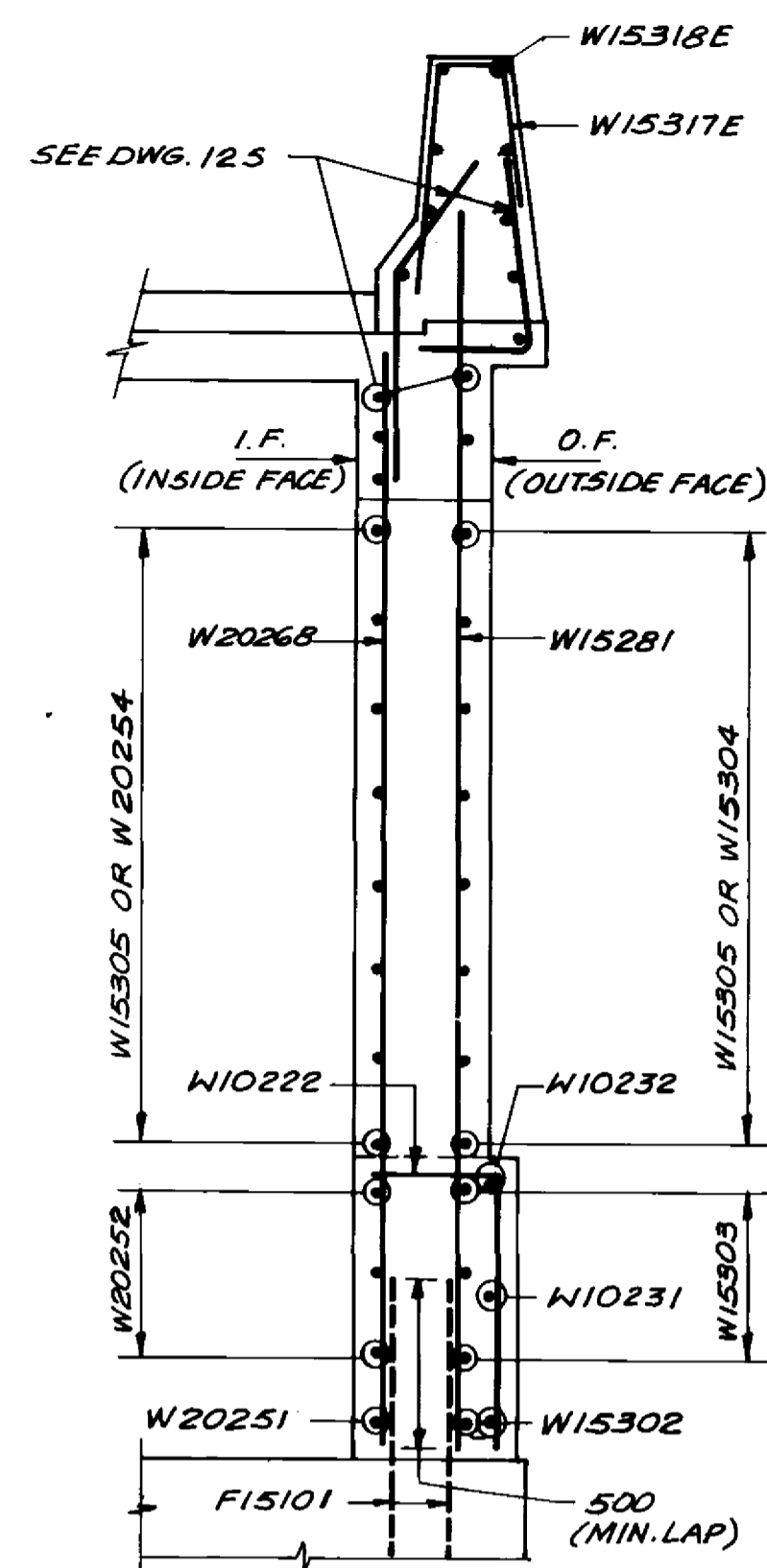
NOTE
TIE LIMESTONE MASONRY
VENEER TO CONC. BACKUP
WALL WITH NOT LESS THAN
0.41 mm THICK x 22 mm WIDE
CORROSION RESISTANT STRAPS
@ MAX. SPACING OF 400 VERT.
@ 300 HORIZ.



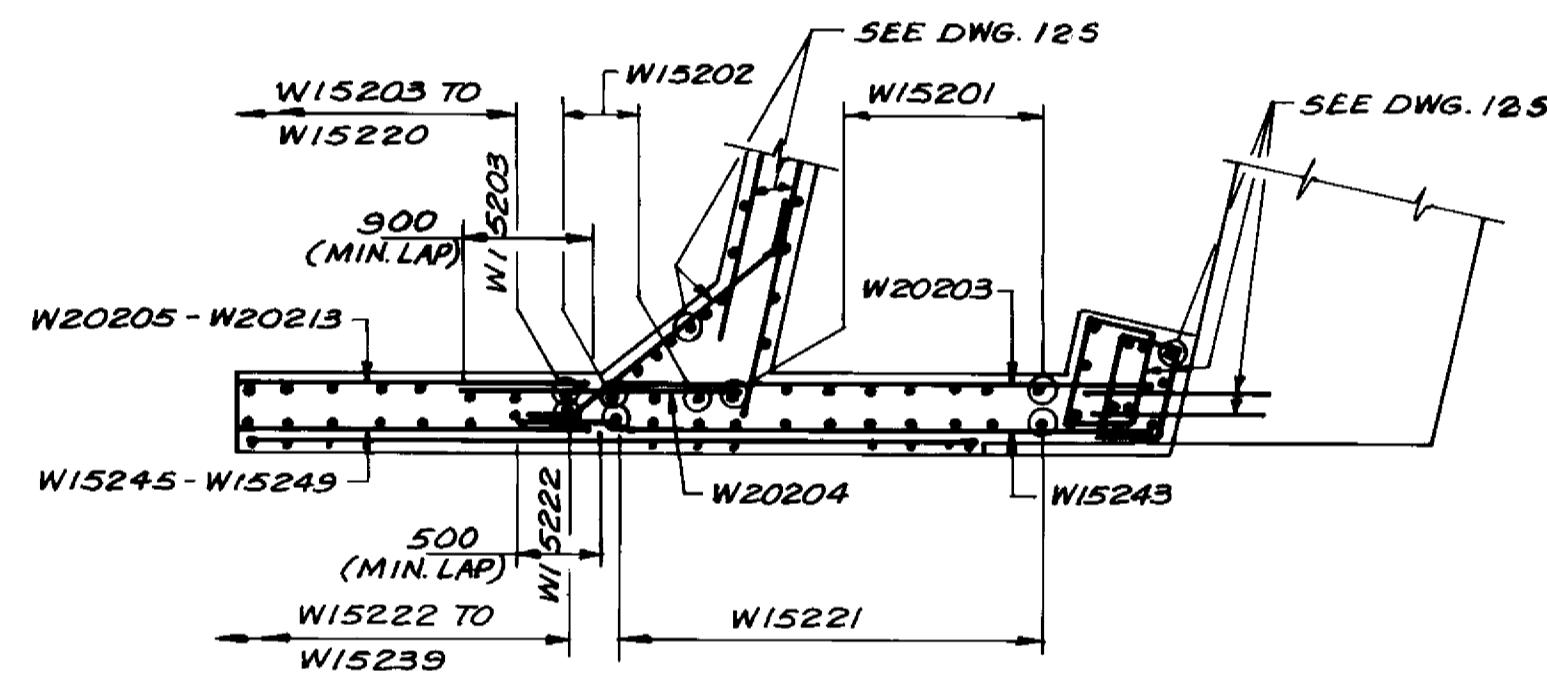
SU-IS & SU-6S - NORTH WALLS
SCALE: 1:50



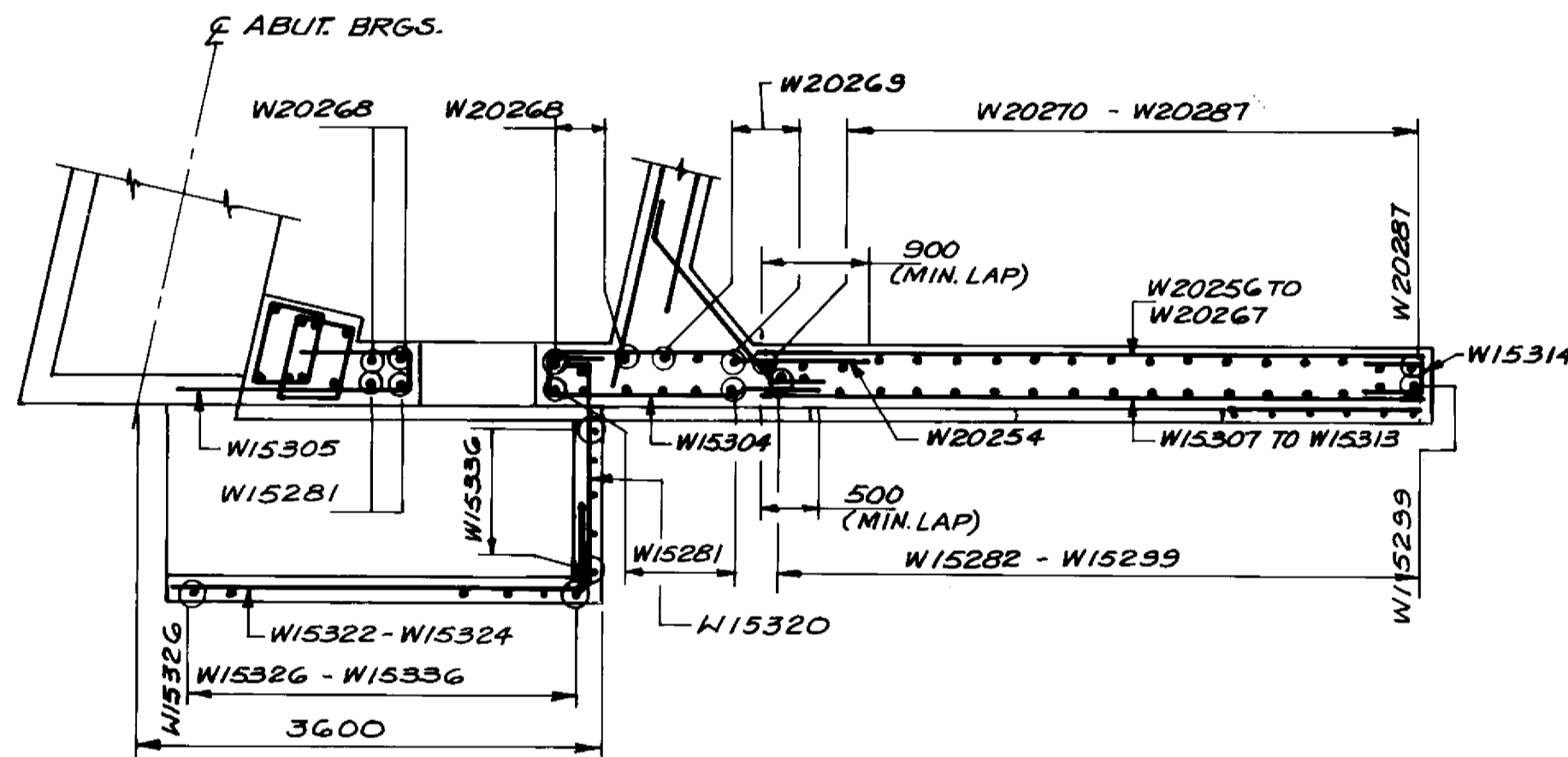
SECTION 6
SCALE: 1:25



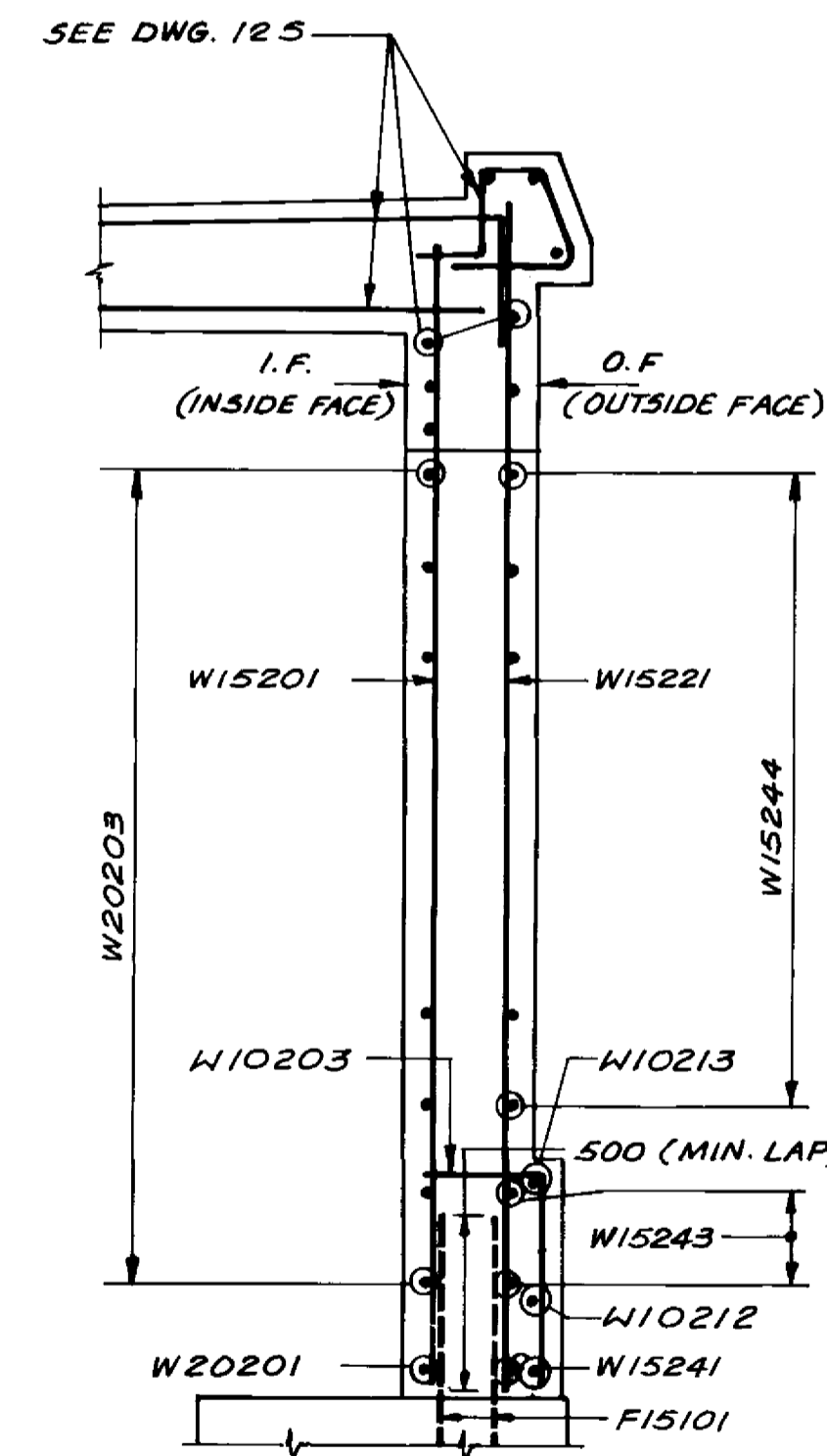
SECTION 5
SCALE: 1:25



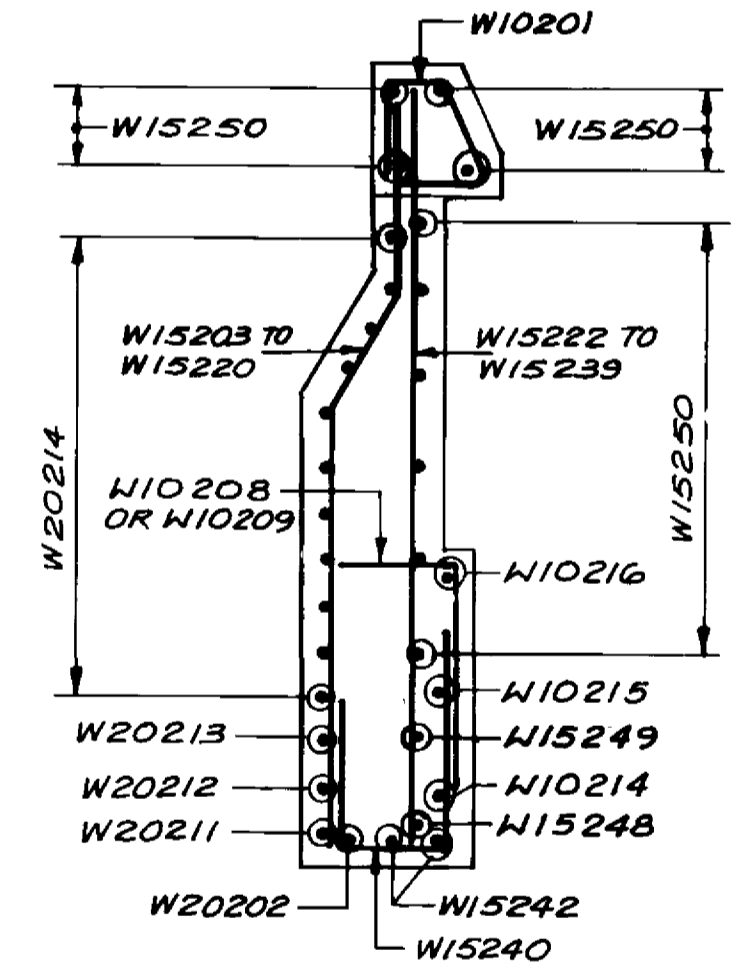
SECTION 1
SCALE: 1:50



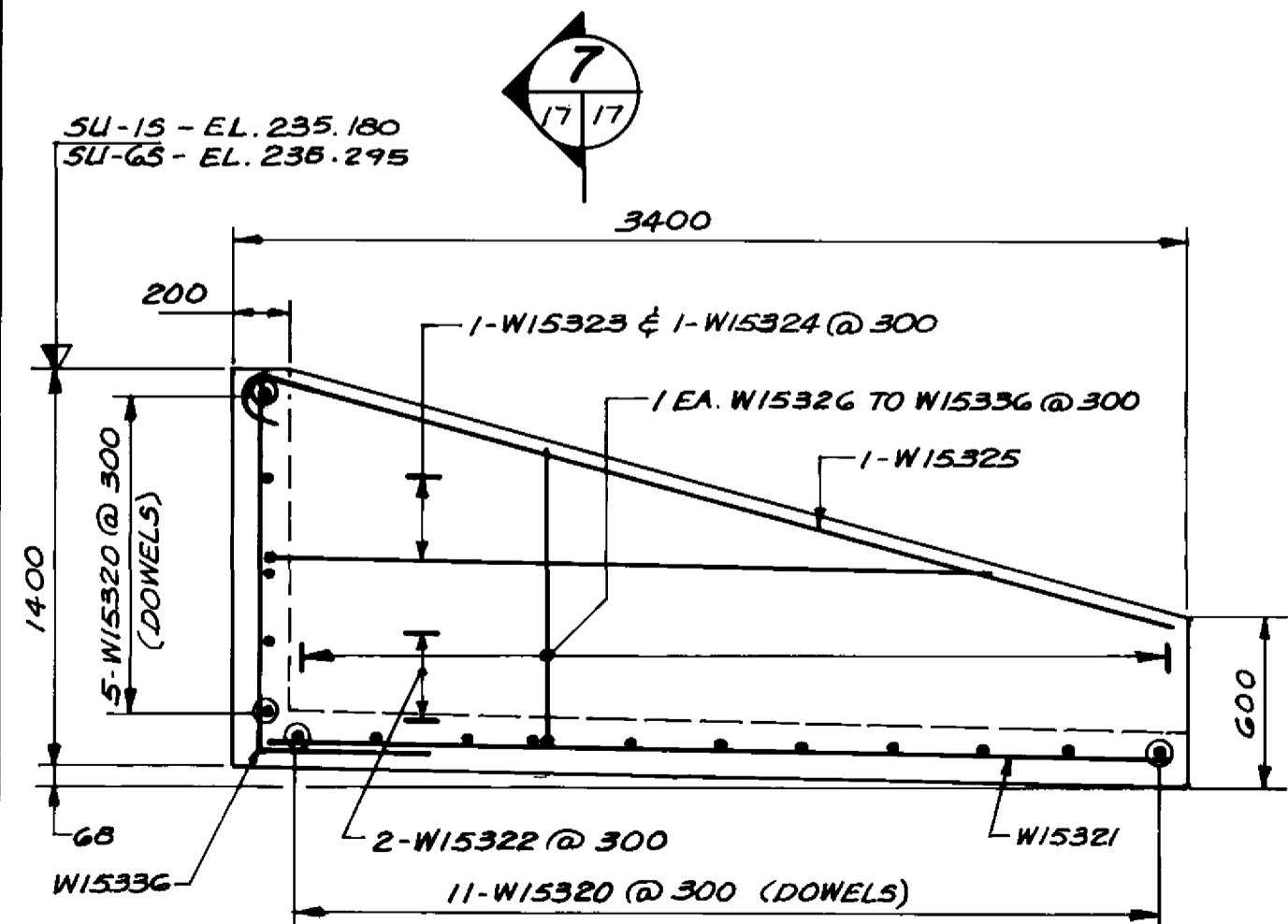
SECTION 2
SCALE: 1:50



SECTION 3
SCALE: 1:25

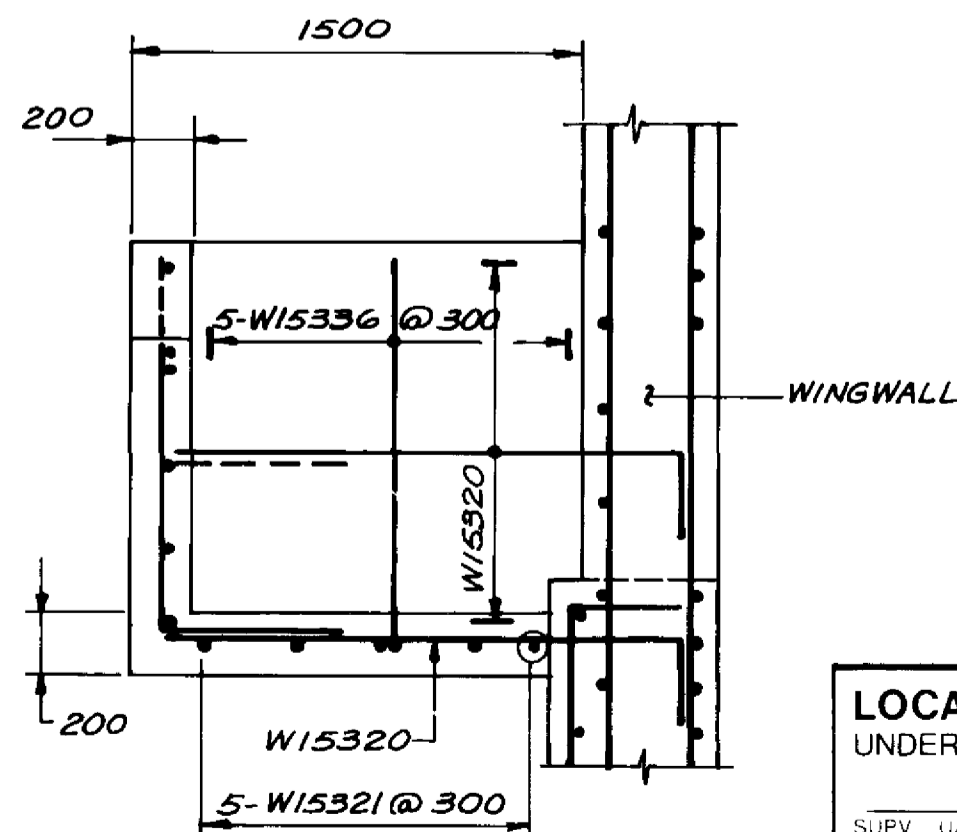


SECTION 4
SCALE: 1:25



ELEVATION

RETAINING WALL AT DOOR
SCALE: 1:25



SECTION 7

NOTES:

- REINFORCING SHOWN AT SU-15 SU-6S SIMILAR BUT OPPOSITE HAND.
- FOR CHAMBER ROOM DOOR DETAILS SEE DWG. 135.

LOCATION APPROVED UNDERGROUND STRUCTURES NA		B.M. ELEV.
SUPV. U/G STRUCTURES	DATE	
COMMITTEE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
NO.	REVISIONS	DATE

DESIGNED BY	M.V./SSR	CHECKED BY	C.I.D./N.B.U.
DRAWN BY	A.G.Y.	APPROVED BY	<i>[Signature]</i>
HOR SCALE	AS NOTED	AUTHORIZED BY	<i>[Signature]</i>
VERTICAL	AS NOTED	STREETS & BRIDGE ENGINEER	DATE
NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./SSR
CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y.
HOR SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: MAR. 1989

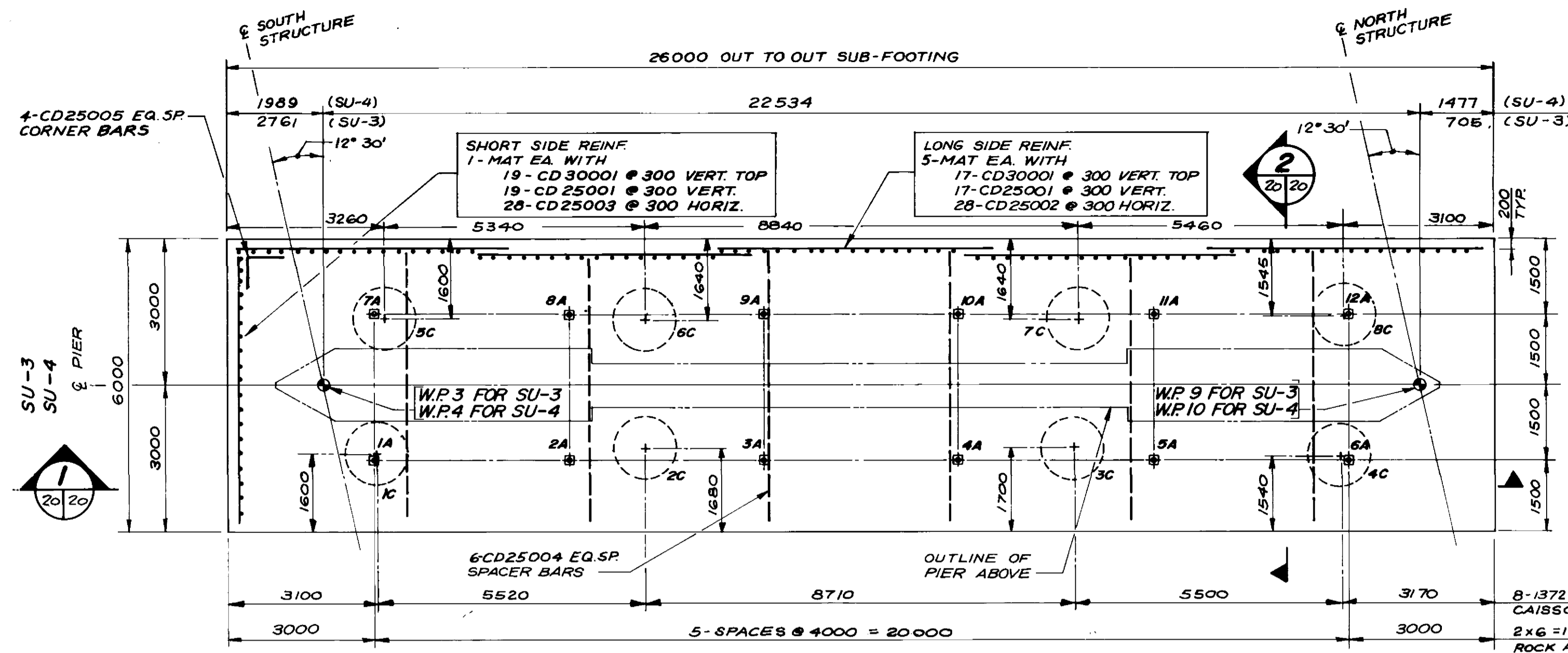
ENGINEER'S SEAL
PROVINCE OF MANITOBA
24 FEB 1989
N.B. ULYATT
REGISTERED ENGINEER

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
WINGWALLS REINFORCEMENT

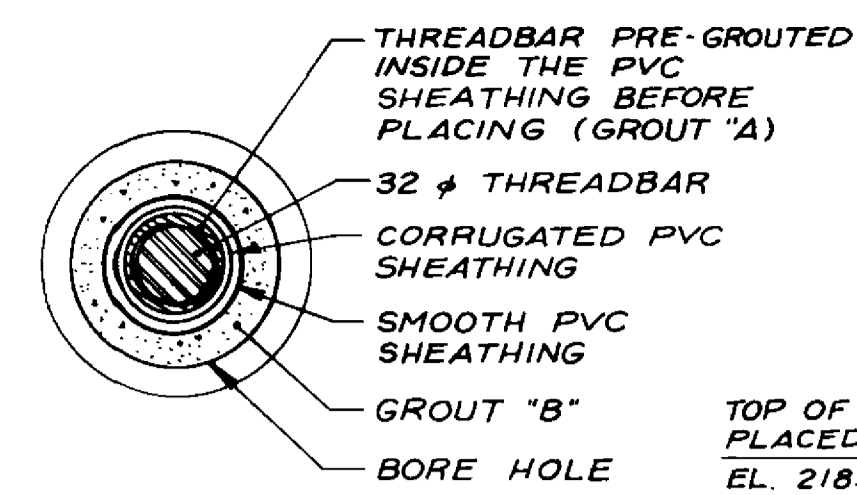
CITY DRAWING NUMBER: B216-89-17S
SHEET OF: 1
DATE: 10.11.88

RECORD DRAWING
APPROVED BY: *[Signature]*
DATE: 10.11.88

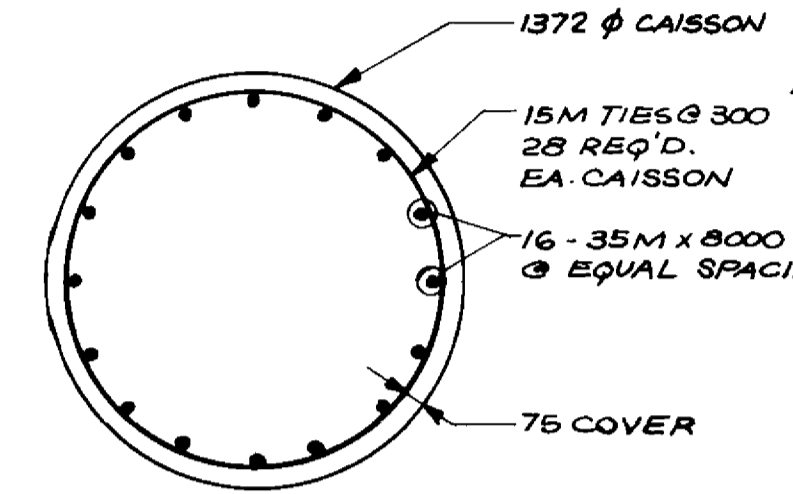


NOTE:
 1A, 2A, ROCK ANCHORS INSTALLED AT SU-3 SUB-FOOTING
 1C, 2C, ROCK SOCKETED CAISSONS INSTALLED AT SU-4 SUB-FOOTING
 ROCK ANCHORS 1A & 7A DID NOT TAKE TENSILE LOAD (AS BUILT NOTE)

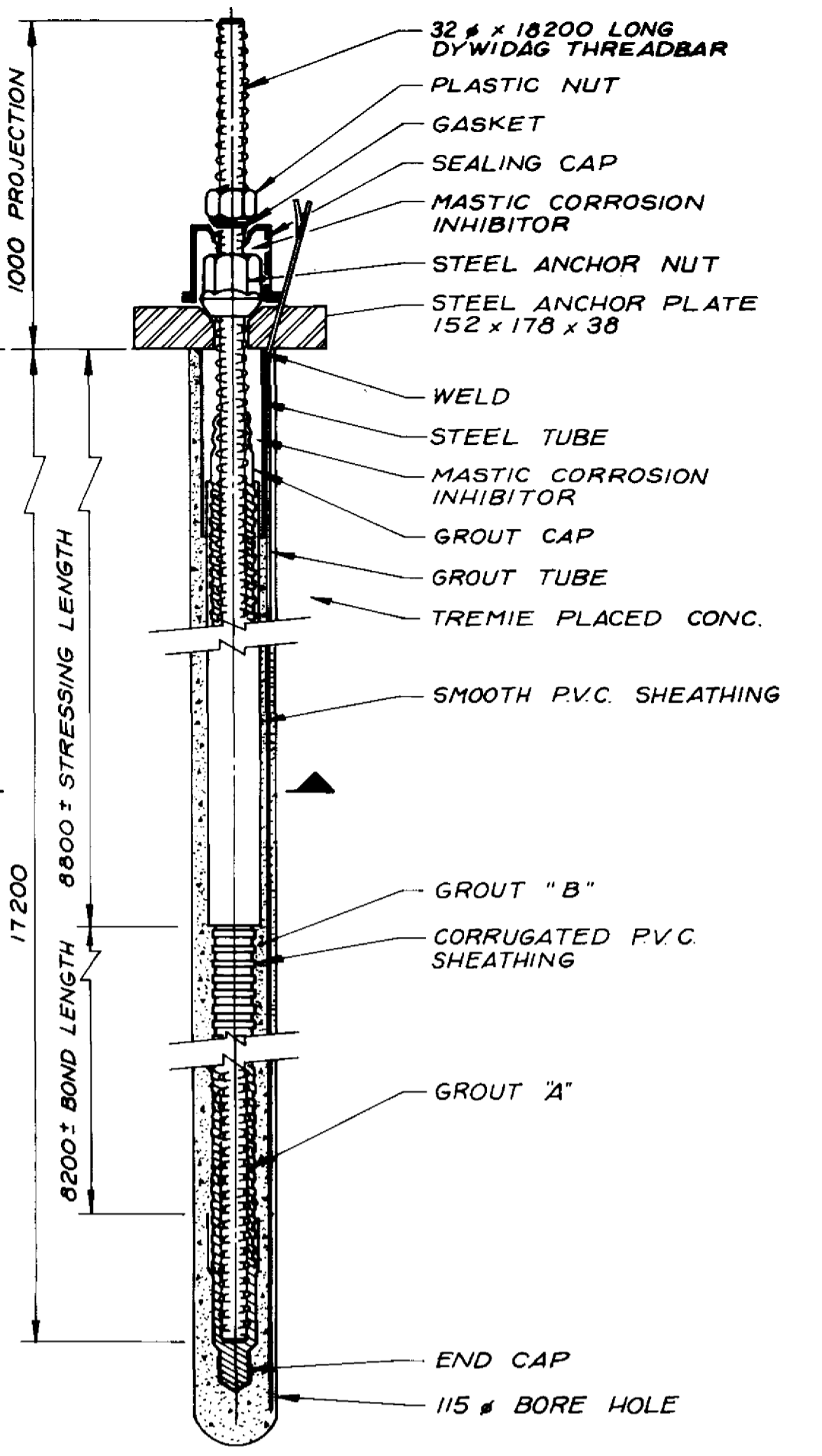
SUB-FOOTING PLAN
1:75



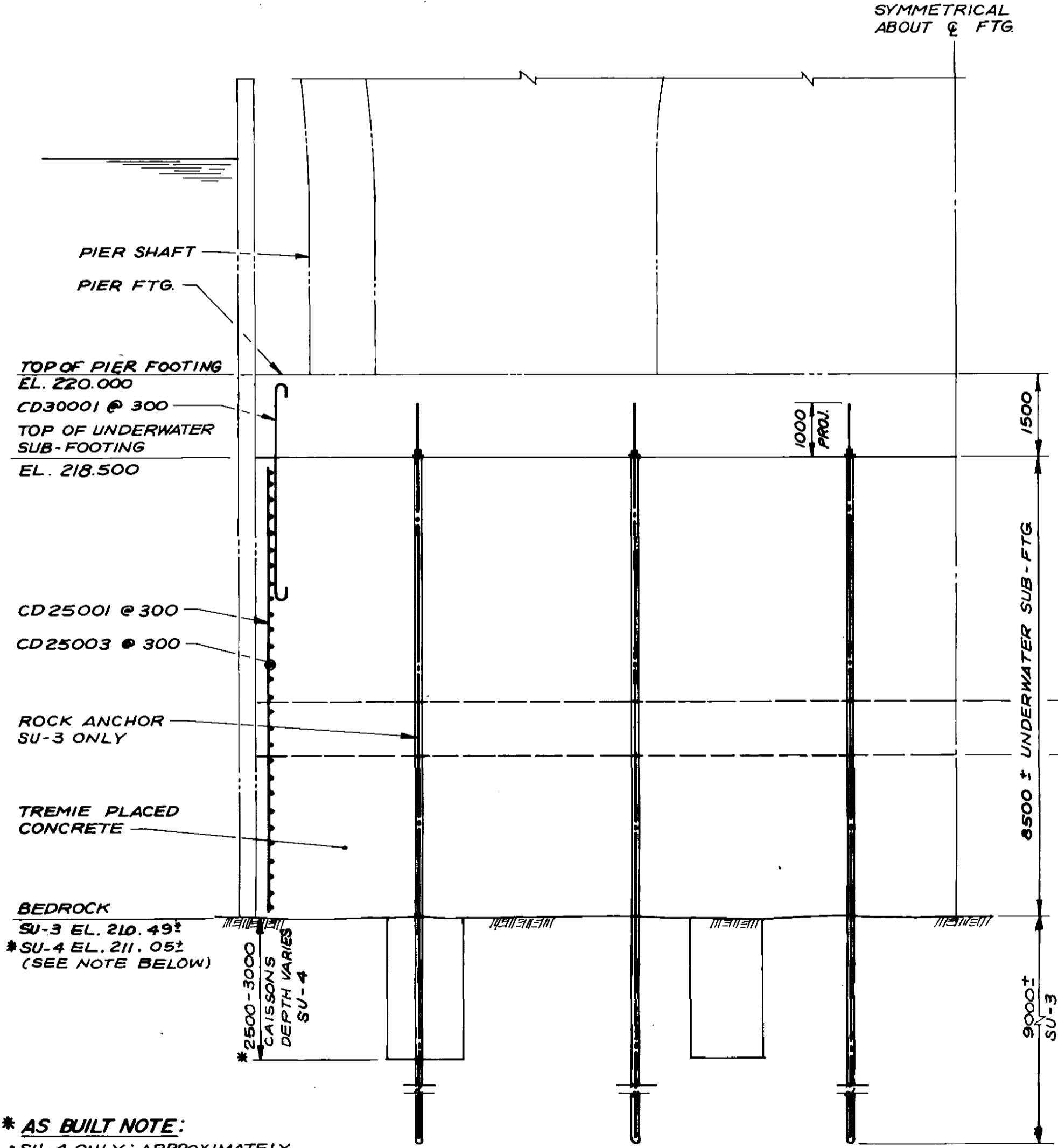
SECTION 3
N.T.S.



TYPICAL ROCK SOCKETED CAISSON REINFORCING DETAIL
B - REQUIRED FOR SU-4 SUB-FOOTING
1:25

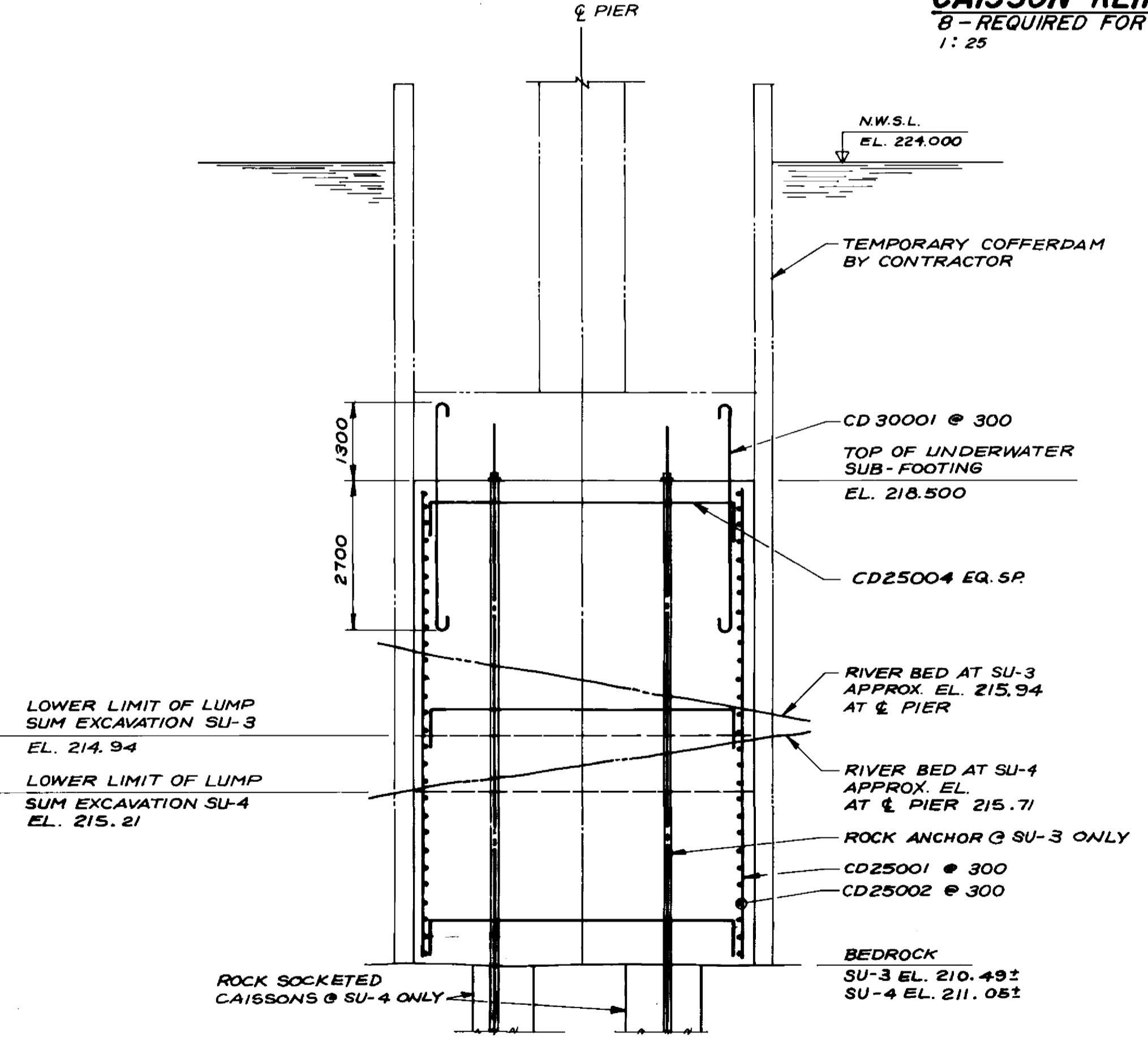


TYPICAL ROCK ANCHOR DETAIL
12 - REQUIRED FOR SU-3 SUB FOOTING
N.T.S.



*** AS BUILT NOTE:**
 * SU-4 ONLY: APPROXIMATELY 1/2 METER DEPTH OF TILL LEFT AS OVERBURDEN ON VERY UNEVEN BEDROCK SURFACE.
 * ROCK CAISSONS PENETRATED THIS TILL AND WERE SOCKETED TO A DEPTH OF 2500 TO 3000 INTO BEDROCK.

HALF LONGITUDINAL SECTION 1
1:75



SECTION 2
1:75

ROCK ANCHOR NOTES

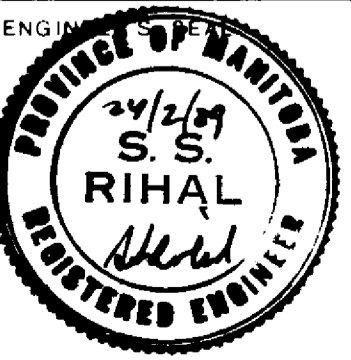
- ROCK ANCHORS SHALL BE 32 # DYWIDAG THREADBAR GRADE 1030 WITH DOUBLE CORROSION PROTECTION.
- DEMATER COFFERDAM AND CLEAN SURFACE OF TREMIED CONCRETE.
- BORE 115 # HOLES THROUGH TREMIED CONCRETE INTO BEDROCK TO ELEVATION 201.000.
- INSTALL PRE-GROUTED (GROUT "A") ANCHOR ASSEMBLY IN BORE HOLE.
- GROUT BORE HOLE FULL LENGTH WITH TYPE 30 CEMENT GROUT "B".
 i) TEST LOAD TO 300KN
 ii) REDUCE LOAD TO 125 KN PERMANENT FORCE

RECORD DRAWING
 Approved by: *R. J. H.* 90J12B
 DATE

LOCATION APPROVED UNDERGROUND STRUCTURES NA	B.M. ELEV.
SUPV U/G STRUCTURES COMMITTEE	
DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION	
NO REVISIONS	DATE BY

DILLON
 Consulting Engineers - Planners
 Environmental Scientists

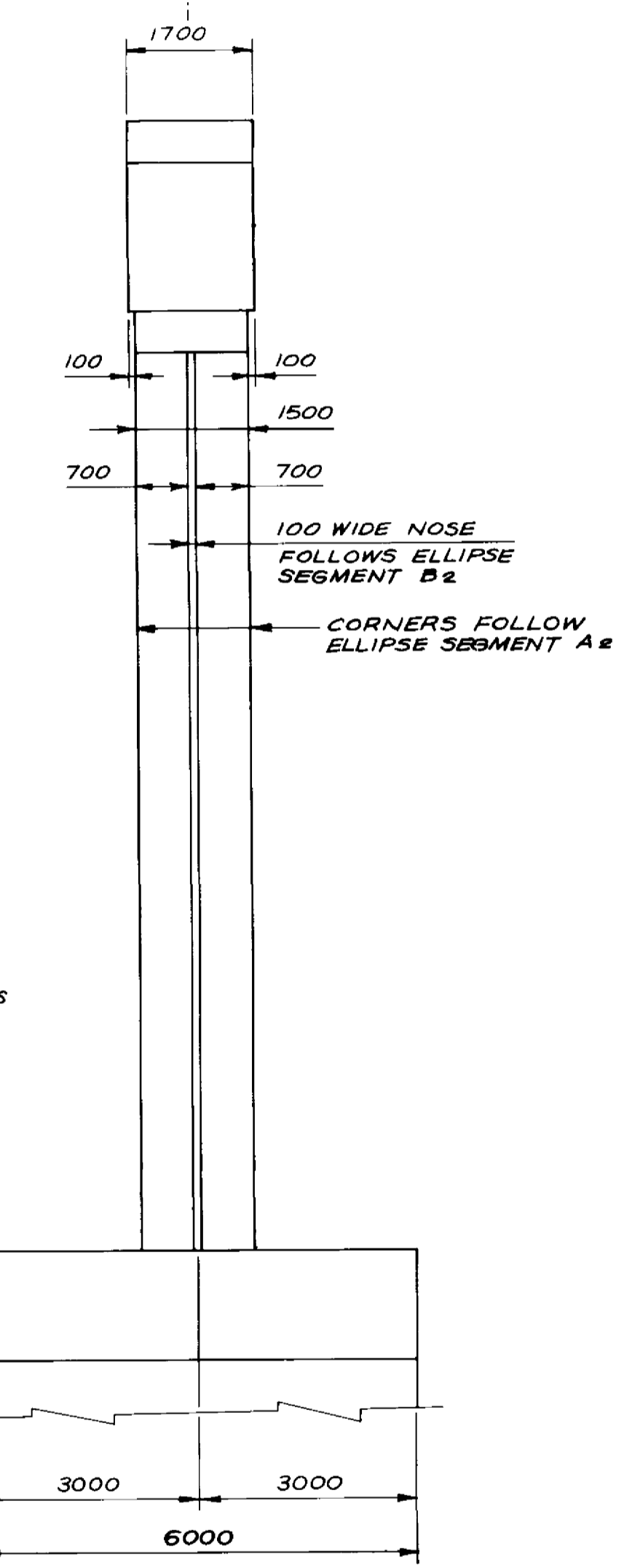
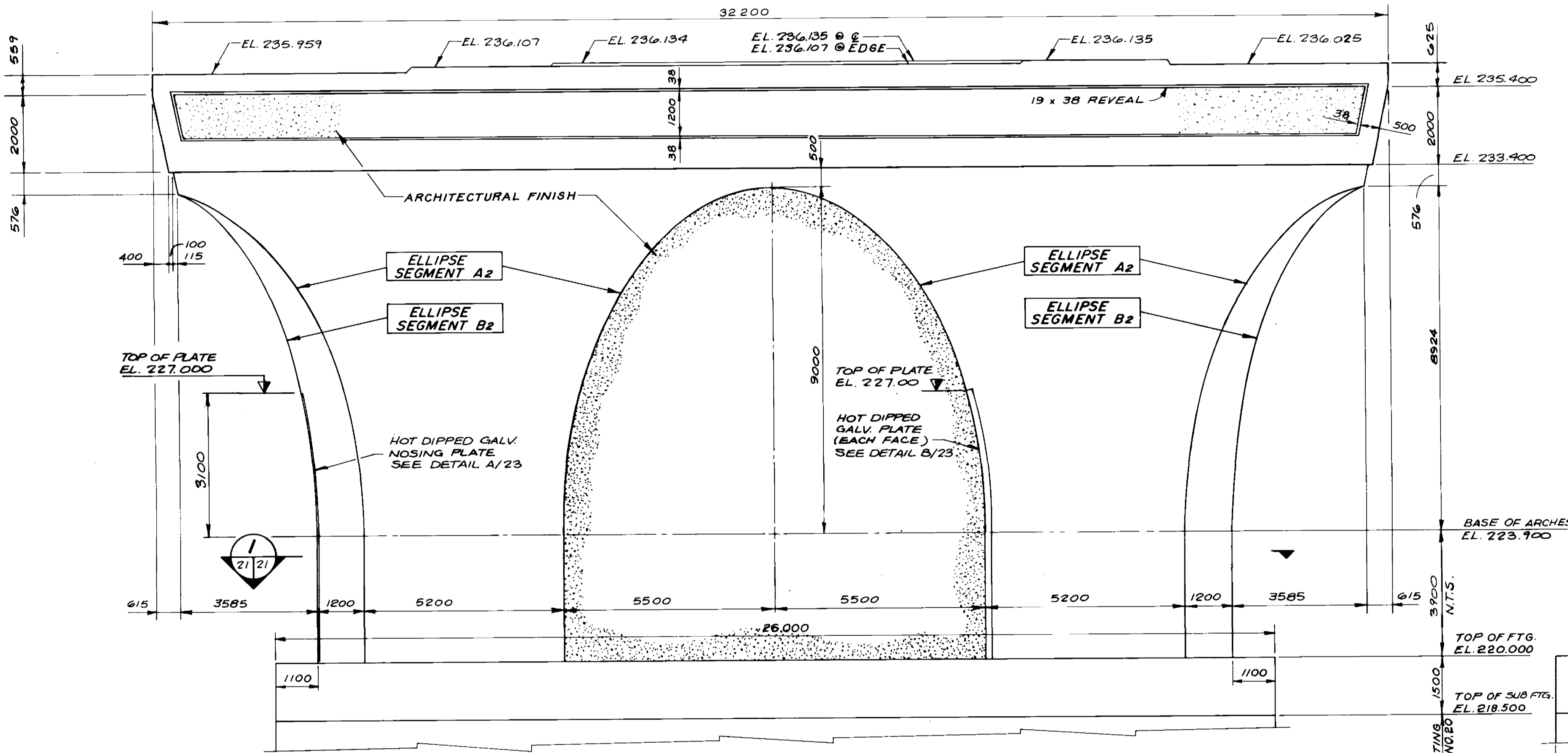
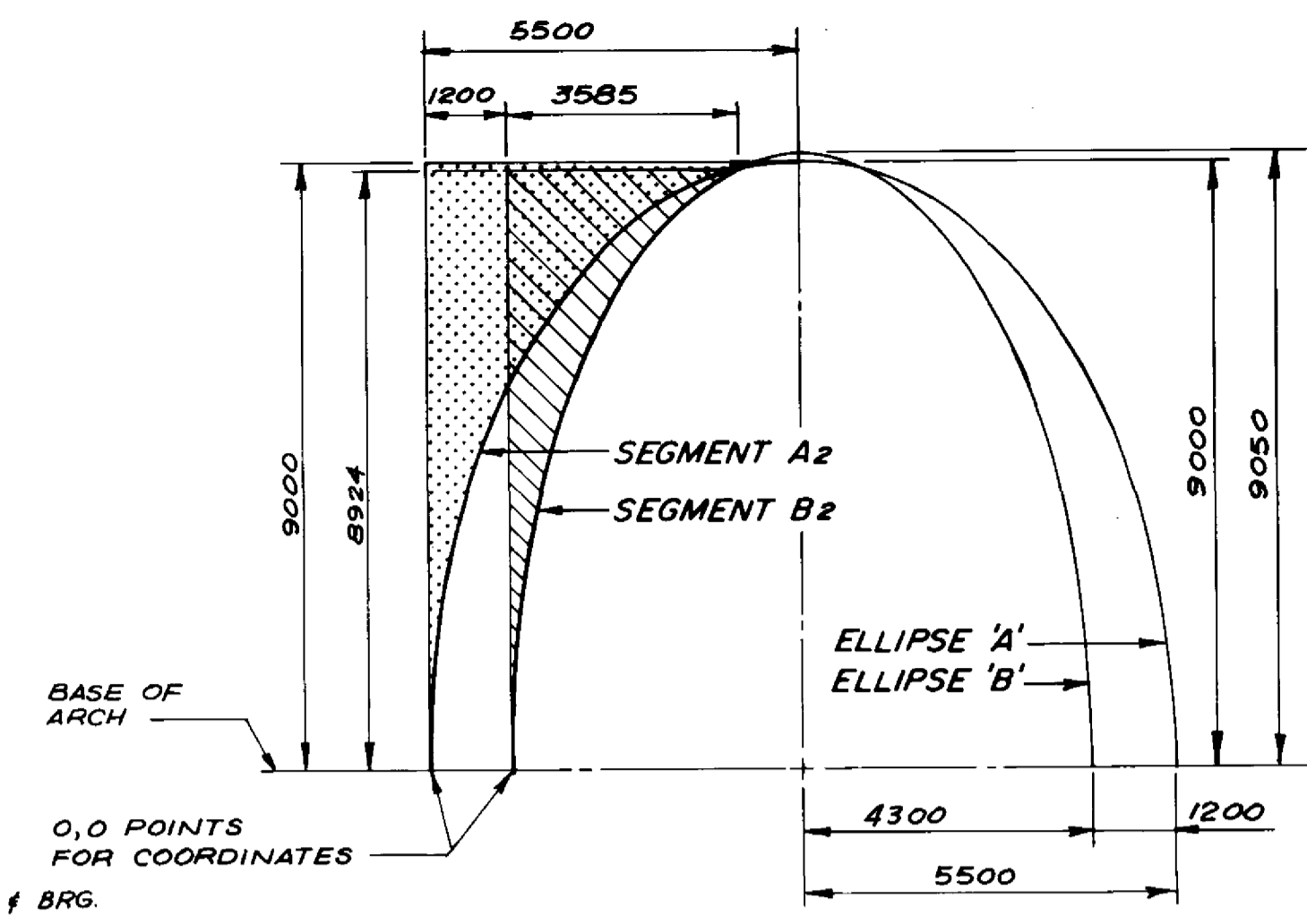
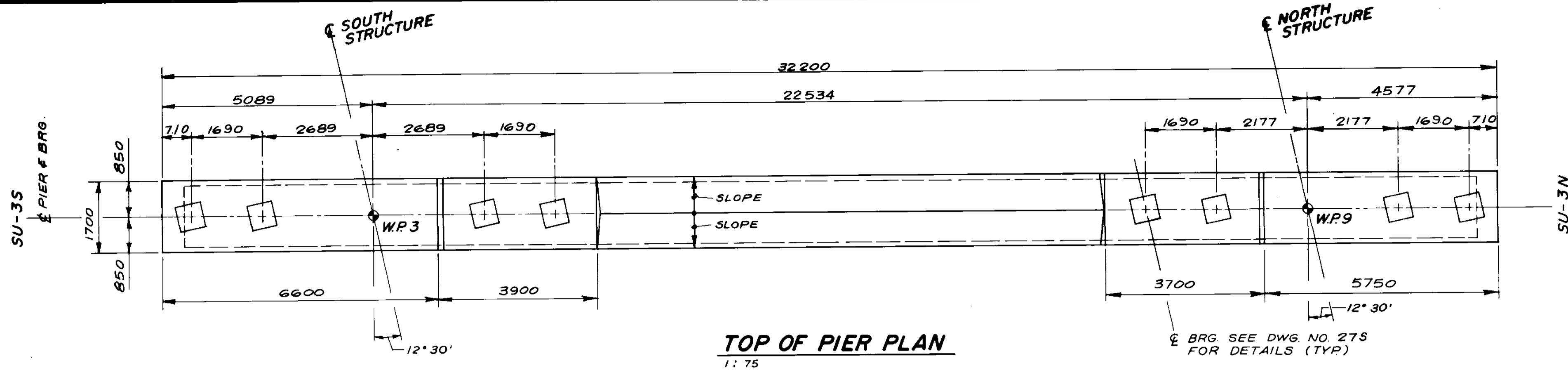
DESIGNED BY: D.S.	CHECKED BY: S.S.R.
DRAWN BY: S.K.B.	APPROVED BY: <i>[Signature]</i>
HOR SCALE: AS SHOWN	VERTICAL: AS SHOWN
DATE: MAR 1989	DATE: MAR 1989



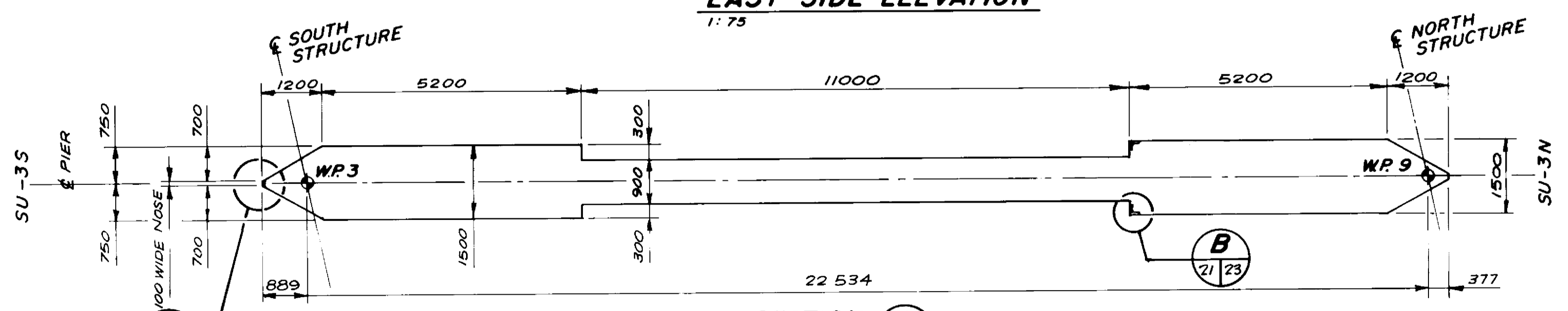
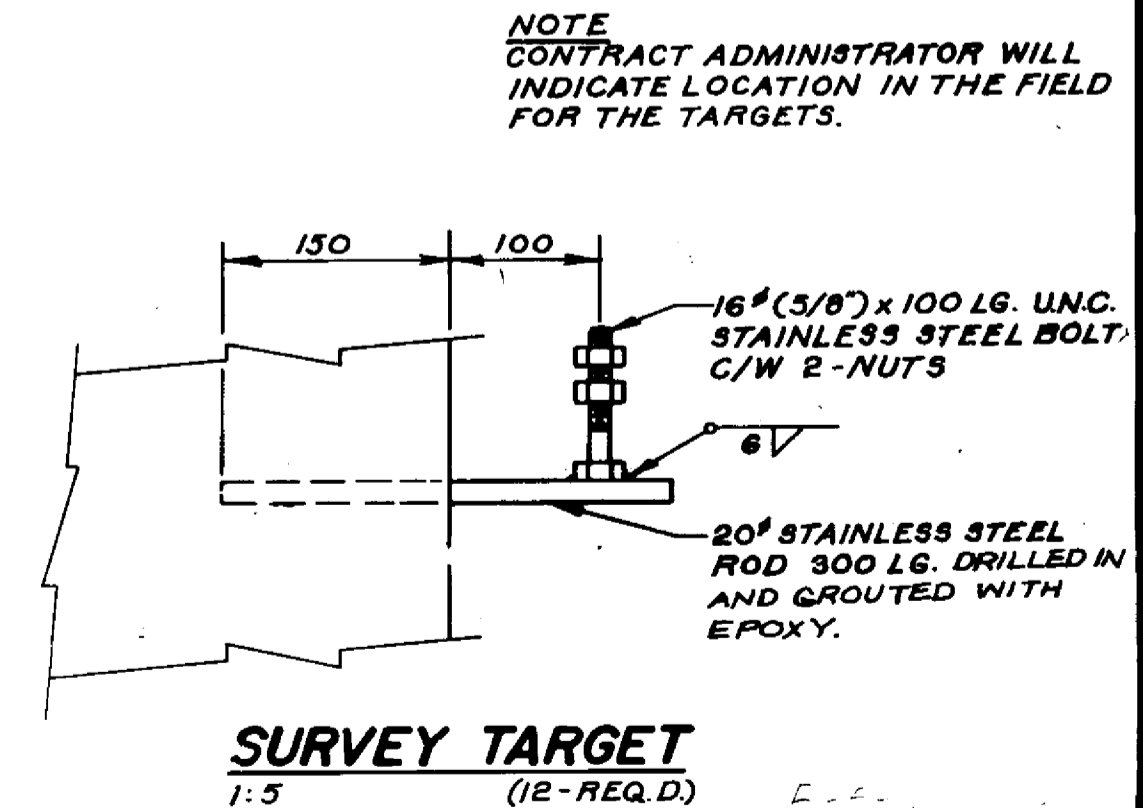
THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE
 RIVER PIERS SU-3 AND SU-4
 UNDERWATER SUB-FOOTINGS

CITY DRAWING NUMBER: **B216-89-20S**
 SHEET OF: **B-5828-22**



ELLIPSE COORDINATES		
VERTICAL	HORIZONTAL	
	SEGMENT A2	SEGMENT B2
9000	5500	3585
8750	4785	3202
8500	4213	3024
8250	3692	2824
8000	3302	2532
7750	2980	2290
7500	2704	2080
7250	2460	1894
7000	2241	1726
6750	2043	1575
6500	1862	1436
6250	1696	1308
6000	1542	1190
5750	1401	1081
5500	1269	979
5250	1147	885
5000	1033	797
4750	927	716
4500	828	640
4250	737	569
4000	652	504
3750	573	443
3500	500	387
3250	433	335
3000	371	287
2750	315	243
2500	263	203
2250	216	167
2000	175	135
1750	138	106
1500	105	81
1250	77	59
1000	53	41
750	34	26
500	19	15
250	8	7
0	2	2
0	0	0



RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.	
N.A.			
SUPV. U/G STRUCTURES COMMITTEE	DATE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.			
NO REVISIONS	DATE	BY	DATE
1	BRIDGE RAISED TO INCREASE NAVIGATION CLEARANCE	24/11/89	K.C.

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: D.S. CHECKED BY: SSR
DRAWN BY: W.P.S. APPROVED BY: [Signature]
HOR SCALE: AS SHOWN AUTHORIZED BY: [Signature] 24/11/89
VERTICAL: DATE: 24/11/89
ACCEPTED BY: [Signature] 24/11/89
DATE: 24/11/89

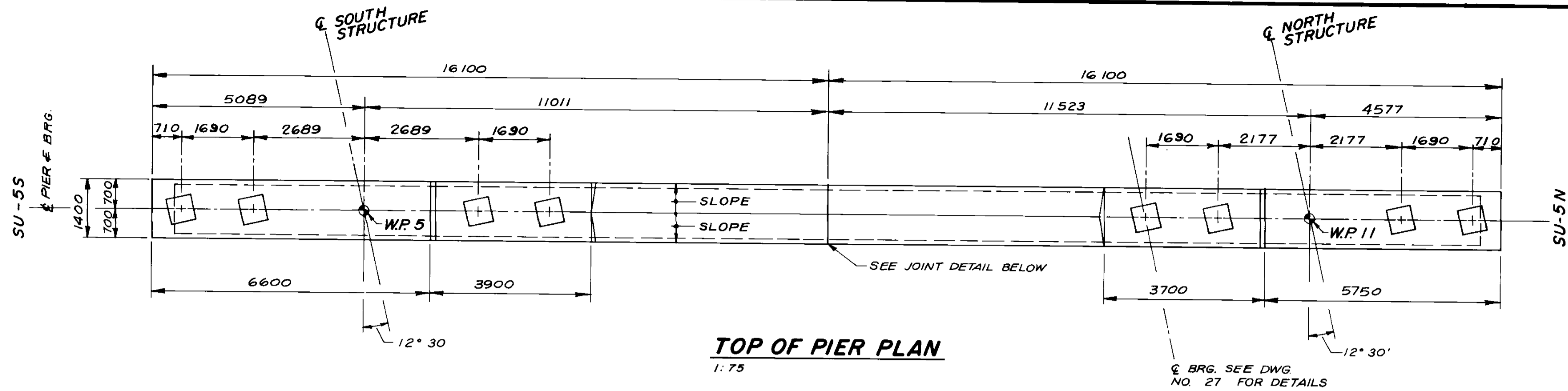
PROFESSIONAL ENGINEER
24/11/89
S.S. RIHAL
REGISTERED ENGINEER

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

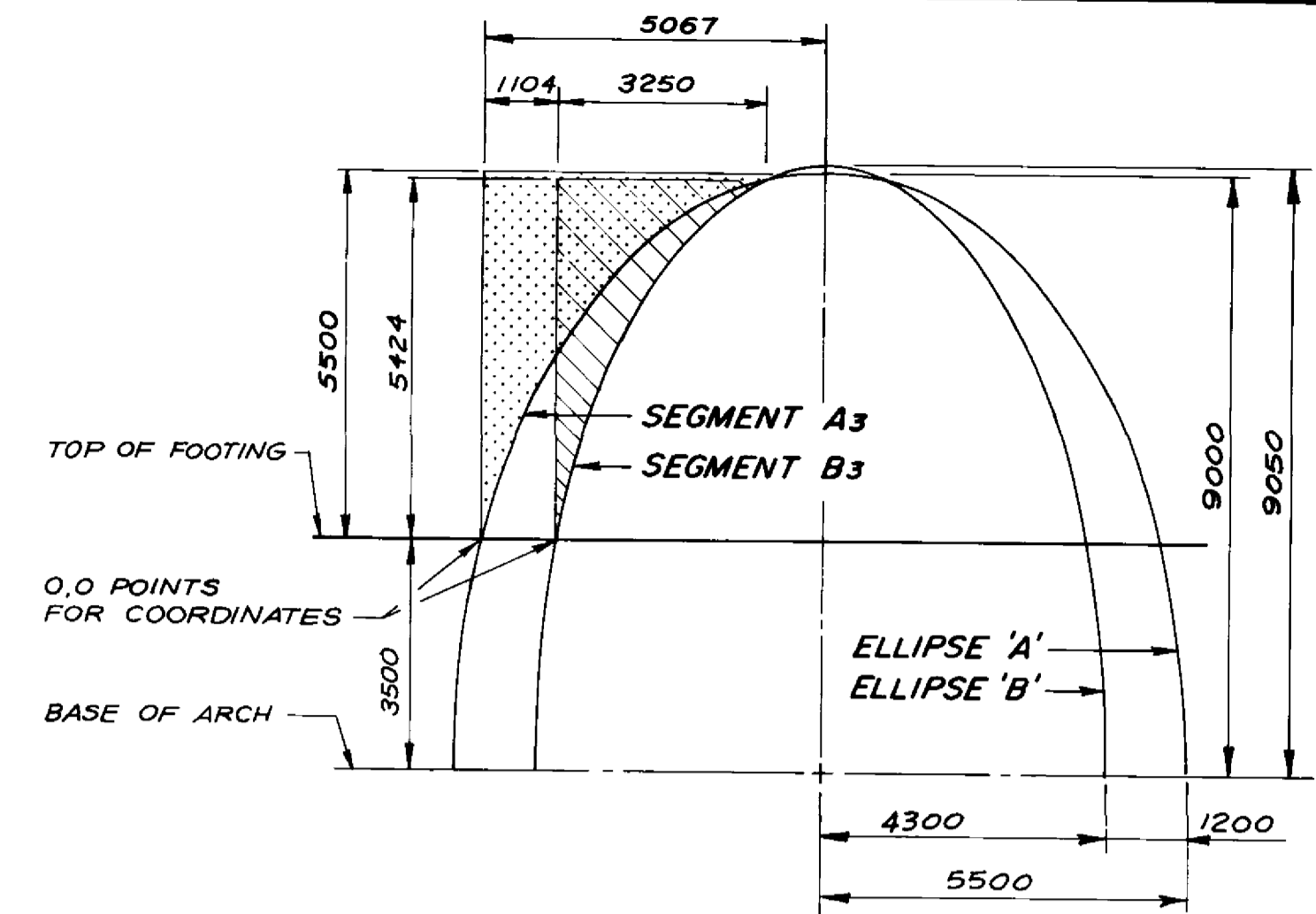
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE

RIVER PIER SU-3
SHEET 1 OF 2

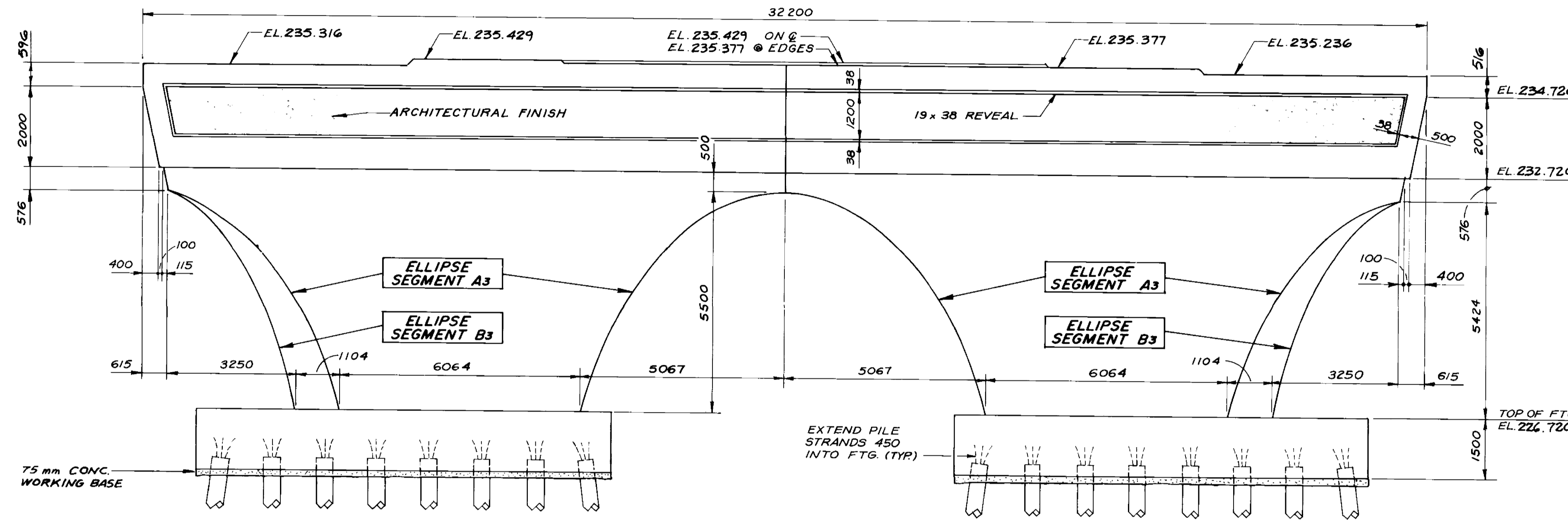
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SHEET OF: B-5828-23



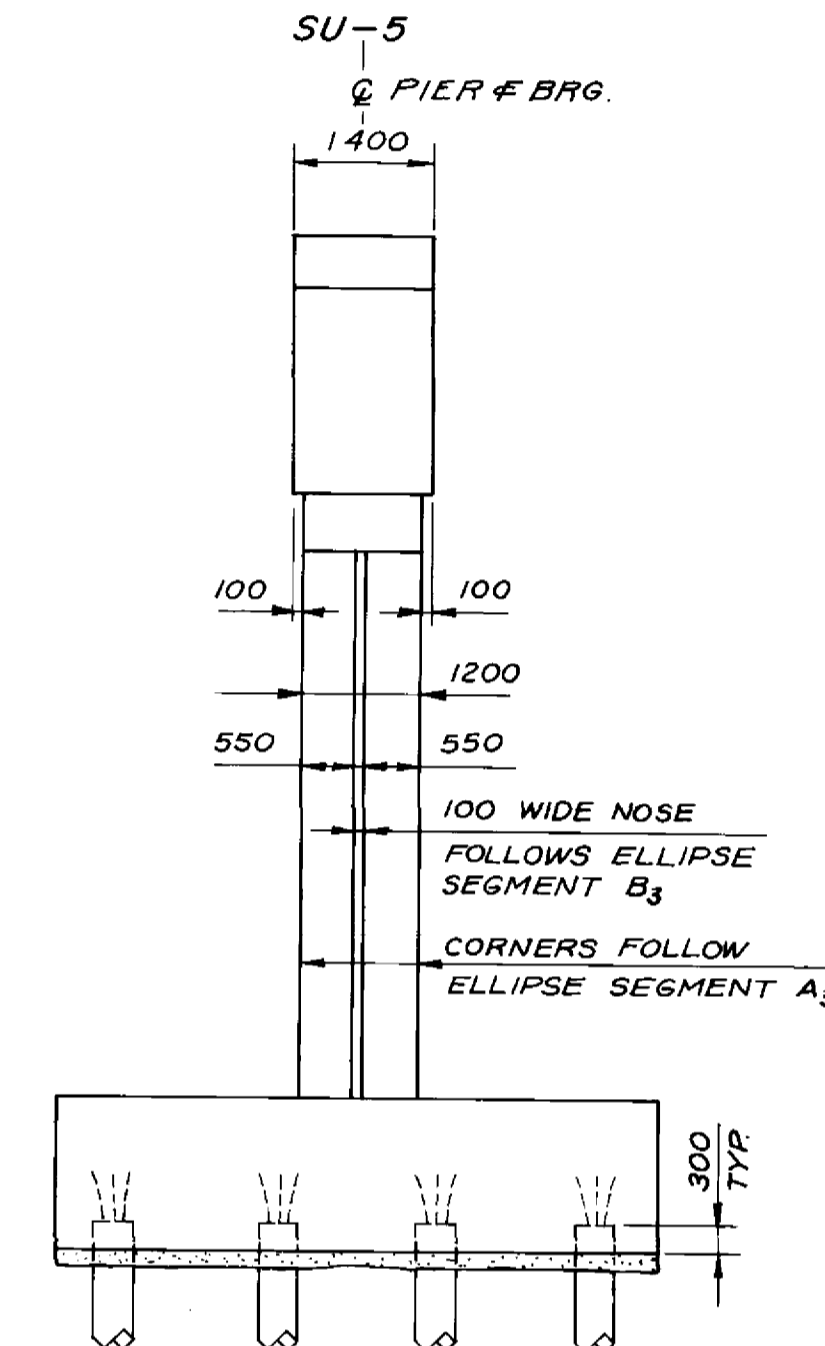
TOP OF PIER PLAN
1:75



ELLIPSE GEOMETRY

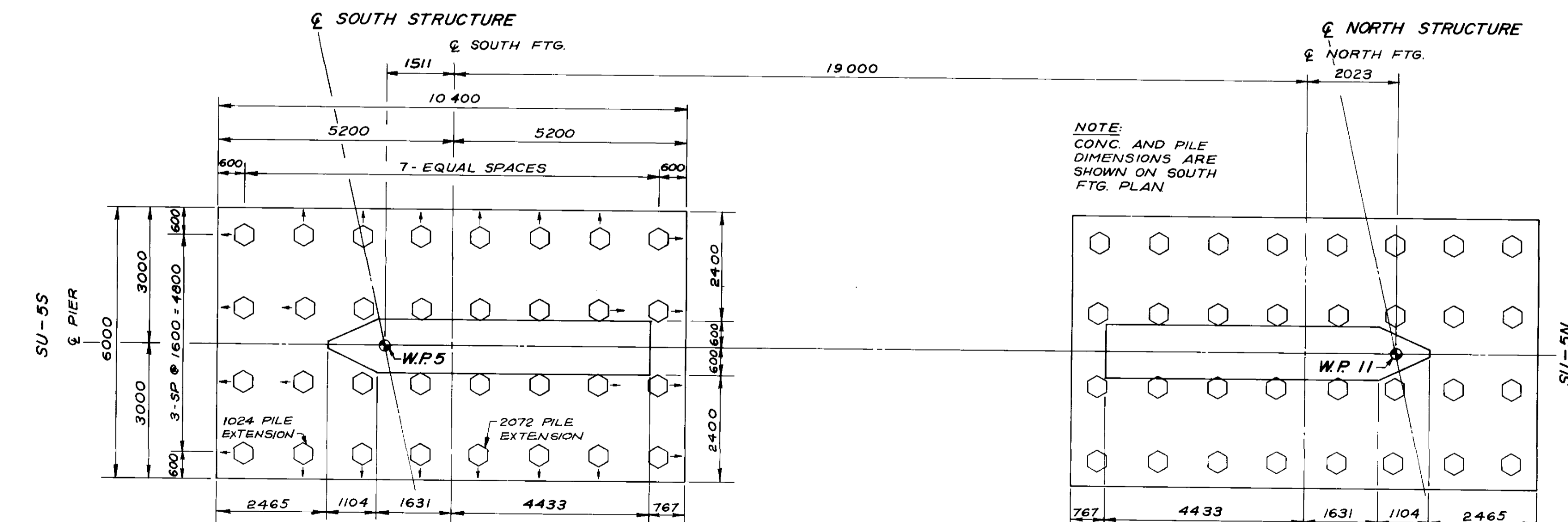


EAST SIDE ELEVATION
1:75

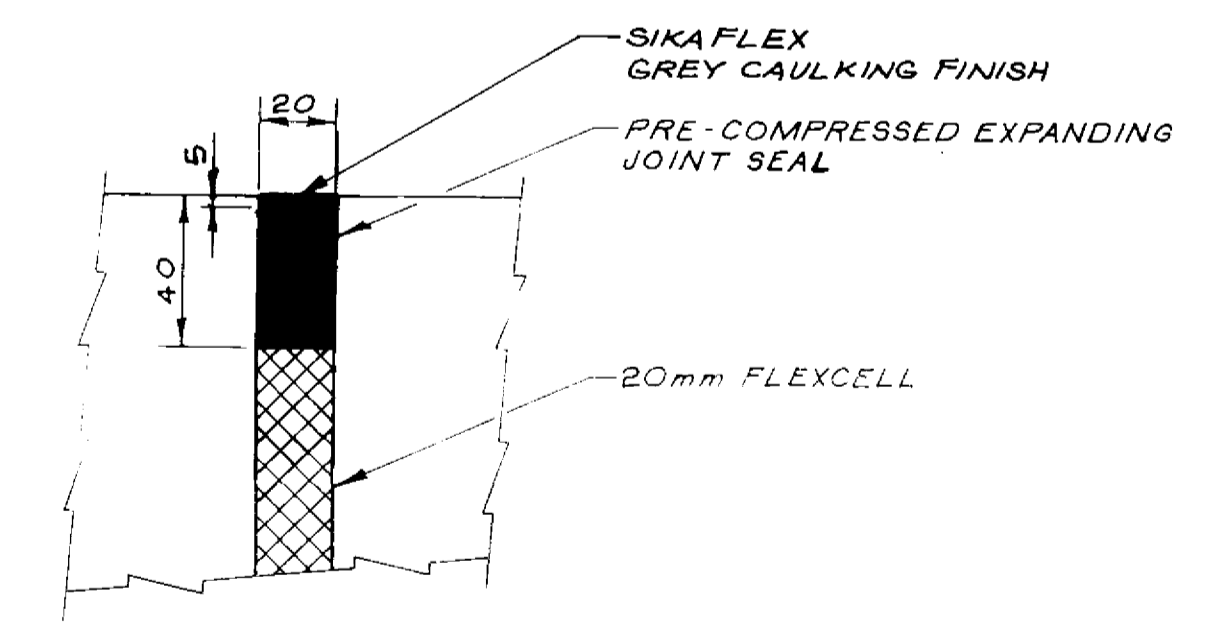


END ELEVATION
1:75

VERTICAL	HORIZONTAL	
	SEGMENT A3	SEGMENT B3
5500	5067	
5424	4354	3250
5250	3780	2867
5000	3259	2489
4750	2869	2197
4500	2547	1955
4250	2271	1744
4000	2027	1558
3750	1808	1391
3500	1610	1240
3250	1429	1101
3000	1263	973
2750	1109	855
2500	968	746
2250	836	644
2000	714	550
1750	600	462
1500	494	381
1250	395	305
1000	304	234
750	219	169
500	140	108
250	67	52
0	0	0



FOOTING PLAN
1:75



JOINT DETAIL
1:20

NOTE
- ALL PILES ARE 400 HEX. PRECAST CONC. PILES
- SUPPLY 32 PILES x 17.0m LONG FOR EA. FTG.
- PILES ARE BATTERED 1:8 IN DIRECTION OF ARROW WAY
- FOR CONCRETE PILE EXTENSION DETAIL SEE DWG. - OBS.

NO	REVISIONS	DATE	BY
1	BRIDGE RAISED TO INCREASE MAX CLEARANCE	2/16/89	D.M.W.

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: D.S.
DRAWN BY: W.P.S. & S.K.B.
CHECKED BY: S.S.R.
APPROVED BY: [Signature]
AUTHORIZED BY: [Signature]
HOR SCALE: AS SHOWN
VERTICAL: [Signature]
DATE: MAR. 1989

ENGINEER'S SEAL
REGISTERED ENGINEER
S.S. RIHAL
24/2/89
1989-08-07
ACCEPTED BY: [Signature]
DATE: [Signature]

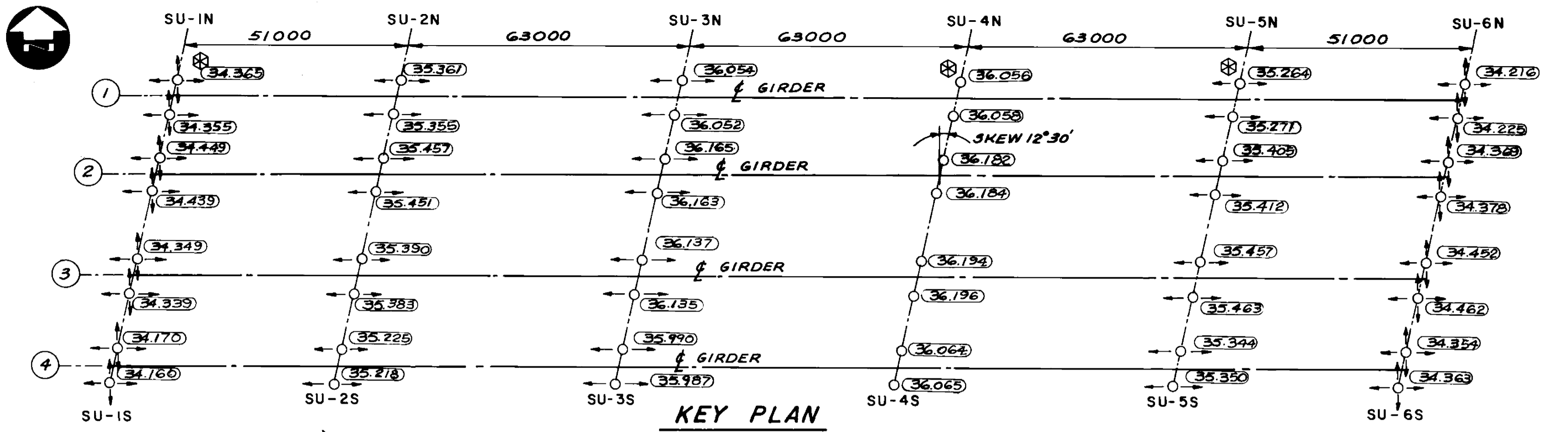
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE

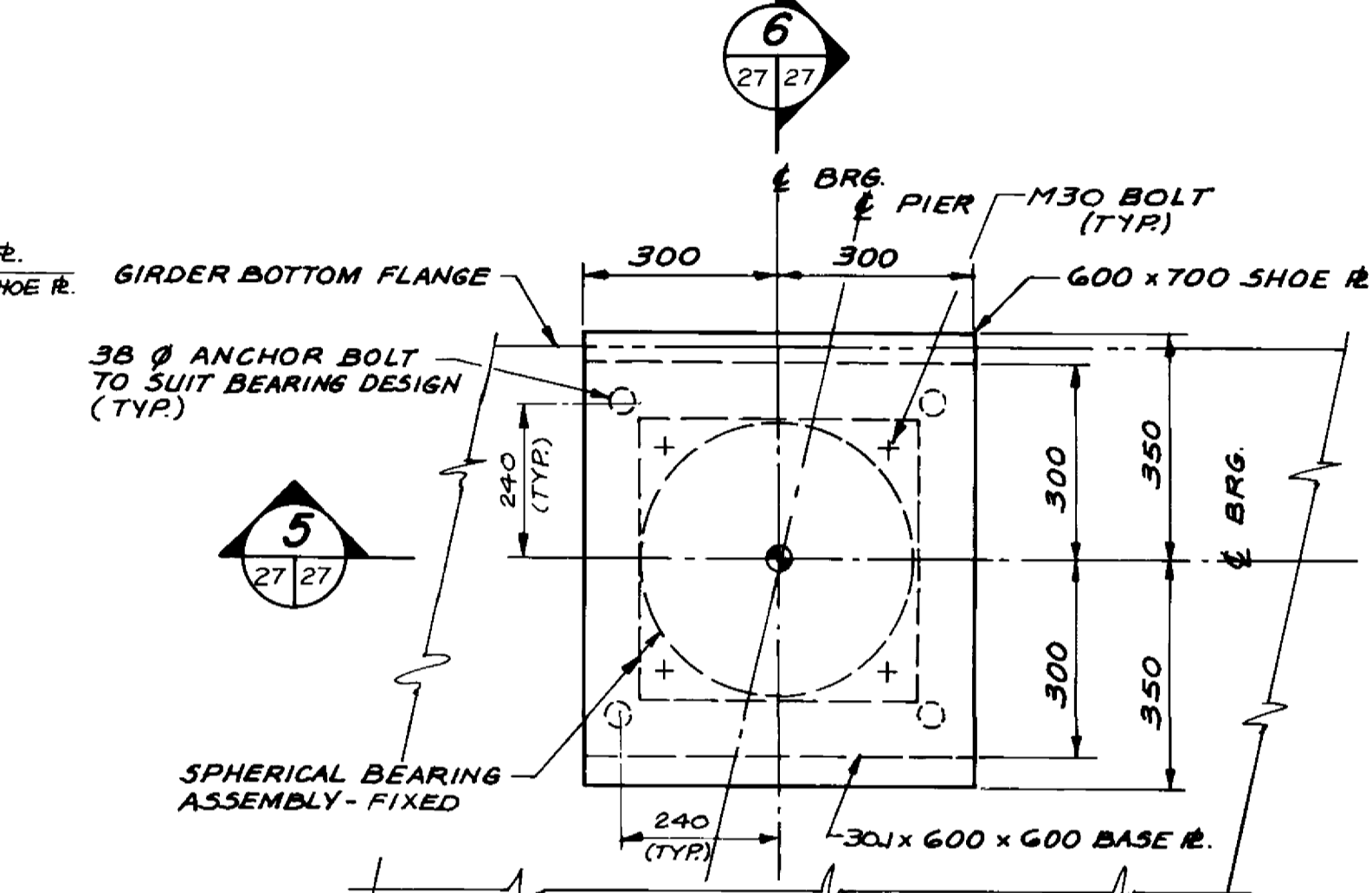
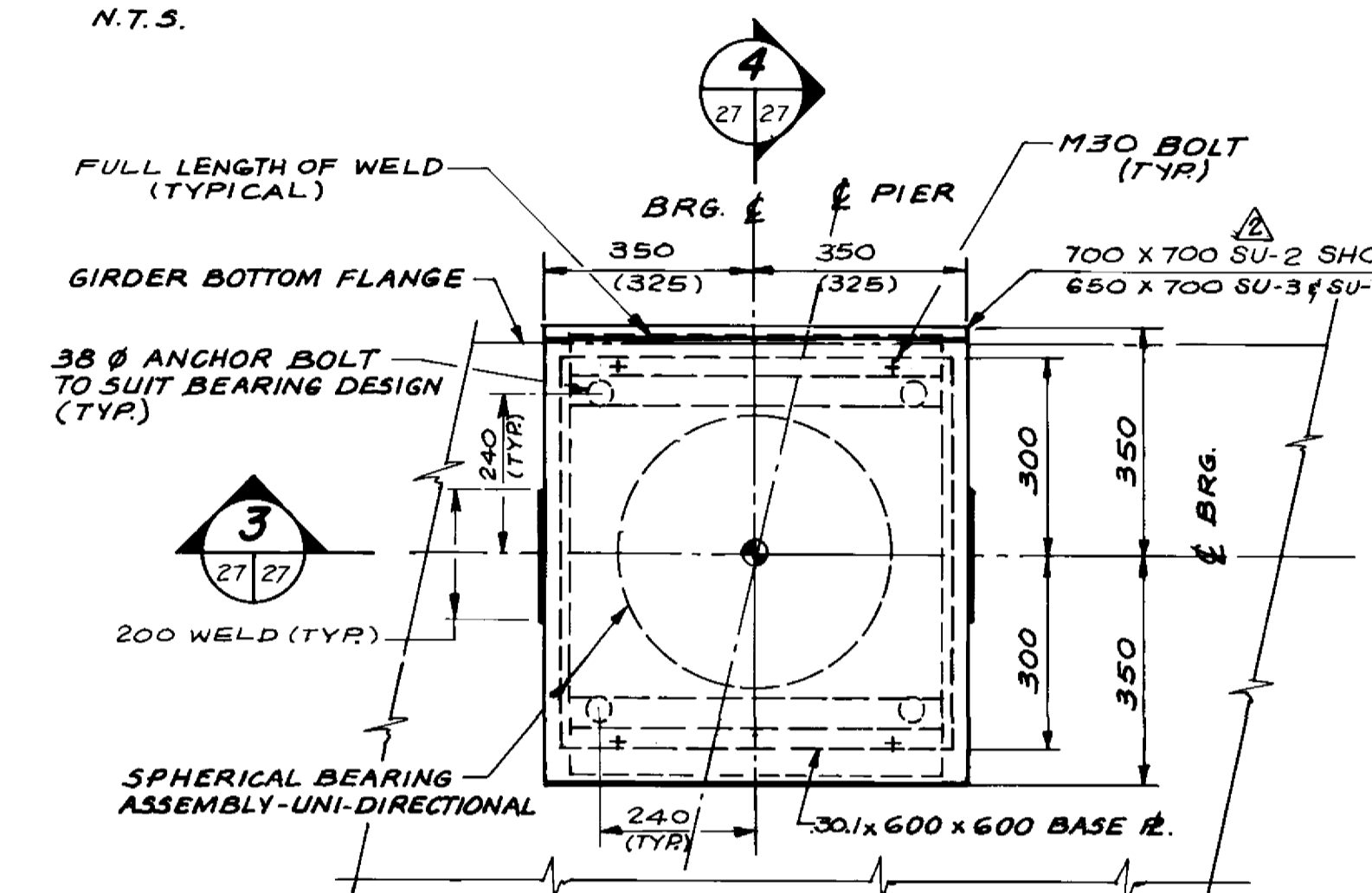
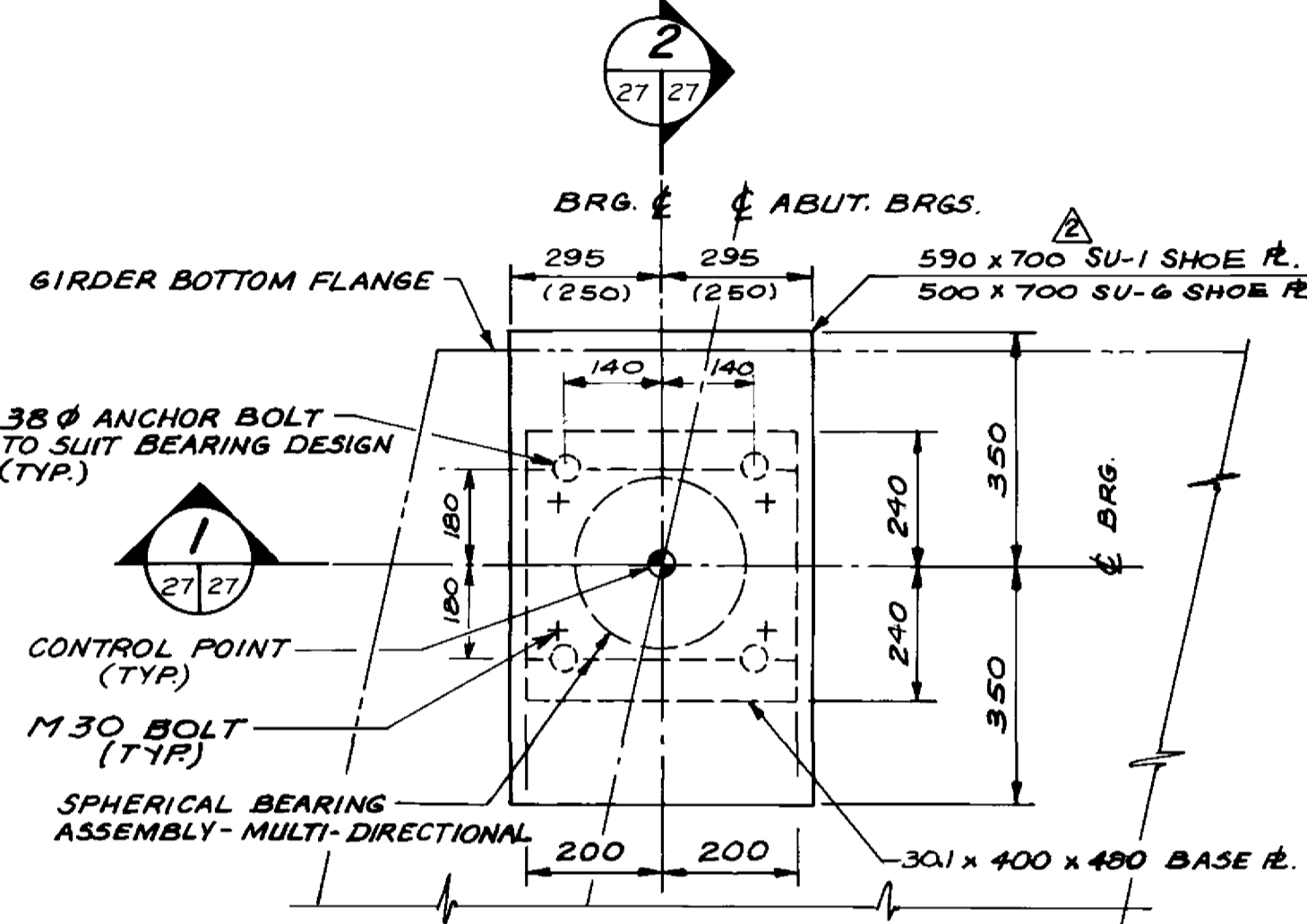
LAND PIER SU-5
SHEET 1 OF 2

CITY DRAWING NUMBER: B216-89-25S
SHEET OF: [Blank]
B-5828-27

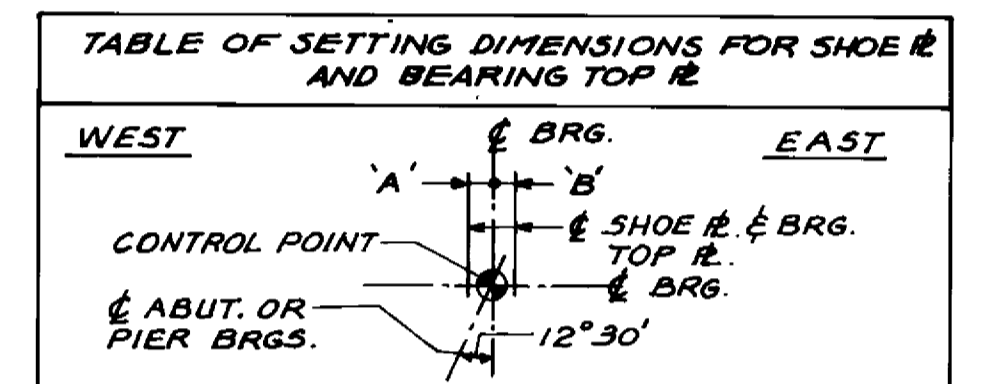
RECORD DRAWING
APPROVED BY: [Signature] DATE: 20.11.28



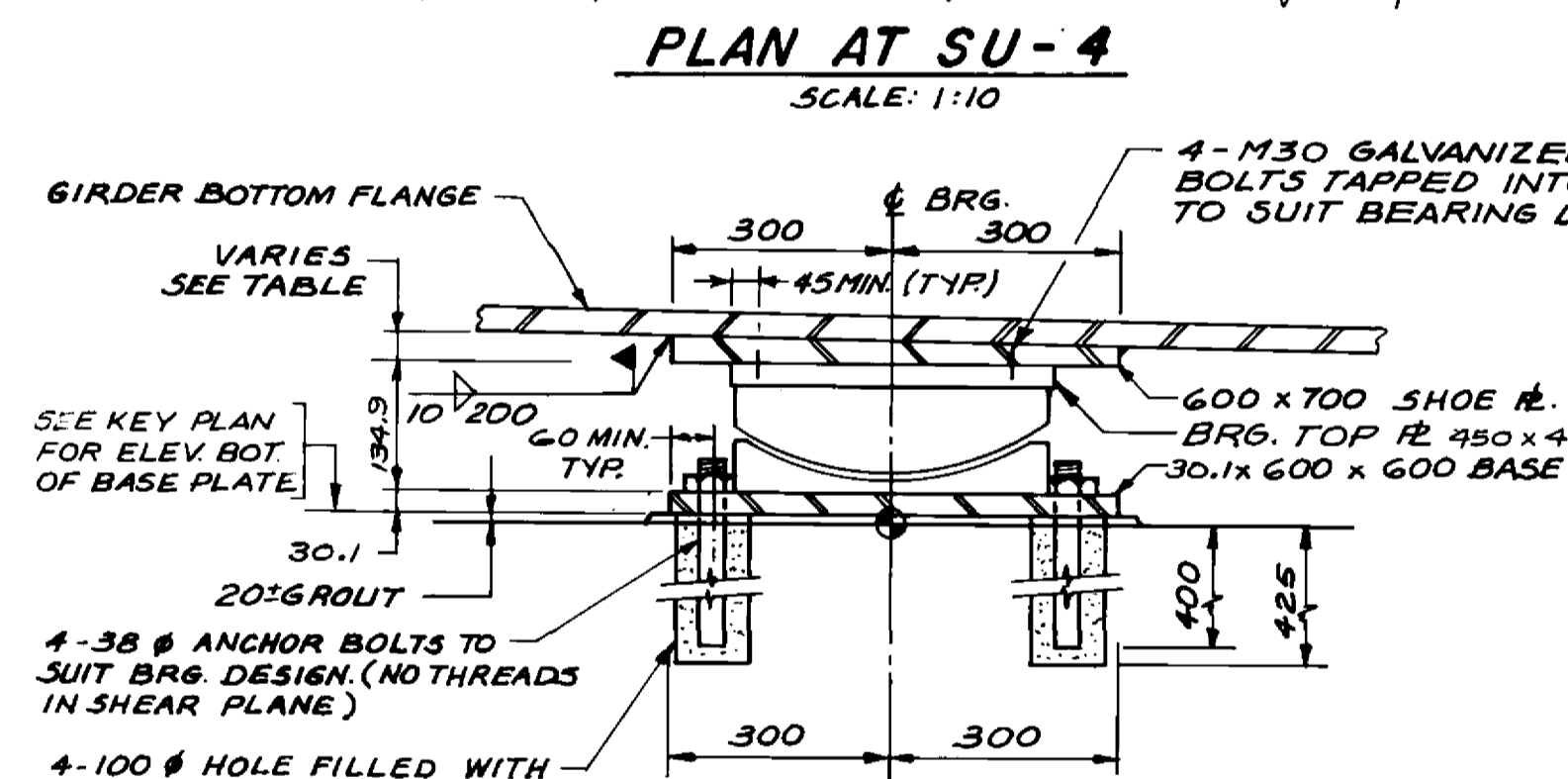
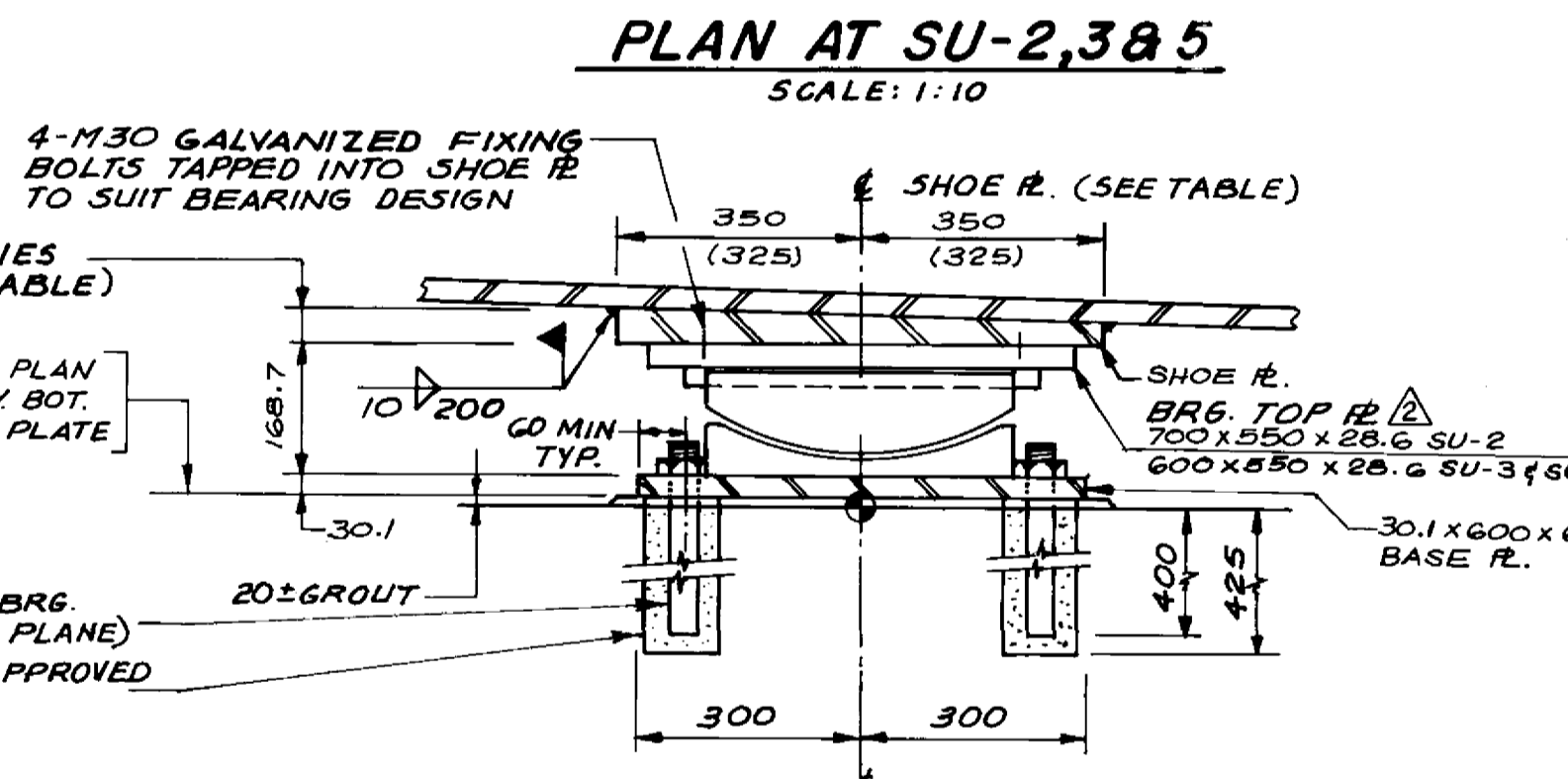
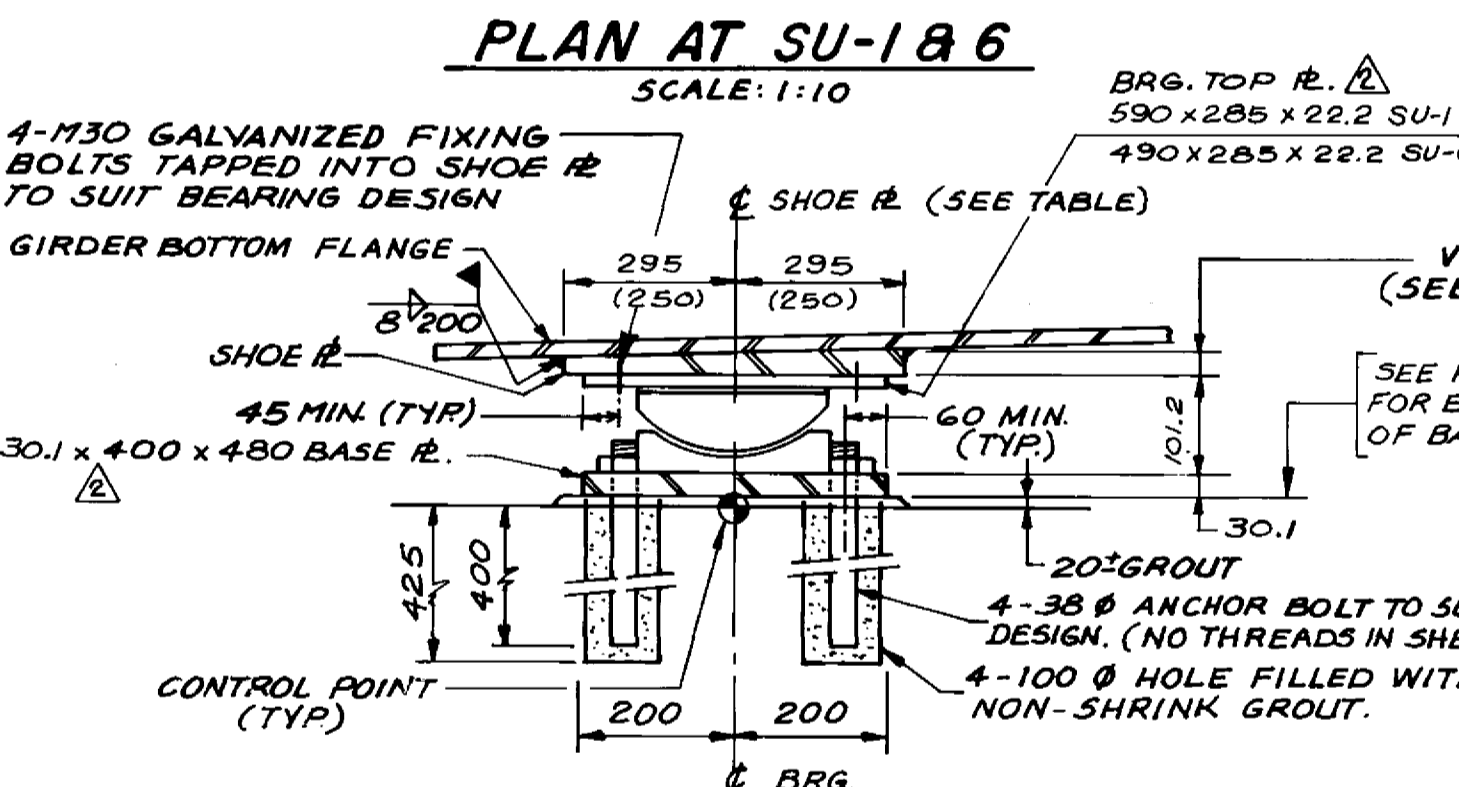
BEARING DESIGN DATA									
LOCATION	BEARING TYPE	DEAD LOAD (KN)	DEAD + LIVE LOAD (KN)	MAX. HORIZ. LOAD (KN)		MAX. ROTATION (RAD)	MAXIMUM MOVEMENT (mm)		QTY.
				LONGIT.	TRANS.		LONGIT.	TRANS.	
SU-1	MULTI-DIR.	636	1051	-	-	±0.012	±144	±4	8
SU-2	UNI-DIR.	2330	3270	-	139	±0.009	±102	-	8
SU-3	UNI-DIR.	2391	3350	-	139	±0.009	±50	-	8
SU-4	FIXED	2391	3350	182	139	±0.009	-	-	8
SU-5	UNI-DIR.	2330	3270	-	139	±0.009	±53	-	8
SU-6	MULTI-DIR.	636	1051	-	-	±0.012	±95	±4	8



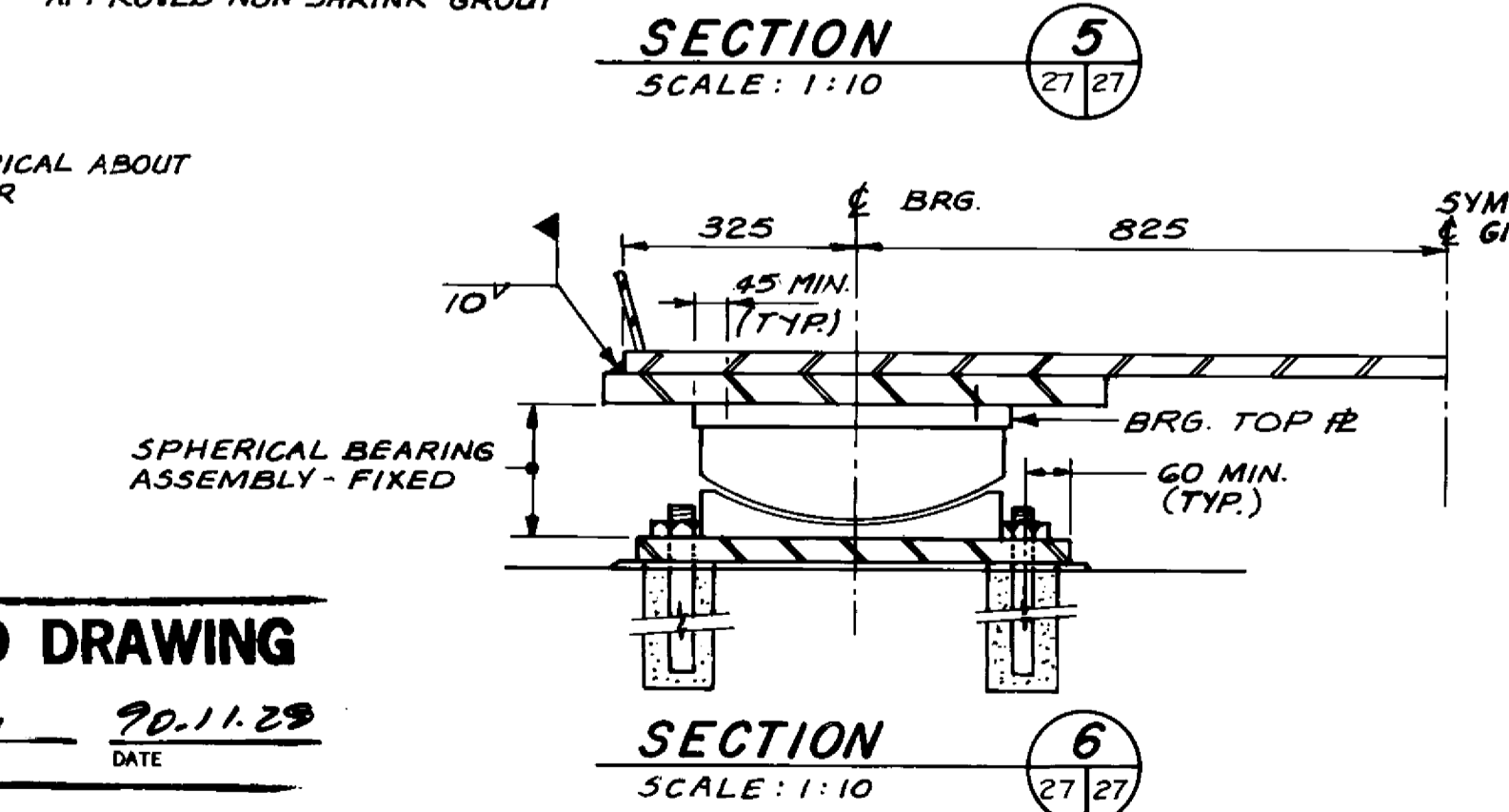
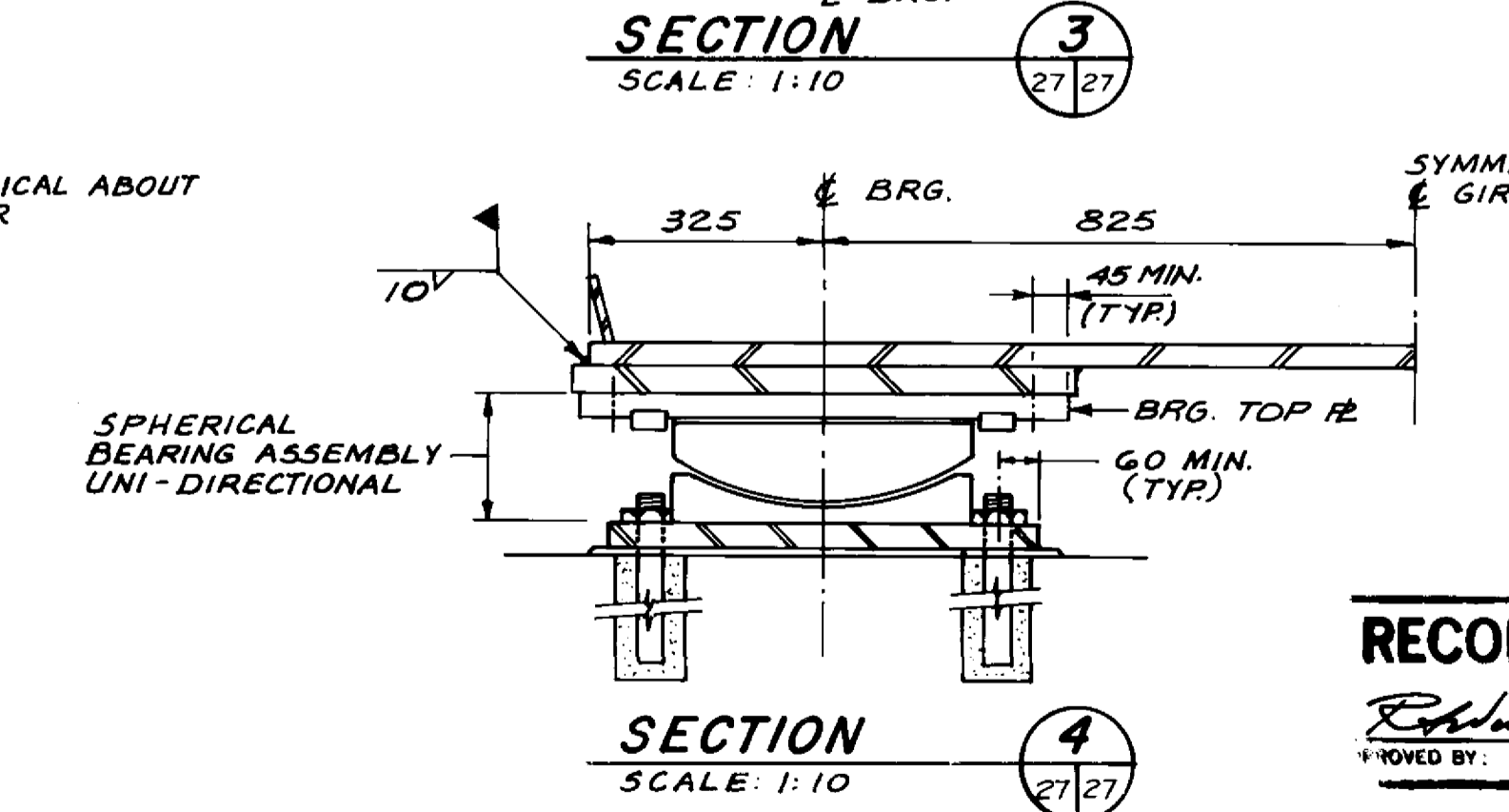
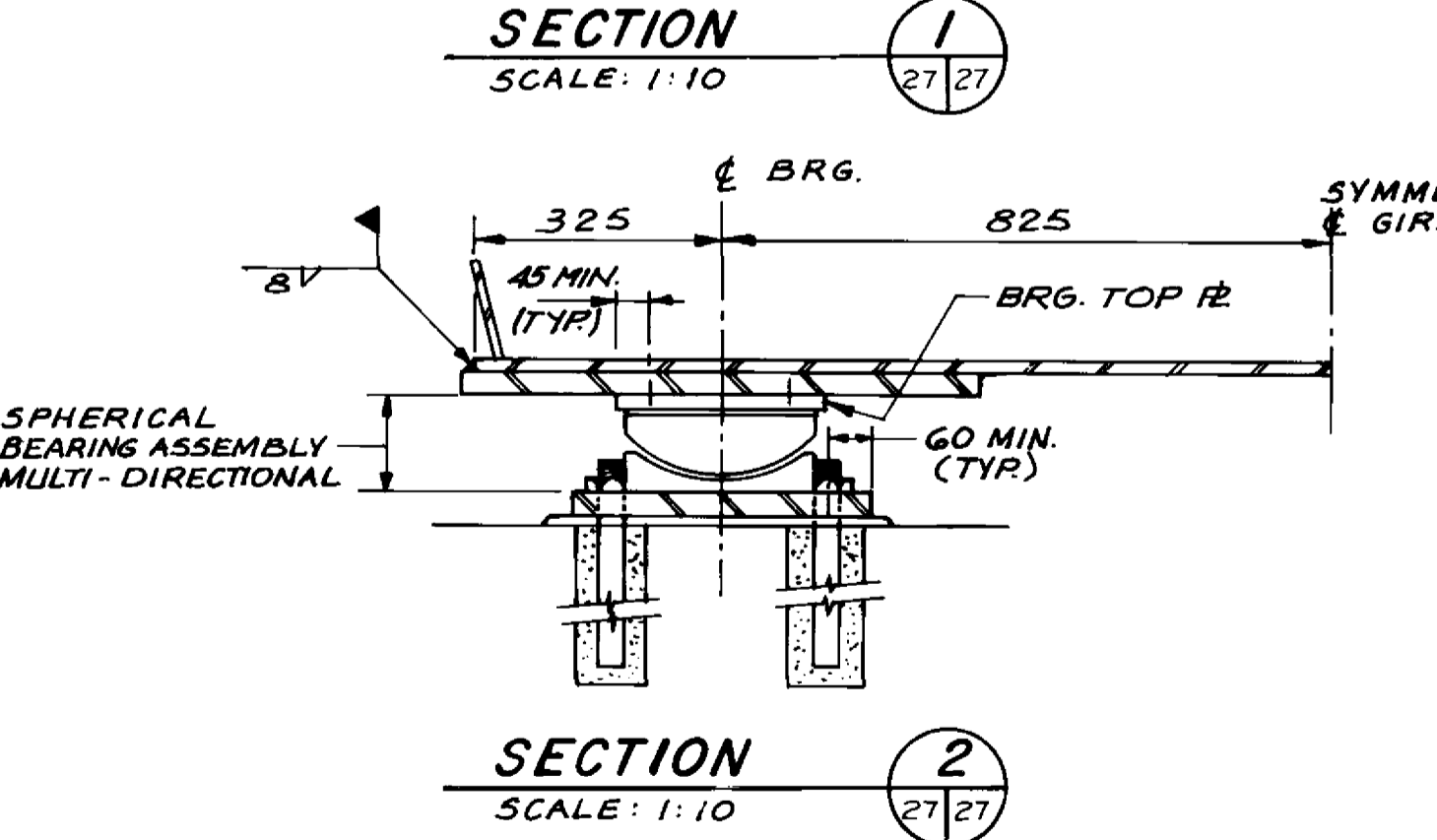
SHOE PLATE THICKNESS				
LOCATION	'X'	'Y'	WEST EAST	
			SU-1	25
SU-2	32	43		
SU-3	32	36		
SU-4	36	32		
SU-5	43	32		
SU-6	38	25		



LOC.	SU-1		SU-2		SU-3, 4 & 5		SU-6	
	'A'	'B'	'A'	'B'	'A'	'B'	'A'	'B'
-10	-	21	-	15	0	0	14	-
-5	-	10	-	7	0	0	7	-
0	-	0	-	0	0	0	0	-
5	10	-	7	-	0	0	-	7
10	21	-	15	-	0	0	-	14
15	31	-	22	-	0	0	-	21
20	41	-	29	-	0	0	-	27
25	51	-	37	-	0	0	-	34



- NOTES:
- BEARING HEIGHTS SHOWN MAY BE MODIFIED BY BEARING MANUFACTURER SUBJECT TO CONTRACT ADMINISTRATOR'S APPROVAL. THE CONTRACTOR SHALL ADJUST BEARING SEAT ELEVATIONS AND REINFORCING STEEL TO SUIT ACTUAL HEIGHT OF BEARINGS.
 - BEARING DESIGN TO ALLOW FOR FUTURE JACKING OF BRIDGE TO A MAXIMUM OF 5mm FOR BEARING REPLACEMENT.
 - SHOE PLATE AND BEARING TOP PLATE TO BE INSTALLED IN ACCORDANCE WITH TABLE OF SETTING DIMENSIONS.
 - BEARING DESIGN SHALL ALLOW FOR AN EXTRA 50mm MOVEMENT BEYOND VALUES SPECIFIED IN DESIGN DATA TABLE.
 - BEARING FIXING BOLTS SHALL BE ASTM A325M, TYPE 1, GALVANIZED.
 - ANCHOR BOLT ASSEMBLY SHALL BE CSA G40 21-MB7, GR 300W, HOT-DIP GALV.



RECORD DRAWING
 APPROVED BY: [Signature] DATE: 90.11.29

LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.
NA	
SUPV. U/G STRUCTURES DATE	
NOTE:	
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	
DIMENSIONS CHANGED TO ACCOMMODATE BRG. MANUFACTURER BRIDGE RAISED TO INCREASE NAV CLEARANCE 27/6/89 DMW	
NO REVISIONS	

DILLON
 Consulting Engineers • Planners
 Environmental Scientists

DESIGNED BY: M.V./SS.R. CHECKED BY: C.I.D./N.B.U.
 DRAWN BY: A.G.Y. APPROVED BY: [Signature]
 HOR SCALE: AS NOTED AUTHORIZED BY: [Signature]
 VERTICAL: AS NOTED ACCEPTED BY: [Signature]

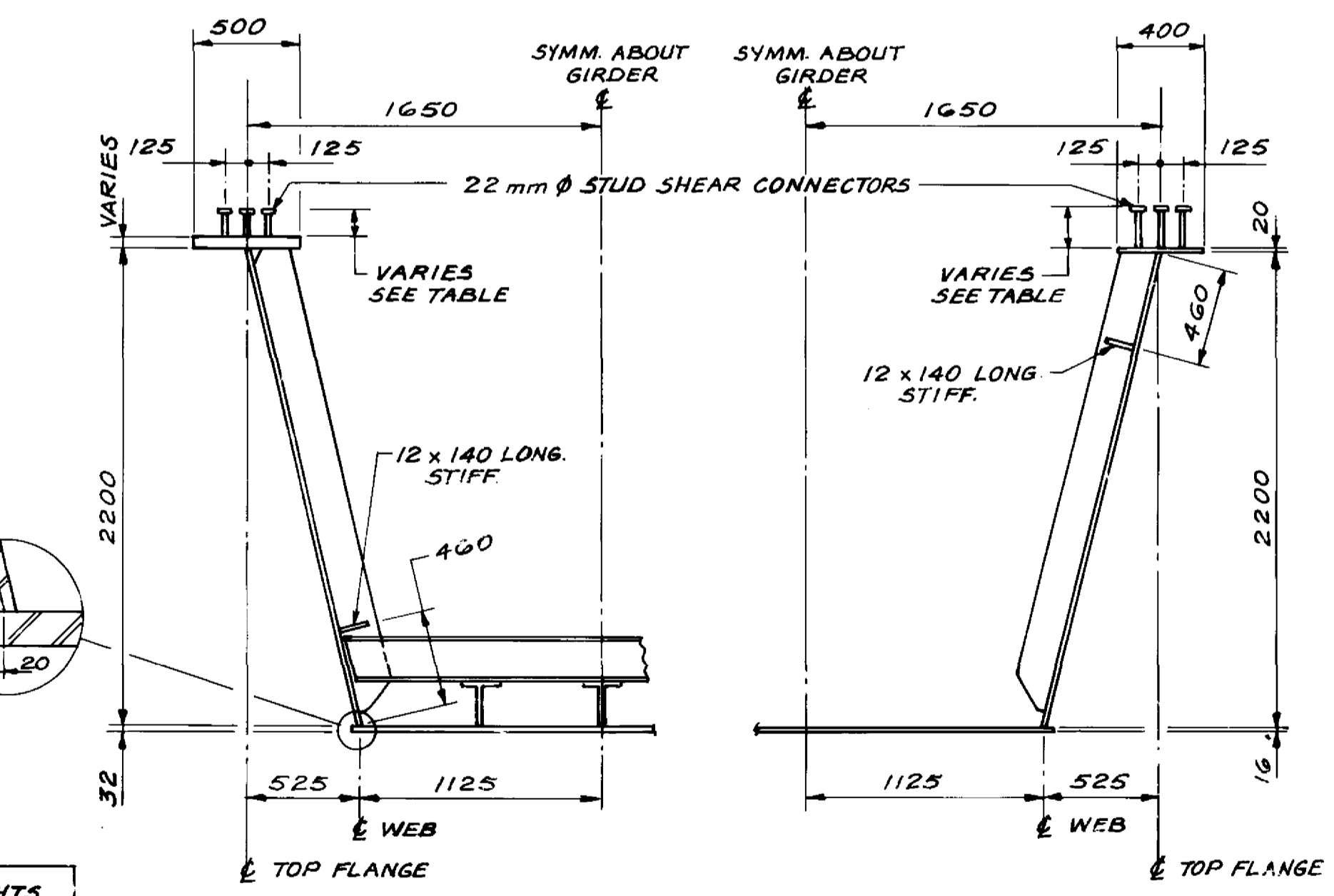
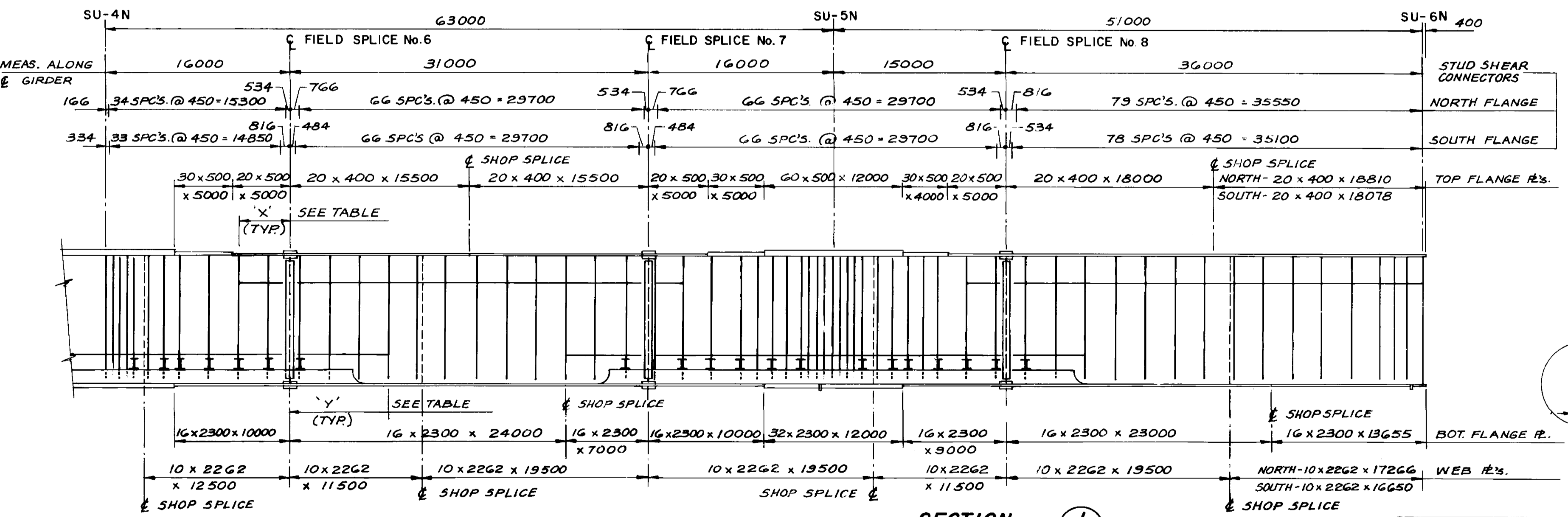
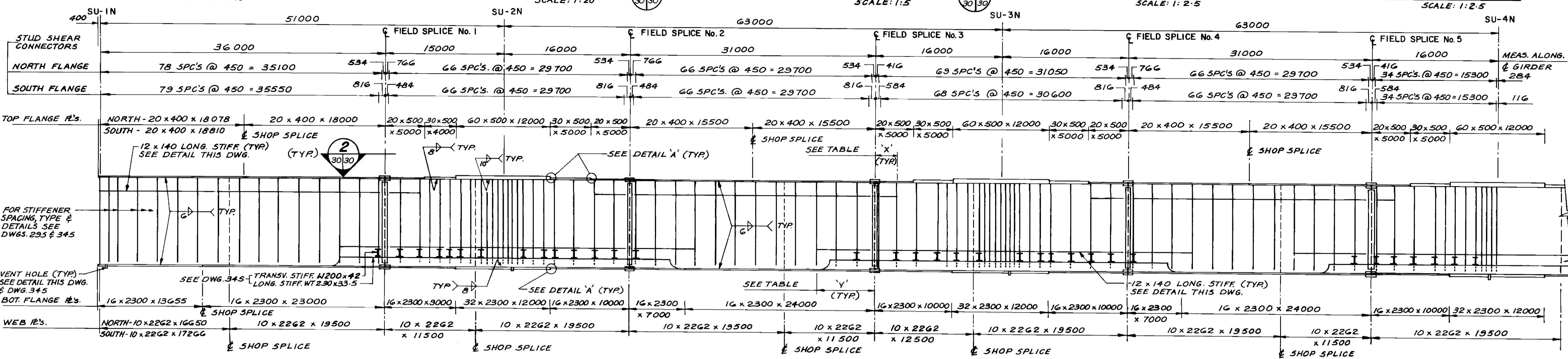
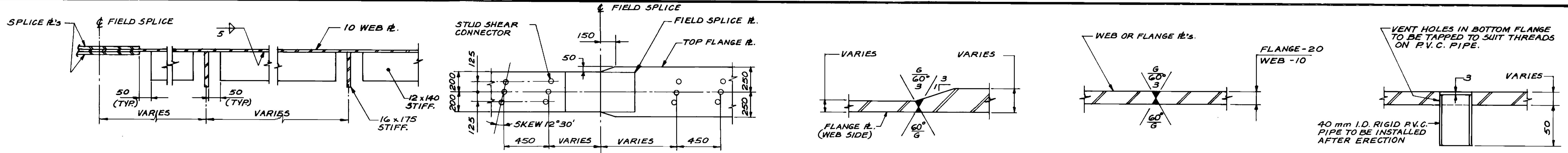
DATE: MAR. 1989

ENGINEER'S SEAL
 PROVINCE OF MANITOBA
 N.B. ULYATT
 REGISTERED ENGINEER

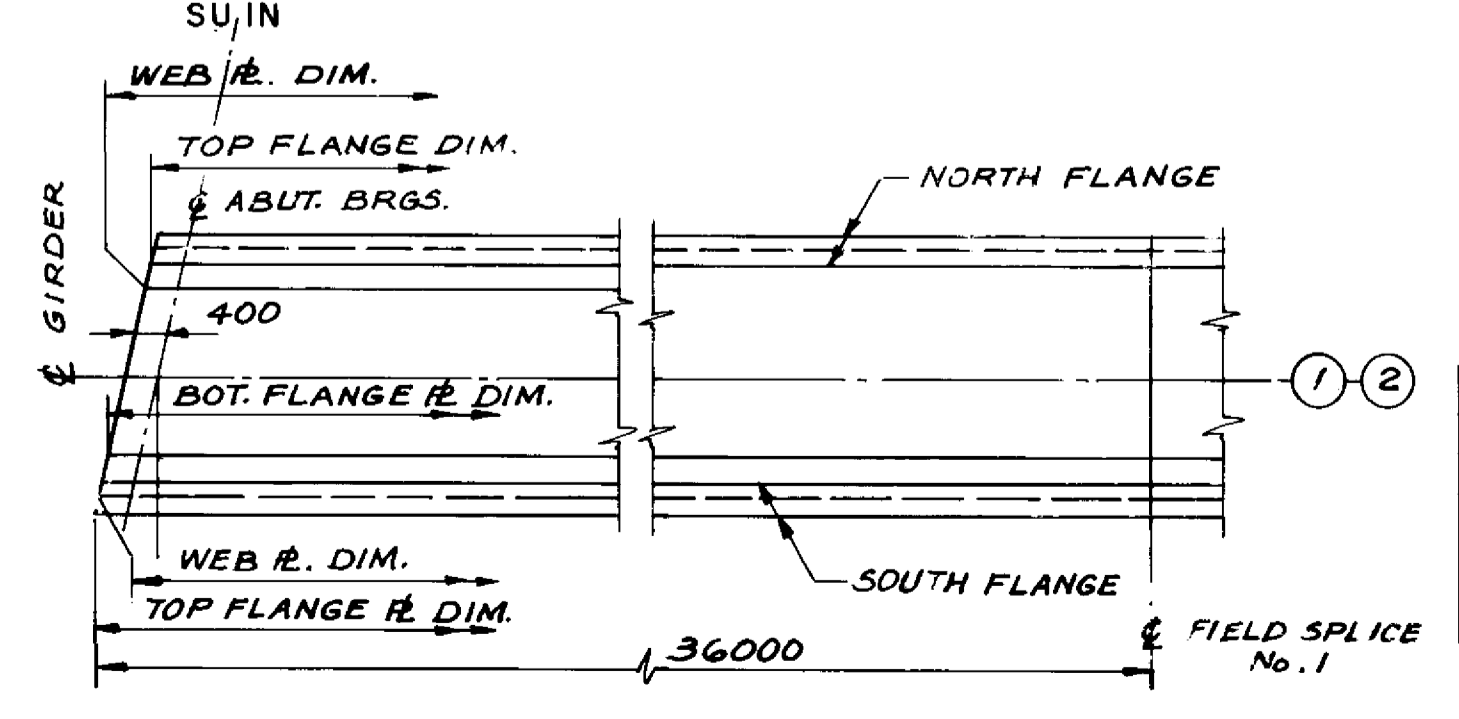
THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE

CITY DRAWING NUMBER: B216-89-27S
 SHEET OF: [Blank]
B-5828-29



FIELD SPLICE No.	GIRDER 1		GIRDER 2	
	X'	Y'	X'	Y'
1	4536	5704	3284	6956
2	4354	8446	3046	7194
3	3046	7194	4354	8446
4	4354	8446	3046	9754
5	3046	9754	4354	8446
6	4354	8446	3046	9754
7	3046	7194	4354	8446
8	3284	6956	4536	5704



RECORD DRAWING

APPROVED BY: *R. J. ...* DATE: 9/11/28

LOCATION APPROVED UNDERGROUND STRUCTURES COMMITTEE

NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT COORDINATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

SHEAR CONNECTOR HEIGHTS

FLANGE THICKNESS	NORTH FLANGE	SOUTH FLANGE
20	127	203
30	127	203
60	102	152

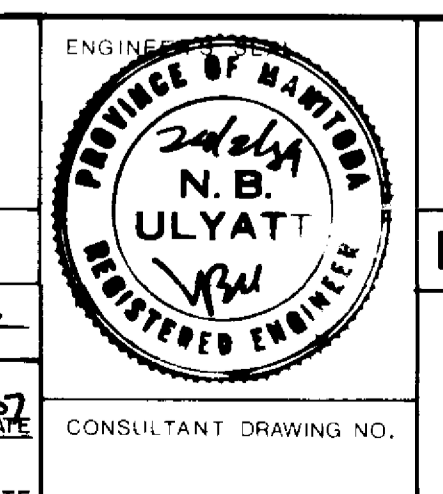
DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./SSR. CHECKED BY: C.I.D./NBU.

DRAWN BY: A.G.Y. APPROVED BY: *[Signature]*

HOR SCALE: AS NOTED. VERTICAL: AS NOTED.

ACCEPTED BY: *[Signature]* DATE: MAR. 1989



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

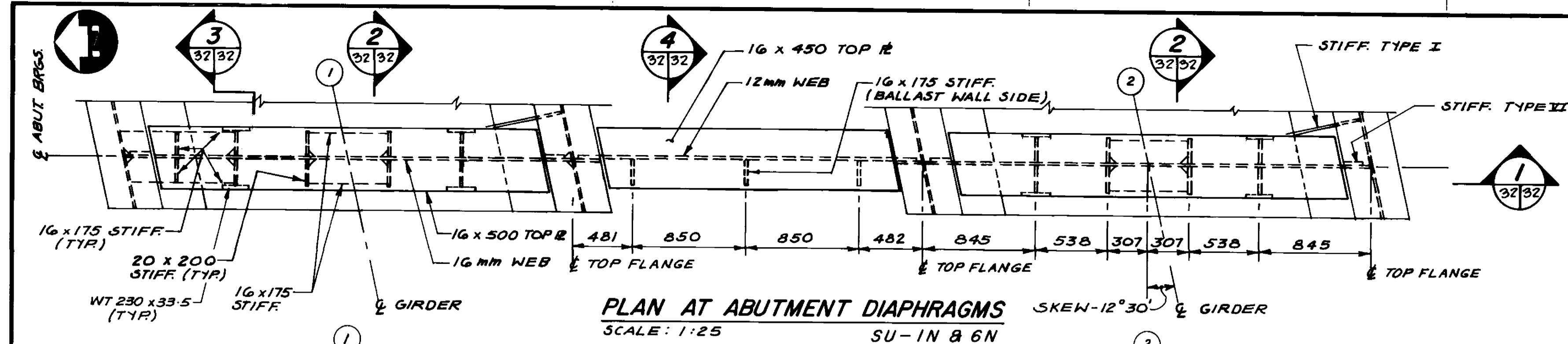
KILDONAN CORRIDOR BRIDGE

STEEL GIRDER ALTERNATIVE

GIRDERS 1 & 2

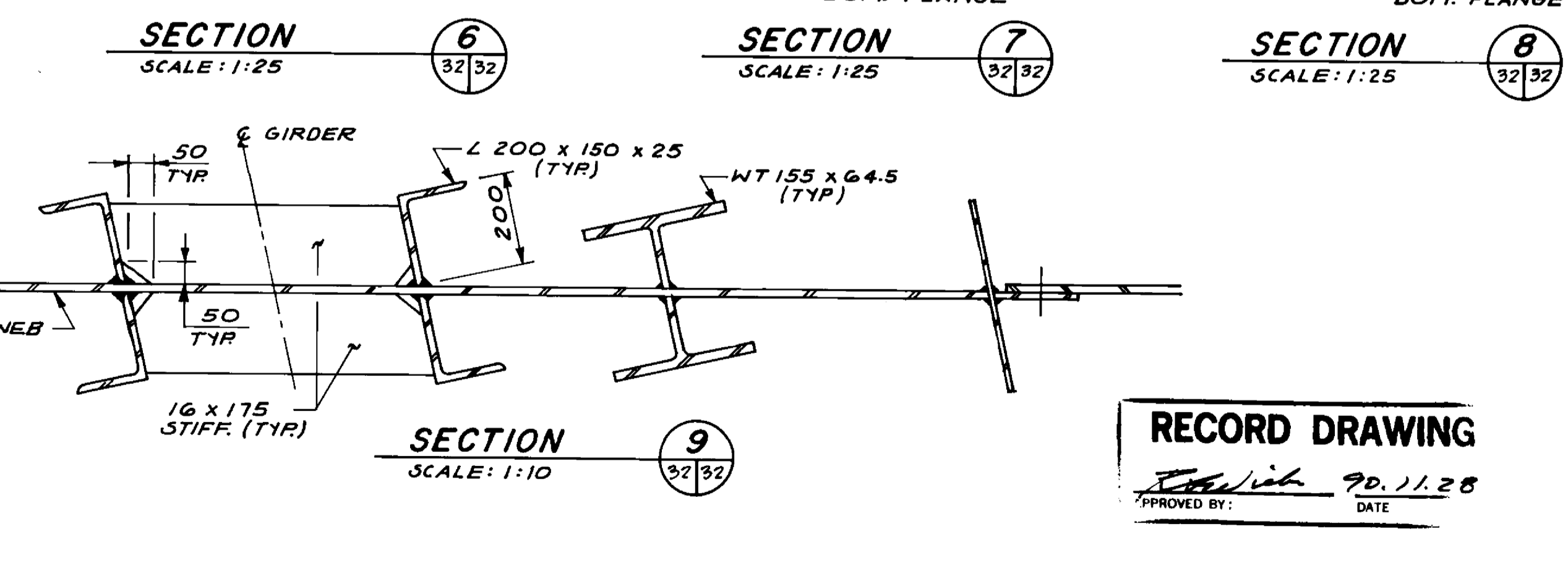
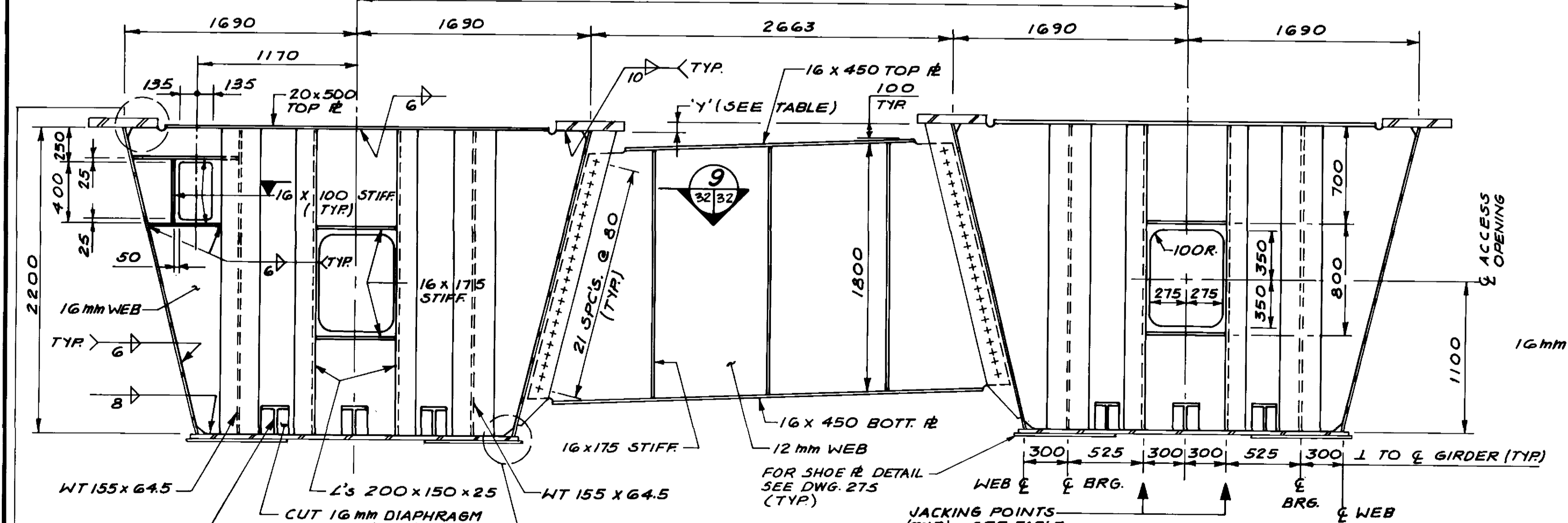
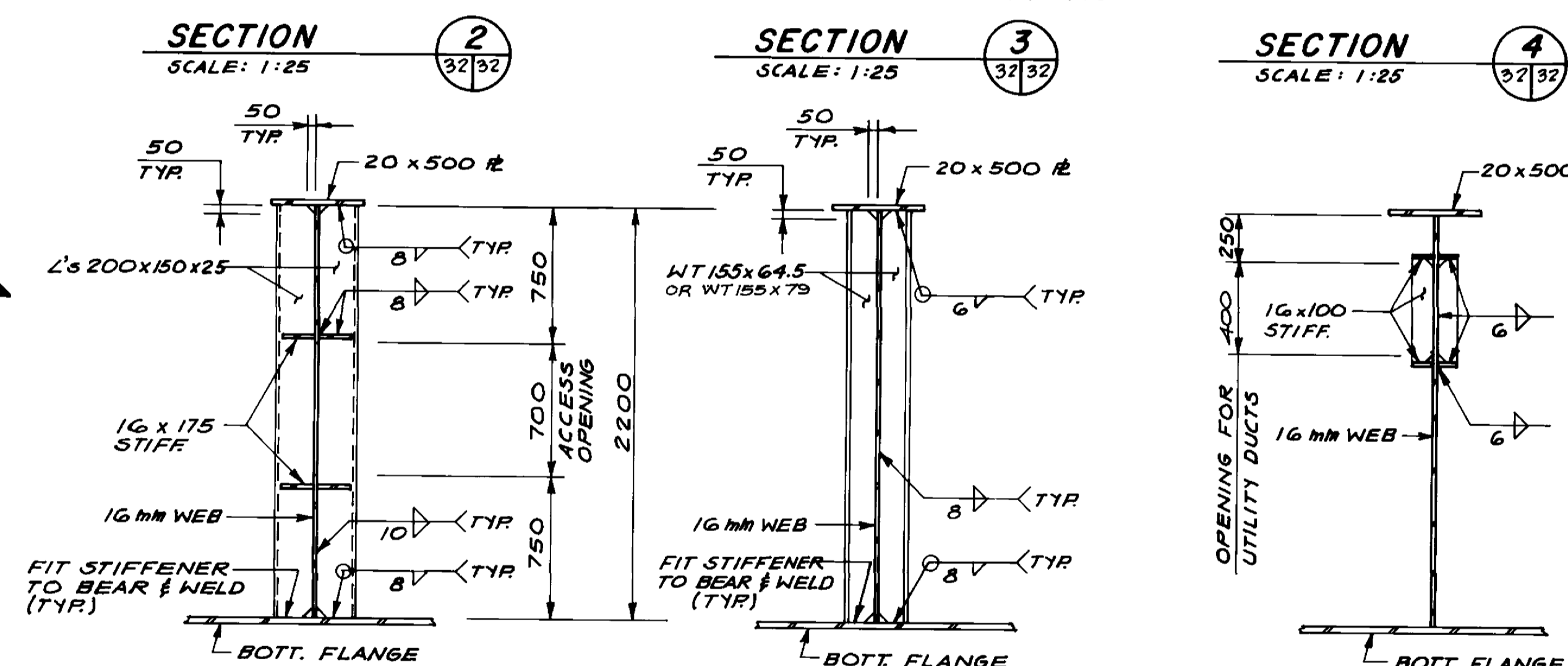
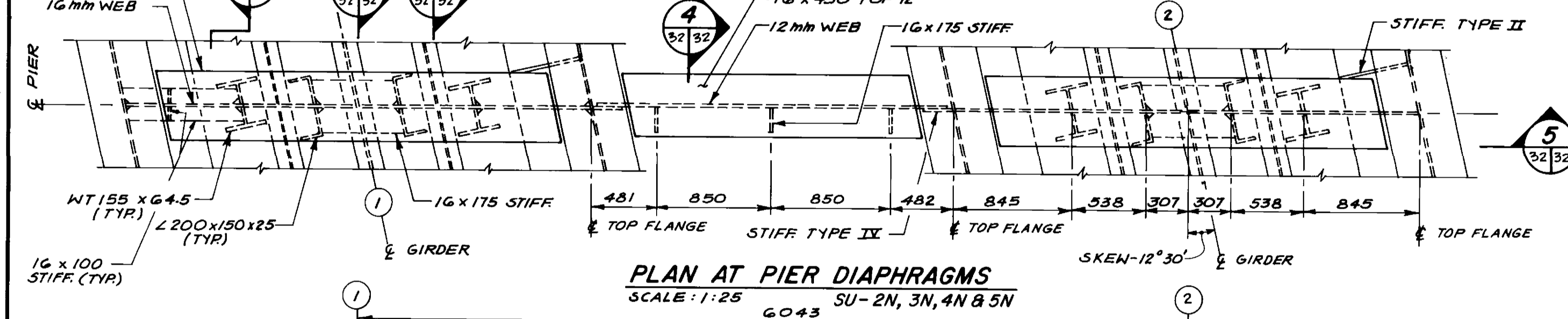
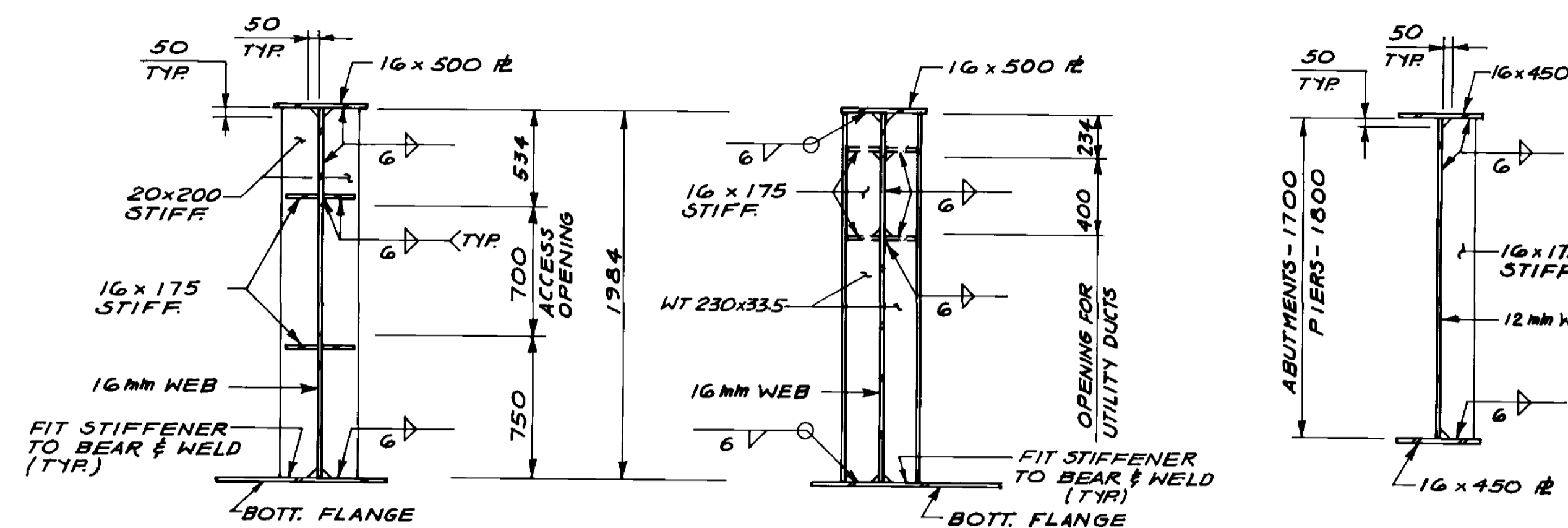
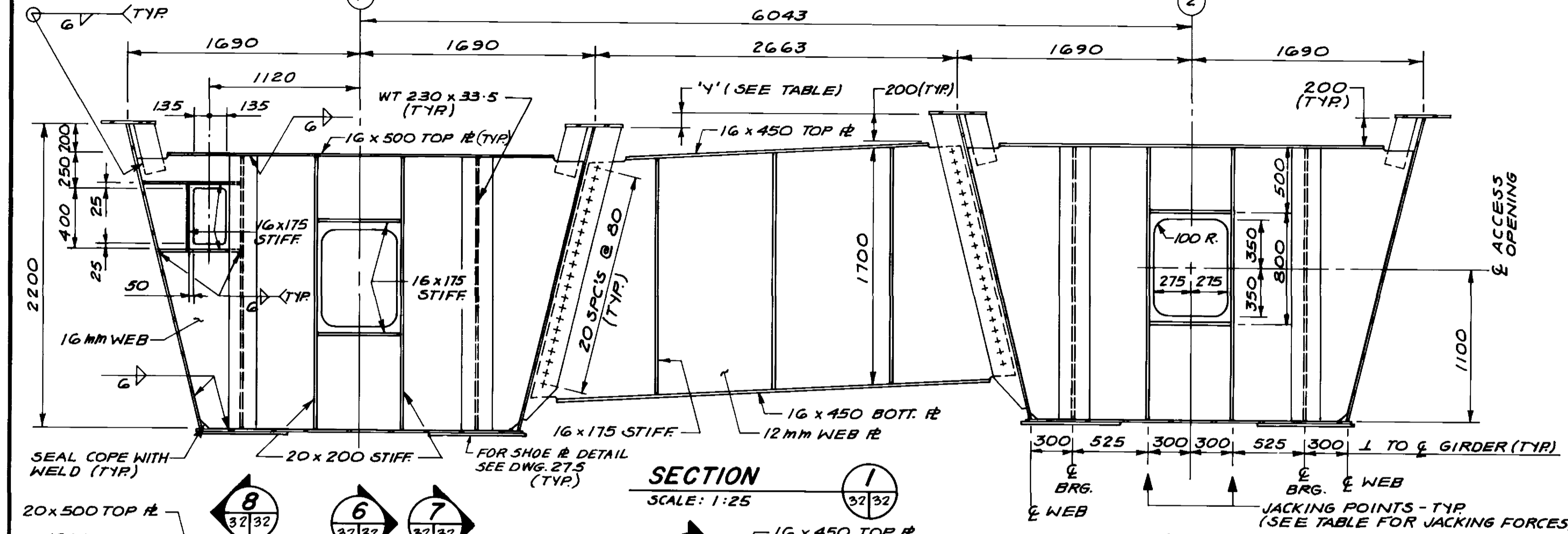
CITY DRAWING NUMBER: B216-89-30S
SHEET OF

B-5828-32



LOCATION	'y'
SU-1N	103
SU-2N	108
SU-3N	115
SU-4N	122
SU-5N	128
SU-6N	133

LOCATION	JACKING FORCES PER GIRDER
SU-1N & SU-6N	1965.5 kN
SU-2N & SU-5N	6048.0 kN
SU-3N & SU-4N	6012.0 kN



RECORD DRAWING
APPROVED BY: [Signature] DATE: 20.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

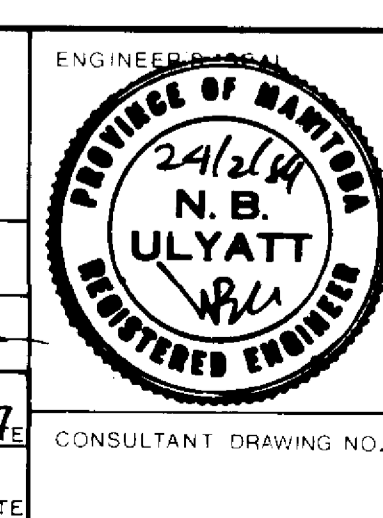
1 BRIDGE RAISED TO INCREASE NAVIGATION CLEARANCE 09-07-08 M.P.S.

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./S.S.R. CHECKED BY: C.I.D./N.B.U.
DRAWN BY: C.M.G. APPROVED BY: [Signature]

HOR SCALE: AS NOTED
VERTICAL: AS NOTED

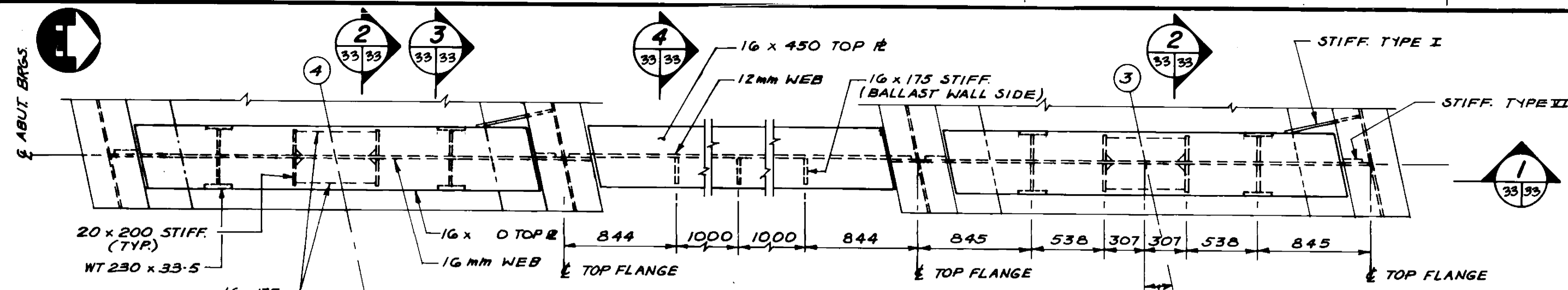
MAR. 1989



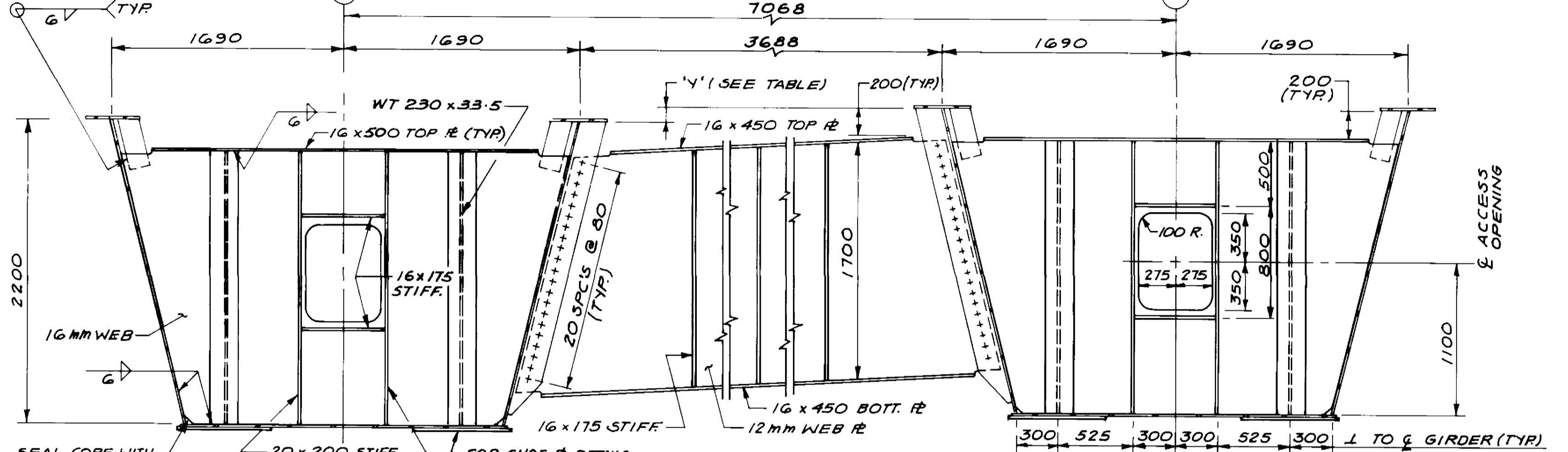
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
NORTH STRUCTURE
ABUTMENT AND PIER DIAPHRAGMS

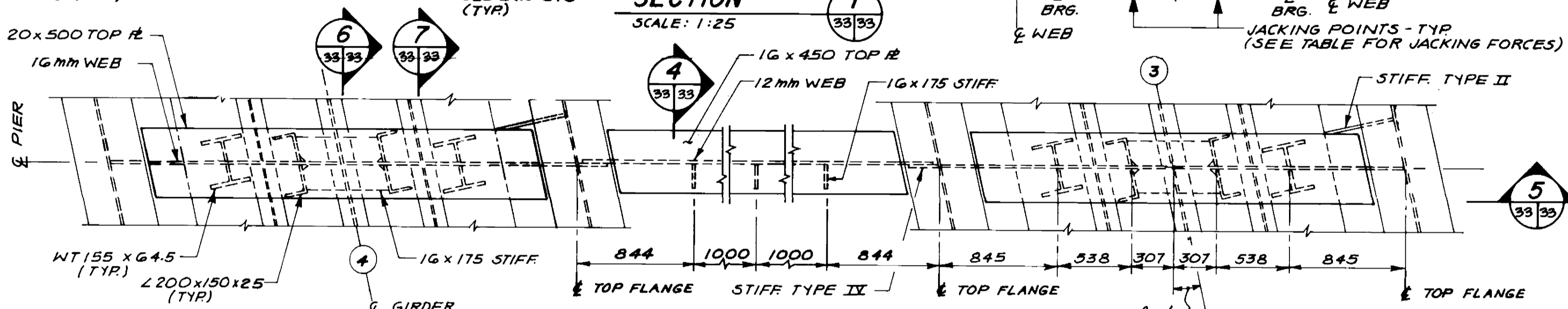
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SHEET OF: []
DATE: 20.11.28



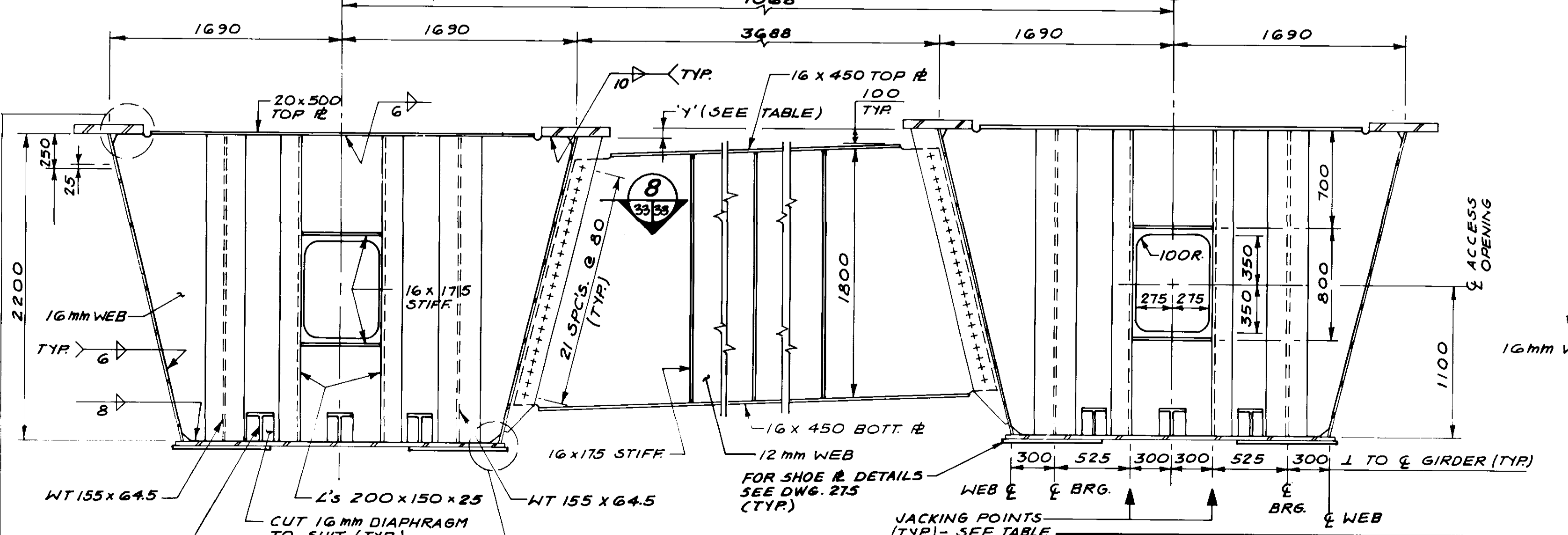
PLAN AT ABUTMENT DIAPHRAGMS
SCALE: 1:25
SU-1S & 6S



SECTION 1
SCALE: 1:25



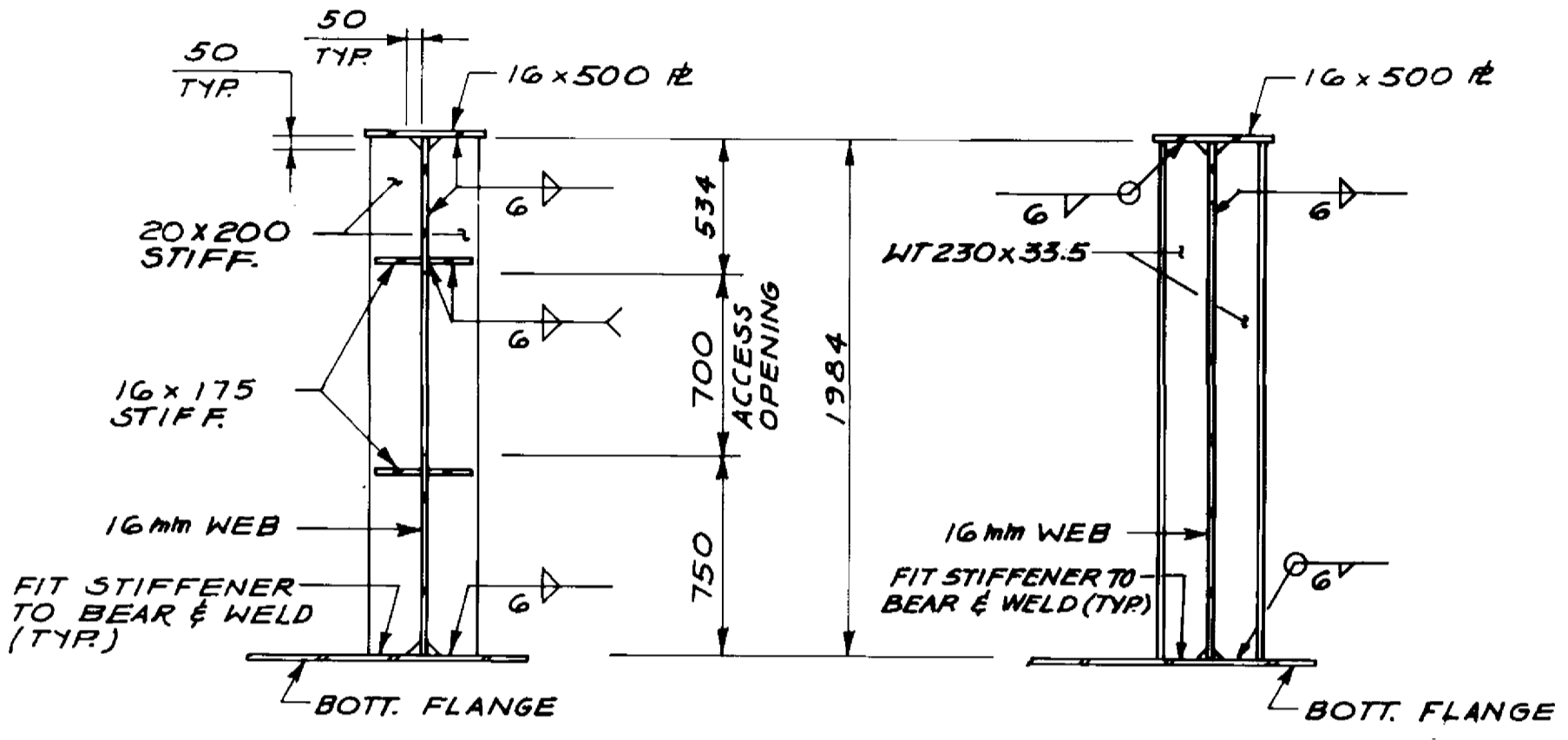
PLAN AT PIER DIAPHRAGMS
SCALE: 1:25
SU-2S, 3S, 4S & 5S



SECTION 5
SCALE: 1:25

LOCATION	'y'
SU-1S	160
SU-2S	152
SU-3S	143
SU-4S	134
SU-5S	124
SU-6S	117

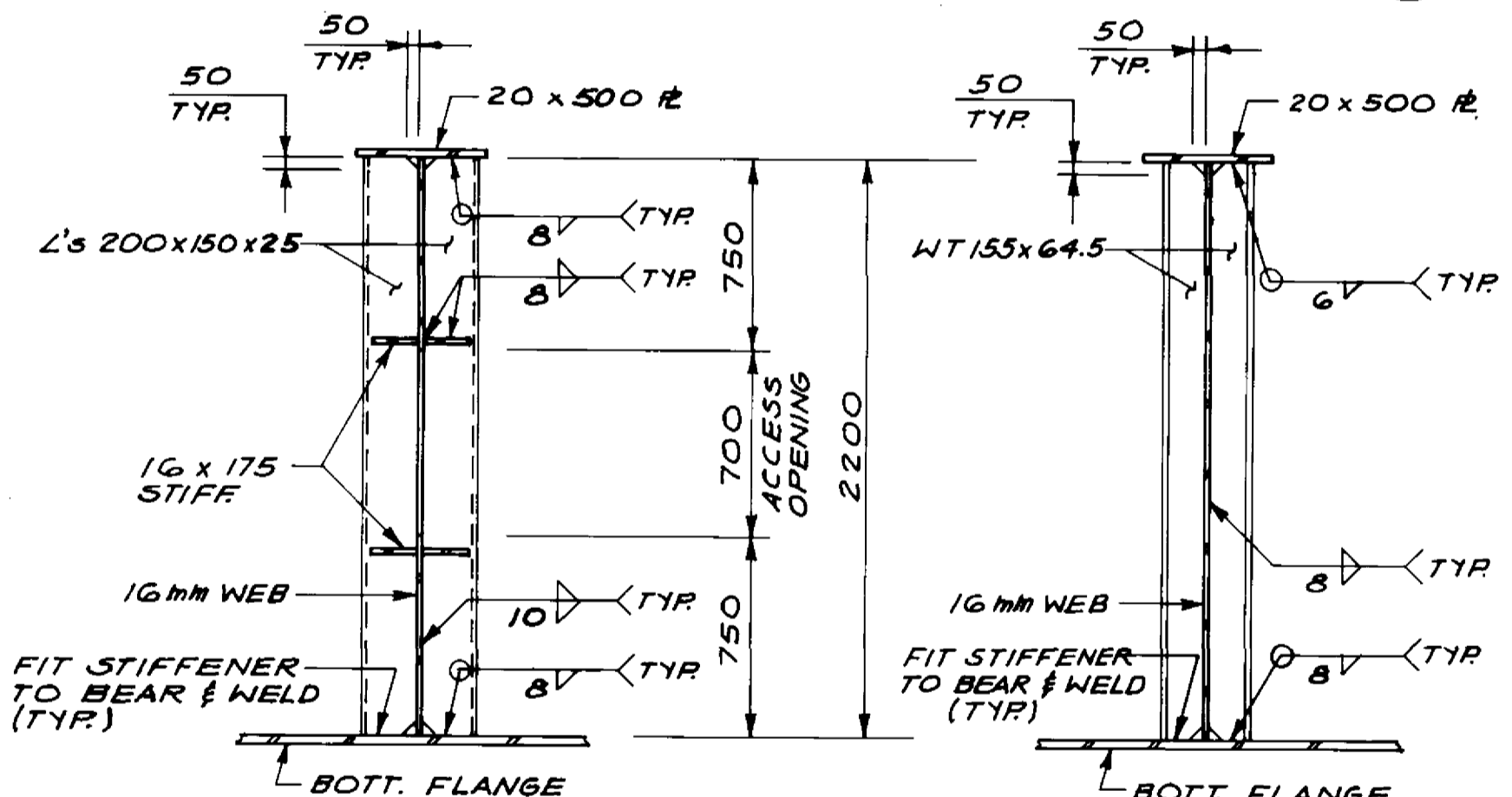
LOCATION	JACKING FORCES PER GIRDER
SU-1S & SU-6S	2101.0 kN
SU-2S & SU-5S	6539.0 kN
SU-3S & SU-4S	6700.0 kN



SECTION 2
SCALE: 1:25

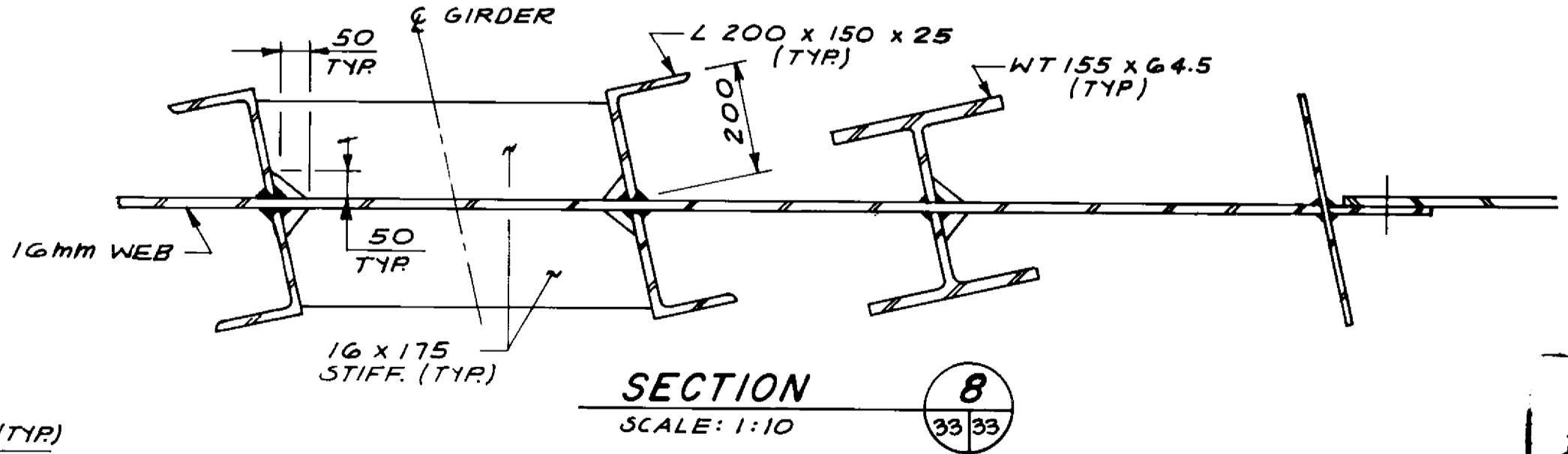
SECTION 3
SCALE: 1:25

SECTION 4
SCALE: 1:25



SECTION 6
SCALE: 1:25

SECTION 7
SCALE: 1:25



SECTION 8
SCALE: 1:10

RECORD DRAWING
APPROVED BY: [Signature] DATE: 10.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES NA	B.M. ELEV.
SUPV. D/G STRUCTURES COMMITTEE	DATE
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	DATE BY
1 BRIDGE RAISED TO INCREASE NAVIGATION CLEARANCE 09-07-06 W.F.S.	DATE BY
NO REVISIONS	DATE BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

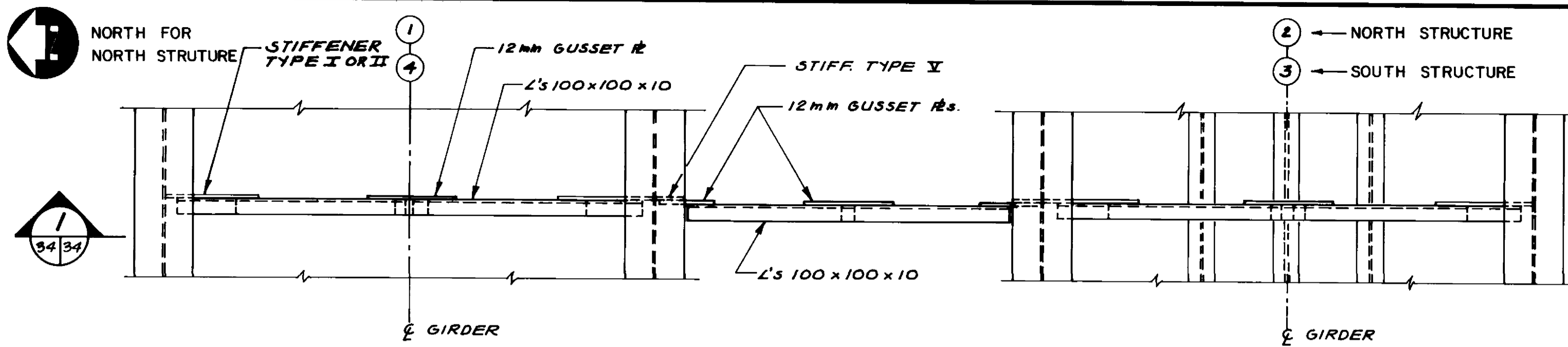
DESIGNED BY: M.V./SSR. CHECKED BY: C.I.D./NBU.
DRAWN BY: C.M.G. APPROVED BY: [Signature]
HOR. SCALE: AS NOTED. VERTICAL: AS NOTED.
DATE: MAR. 1989

PROF. OF M.A.S.A.
N.B. ULYATT
REGISTERED ENGINEER

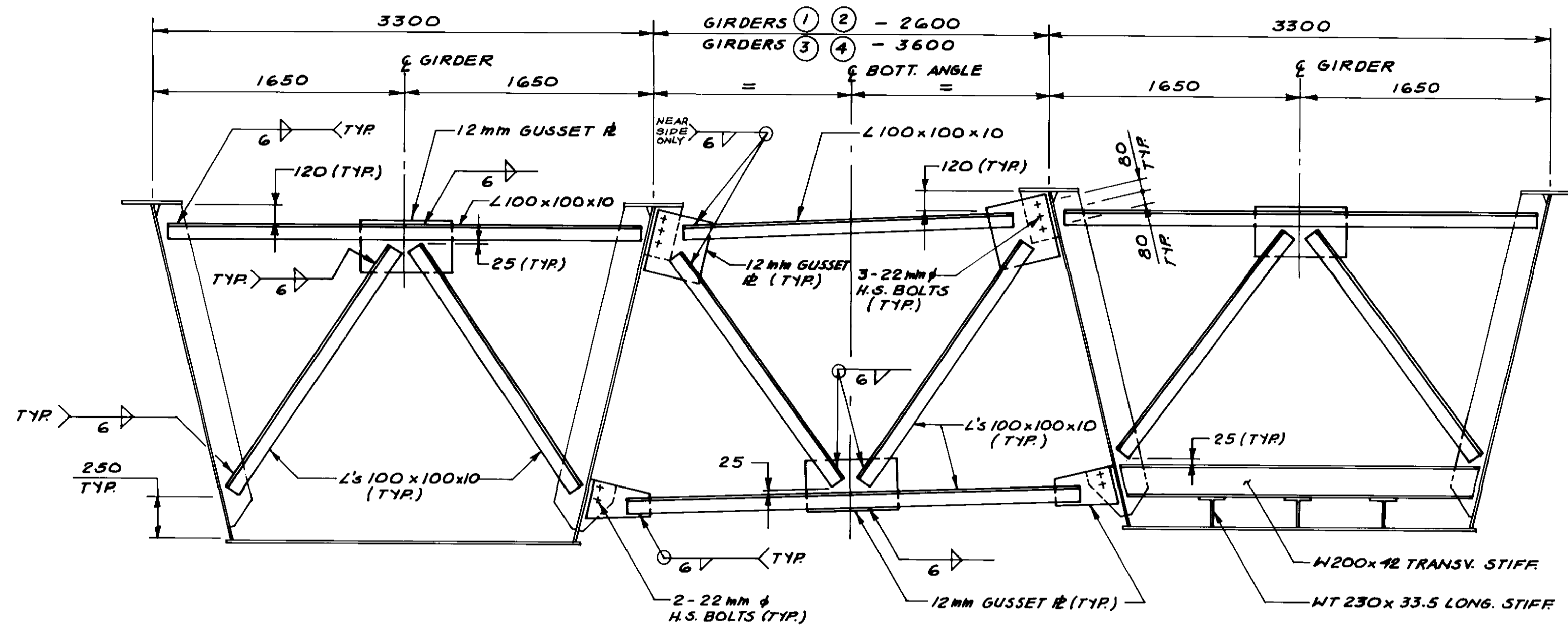
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
ABUTMENT AND PIER DIAPHRAGMS

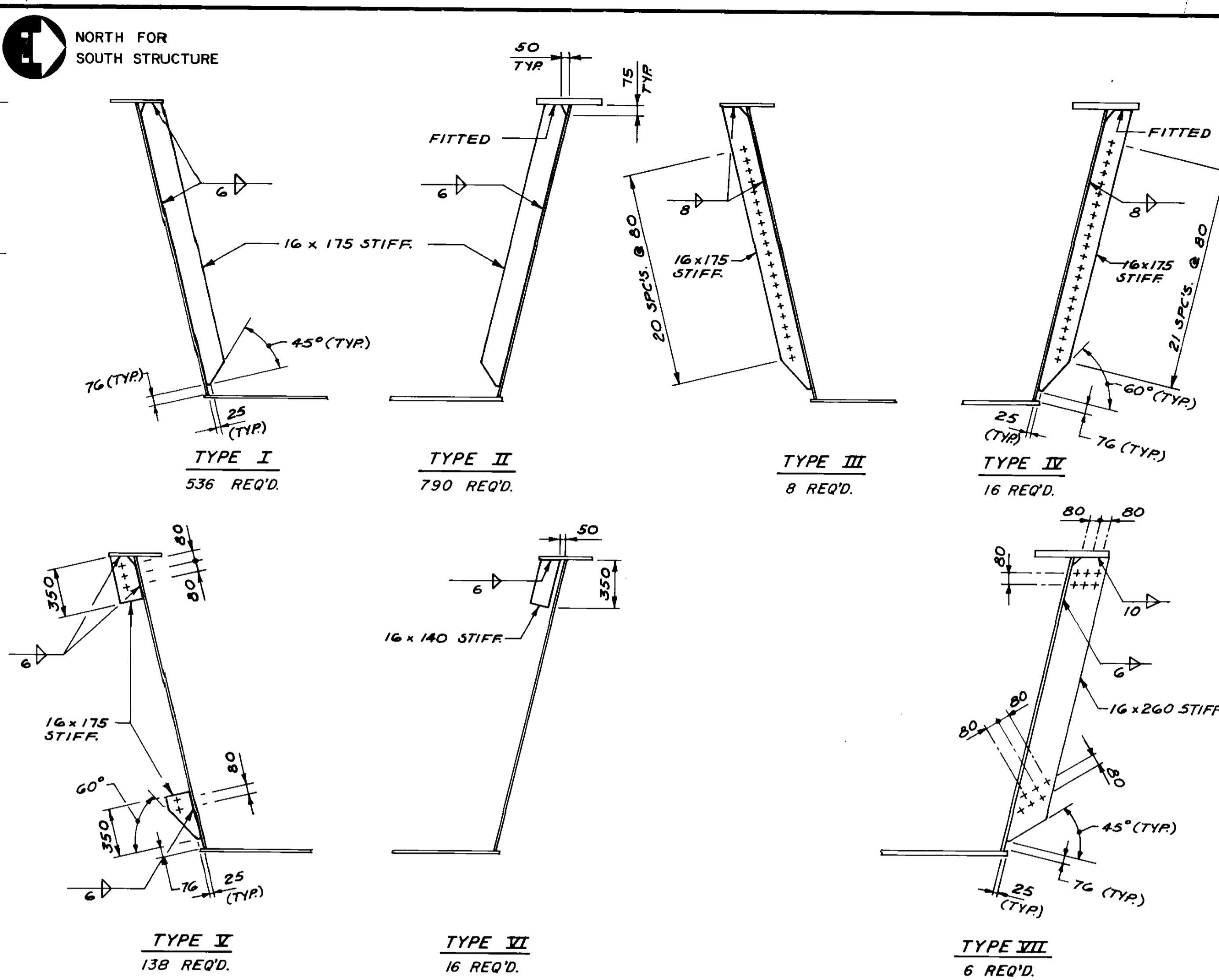
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SHEET OF: []
B-5828-35



PLAN AT CROSS FRAME
69 REQ'D. SCALE: 1:25



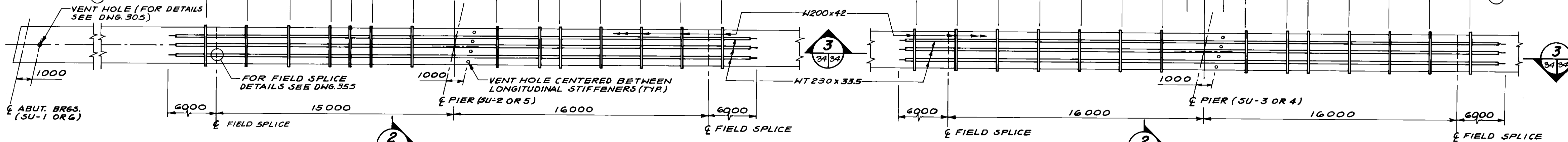
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SCALE: 1:25



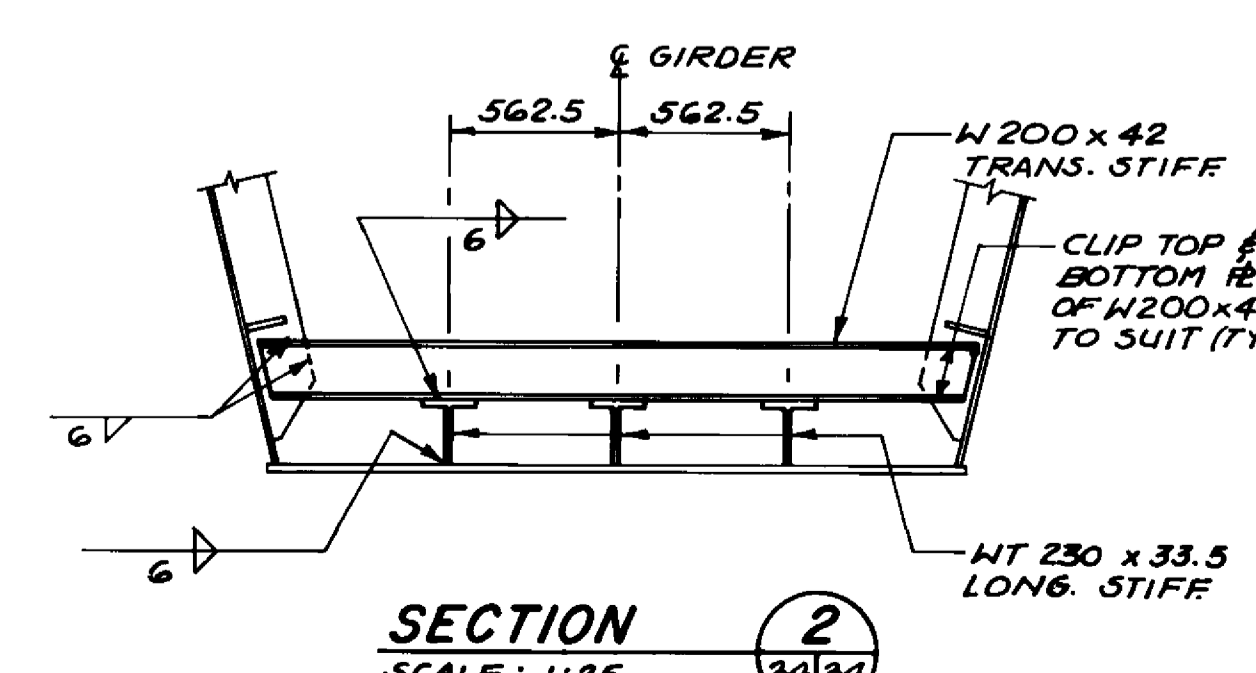
STIFFENER DETAILS
SCALE: 1:25

GIRDER ①	SU-2	2560	2560	2616	1308	1308	2616	2616	2602	2616	1308	2560	2560	2560	2560
GIRDER ②	SU-5	2560	2560	2560	2616	1308	2616	2616	2602	2616	2616	2560	2560	2560	2560
①	SU-2	2560	2560	2560	3060	1530	3060	3060	3060	2474	2832	1889	2560	2560	2560
③	SU-5	2560	2560	2560	3060	1530	3060	3060	3060	1888	1888	1889	2560	2560	2560
④	SU-2	2560	2560	2560	1530	1530	3060	3060	3060	3060	1888	1888	1889	2560	2560
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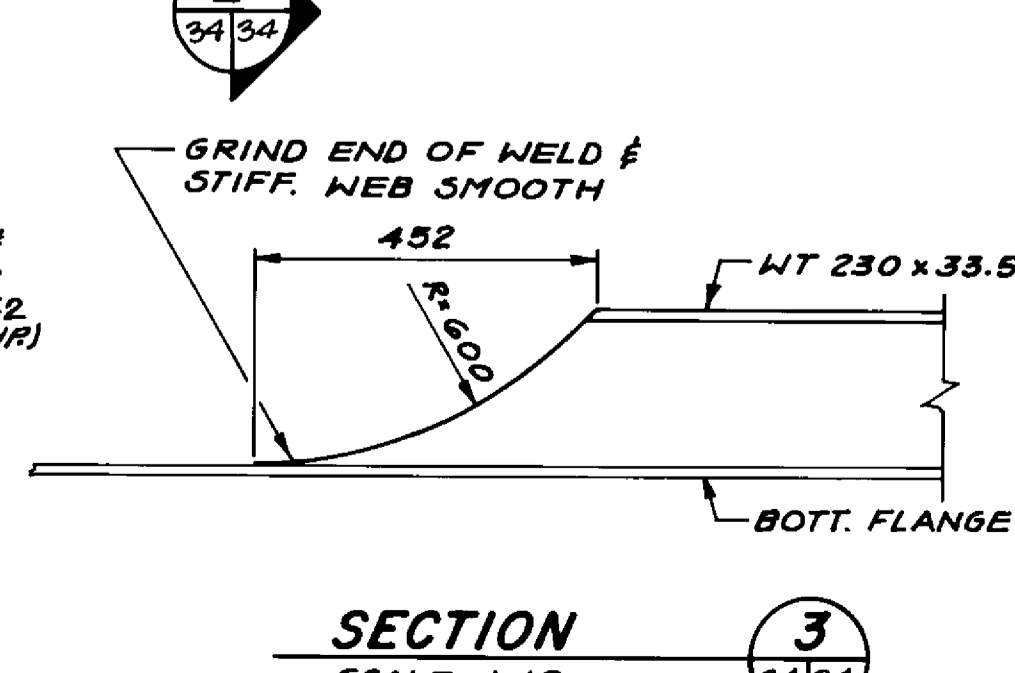
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2560	2560	2560	2560	1308	2616	2602	2602	2616	2616	2560	2560	2560	2560	②
2560	2560	1811	1814	1814	3286	3060	2654	1530	2024	2024	2023	2560	2560	2560
2560	2560	2560	1811	1814	1814	2521	2295	1372	2857	2542	3036	2023	2560	2560



PARTIAL PLAN ON BOTTOM FLANGE PLATE
SCALE: 1:125



SECTION
SCALE: 1:25



SECTION
SCALE: 1:10

RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES
SUPV. U/G STRUCTURES COMMITTEE DATE: _____
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: M.V./SSR CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y. AUTHORIZED BY: [Signature]
HOR. SCALE: AS NOTED VERTICAL: AS NOTED
ACCEPTED BY: [Signature] DATE: MAR. 1989
BRIDGE ENGINEER

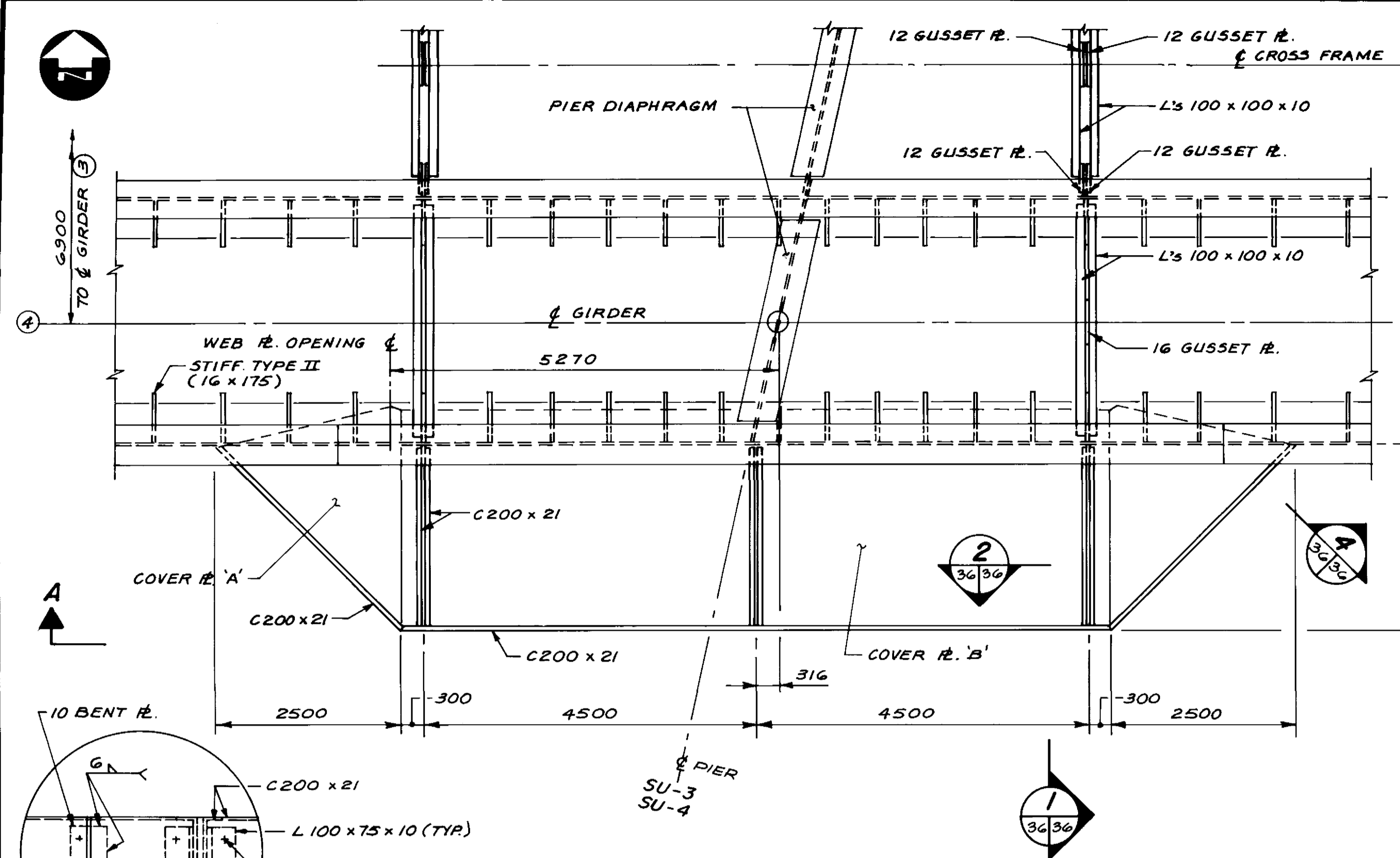
PROVINCE OF MANITOBA
N. E. JULYATT
REGISTERED ENGINEER

CONSULTANT DRAWING NO. _____

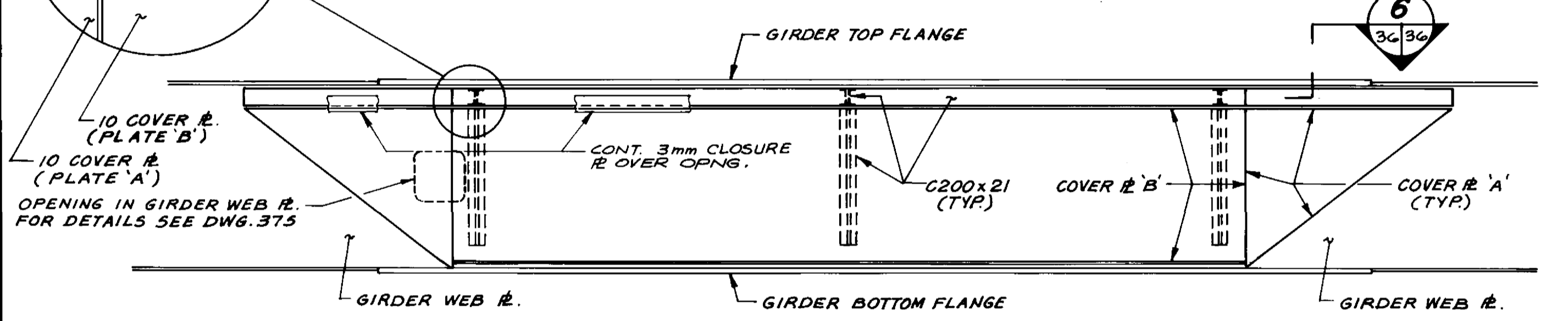
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
CROSS FRAMES & STIFFENERS

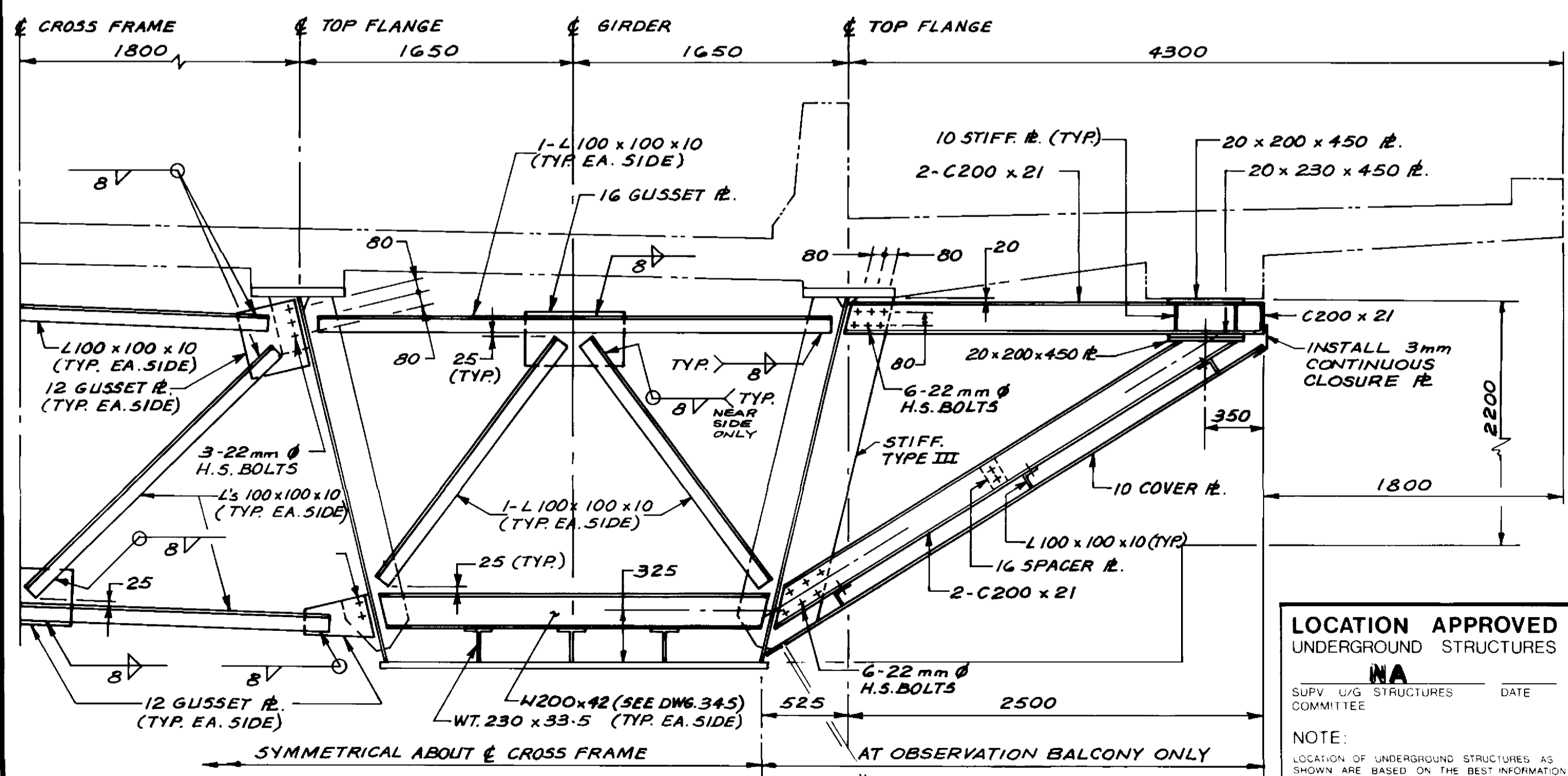
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SHEET OF: _____
B-5828-36



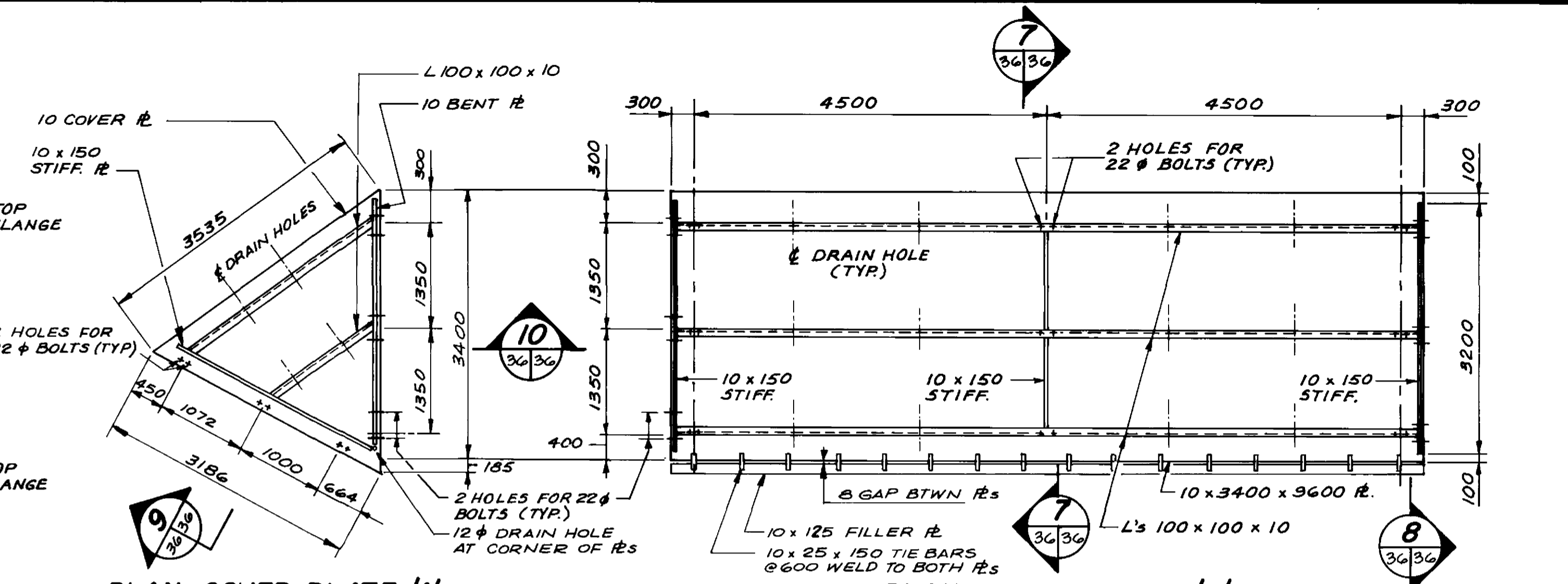
OBSERVATION BALCONY FRAMING PLAN
SCALE: 1:50



ELEVATION A-A
SCALE: 1:50

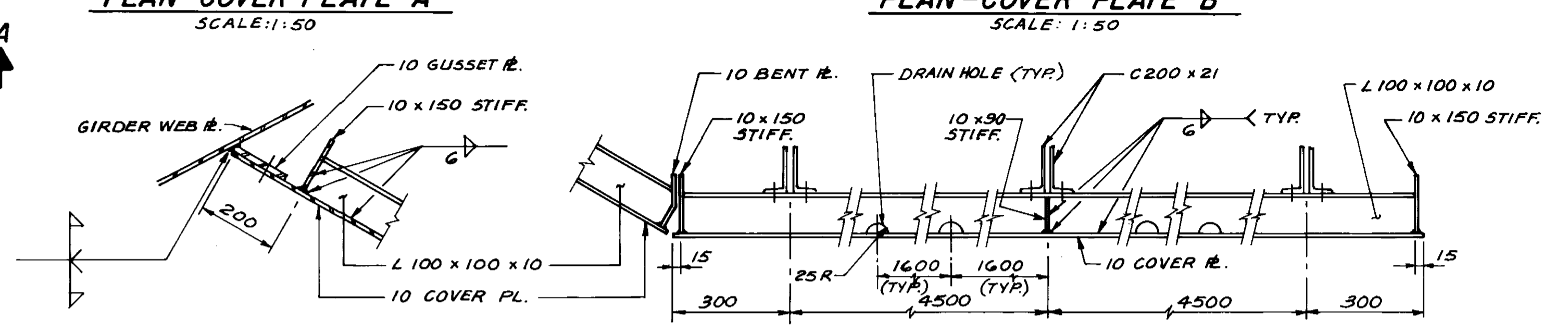


SECTION 1
SCALE: 1:25



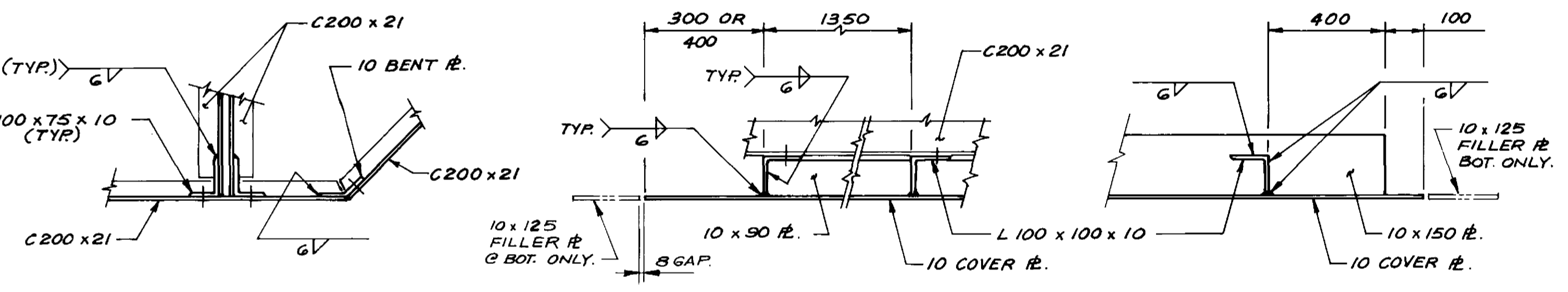
PLAN-COVER PLATE 'A'
SCALE: 1:50

PLAN-COVER PLATE 'B'
SCALE: 1:50



SECTION 9
SCALE: 1:10

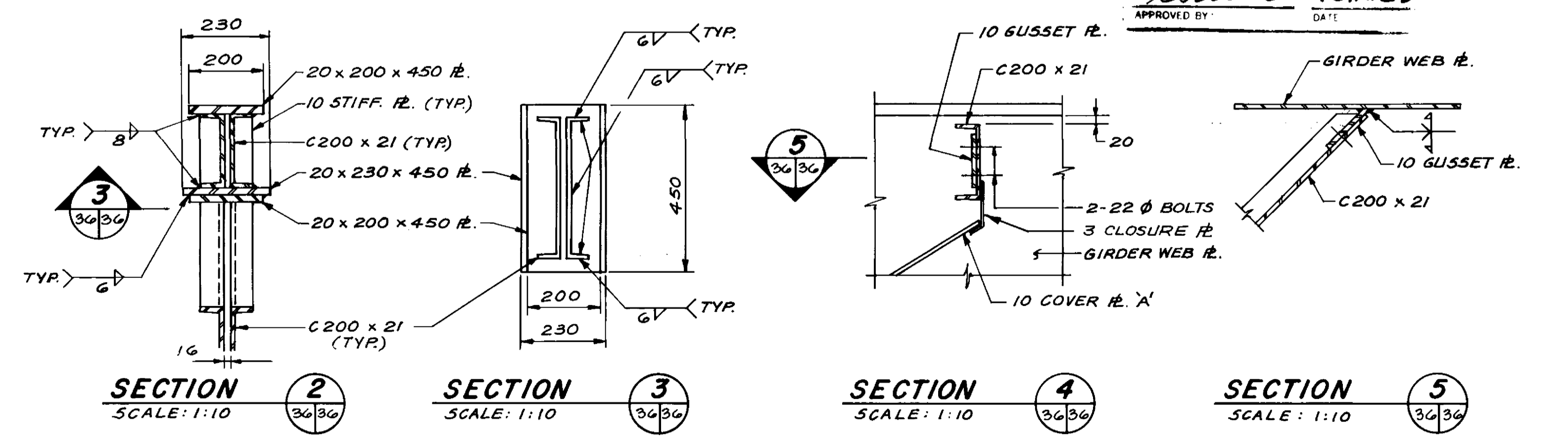
SECTION 10
SCALE: 1:10



SECTION 6
SCALE: 1:10

SECTION 7
SCALE: 1:10

SECTION 8
SCALE: 1:10



SECTION 2
SCALE: 1:10

SECTION 3
SCALE: 1:10

SECTION 4
SCALE: 1:10

SECTION 5
SCALE: 1:10

RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.29

LOCATION APPROVED UNDERGROUND STRUCTURES		B W ELEV.
NA	DATE	
SUPV. U/G STRUCTURES COMMITTEE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
NO REVISIONS	DATE	BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./SSR	CHECKED BY: C.I.D./N.B.U.
DRAWN BY: A.G.Y.	APPROVED BY: [Signature]
HOR SCALE: AS NOTED	AUTHORIZED BY: [Signature]
VERTICAL: AS NOTED	ACCEPTED BY: [Signature]
DATE: MAR. 1989	DATE: [Signature]

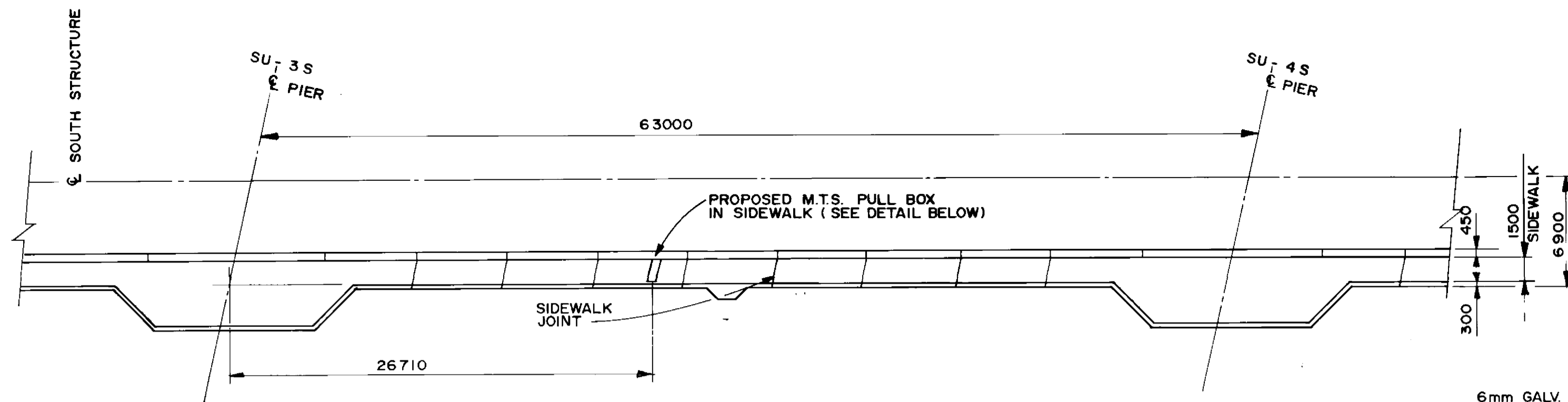
ENGINEER OF RECORD
24/2/89
N. B. ULYATT
REGISTERED ENGINEER

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

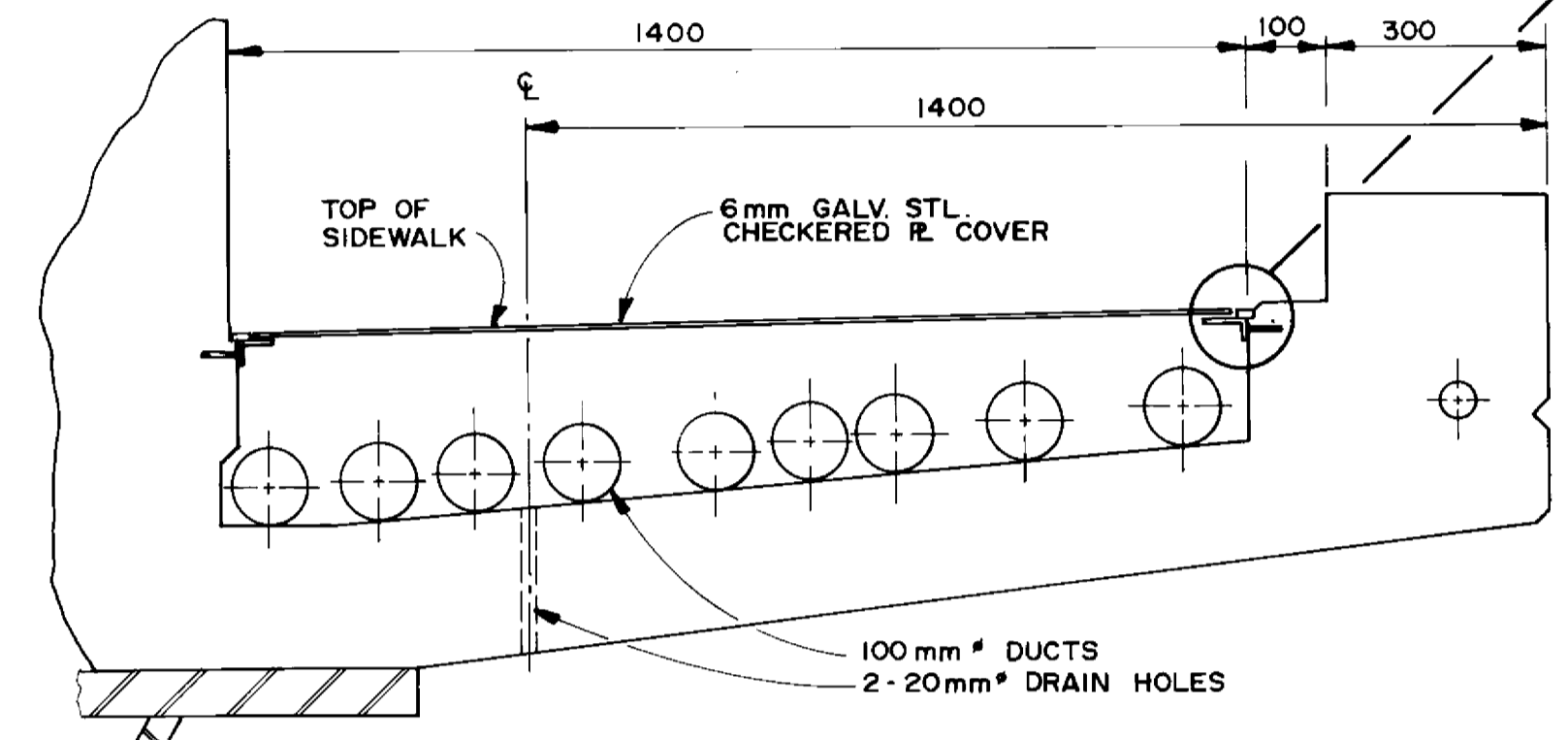
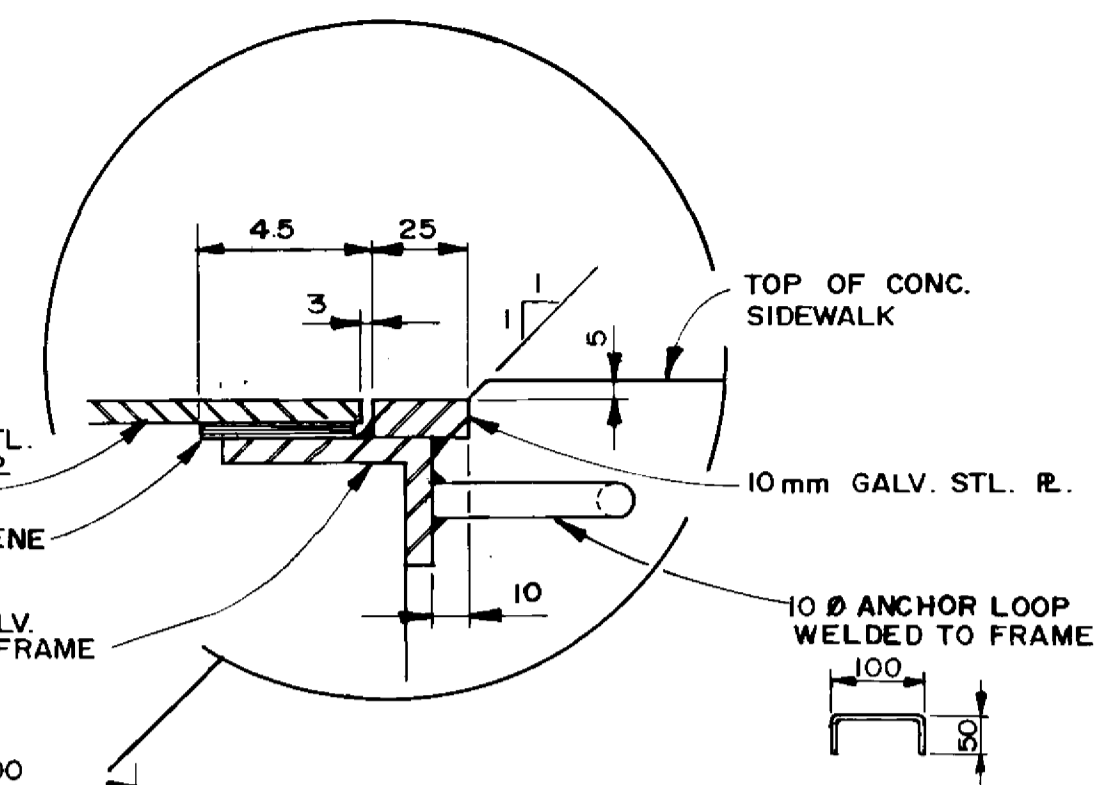
KILDONAN CORRIDOR BRIDGE

STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
OBSERVATION BALCONY
STRUCTURAL STEEL DETAILS

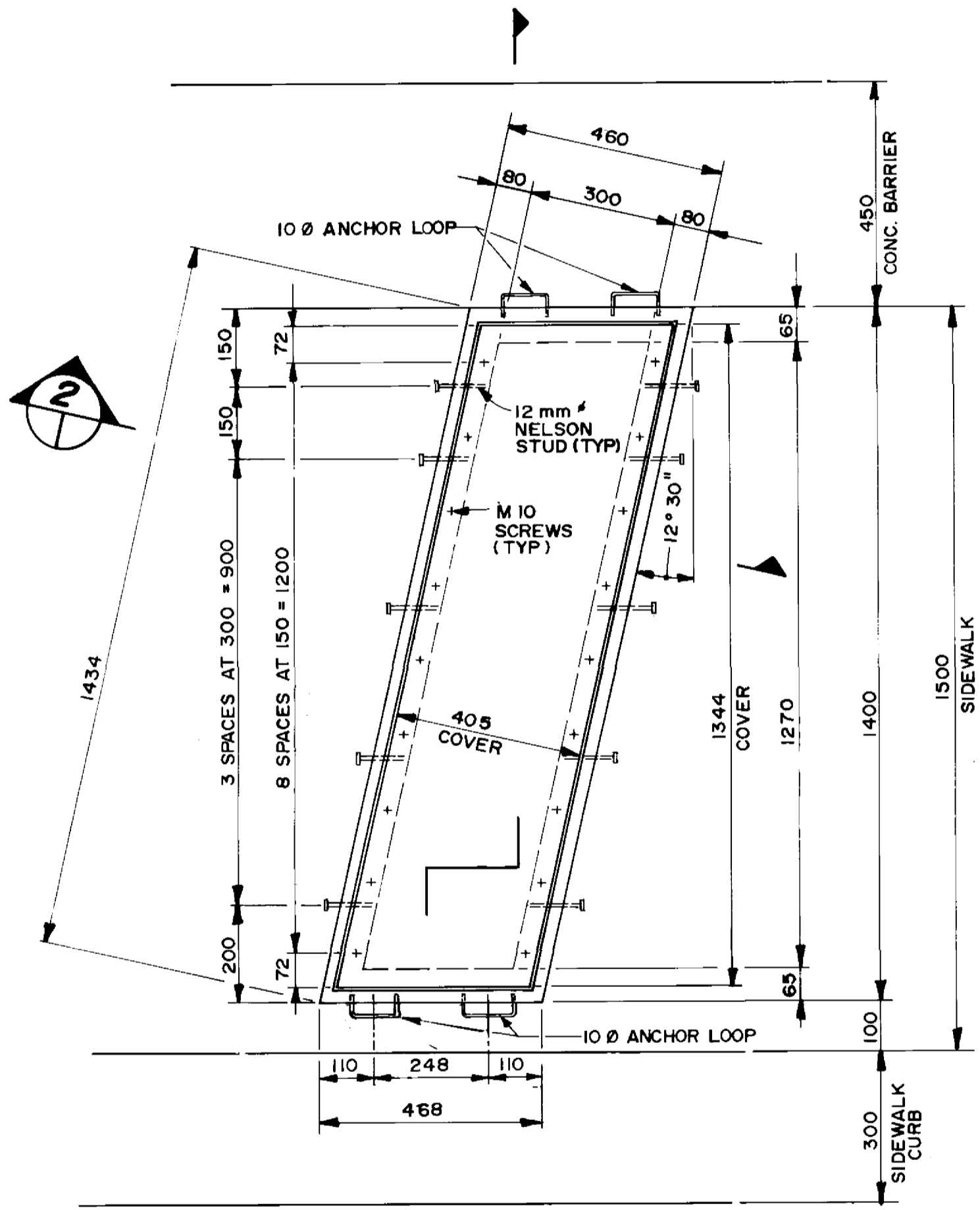
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SHEET OF: [Blank]
B-5828-38



LOCATION PLAN
SCALE 1:250

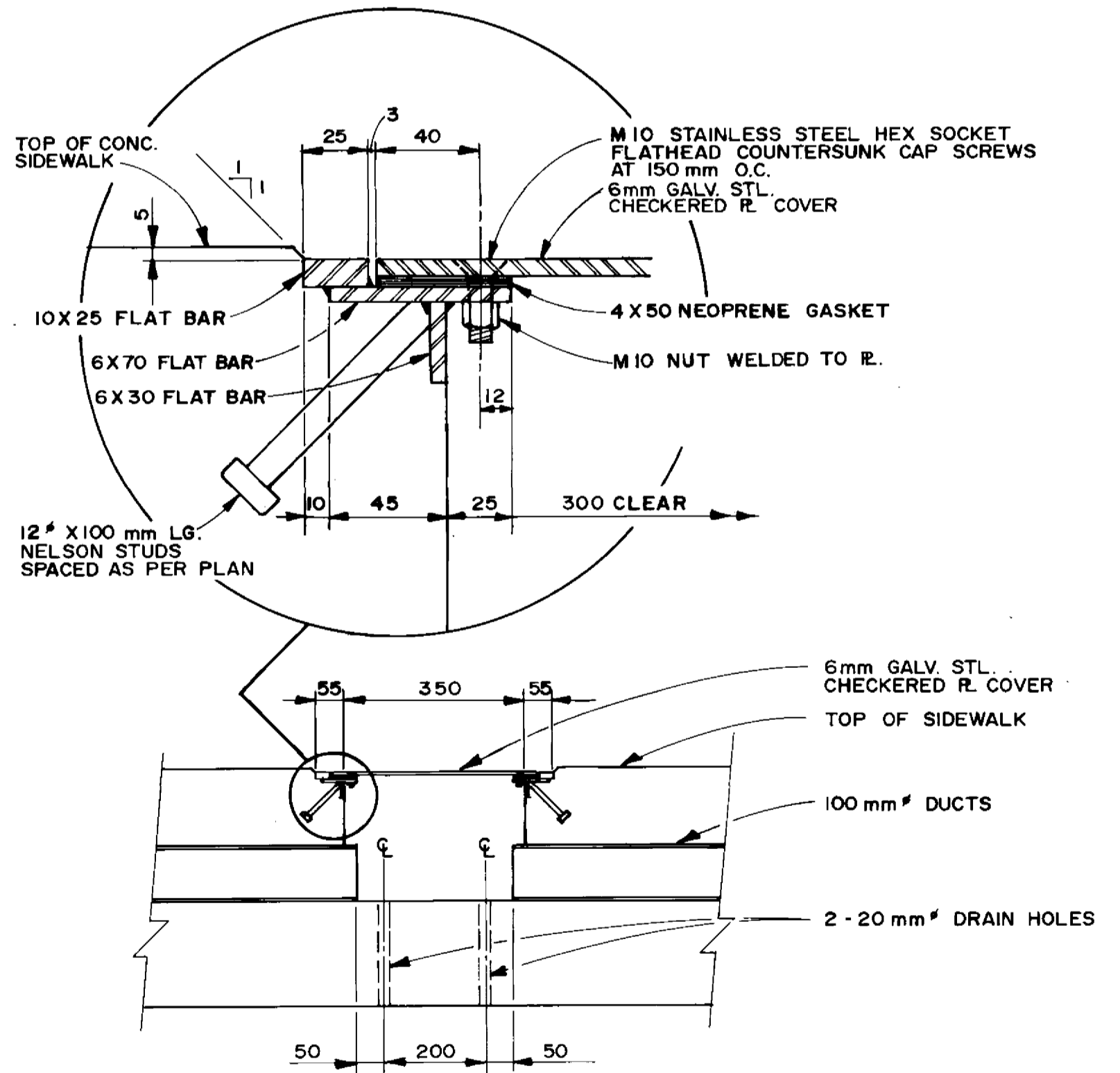


SECTION 1
SCALE 1:10



PLAN

M.T.S. PULL BOX DETAIL
SCALE: N.T.S.



SECTION 2
SCALE 1:10

- NOTE**
1. STEEL FRAME & COVER SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION
 2. WELDS SHALL BE MIN. 4mm FILLET WELDS

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
SUPPLY UNDER STRUCTURES COMMITTEE	DATE	
NOTE:		
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
NO. REVISIONS	DATE	BY
1	6-7-90	M.C.

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	P.S.	CHECKED BY	M.C.
DRAWN BY	D.M.W.	APPROVED BY	
HOR. SCALE	AS SHOWN	AUTHORIZED BY:	DATE
VERTICAL		W. MAJUMDER / STREETS & BRIDGE ENGINEER	DATE
ISSUED WITH C.C.N. 9	6-7-90	M.C.	
DATE	JUNE 90	DATE	

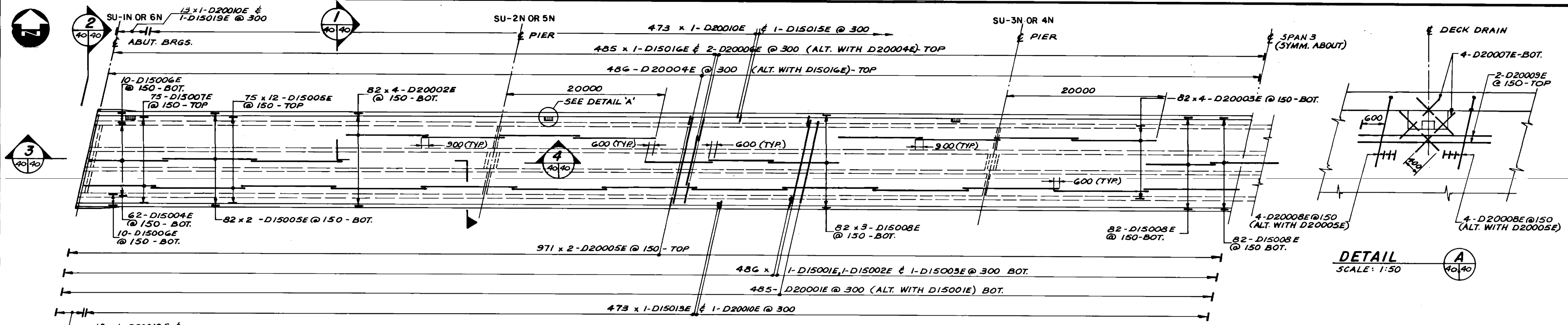
ENGINEER'S SEAL
PROVINCE OF MANITOBA
90.06.29
R. A. WIEBE
REGISTERED ENGINEER
CONSULTANT DRAWING NO.

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
M.T.S. PULL BOX DETAIL

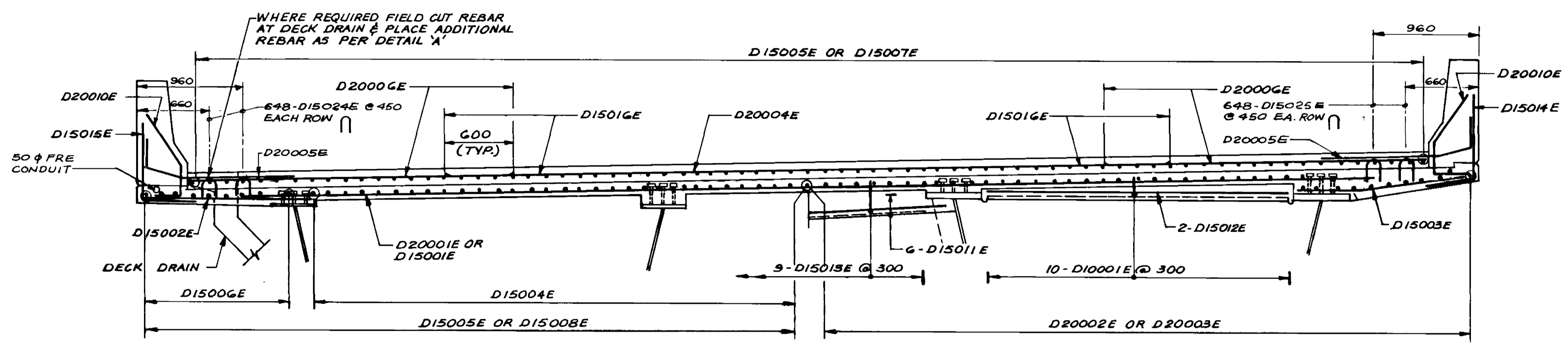
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SHEET: 3
B-5828-41

RECORD DRAWING
APPROVED BY: *R. Wiebe* DATE: 90.11.23

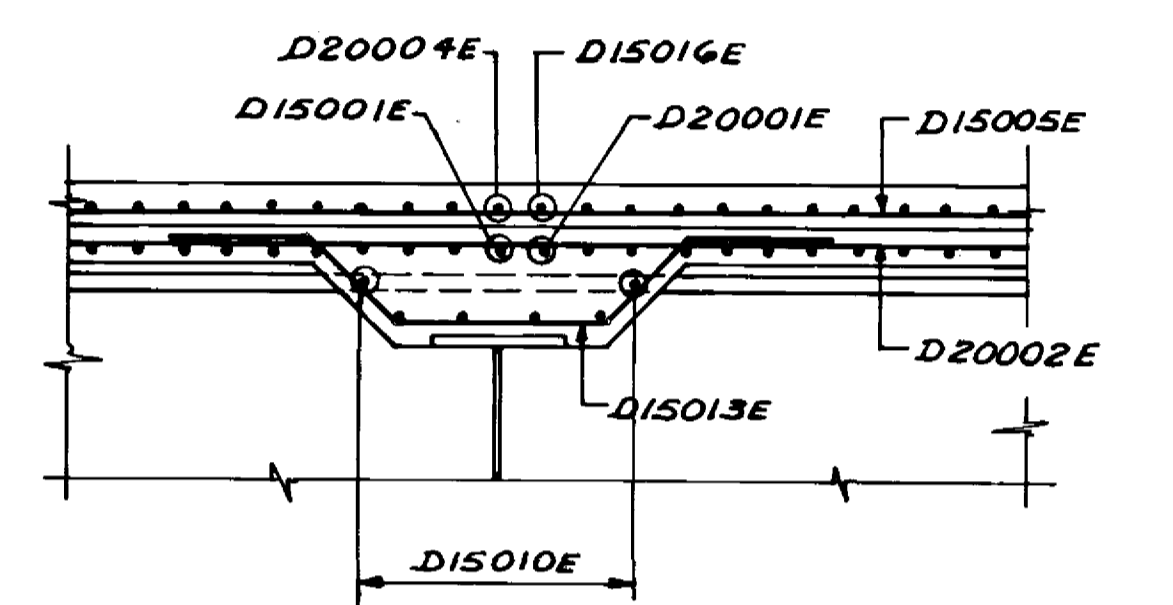


HALF PLAN
SCALE: 1:250

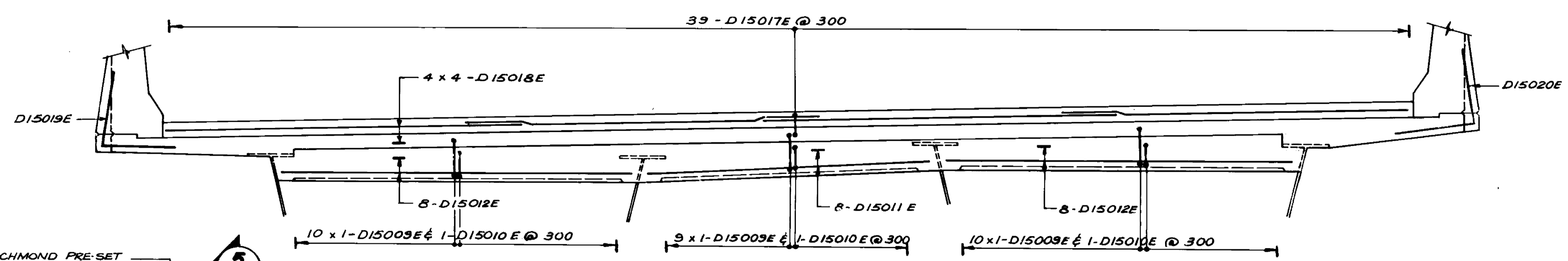
DETAIL A
SCALE: 1:50



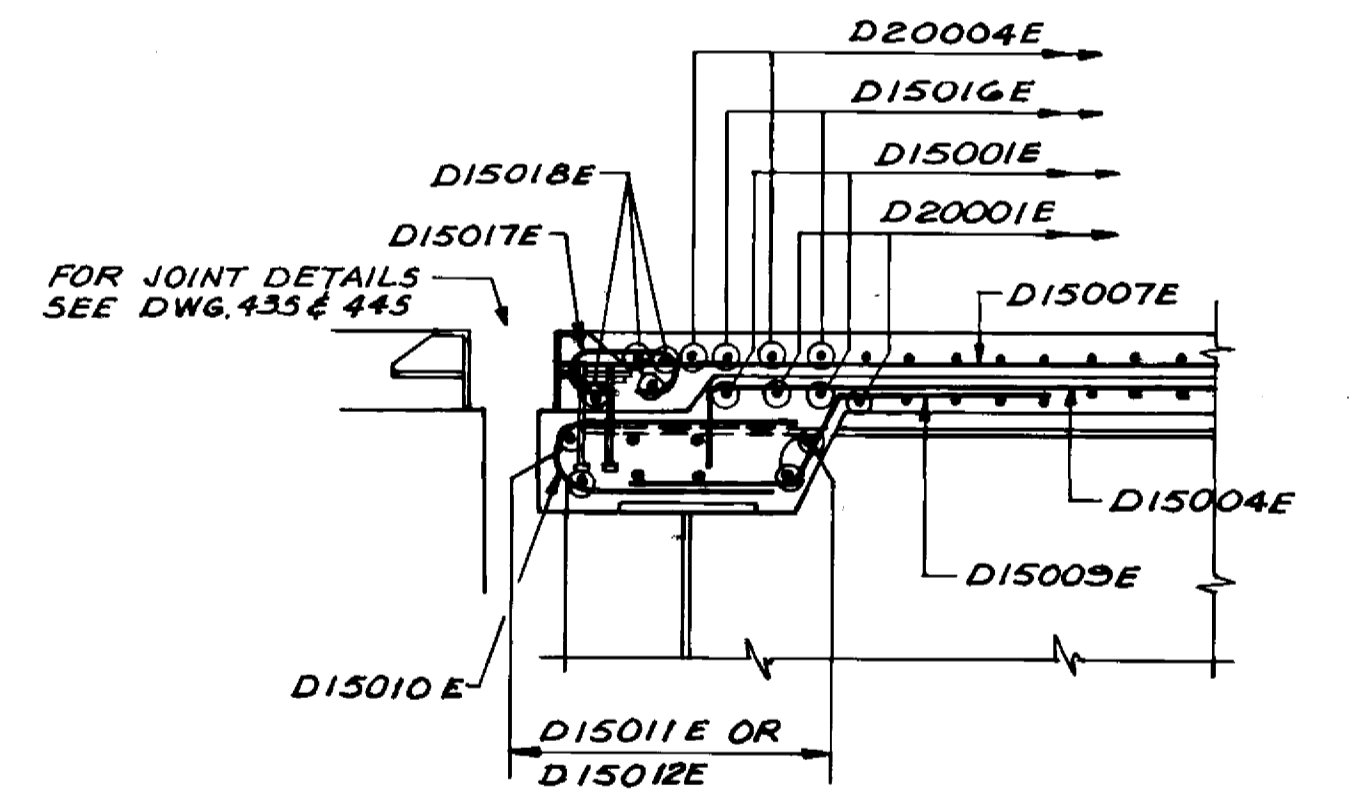
SECTION 1
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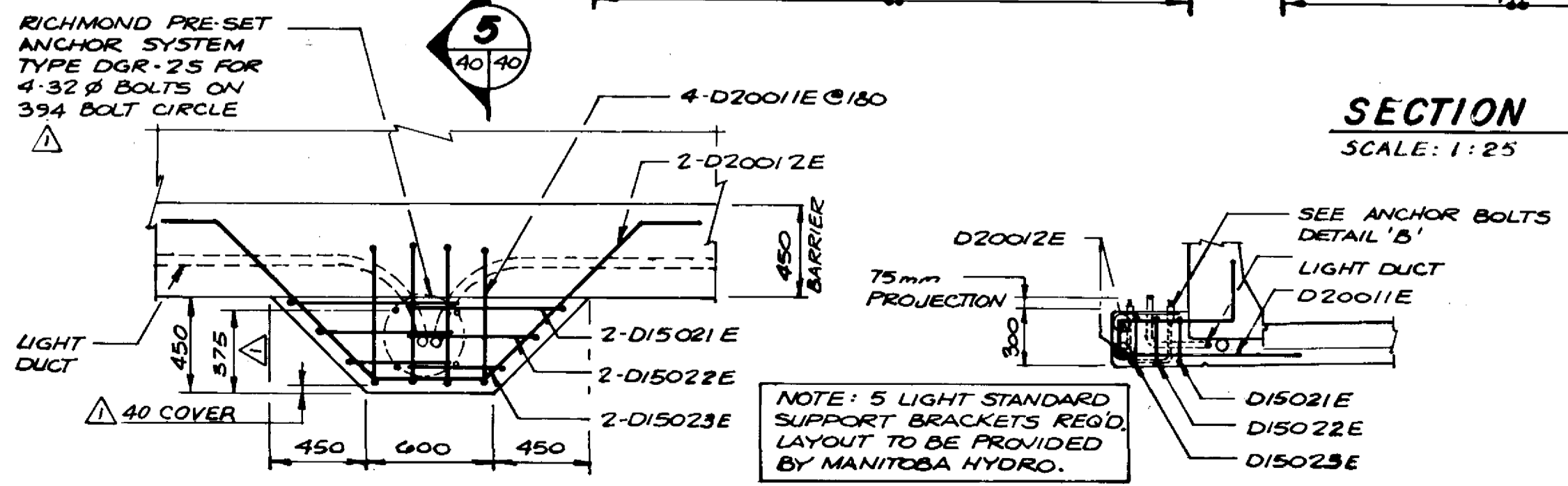
SECTION 4
SCALE: 1:25



SECTION 2
SCALE: 1:25



SECTION 3
SCALE: 1:25



DETAIL B
SCALE: 1:25

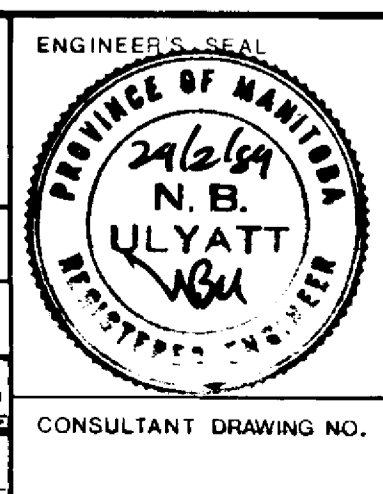
SECTION 5
SCALE: 1:25

RECORD DRAWING
90.1128
DATE

LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE DATE	
NOTE:	
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DETAIL 'B' REV.	NO REVISIONS
DATE	BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

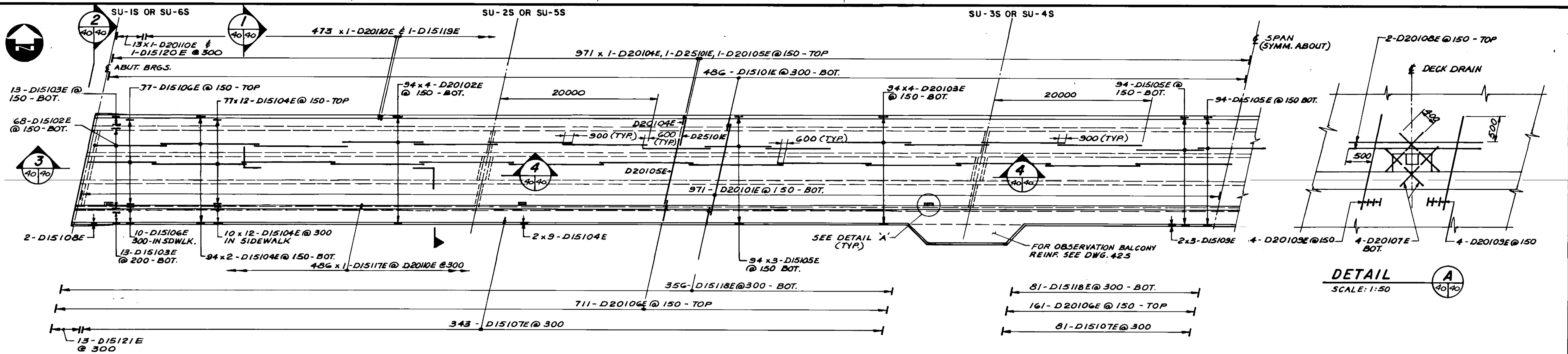
DESIGNED BY M.V./S.S.R. CHECKED BY C.I.D./N.B.U.
DRAWN BY A.G.Y. APPROVED BY [Signature]
HOR. SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: MAR. 1989



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

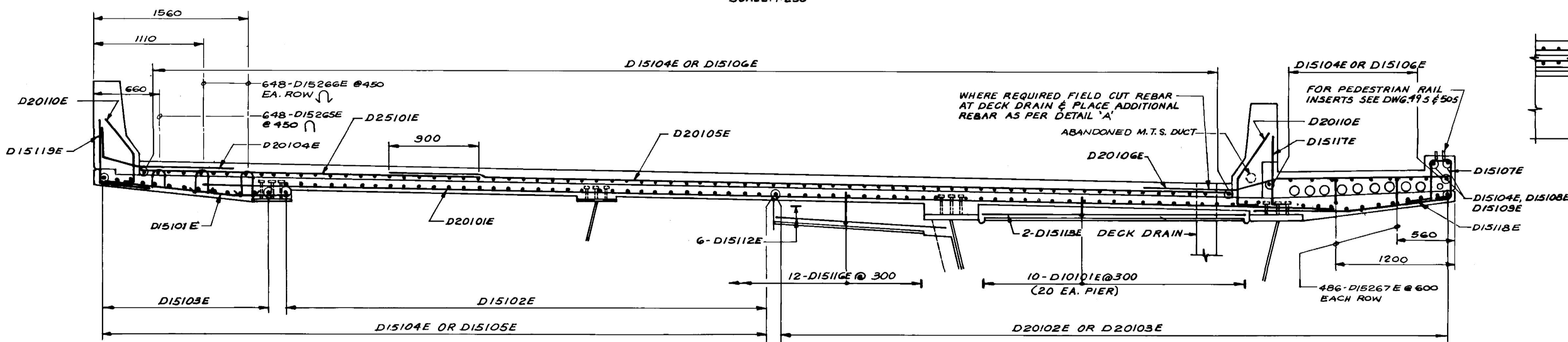
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
NORTH STRUCTURE
DECK REINFORCEMENT

CITY DRAWING NUMBER: B216-89-40S
SHEET OF []
B-5828-43

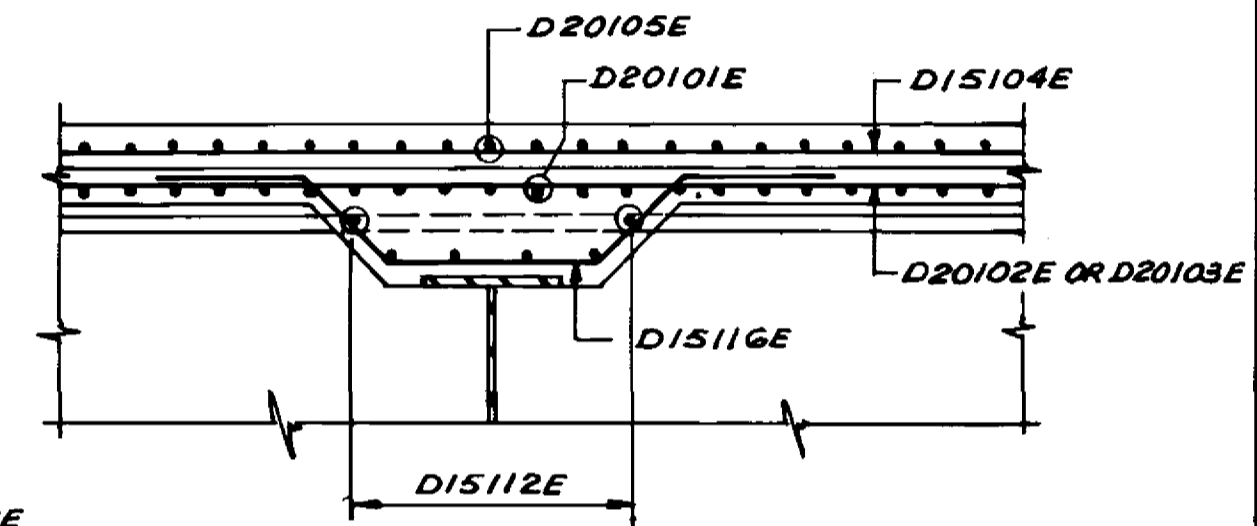


HALF PLAN
SCALE: 1:250

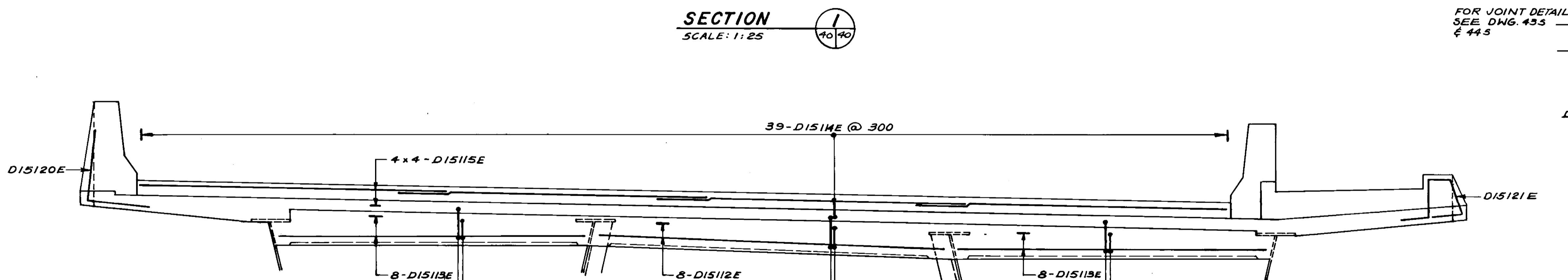
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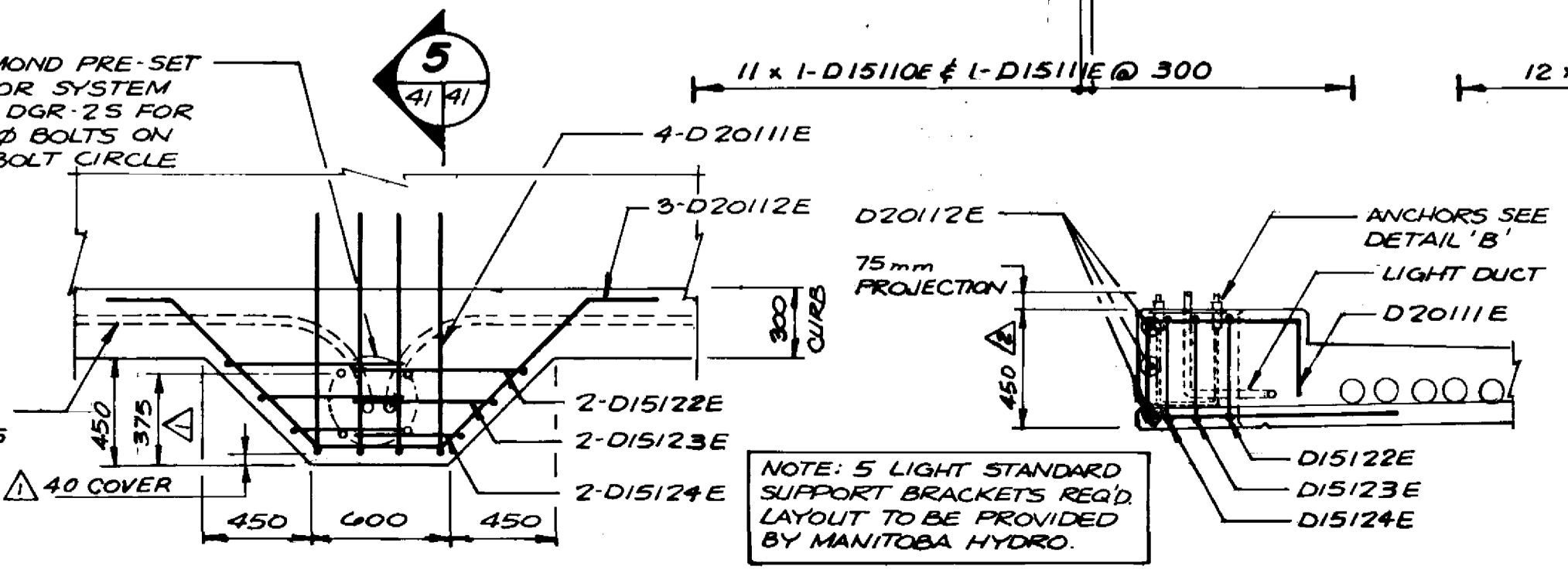
SECTION 1
SCALE: 1:25



SECTION 4
SCALE: 1:25



SECTION 3
SCALE: 1:25



DETAIL B
SCALE: 1:25

SECTION 5
SCALE: 1:25

RECORD DRAWING
Approved by: *R. W. [Signature]* 90.11.28
DATE

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
NA	DATE	
SUPV. U/G STRUCTURES COMMITTEE		
NOTE:		
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
SECT 5 REV	90-042 W.P.S.	HOR SCALE: AS NOTED
DETAIL 'B' REV	90-044 W.P.S.	VERTICAL: AS NOTED
NO REVISIONS	DATE BY	DATE

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: M.V./SSR
CHECKED BY: C.I.D./NBU.
DRAWN BY: A.G.Y.
APPROVED BY: [Signature]
AUTHORIZED BY: [Signature]
ACCEPTED BY: [Signature]
BRIDGE ENGINEER

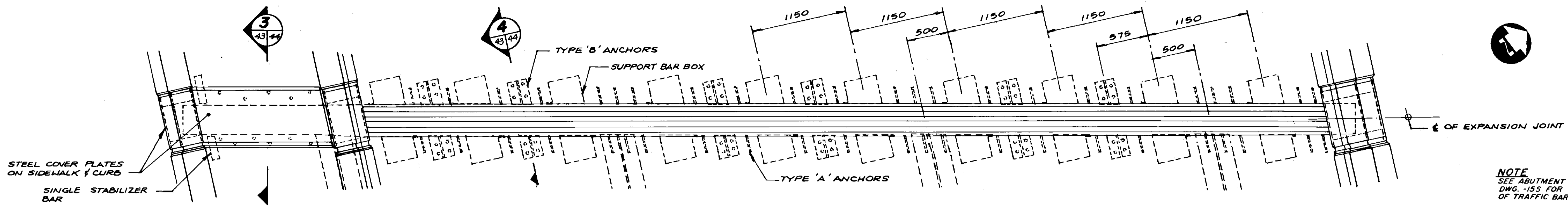
MAR. 1989

ENGINEER
246184
N.B.
ULYATT
REGISTERED ENGINEER

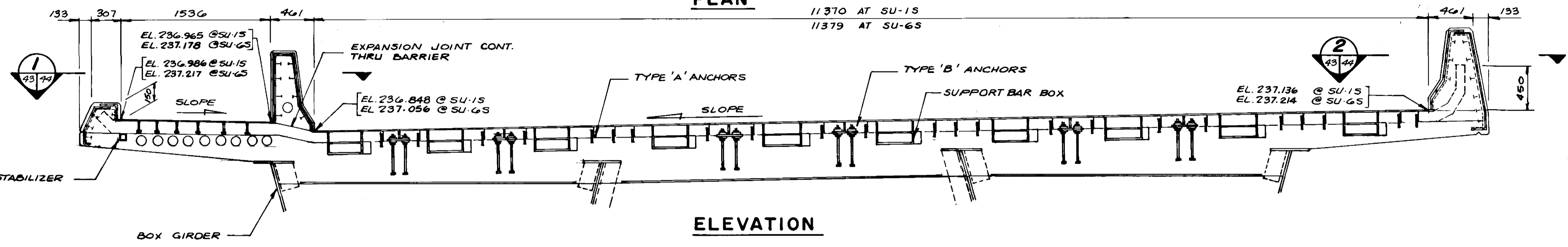
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
DECK REINFORCEMENT

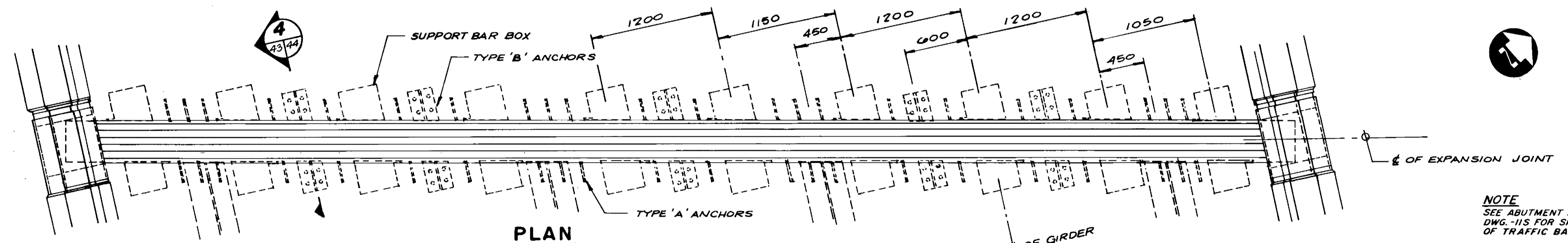
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SHEET OF: []
B-5828-44



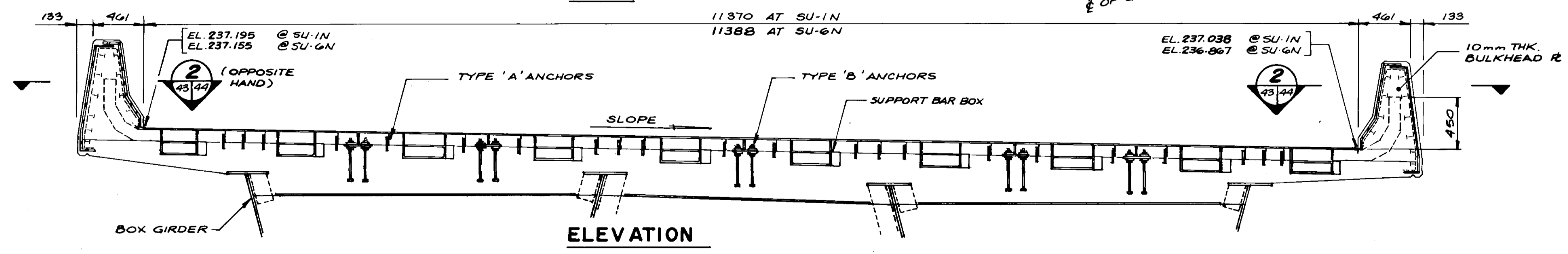
NOTE
SEE ABUTMENT PLANS ON
DWG. -155 FOR SKEW ANGLES
OF TRAFFIC BARRIERS & CURB.



SOUTH STRUCTURE SU-1S (SU-6S SIMILAR)
1:25



NOTE
SEE ABUTMENT PLANS ON
DWG. -115 FOR SKEW ANGLES
OF TRAFFIC BARRIERS.



NORTH STRUCTURE SU-1N (SU-6N SIMILAR)
1:25

RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 90.11.28

<p>LOCATION APPROVED UNDERGROUND STRUCTURES NA</p> <p>SUPV. U/G STRUCTURES COMMITTEE DATE</p> <p>NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.</p>	<p>B.M. ELEV.</p> <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>												
<p>1 BRIDGE RAISED TO INCREASE NAV. CLEARANCE 89-06-30 W.P.S.</p> <p>NO REVISIONS DATE BY</p>	<p>DATE MAR. 1989</p>												

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: W.P.S. CHECKED BY: S.S.R.
DRAWN BY: K.C. APPROVED BY: *[Signature]*

HOR. SCALE: AS SHOWN VERTICAL: AS SHOWN

MAR. 1989

ENGINEER'S SEAL
PROVINCIAL REGISTER
24/1/89
S.S. RIHAL
REGISTERED ENGINEER

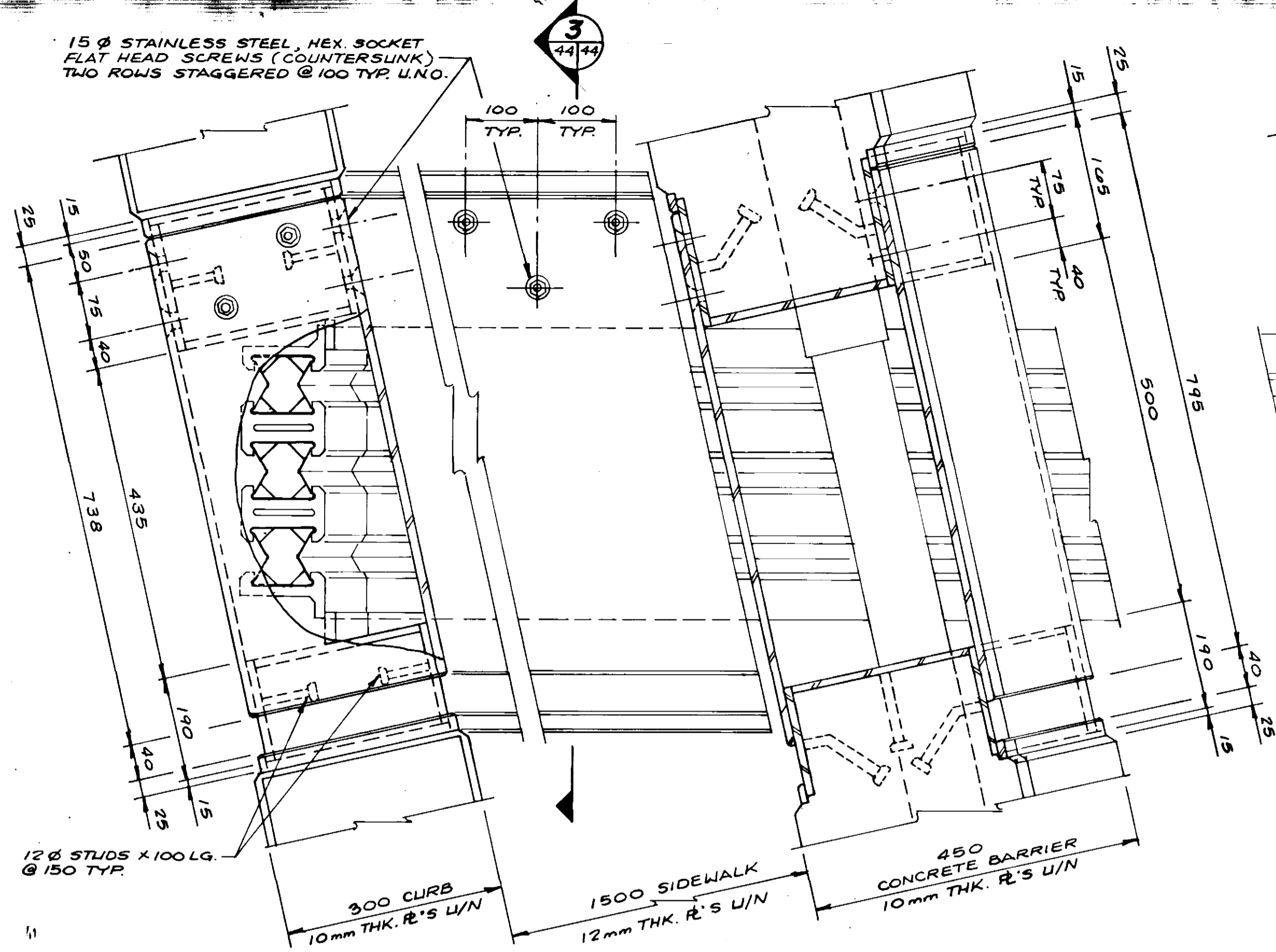
CONSULTANT DRAWING NO.

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

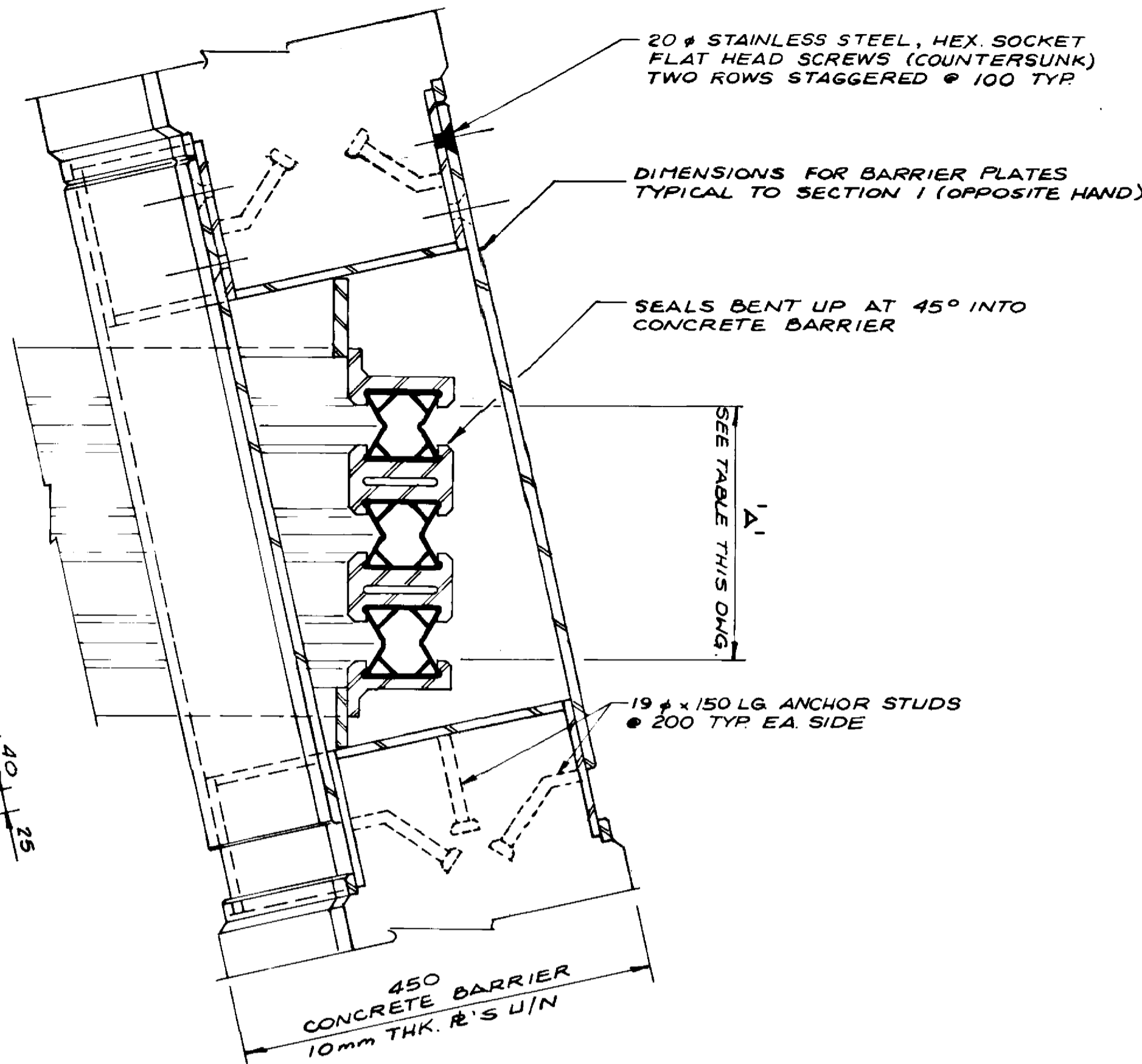
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
EXPANSION JOINTS AT SU-1 AND SU-6
SHEET 1 OF 2

CITY DRAWING NUMBER: B216-89-43S
SHEET OF: B-5828-46

M.M.D. 1572-04



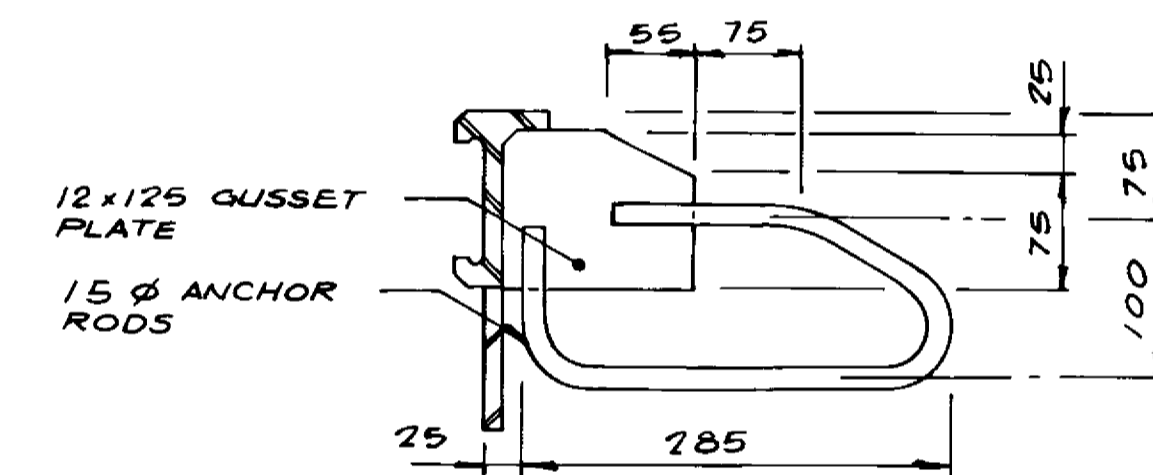
PLAN / SECTION 1
1:5



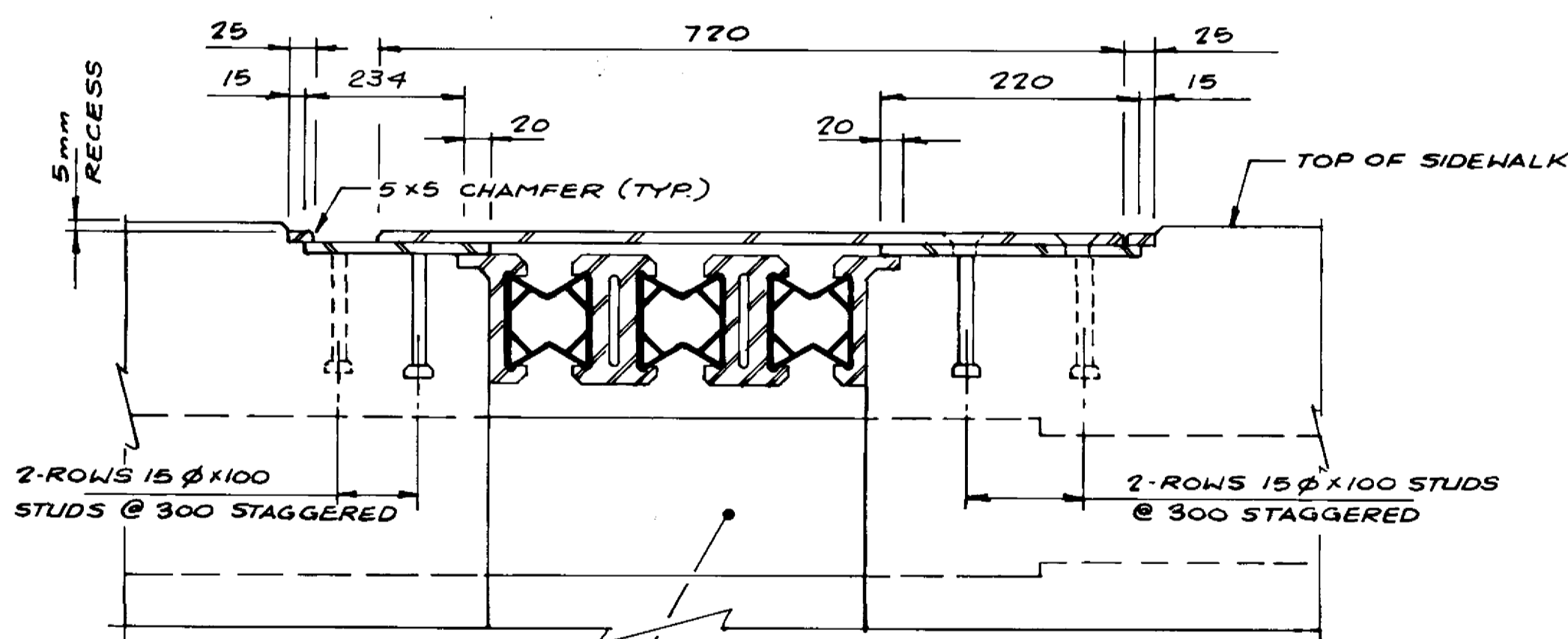
PLAN / SECTION 2
1:5

EXPANSION JOINT NOTES:

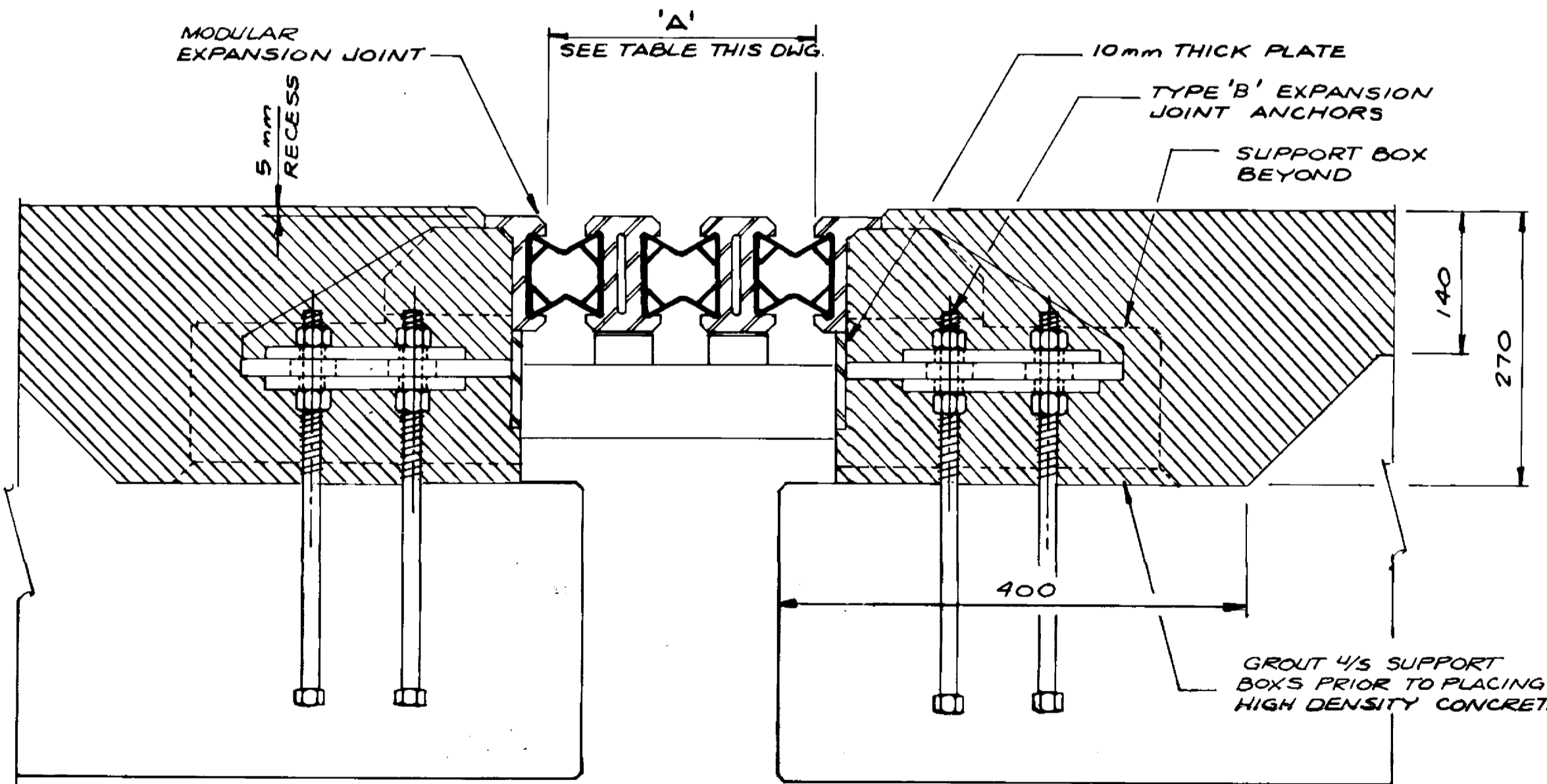
1. MANUFACTURER'S SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR APPROVAL AT LEAST FOURTEEN (14) WORKING DAYS PRIOR TO FABRICATION. THE EXPANSION JOINT ASSEMBLIES SHALL BE DESIGNED TO CARRY AASHTO HS30-44 LIVE LOADING.
2. STEEL SHALL BE IN ACCORDANCE WITH CSA STANDARD G40.21M GRADE 300 W OR EQUAL.
3. STEEL EXTRUSIONS SHALL BE IN ACCORDANCE WITH CSA STANDARD G40.21M GRADE 230 G MINIMUM.
4. ALL STEEL SURFACES SHALL BE HOT DIP GALVANIZED TO A NET RETENTION OF 600 G/M² IN ACCORDANCE WITH CSA STANDARD G 164 AFTER FABRICATION AND INSTALLED IN ONE CONTINUOUS PIECE.
5. JOINT ASSEMBLY SHALL BE FABRICATED AND COMPLETELY SHOP ASSEMBLED AND PRESET TO DIMENSION 'J' OR 'A' FOR 15° C PRIOR TO SHIPMENT.
6. WELDING SHALL BE OF LOW HYDROGEN CLASSIFICATION. MANUAL ELECTRODES SHALL BE E7016 OR E7018. ALL WELDING SHALL BE IN ACCORDANCE WITH CSA STANDARD W59.
7. SEAL SHALL BE PERFORMED NEOPRENE RUBBER SEAL. EACH RUBBER SEAL SHALL BE SUPPLIED AND INSTALLED IN ONE CONTINUOUS PIECE. NO SPLICES IN THE RUBBER SEAL WILL BE PERMITTED.
8. JOINT ASSEMBLY SHALL BE INSTALLED 5 mm BELOW ELEVATION AND GRADE OF BRIDGE DECK.
9. AFTER REMOVAL OF CLAMPING CHANNELS AND SPACER DAM, BOLT AND BLEEDER HOLES TO BE FILLED WITH AN APPROVED EPOXY GROUT.
10. INSTALLATION TEMPERATURE SHALL BE TAKEN AS THE MEAN SHADE AIR TEMPERATURE PRIOR TO JOINT INSTALLATION AT THE STRUCTURE.
11. ALL AREAS OF DAMAGED GALVANIZING AND FIELD WELDING, SHALL BE REPAIRED BY USING THE GALVALLOY PROCEDURE AS SPECIFIED.



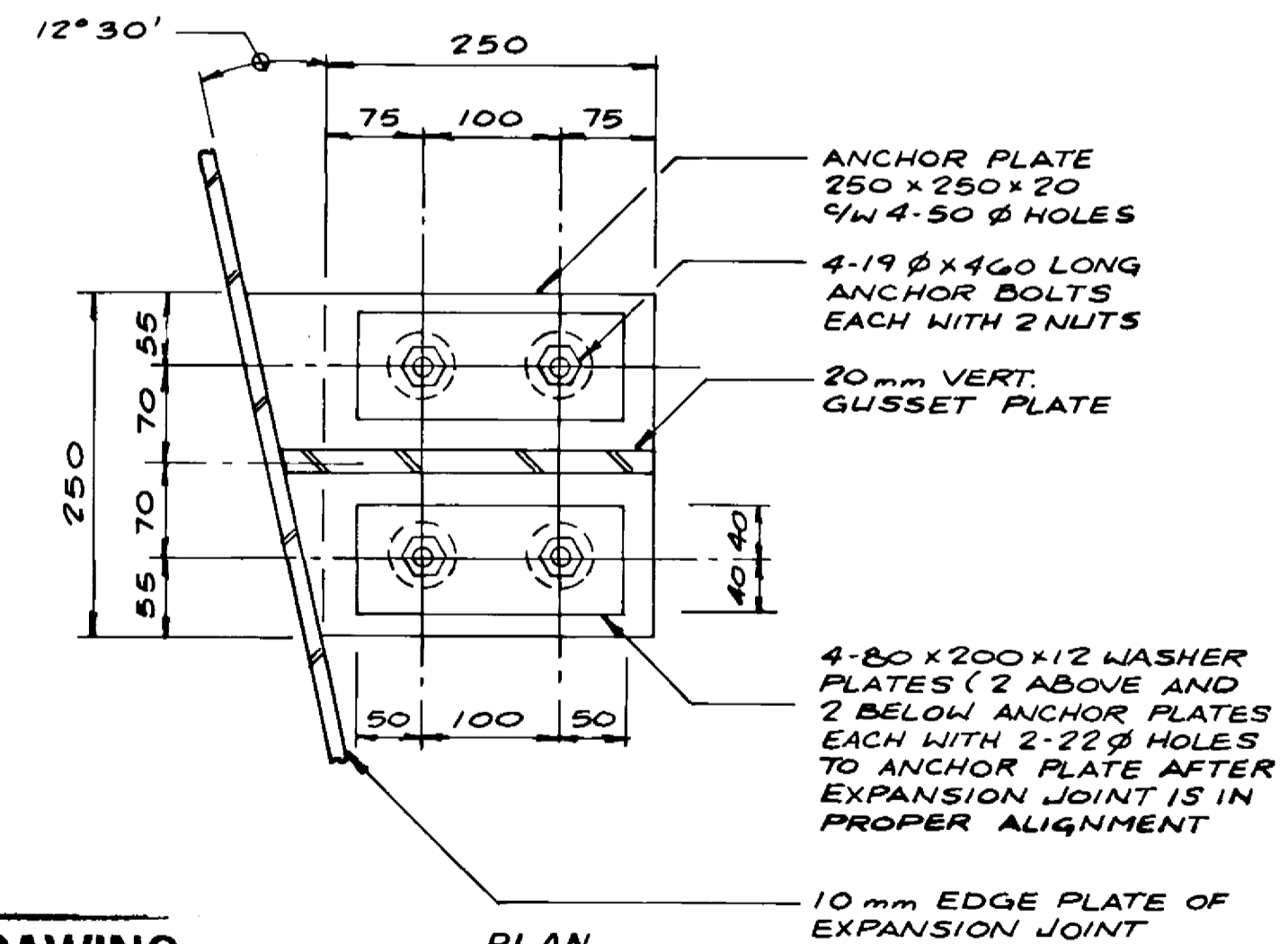
ELEVATION ANCHOR TYPE 'A'
1:5



SECTION 3
1:5



SECTION 4
1:5



PLAN ANCHOR TYPE 'B'
1:5

NOTE: FOR DUCT THRU EXPANSION JOINTS SEE DETAIL 'B' ON SHT-595

RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 90.11.25

DIMENSION ('A') TEMPERATURE ADJUSTMENT TABLE		TEMPERATURE °C											
LOCATION	TYPE OF JOINT	40	35	30	25	20	15	10	5	0	-5	-10	-15
SU-1 N AND SU-1 S	ELASTOMETAL ACME BOX SEAL MODULAR SYSTEM E 240 (3 SEAL, 2 CENTRE BEAM)	216	226	236	247	257	267	278	288	298	309	319	330
SU-6 N AND SU-6 S	SAME AS ABOVE	230	237	244	250	257	264	270	277	284	290	297	304

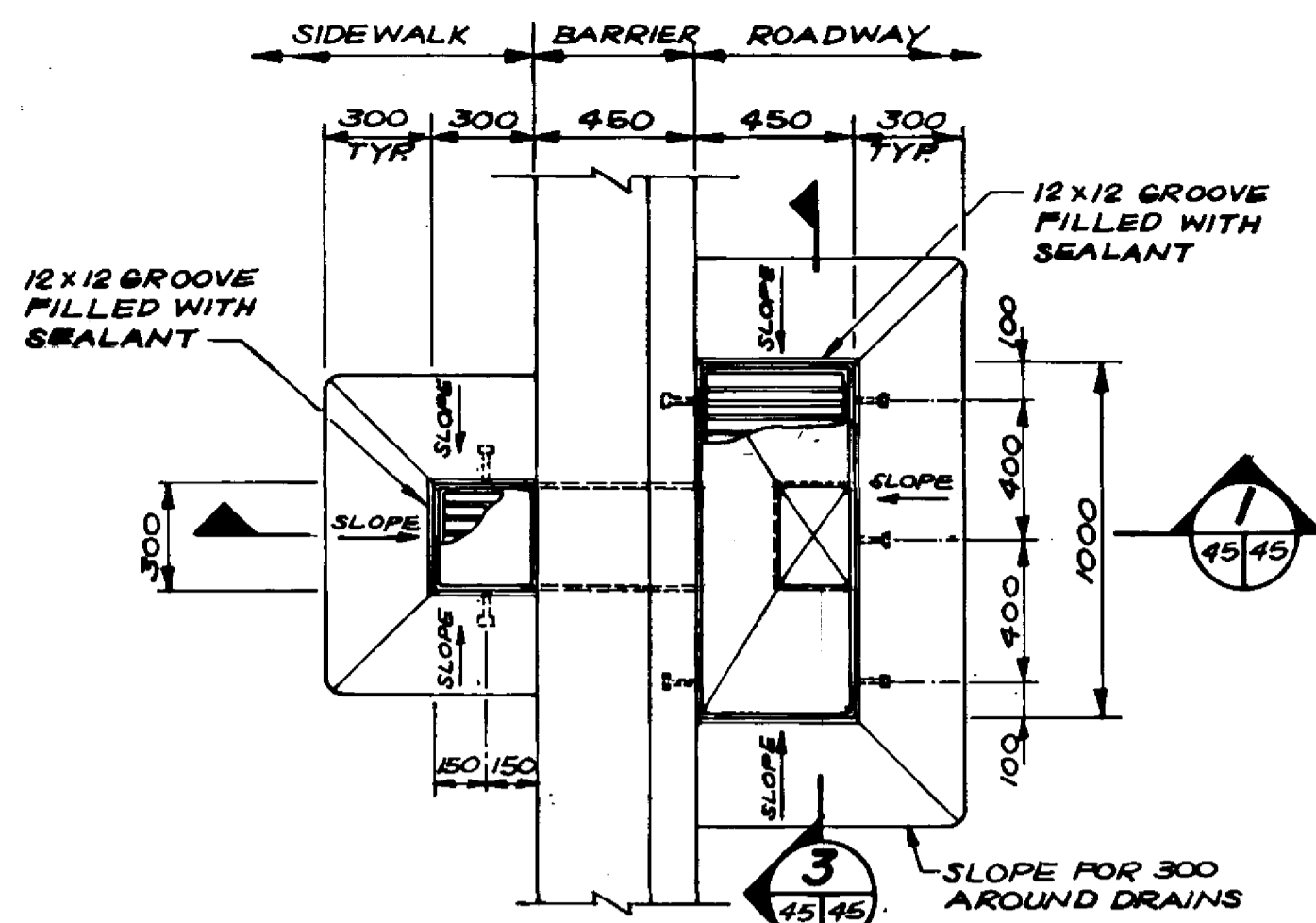
LOCATION APPROVED UNDERGROUND STRUCTURES
NA
SUPPLY UNDERGROUND STRUCTURES COMMITTEE DATE
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO	REVISIONS	DATE	BY

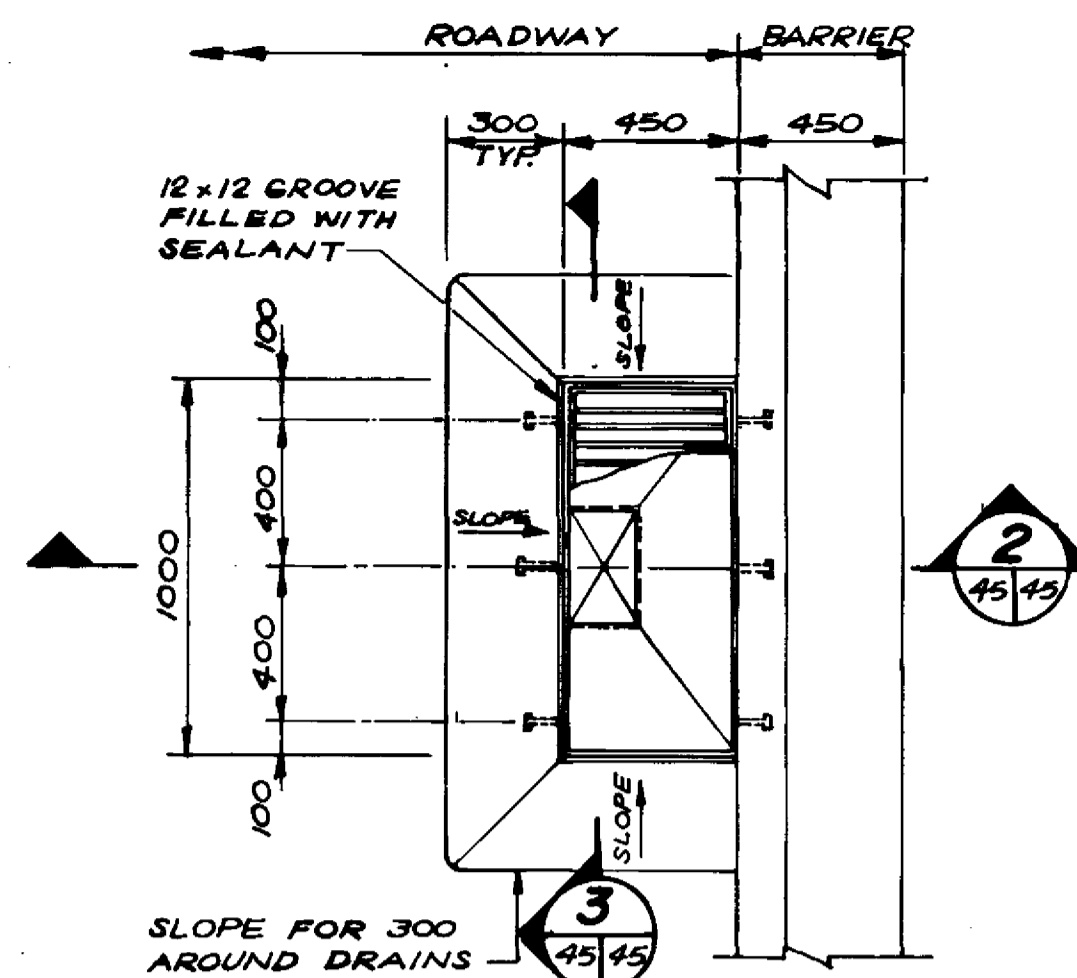
DILLON
Consulting Engineers - Planners
Environmental Scientists
DESIGNED BY: W.P.S. CHECKED BY: S.S.R.
DRAWN BY: K.C. APPROVED BY: *[Signature]*
HOR SCALE: AS SHOWN
VERTICAL: AS SHOWN
DATE: MAR. 1989

ENGINEER'S SEAL
PROVINCE OF MANITOBA
22/4/89
S.S. RIHAL
REGISTERED ENGINEER

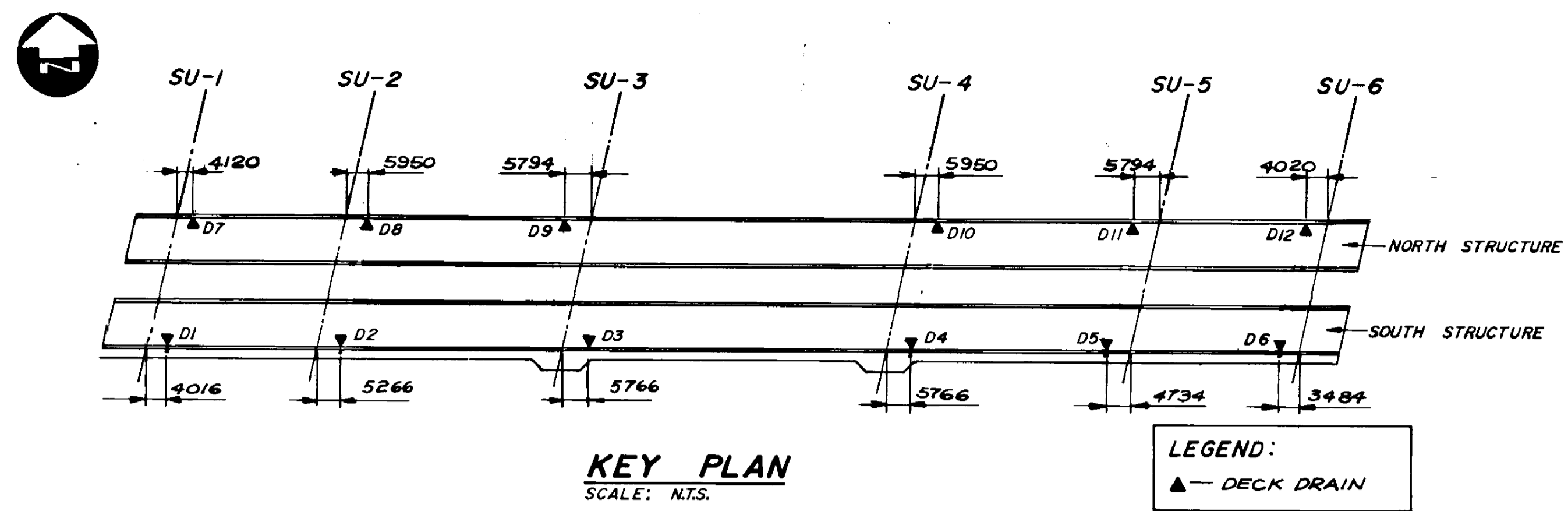
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
EXPANSION JOINTS
AT SU-1 AND SU-6
SHEET 2 OF 2
CITY DRAWING NUMBER: B216-89-44S
SHEET OF: 2
B-5828-47



SOUTH STRUCTURE
PLAN OF DECK & SIDEWALK DRAINS
SCALE: 1:20

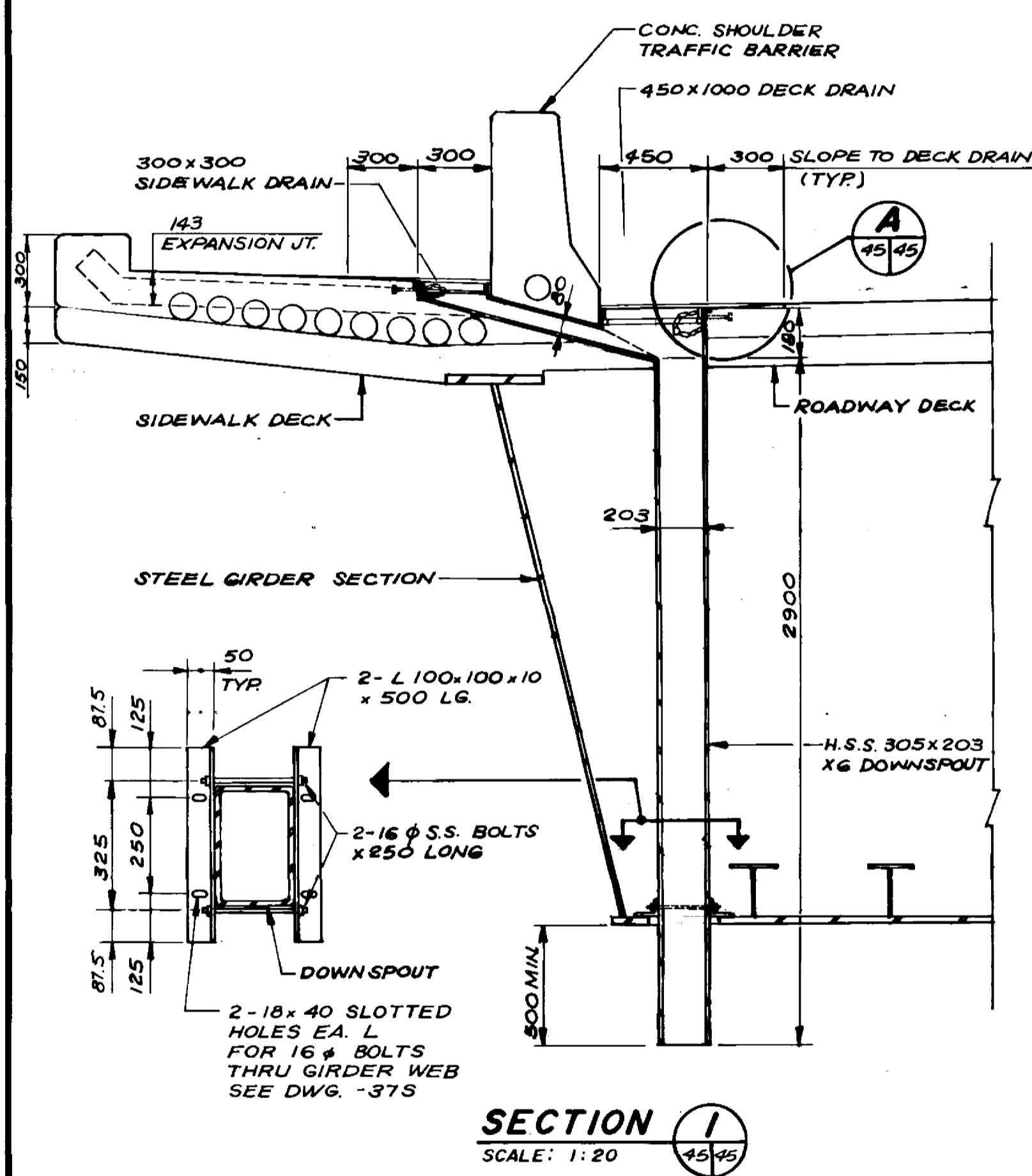


NORTH STRUCTURE
PLAN OF DECK DRAIN
SCALE: 1:20

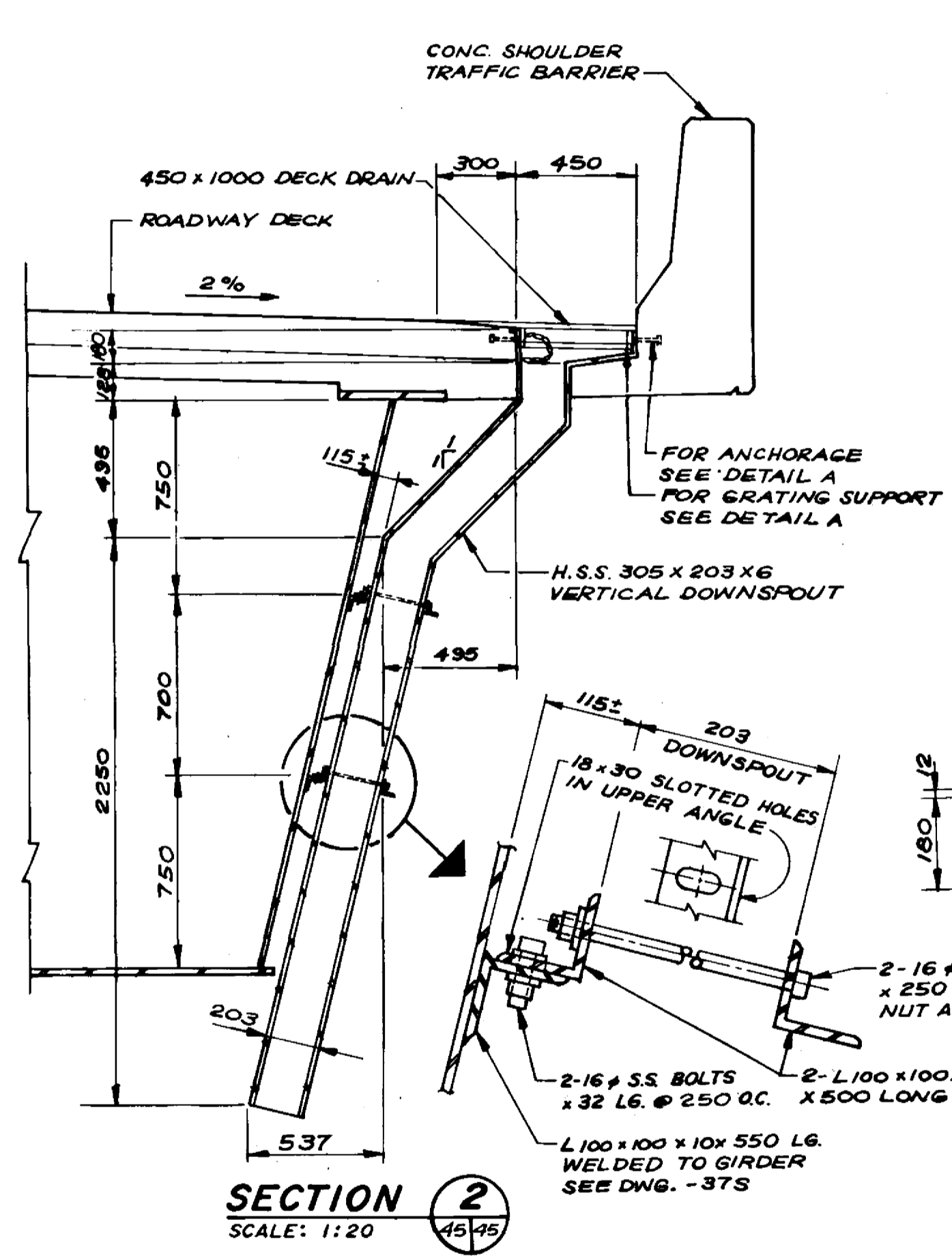


KEY PLAN
SCALE: N.T.S.

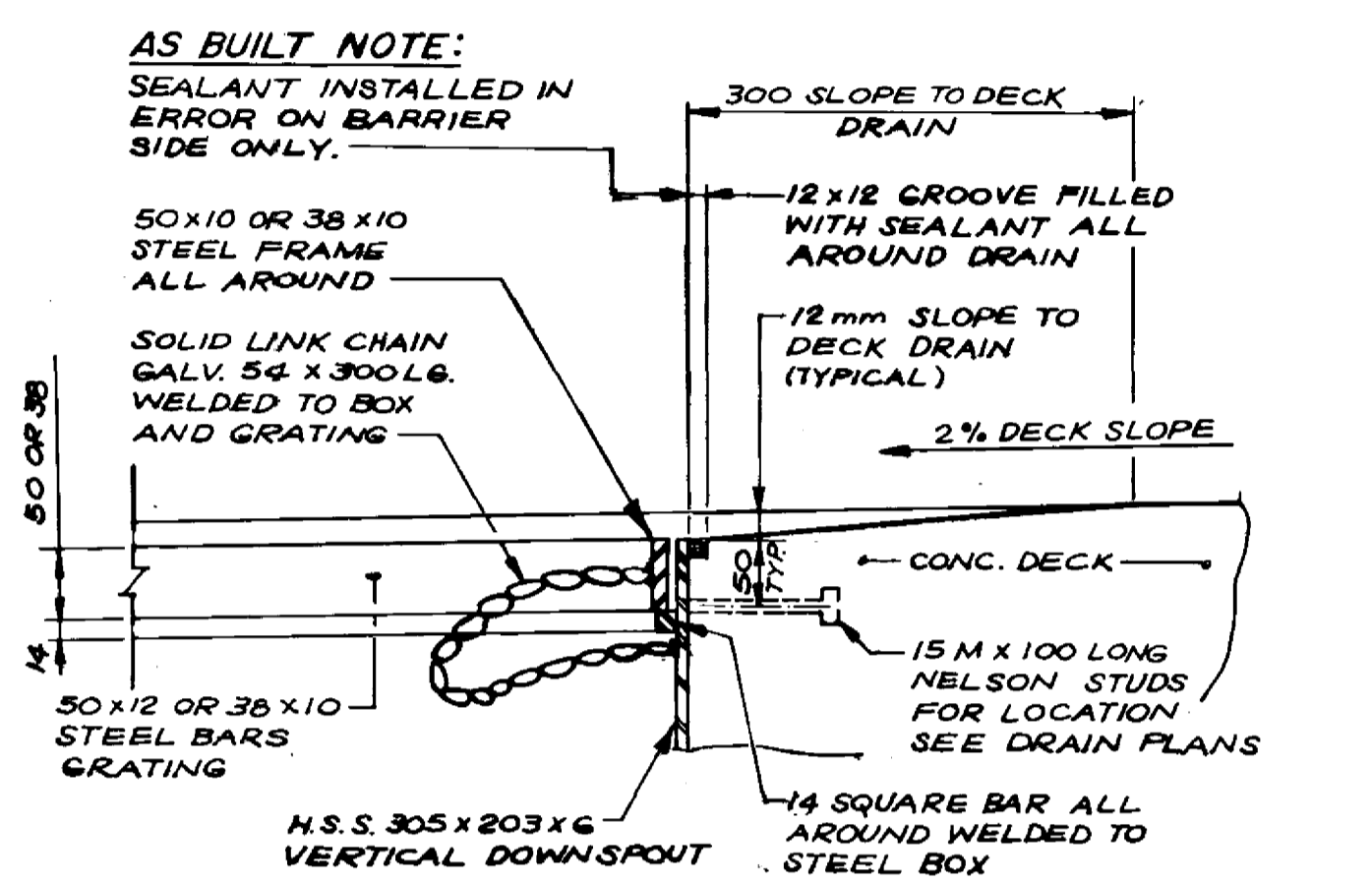
LEGEND:
▲ DECK DRAIN



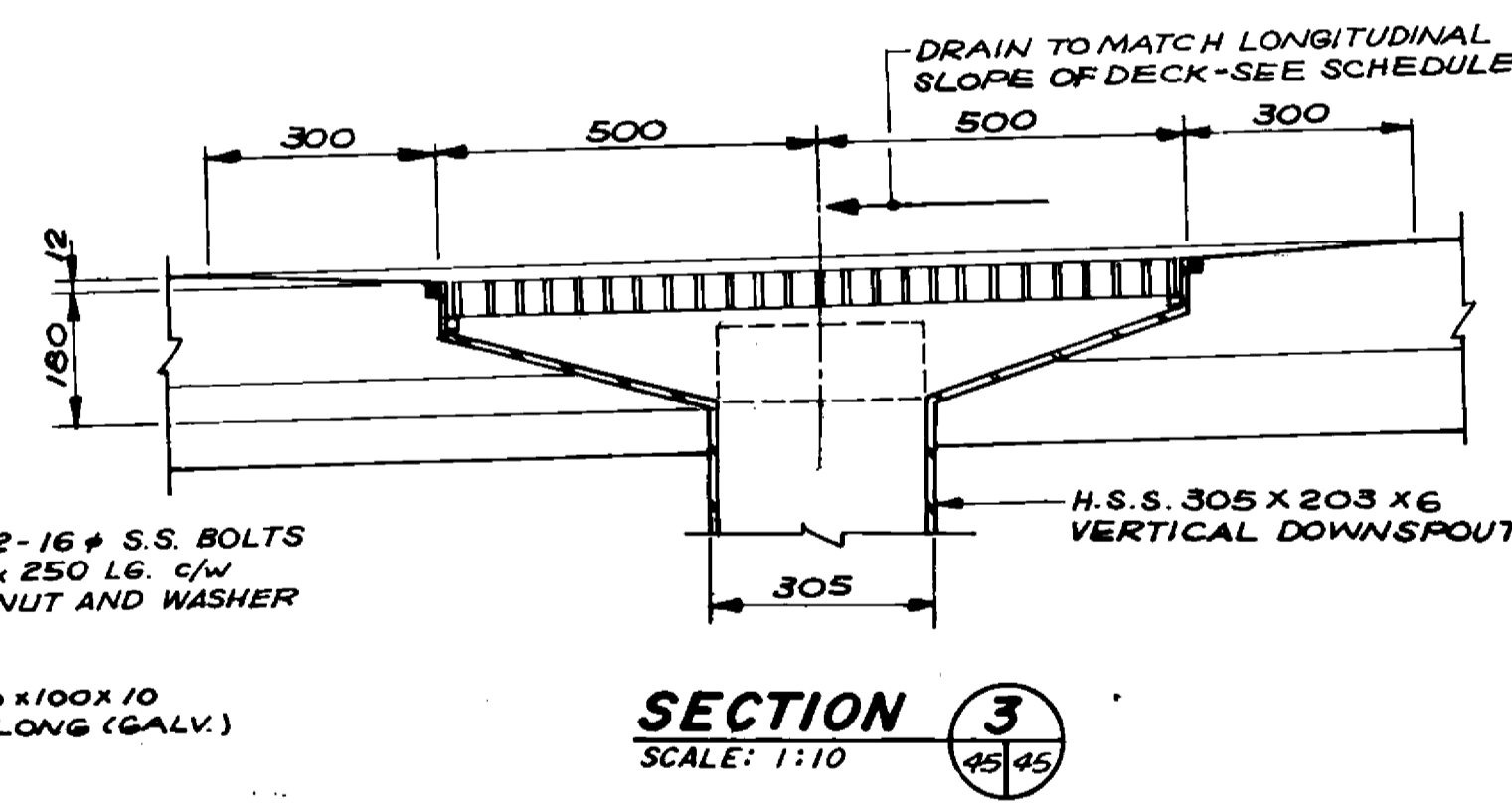
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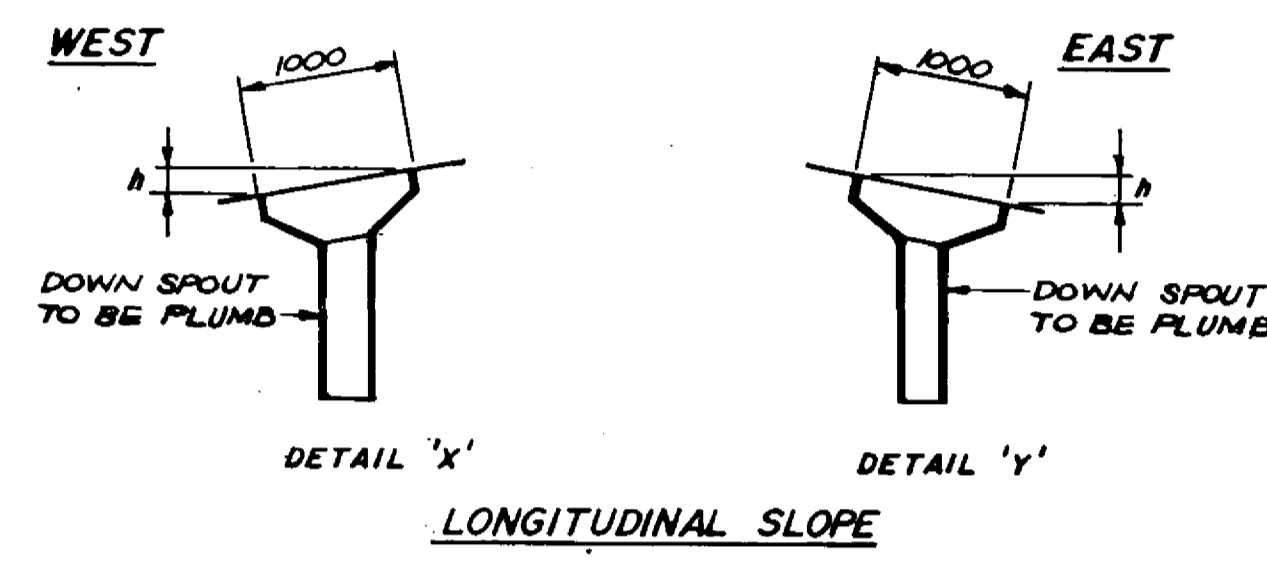
SECTION 2
SCALE: 1:20



DETAIL A
SCALE: 1:5



SECTION 3
SCALE: 1:10

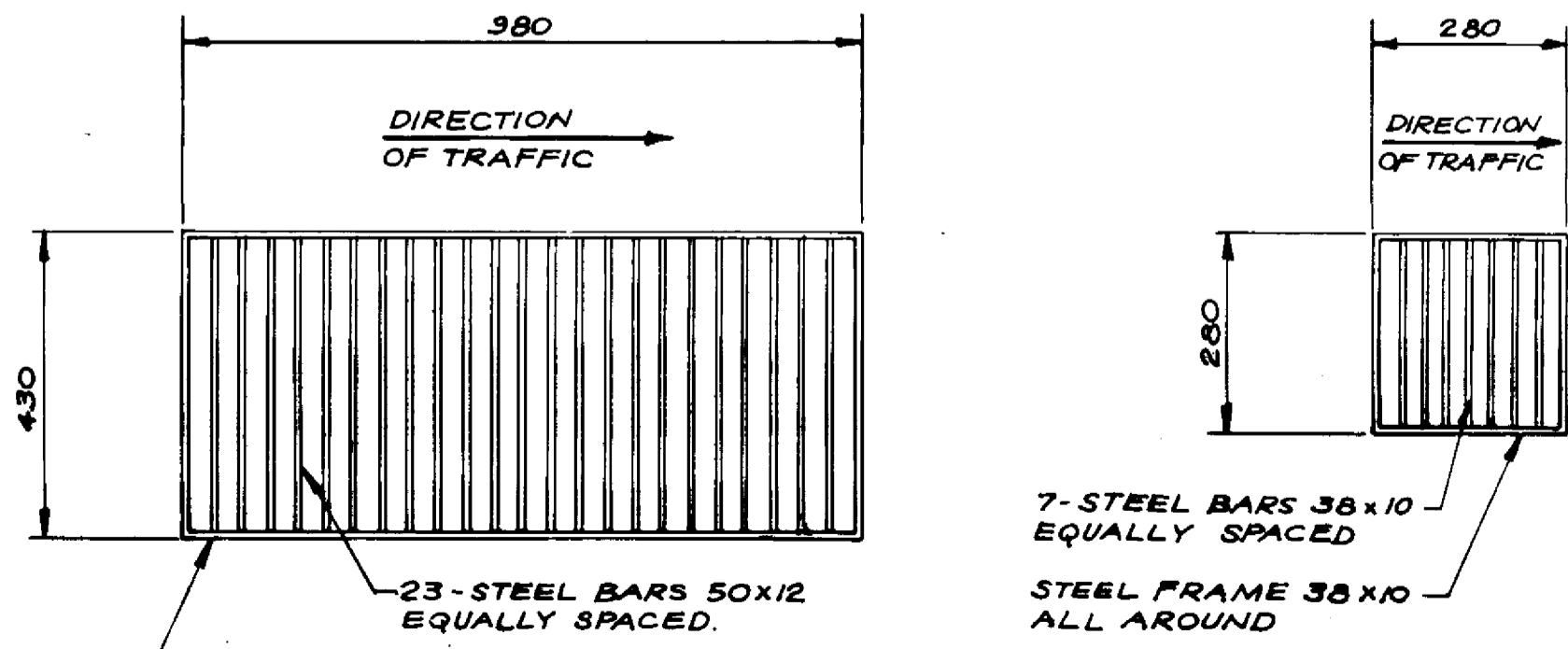


LONGITUDINAL SLOPE

DECK DRAIN SCHEDULE			
DRAIN	STRUCTURE	DETAIL	h
D1	SOUTH	X	26
D2	SOUTH	X	17
D3	SOUTH	X	6
D4	SOUTH	Y	6
D5	SOUTH	Y	16
D6	SOUTH	Y	25
D7	NORTH	X	25
D8	NORTH	X	16
D9	NORTH	X	6
D10	NORTH	Y	7
D11	NORTH	Y	17
D12	NORTH	Y	26

DECK DRAIN NOTES:

- SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR APPROVAL AT LEAST TEN (10) WORKING DAYS PRIOR TO FABRICATION.
- DECK DRAINS SHALL BE FABRICATED FROM STEEL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21 M, GRADE 300 M.
- DECK DRAINS AND CONNECTORS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH CSA STANDARD G 164 TO A RETENTION OF 600 g/m². ALL GALVANIZING TO BE DONE AFTER FABRICATION.
- ALL FASTENERS, WASHERS, NUTS AND INSERTS SHALL BE STAINLESS STEEL.
- ALL AREAS OF DAMAGED GALVANIZING AND FIELD WELDING, SHALL BE REPAIRED BY USING THE GALVALOY PROCEDURE AS SPECIFIED.



GRATING DETAIL PLANS
SCALE: 1:10

RECORD DRAWING

PROVED BY: *[Signature]* DATE: 90.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES

BM ELEV

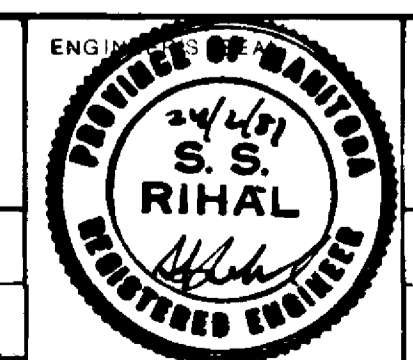
DESIGNED BY: W.P.S. CHECKED BY: W.P.S.

DRAWN BY: N.B.G. APPROVED BY: *[Signature]*

HOR. SCALE: AS SHOWN VERTICAL: AS SHOWN

DATE: MAR. 1989

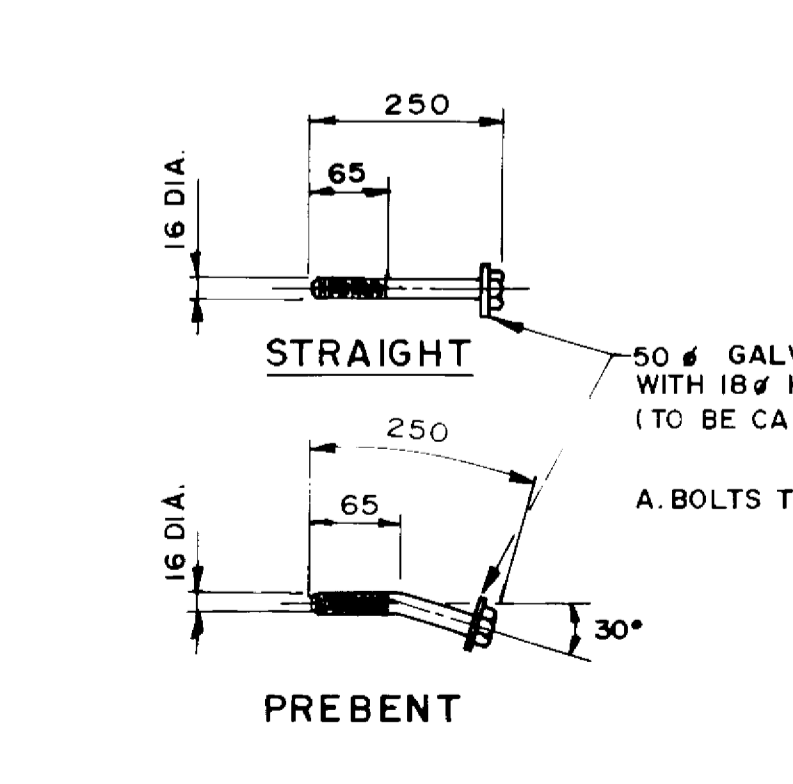
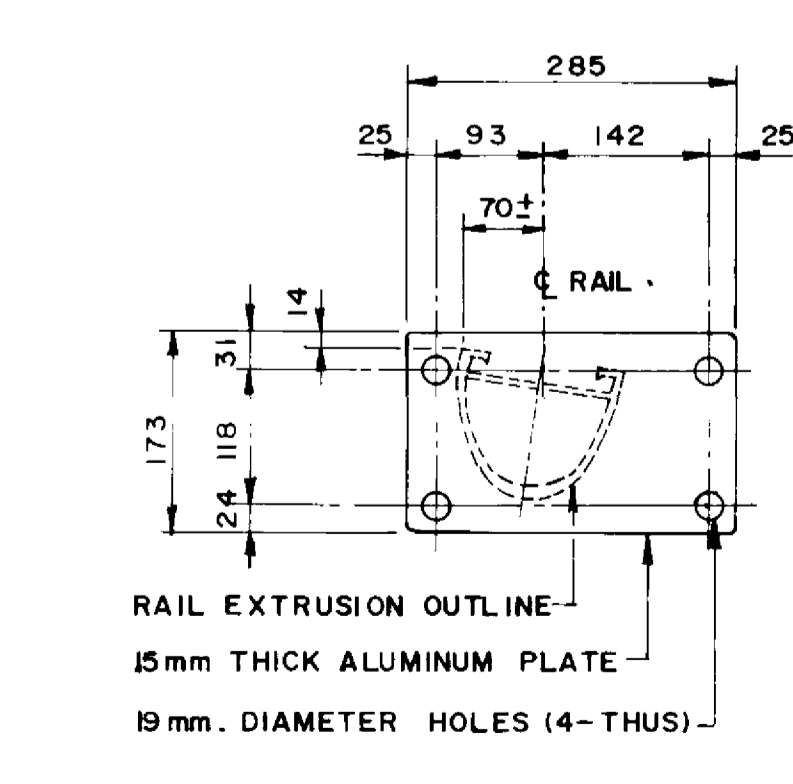
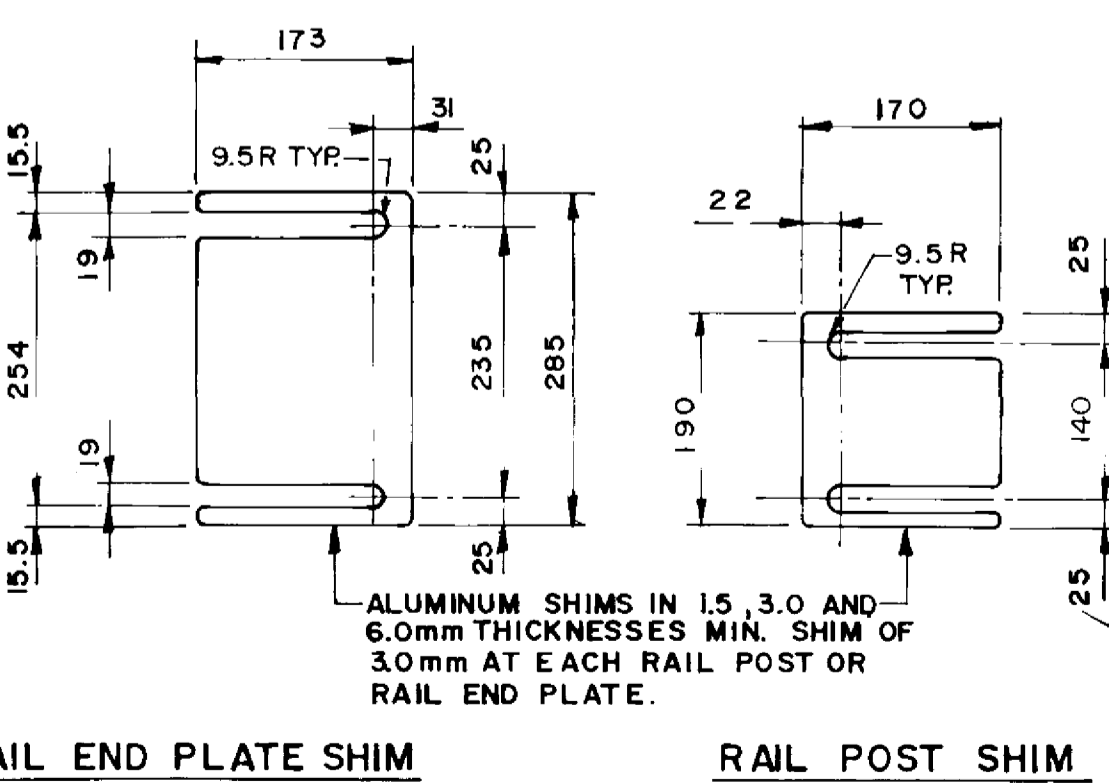
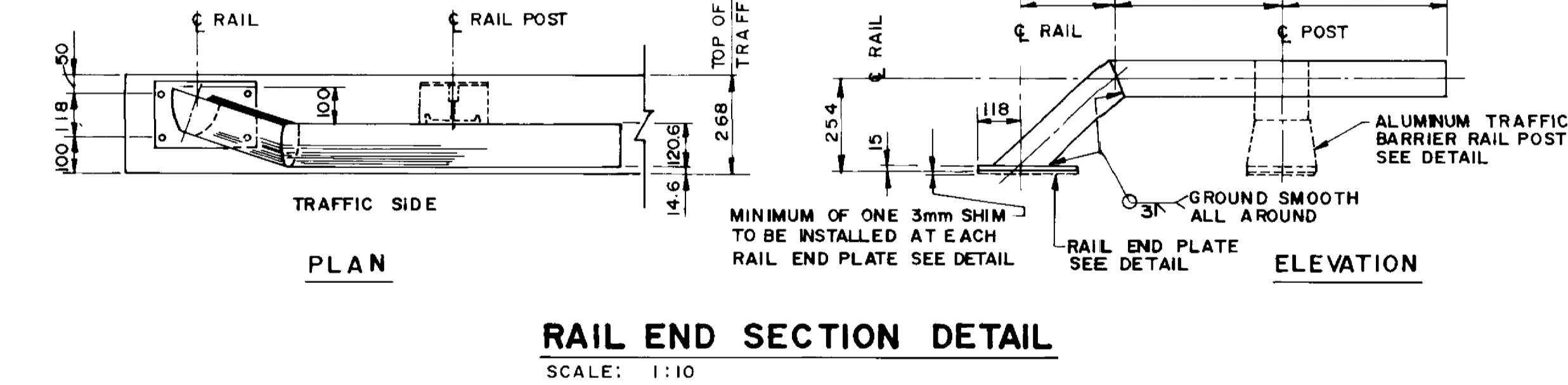
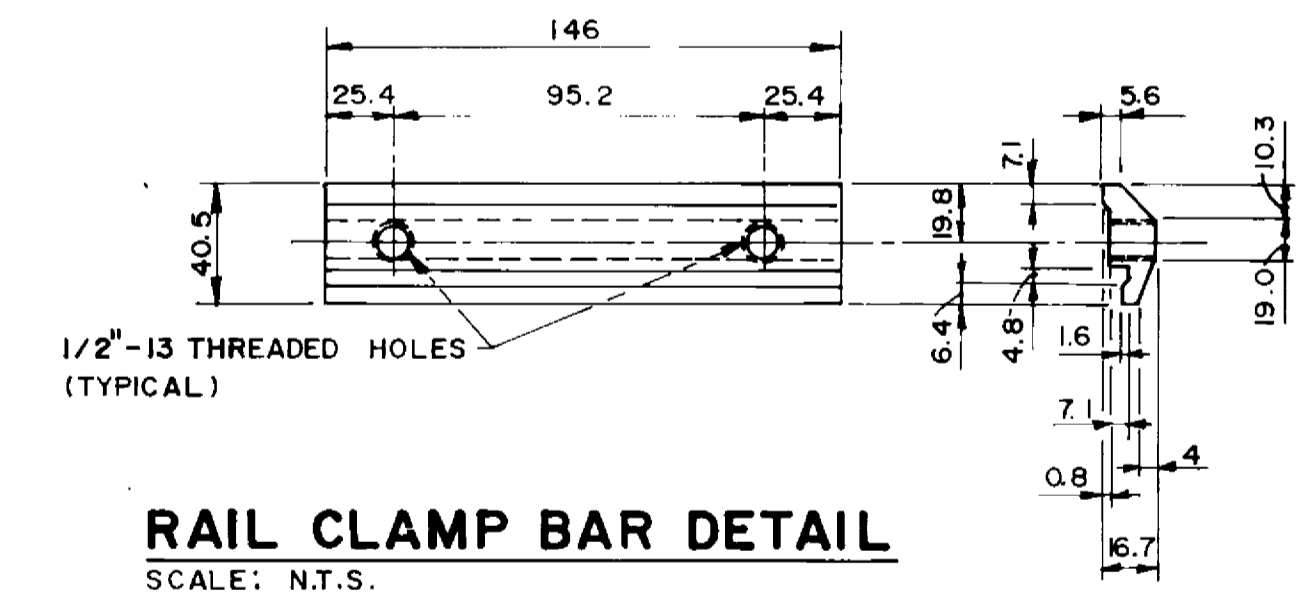
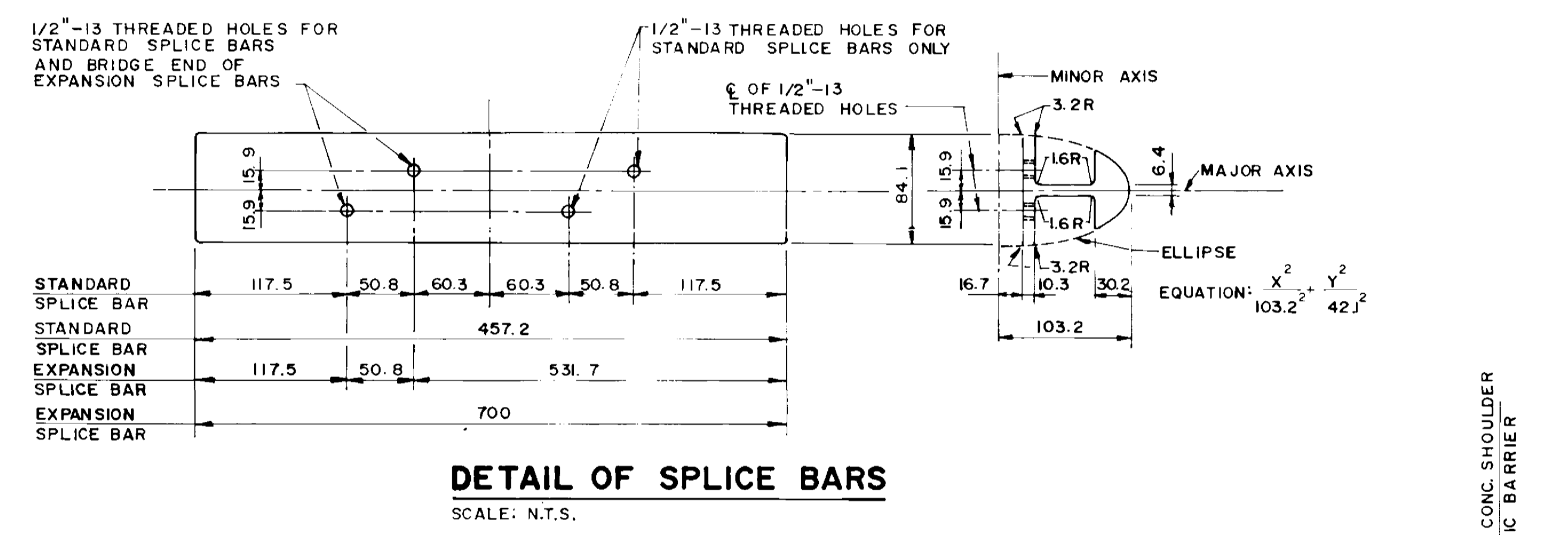
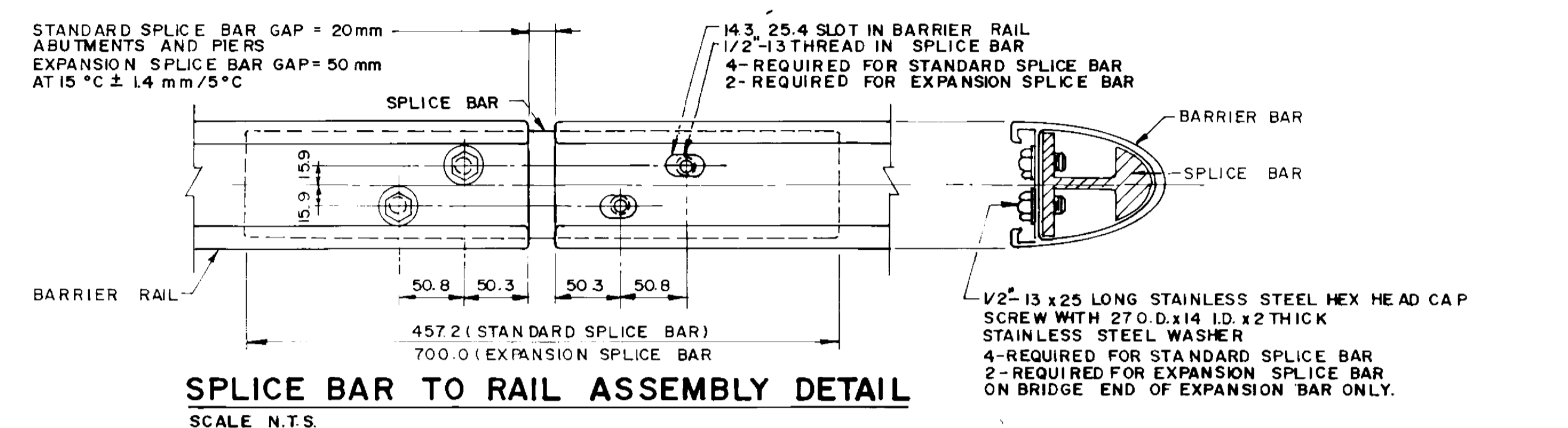
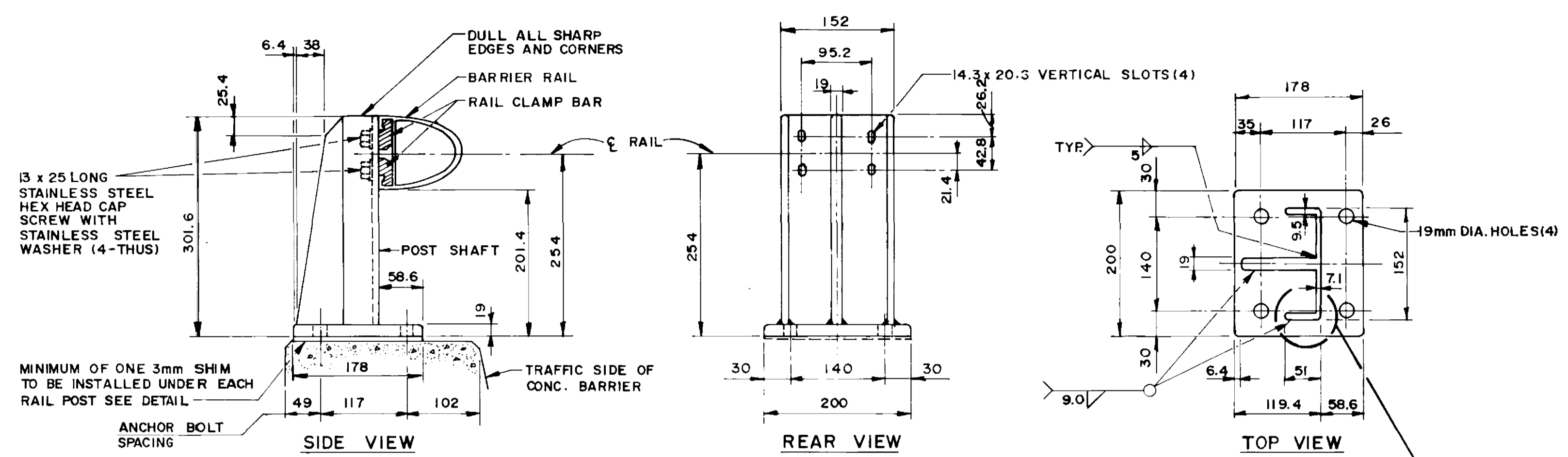
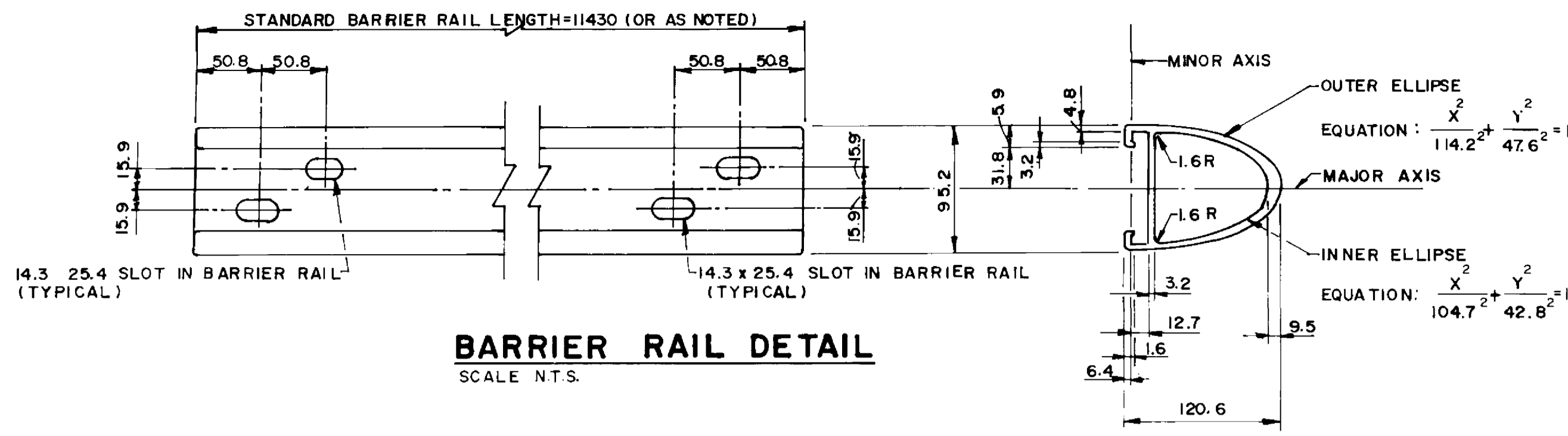
DILLON
Consulting Engineers - Planners
Environmental Scientists



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
DECK DRAINS

CITY DRAWING NUMBER: B216-89-45S
SHEET OF: 1
CONSULTANT DRAWING NO.: B-5828-48



NOTES:

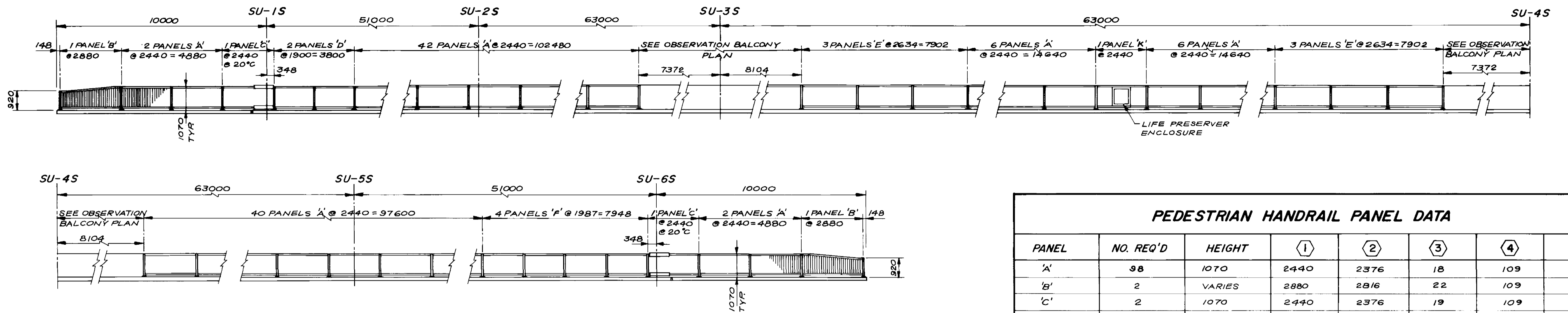
1. THE 19 mm DIA. HOLES (4) IN THE BASE OF THE BARRIER RAIL POSTS AND RAIL END PLATES ARE DESIGNED TO ACCOMMODATE 16 mm DIA. RAIL POST ANCHOR BOLTS AS DETAILED. SUPPLY WITH EACH ANCHOR BOLT: ONE STAINLESS STEEL PLAIN WASHER, ONE STAINLESS STEEL LOCK WASHER AND ONE STAINLESS HEX NUT AND ONE 50 mm DIA. GALVANIZED PLATE WASHER.
2. A COMBINATION OF 1.5, 3.0 AND/OR 6.0 mm THICK ALUMINUM RAIL POST OR END PLATE SHIMS SHALL BE USED AS REQUIRED TO SET THE BARRIER RAIL TO THE SPECIFIED HEIGHT. (MINIMUM 3.0 mm SHIM REQUIRED AT EACH POST OR PLATE.)
3. BOTTOM SURFACE OF SHIM (SURFACE IN CONTACT WITH CONCRETE) IS TO BE PAINTED WITH 2 COATS OF ALKALI RESISTANT BITUMINOUS PAINT, EACH COAT BEING 1 mm IN THICKNESS.
4. ALL EDGES AND CORNERS OF BARRIER RAIL POST PLATES AND EXTRUSIONS SHALL BE ROUNDED, IN THE SHOP, TO A SMOOTH 2 mm RADIUS TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.

SPECIFICATIONS:

1. EXTRUDED ALUMINUM SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. B221, ALLOY 6061-T6 OR ALLOY 6351-T5 (MINIMUM ELONGATION 10%).
2. THE STAINLESS STEEL HEX HEAD AND SOCKET HEAD CAP SCREWS SHALL MEET THE REQUIREMENTS OF A.S.T.M. A276 TYPE 316, AND THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.3.
3. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE, AND ACCEPTED MANUFACTURING PRACTICES.
4. THE POST SHAFT SHALL BE MADE FROM A SINGLE CHANNEL-SHAPE EXTRUSION WELDED TO A PLATE SHAPE. THE POST BASE AND SHAFT SHALL THEN BE WELDED TOGETHER.
5. WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARDS S244-1969, WELDED ALUMINUM DESIGN AND WORKMANSHIP AND W47.2-1987, ALUMINUM WELDING QUALIFICATION CODE. ALUMINUM FILLER ALLOY SHALL BE ONE OF THE FOLLOWING: ER4043, ER5183, ER5356, ER5554, ER5556 AND ER5654.
6. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS CONSISTING OF THREE PRINTS AND ONE REPRODUCIBLE SET TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF ALUMINUM TRAFFIC BARRIER COMPONENTS.
7. ANTI-SEIZE COATING TO BE APPLIED TO ALL THREADED COMPONENTS WHEN BEING ASSEMBLED. I.E. LPS-3- MANUFACTURED BY HOLT-LLOYD (CANADA) LTD. MARKHAM, ONTARIO L3R 2Z3.

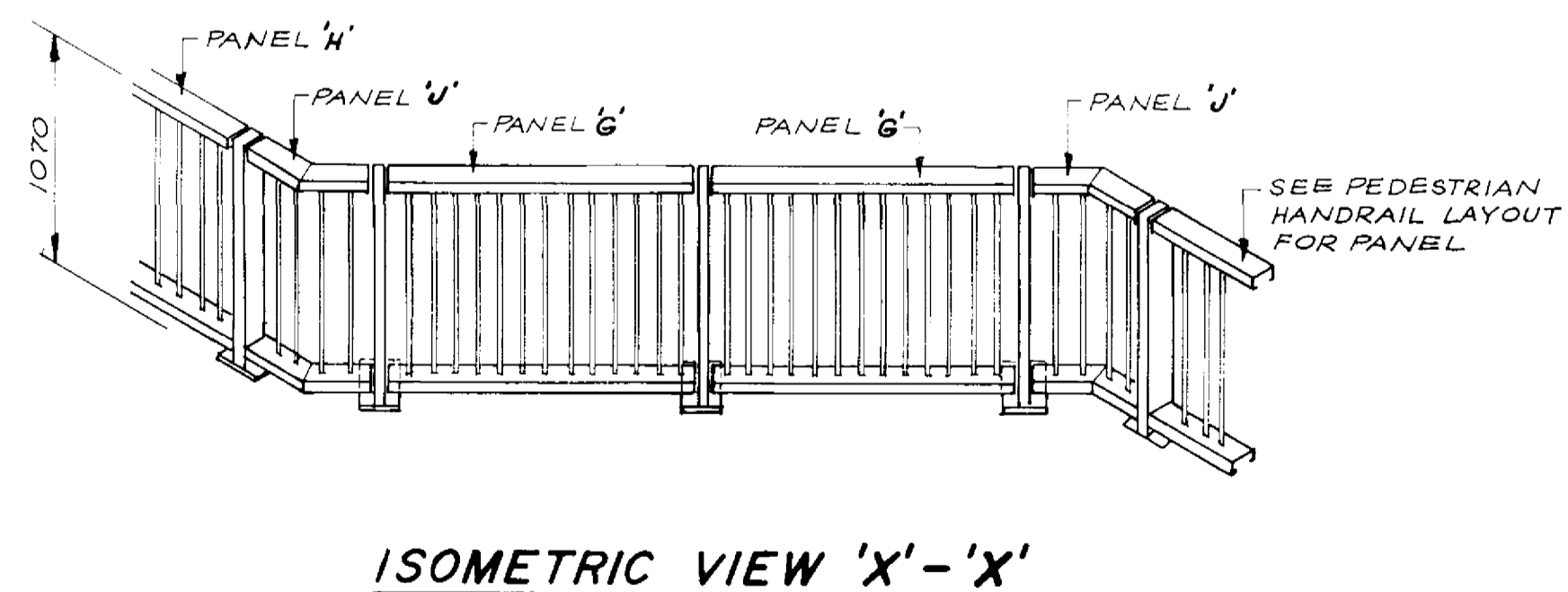
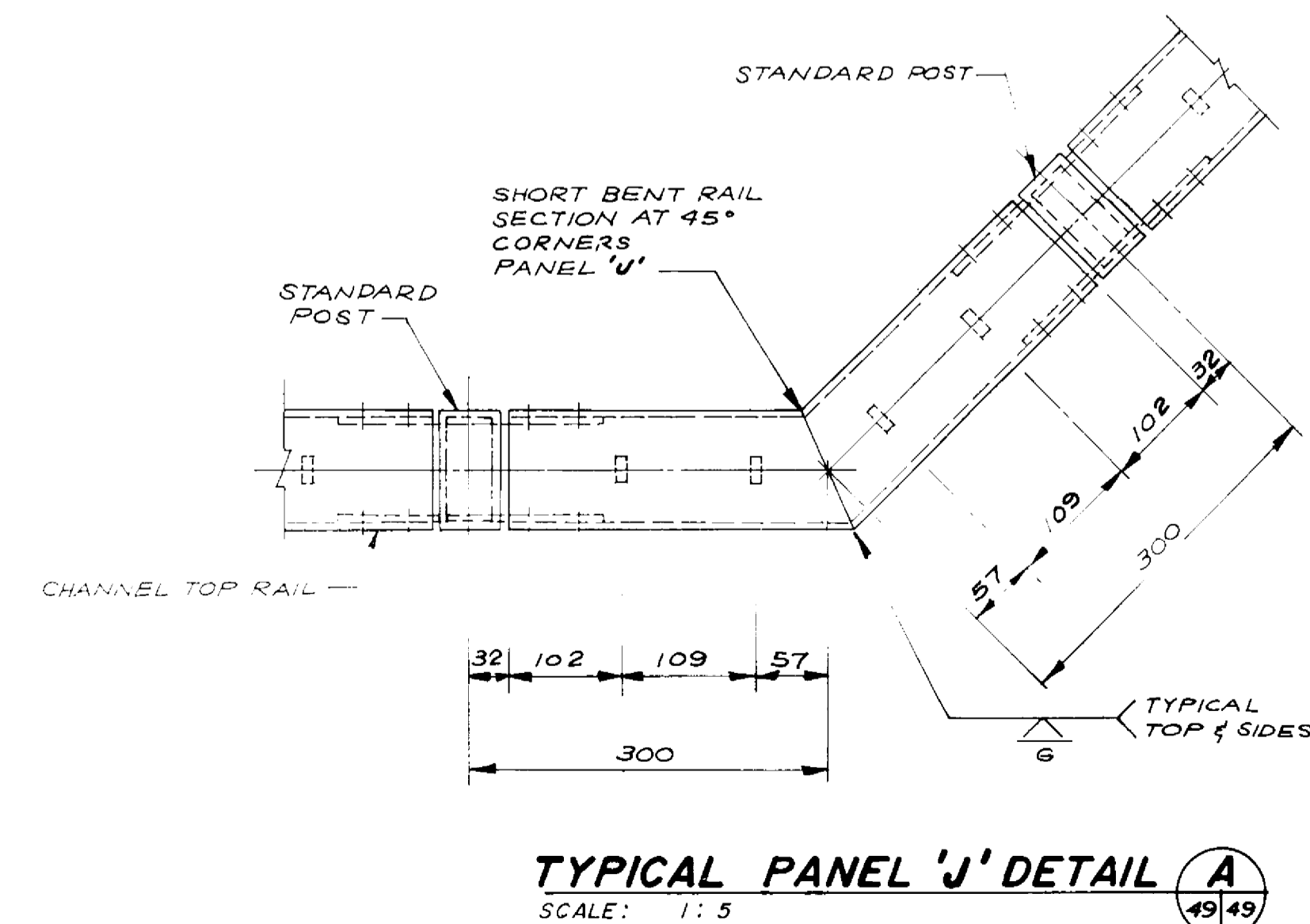
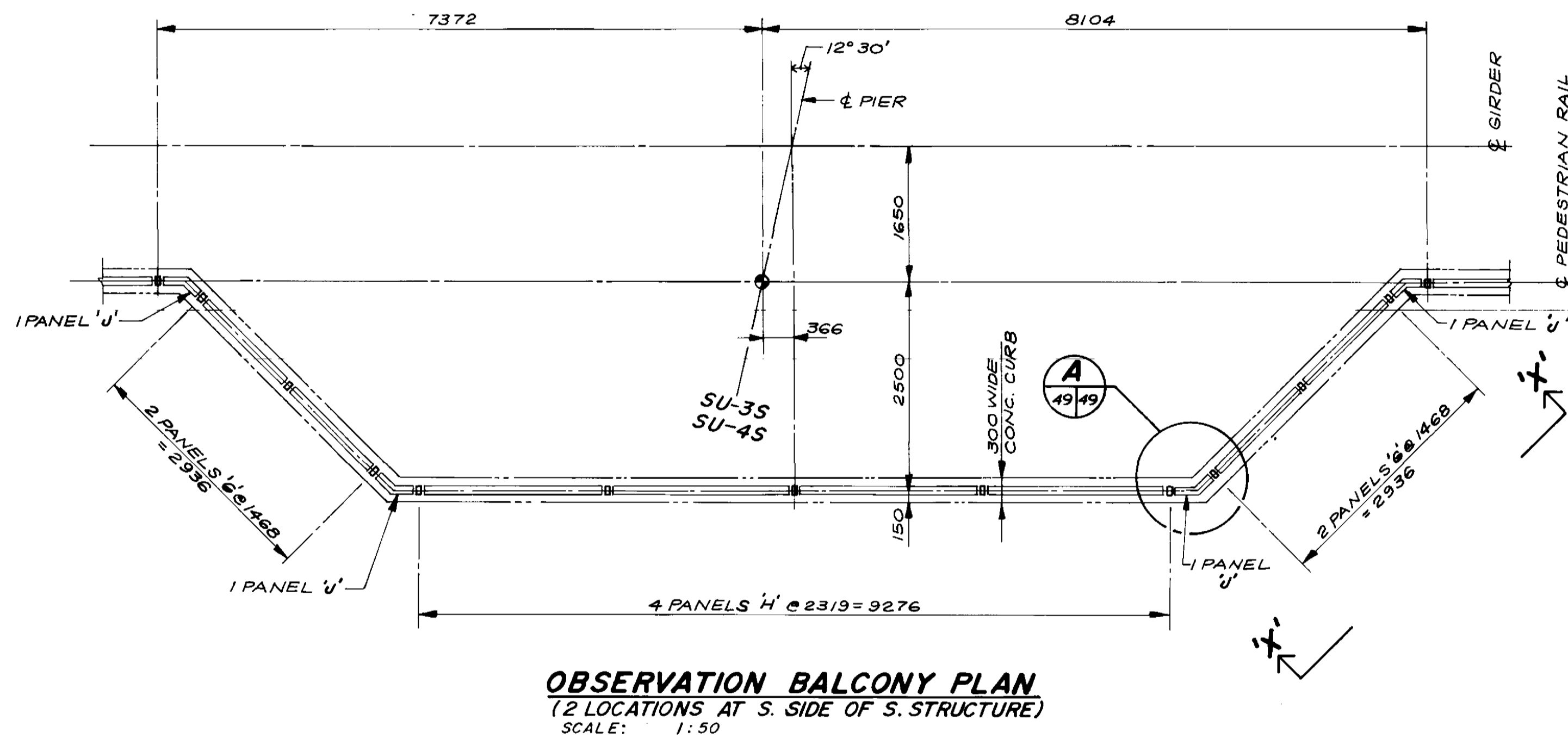
RECORD DRAWING
APPROVED BY: [Signature] DATE: 09/11/88

B.M. ELEV. NO. REVISIONS DATE BY DATE	DILLON Consulting Engineers - Planners Environmental Scientists		ENGINEER OF RECORD S.S. RIHAL REGISTERED ENGINEER	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT		
	DESIGNED BY	N/A		CHECKED BY	W.P.S.	KILDONAN CORRIDOR BRIDGE CITY DRAWING NUMBER B216-89-485
	DRAWN BY	N.B.G.		APPROVED BY	[Signature]	
	HOR SCALE	AS SHOWN		ACCEPTED BY	[Signature]	CONSULTANT DRAWING NO. ALUMINUM TRAFFIC BARRIER RAIL DETAILS



PEDESTRIAN HANDRAIL PANEL DATA

PANEL	NO. REQ'D	HEIGHT	①	②	③	④	⑤
'A'	98	1070	2440	2376	18	109	105
'B'	2	VARIES	2880	2816	22	109	102
'C'	2	1070	2440	2376	19	109	102
'D'	2	1070	1900	1836	13	109	107.5
'E'	6	1070	2634	2570	20	109	93
'F'	4	1070	1987	1923	14	109	96.5
'G'	8	1070	1468	1404	9	109	109.5
'H'	8	1070	2319	2255	17	109	99
'I'	8	1070	SEE TYR PANEL 'J' DETAIL BELOW				
'K'	1	SEE LIFE PRESERVER ENCLOSURE DWG. NO. 52					



RECORD DRAWING
DATE: 90.11.28

LOCATION APPROVED UNDERGROUND STRUCTURES NA	B.M. ELEV.
SUPV. U/G STRUCTURES COMMITTEE DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	
NO. REVISIONS	DATE BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

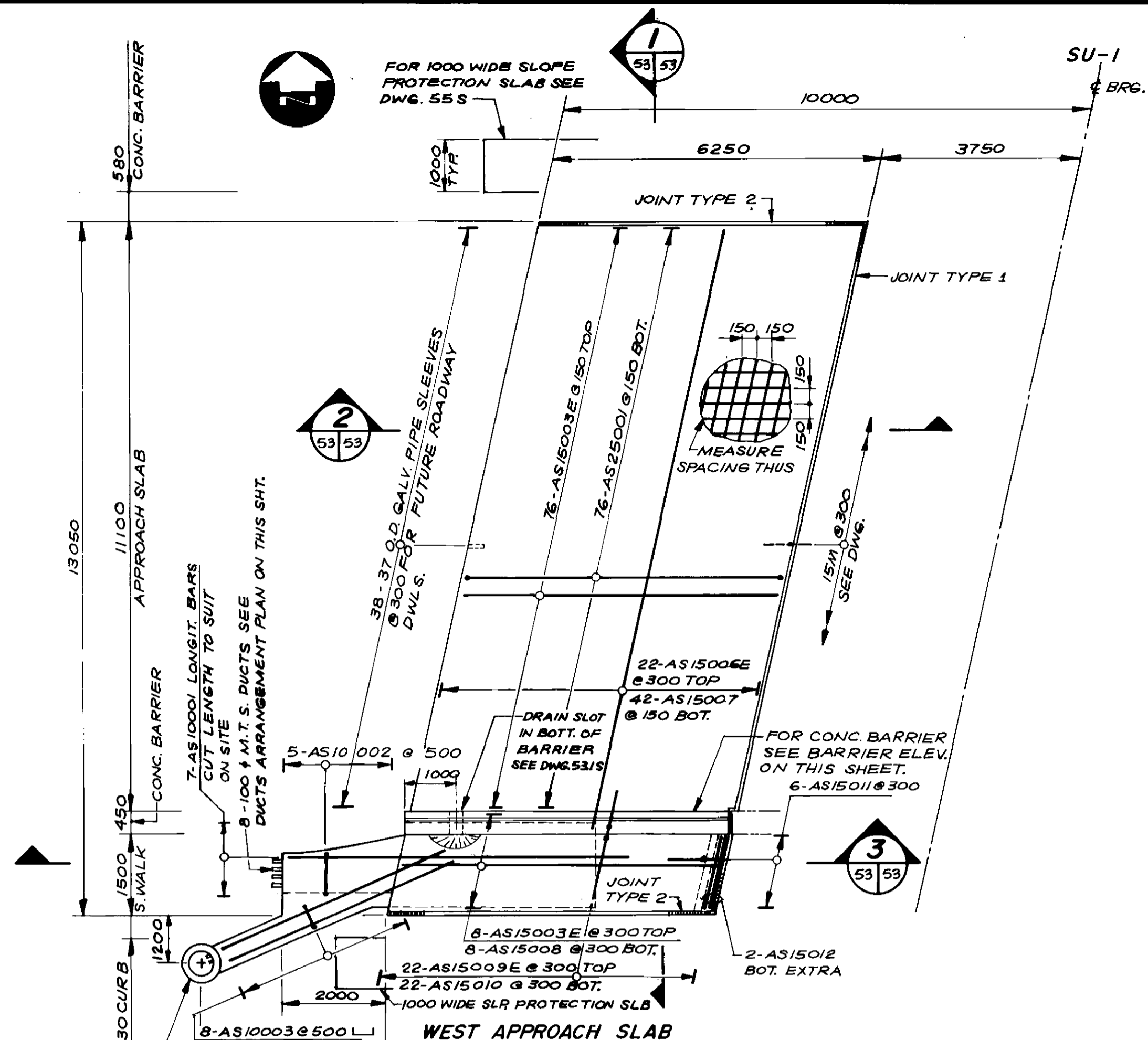
DESIGNED BY W. P. S.	CHECKED BY S.S.R.
DRAWN BY N. B. G.	APPROVED BY <i>[Signature]</i>
HOR. SCALE AS SHOWN	AUTHORIZED BY 1989-05-01
VERTICAL	DATE
DATE MAR. 1989	DATE 1989

ENGINEER'S SEAL
PROVINCE OF MANITOBA
24/18
S. S. RIHAL
REGISTERED ENGINEER

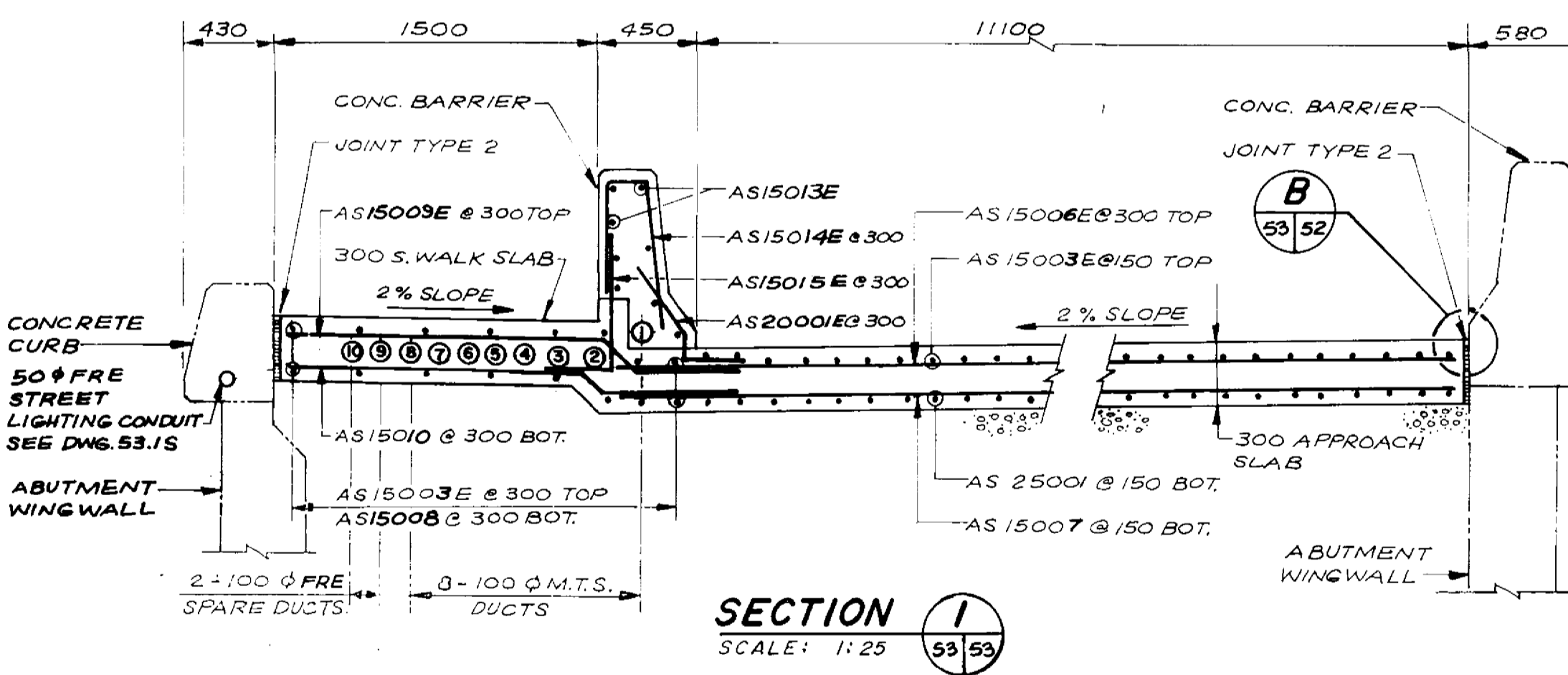
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
ALUMINUM PEDESTRIAN HANDRAIL LAYOUT

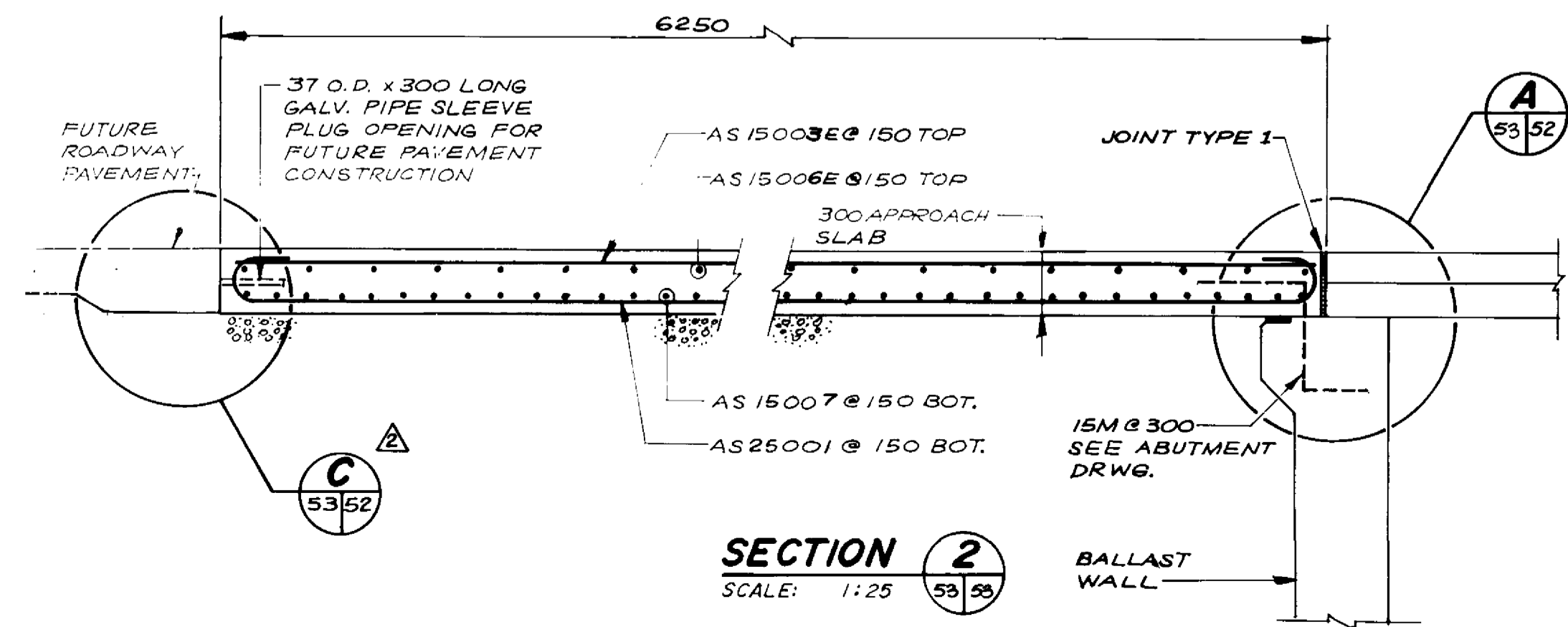
CITY DRAWING NUMBER
B216-89-49s
SHEET OF
B-5828-52



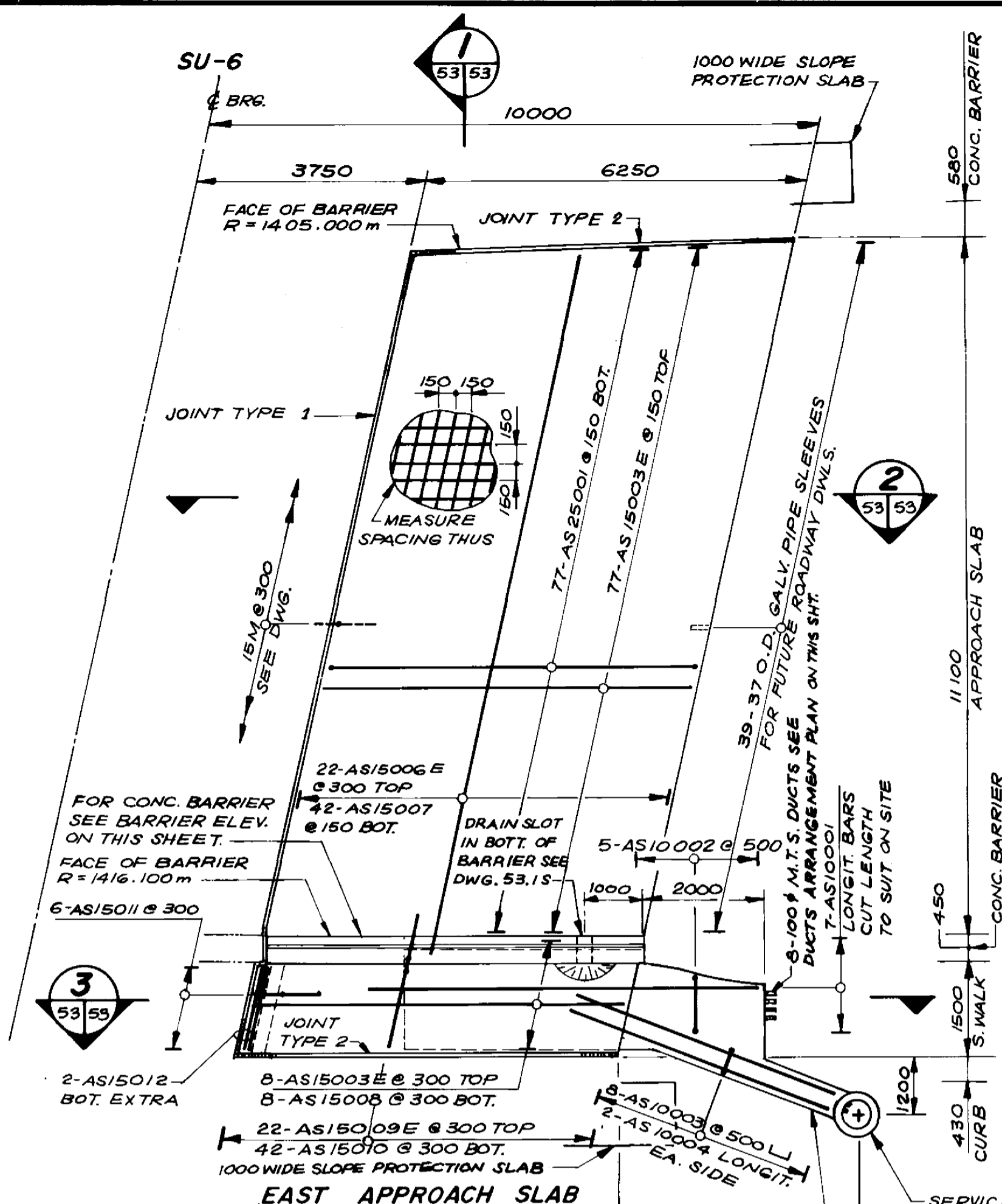
PLAN-SOUTH STRUCTURE APPROACH SLABS
SCALE: 1:75



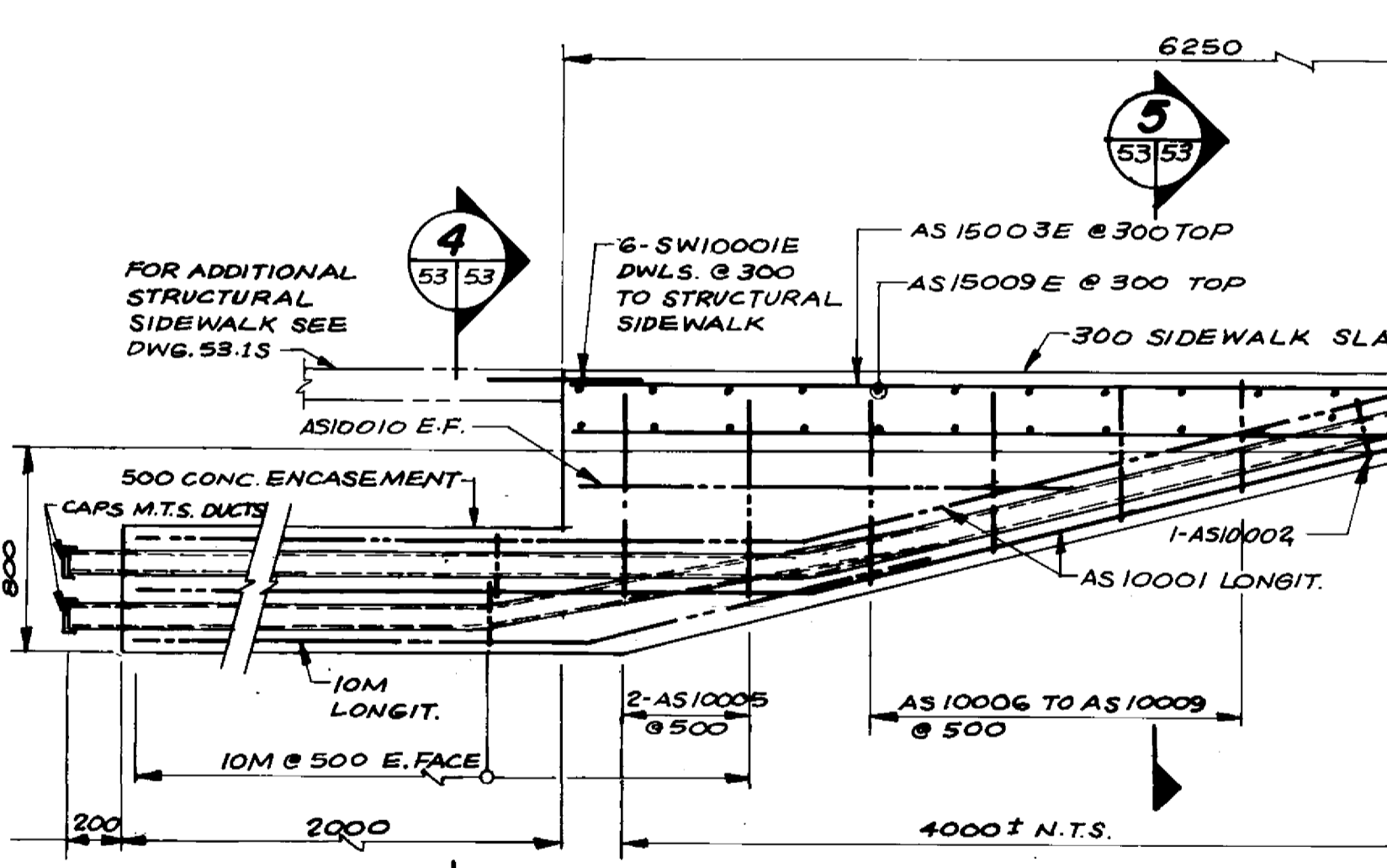
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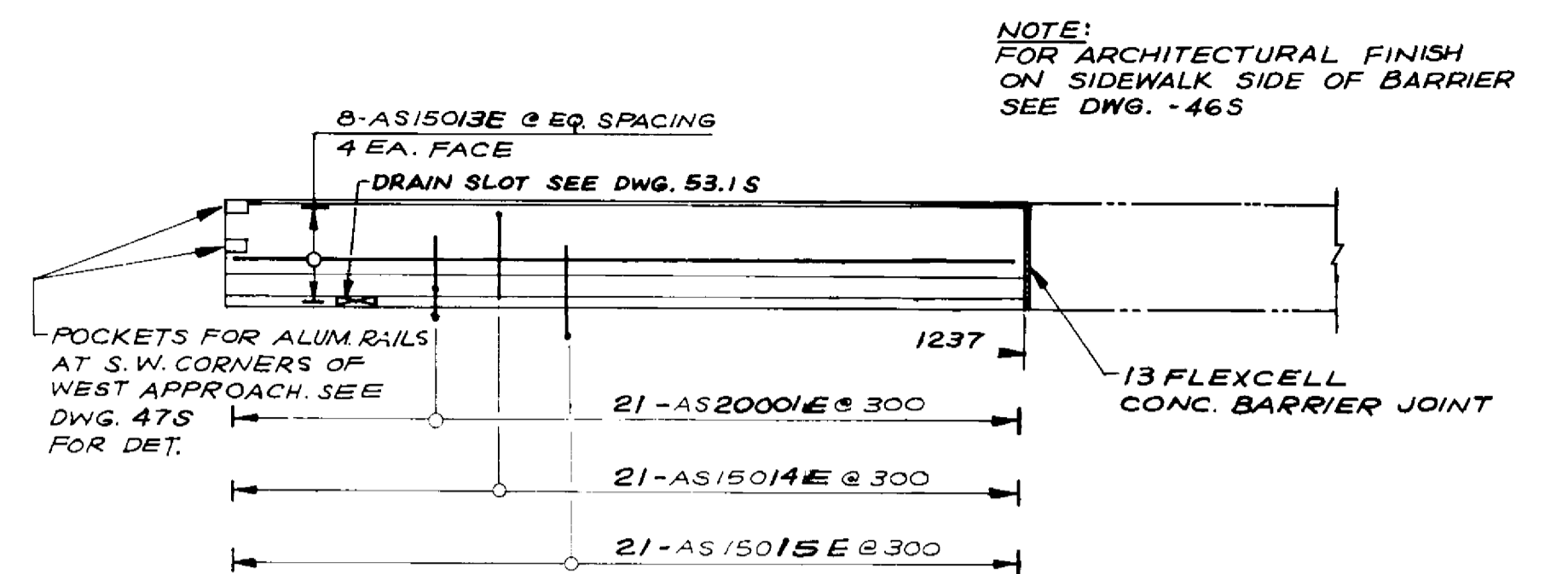
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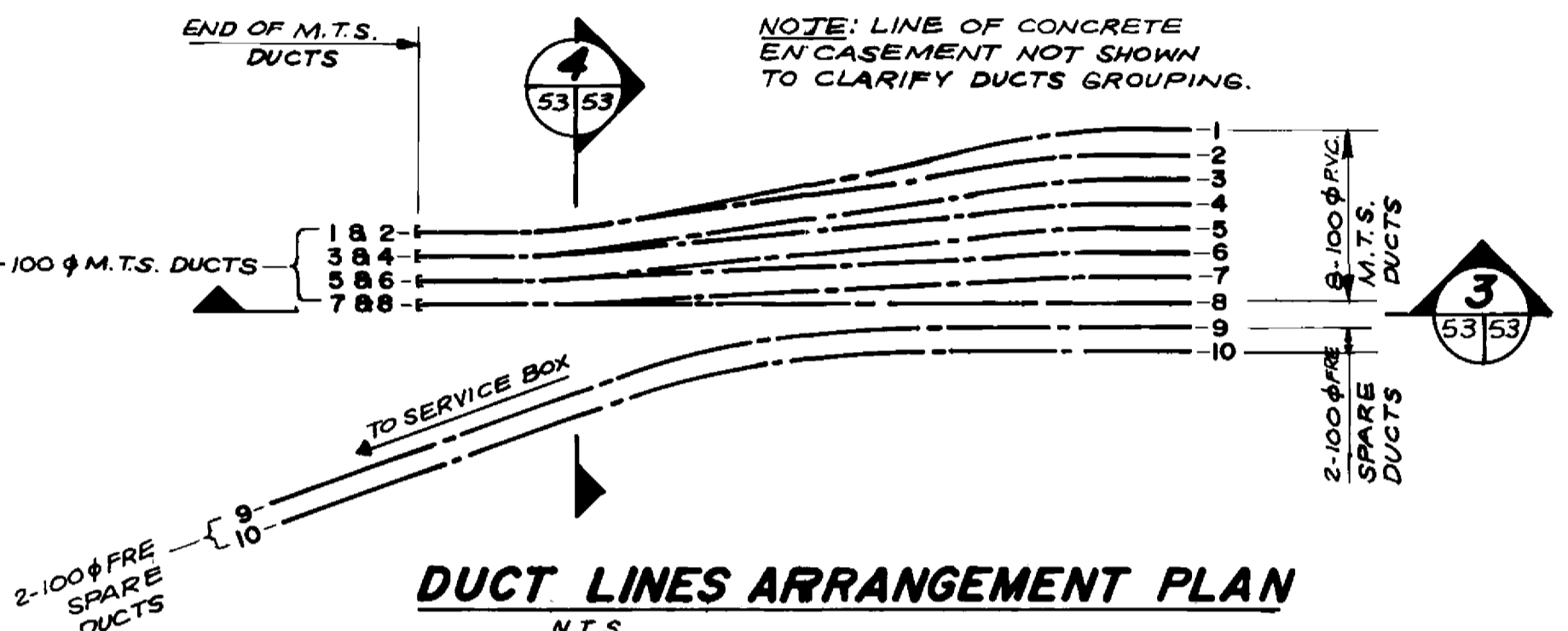
EAST APPROACH SLAB
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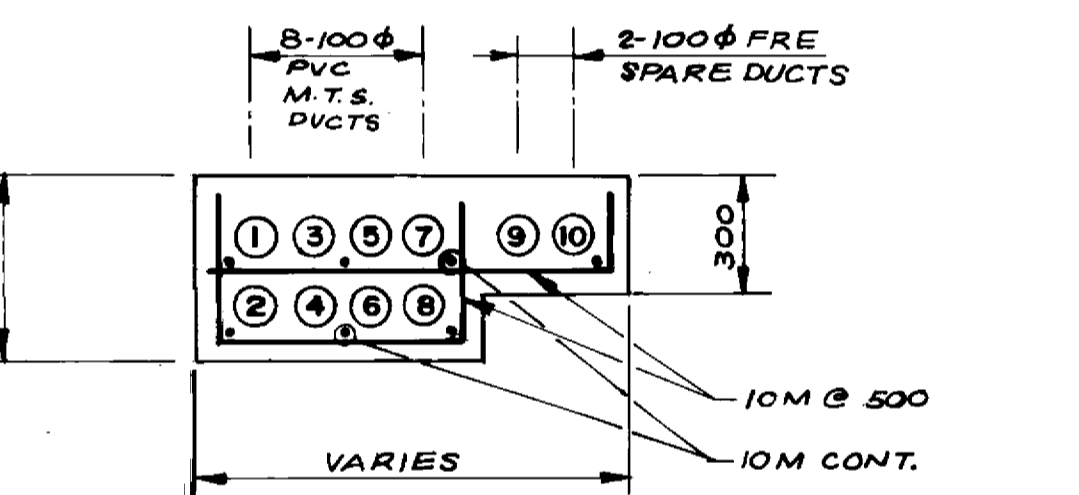
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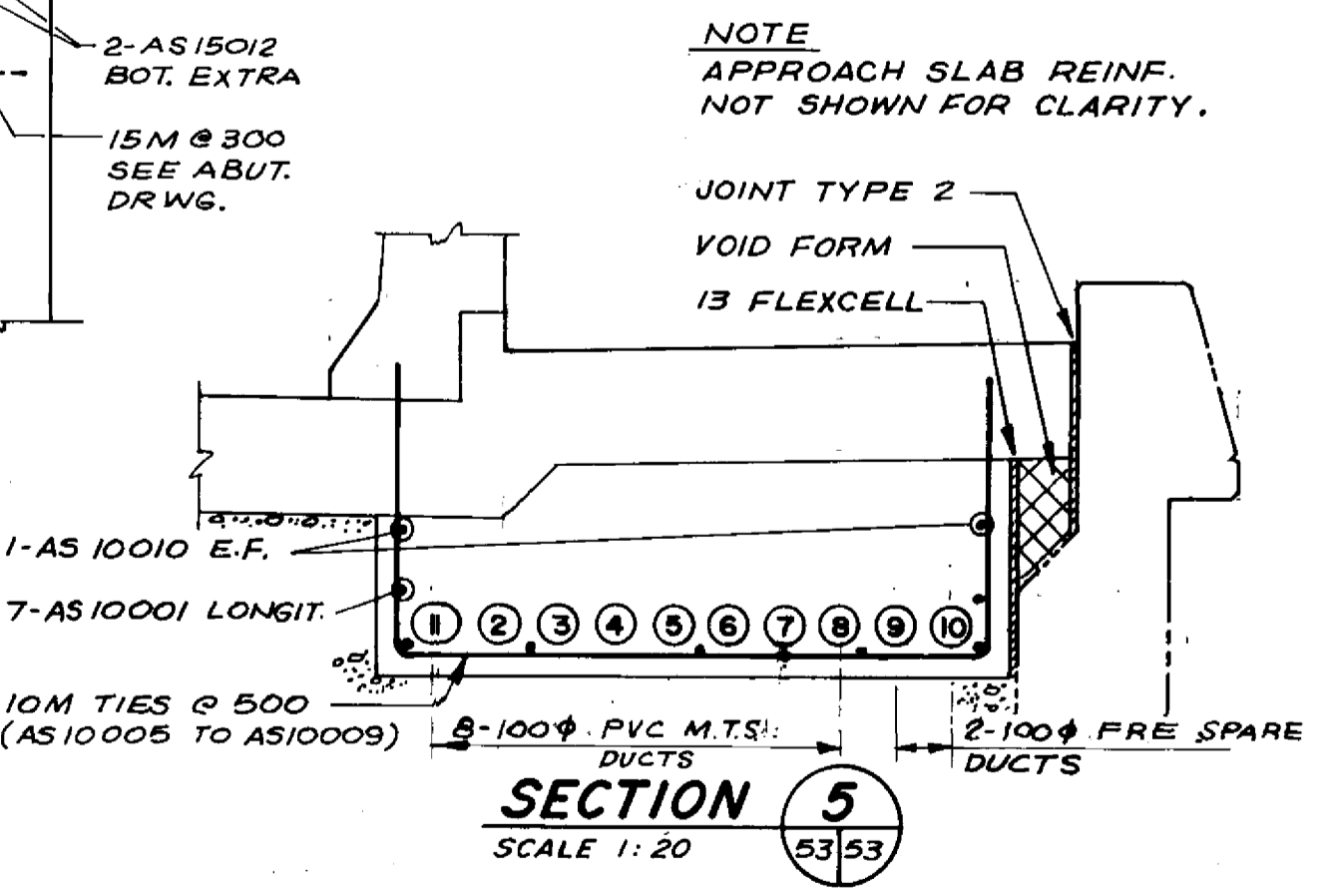
CONCRETE BARRIER ELEVATION
SCALE: 1:50



DUCT LINES ARRANGEMENT PLAN
N.T.S.



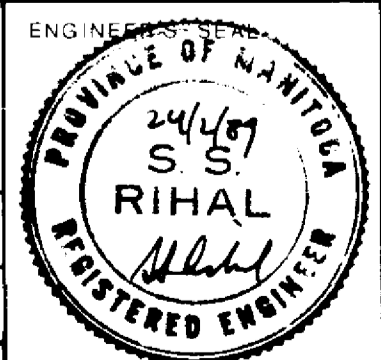
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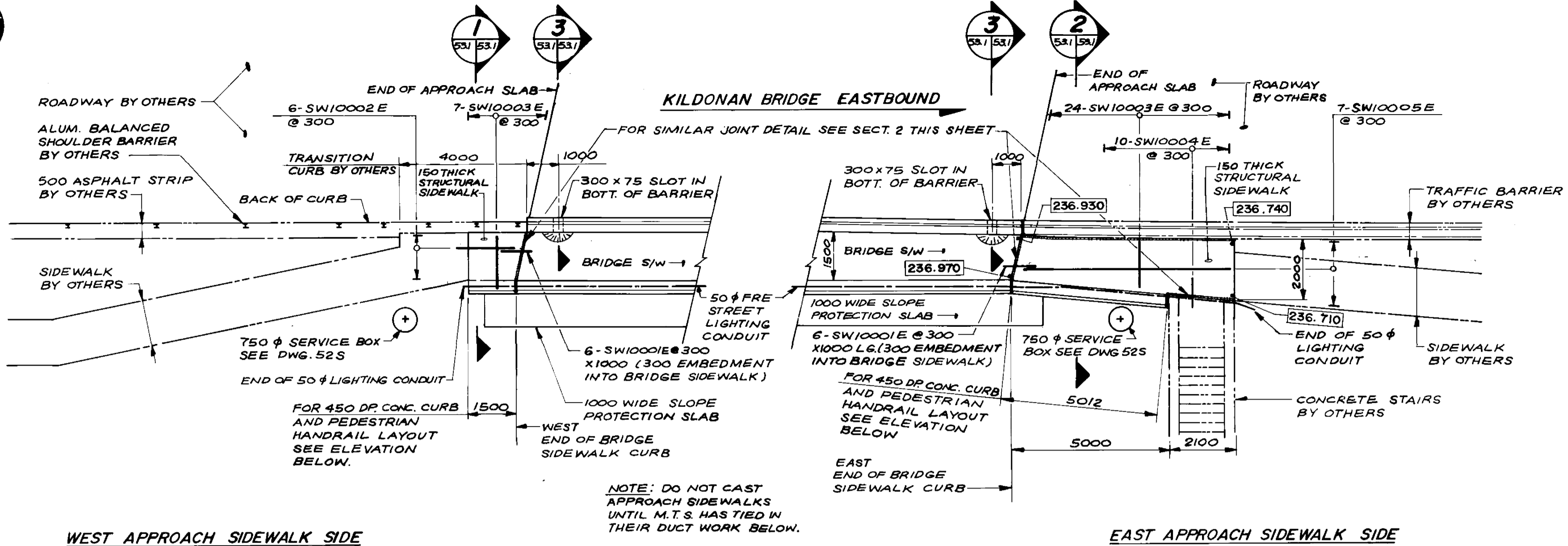


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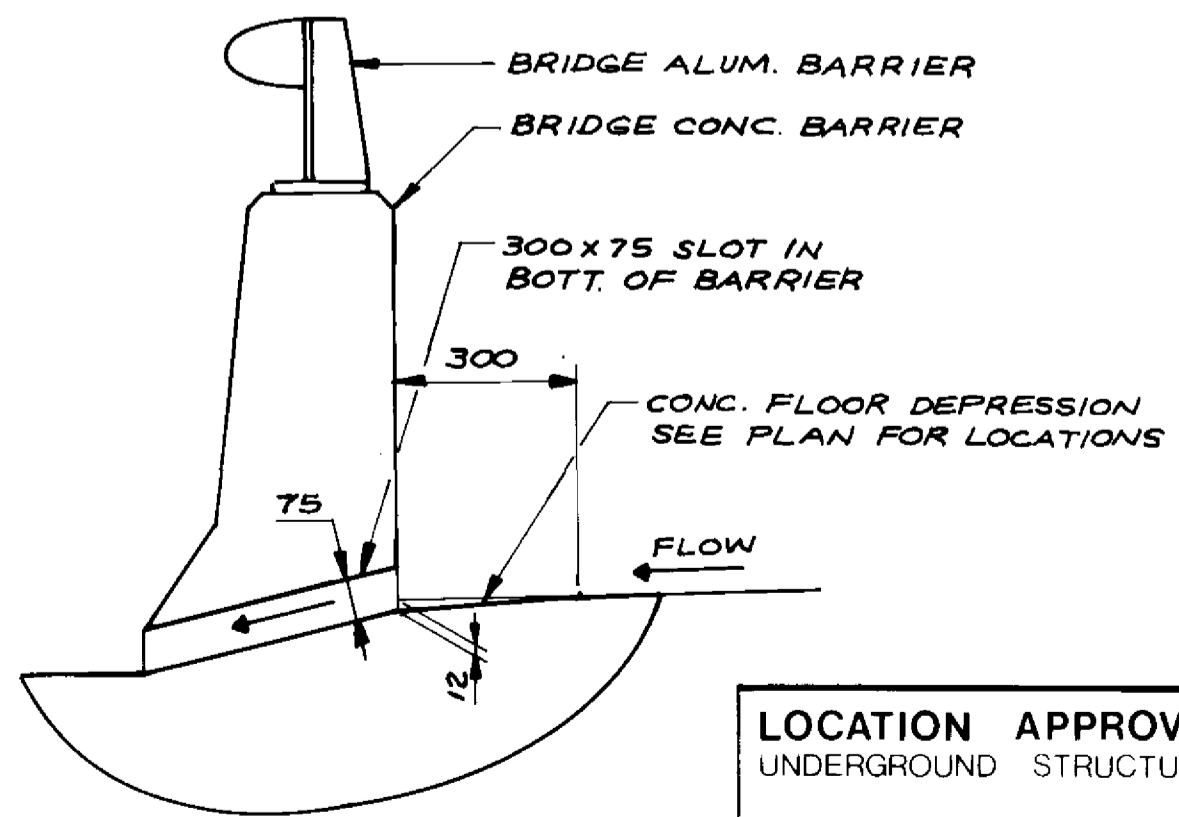
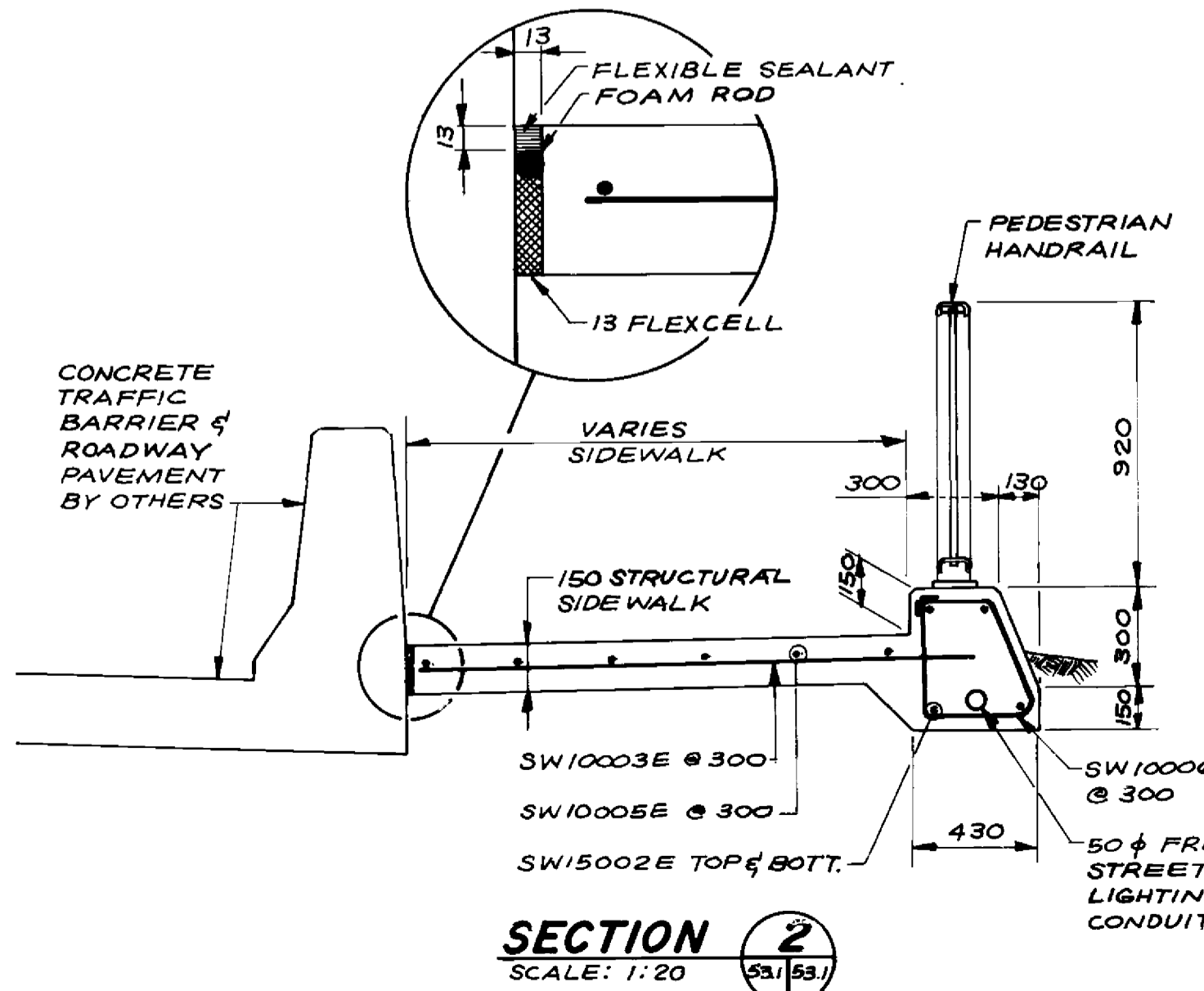
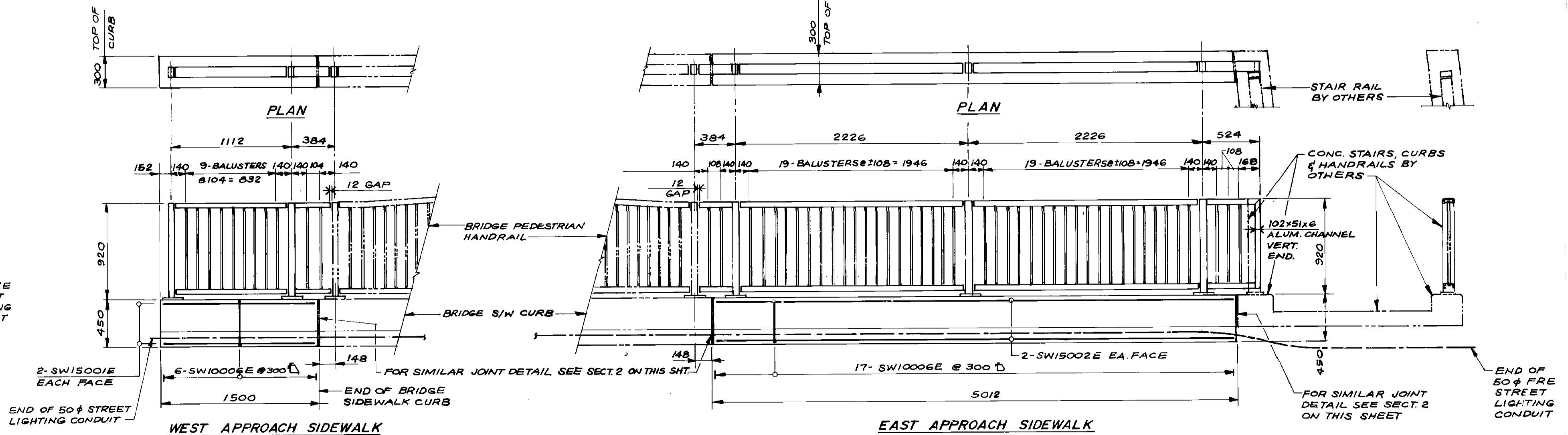
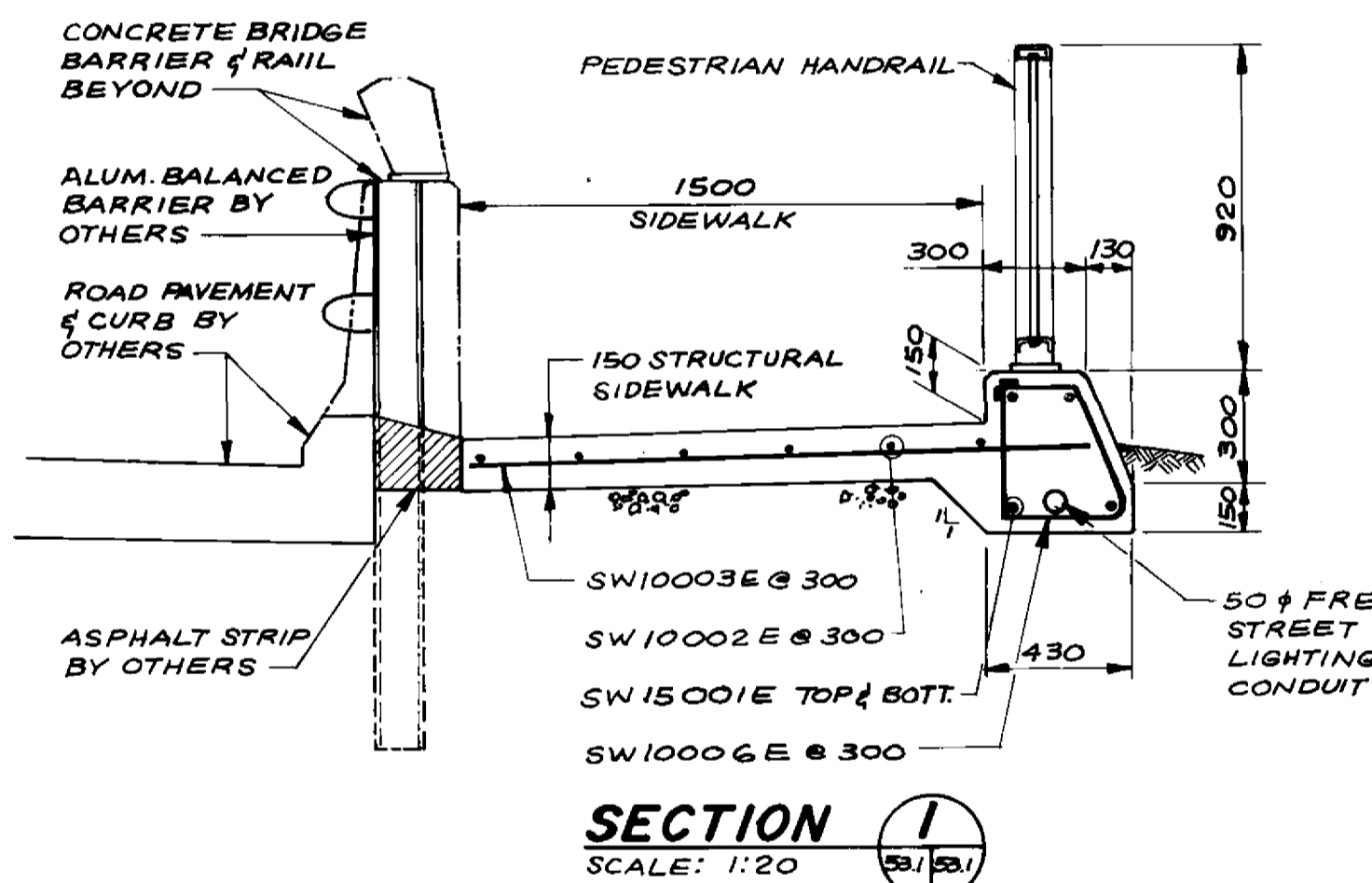
RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 20.11.28

LOCATION APPROVED	B.M. ELEV.	DILLON Consulting Engineers - Planners Environmental Scientists	ENGINEER	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT
UNDERGROUND STRUCTURES			DESIGNED BY: S.S.R.	
SUPV. U/G STRUCTURES COMMITTEE	DATE:	DRAWN BY: N.B.G.	APPROVED BY: <i>[Signature]</i>	KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE
NOTE:	DATE:	HOR. SCALE: AS SHOWN	VERTICAL: AS SHOWN	
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		NO. REVISIONS:	DATE:	SHEET OF
		1-16-89 N.B.G.	4-16-90 N.B.G.	B-5828-56





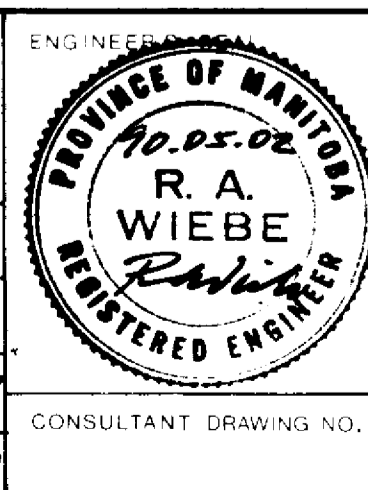
PARTIAL PLAN AT SOUTH STRUCTURE APPROACHES
SCALE: 1:100



LOCATION APPROVED UNDERGROUND STRUCTURES	B.M. ELEV.		
SUPPLY U/G STRUCTURES COMMITTEE	DATE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN, OR THAT THE GIVEN LOCATIONS ARE EXACT. COORDINATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.			
NO. REVISIONS	DATE	BY	

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	R.A.W.	CHECKED BY	W.P.S.
DRAWN BY	N.B.G.	APPROVED BY	
HOR. SCALE	AS SHOWN	AUTHORIZED BY	<i>R.A. Wiebe</i> 100+27
VERTICAL		STREETS & BRIDGE ENGINEER DATE	
		ACCEPTED BY	<i>R.A. Wiebe</i> 100+27
		BRIDGE ENGINEER DATE	

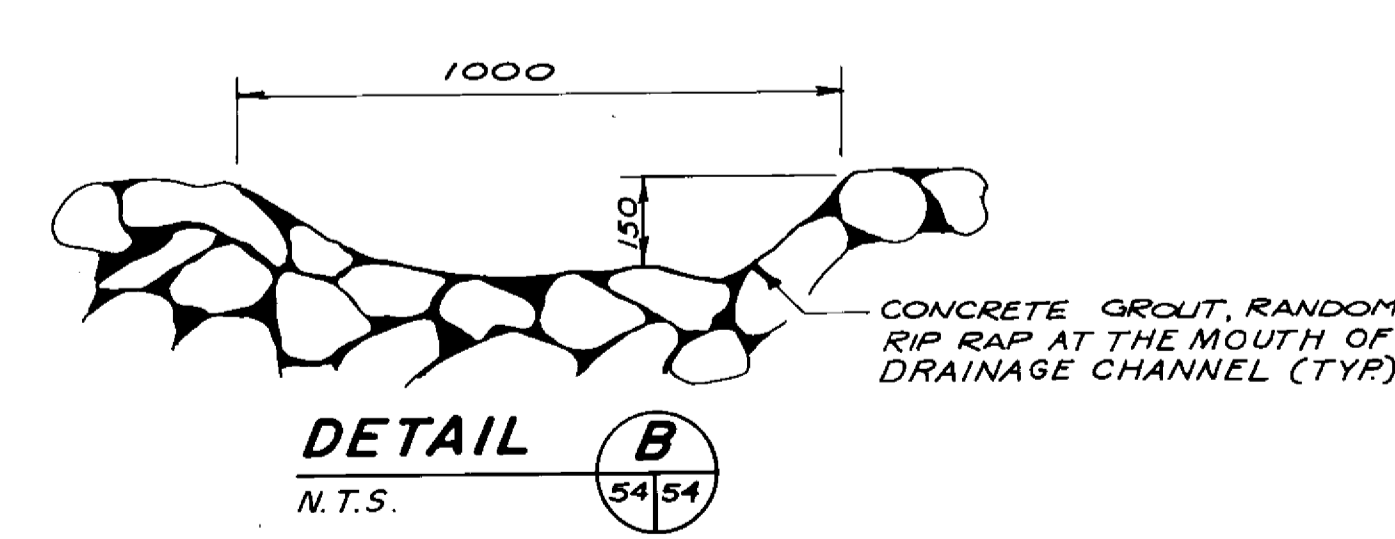
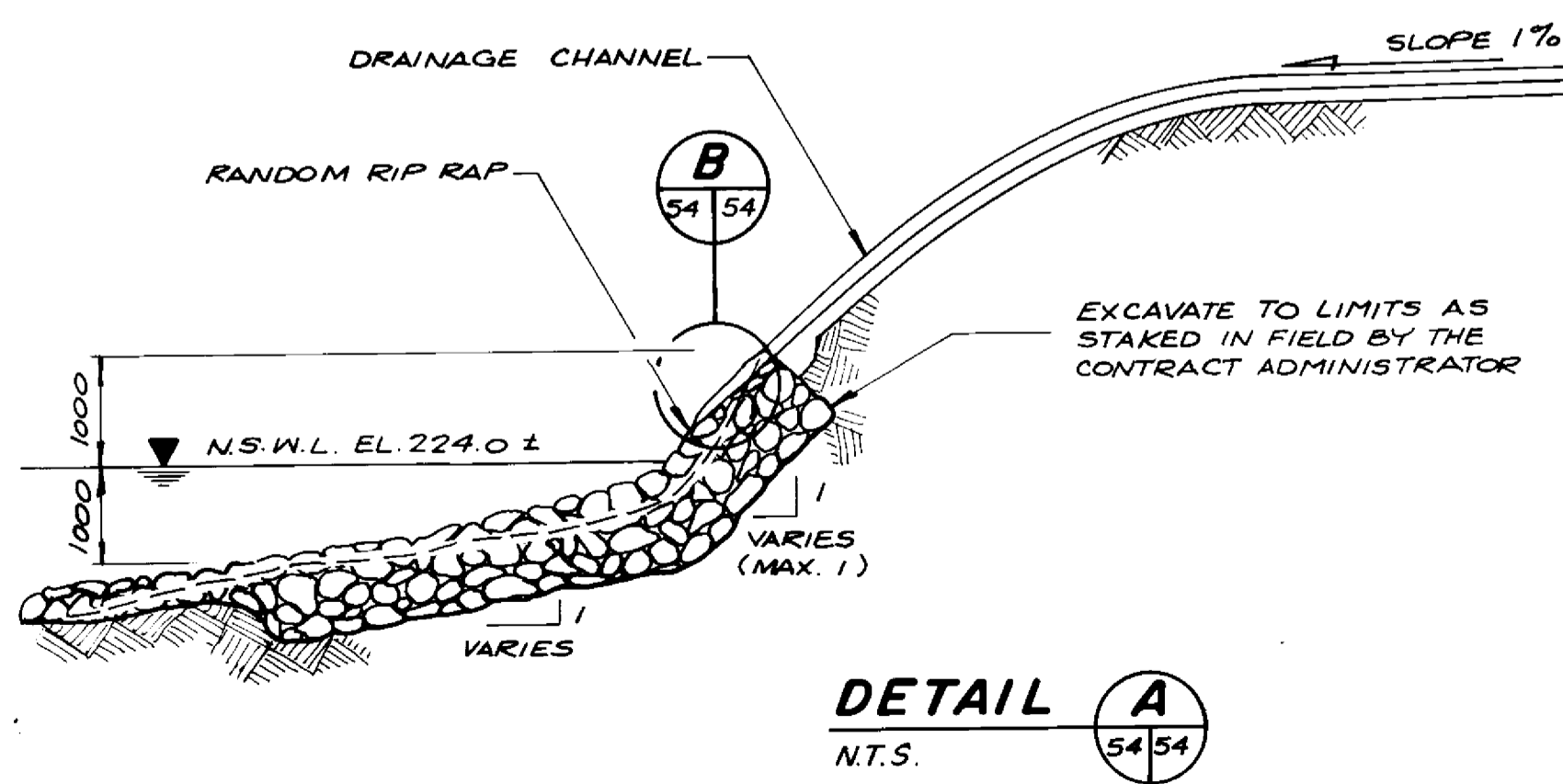
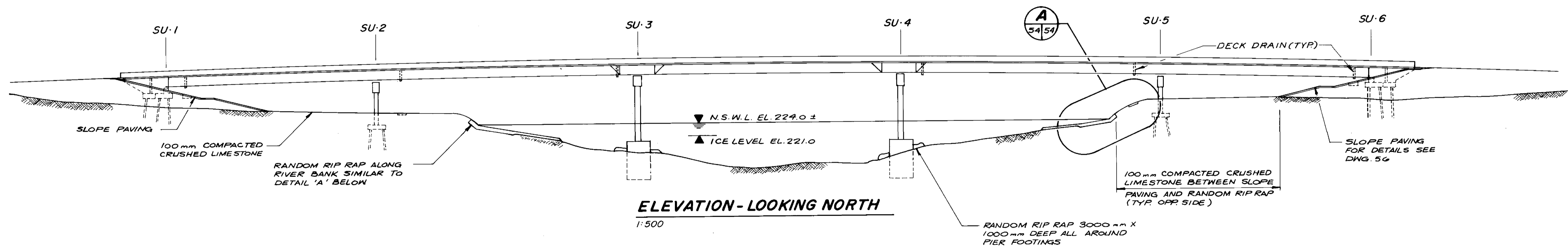
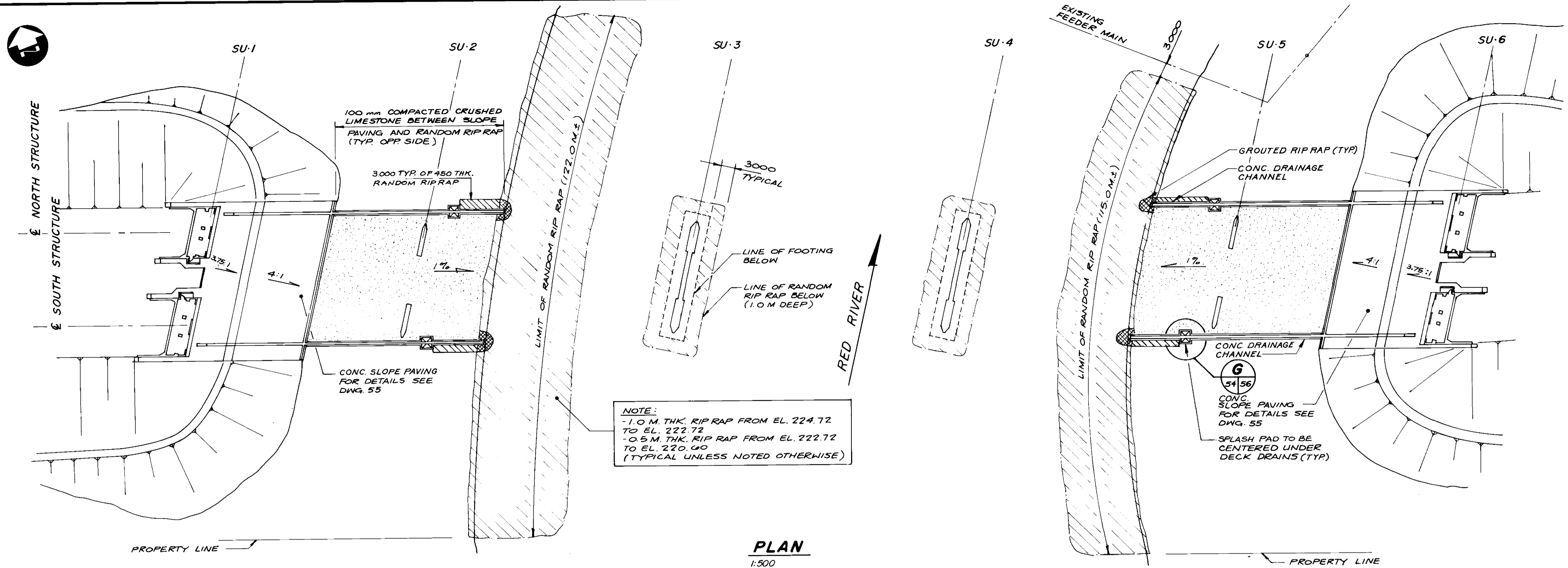


THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SOUTH STRUCTURE
SIDEWALK APPROACH SLABS & RAILINGS

RECORD DRAWING
APPROVED BY: *R.A. Wiebe* DATE: 11.28

CONSULTANT DRAWING NO. B-5828-57

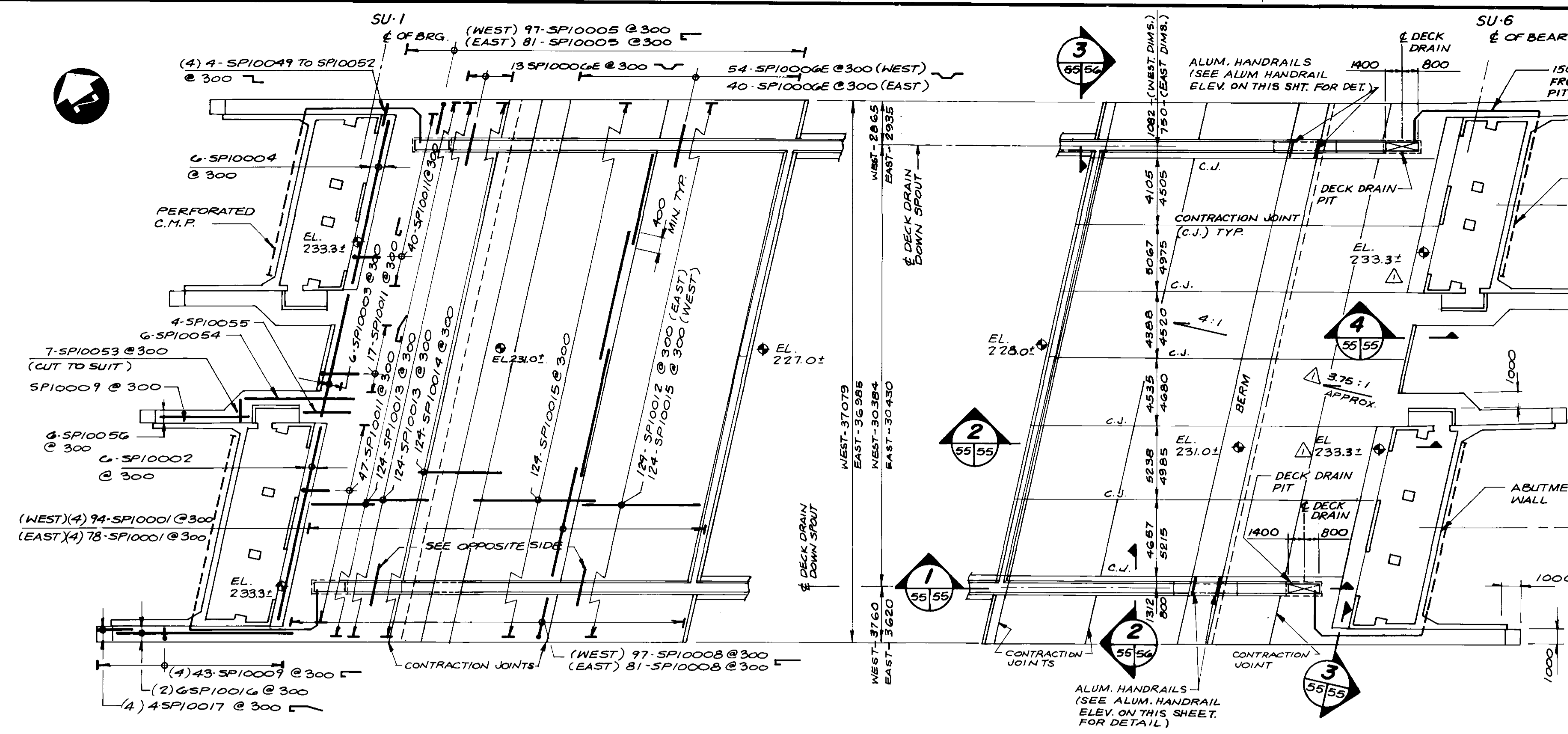


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APPROVED BY: *[Signature]* DATE: 9.01.2008

LOCATION APPROVED UNDERGROUND STRUCTURES NA SUPV. U/G STRUCTURES COMMITTEE DATE: _____ NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	B.M. ELEV. _____ _____ _____ _____ _____ NO. REVISIONS DATE BY
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DILLON Consulting Engineers • Planners Environmental Scientists	
DESIGNED BY: W.P.S.	CHECKED BY: S.S.R.
DRAWN BY: K.C.	APPROVED BY: <i>[Signature]</i>
HOR. SCALE: AS SHOWN	AUTHORIZED BY: <i>[Signature]</i> 1987-08-07
VERTICAL: _____	ACCEPTED BY: <i>[Signature]</i> 11/07
DATE: MAR. 1989	DATE: _____

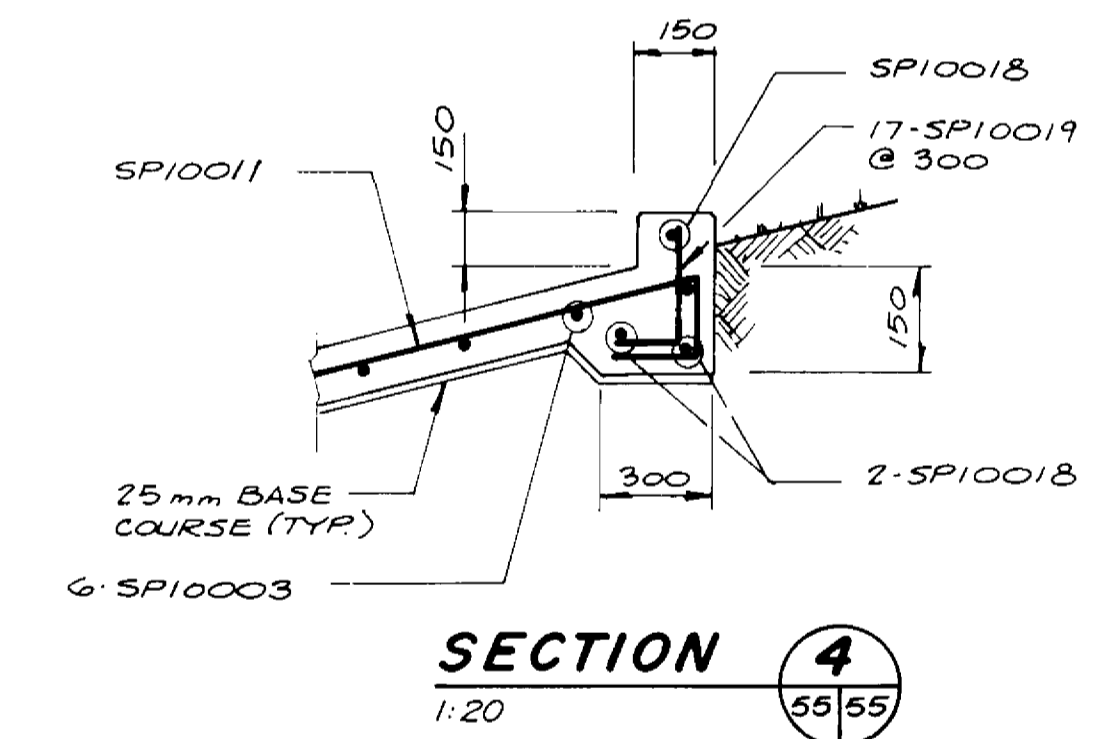
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	KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE RIVERBANK AND PIER PROTECTION SHEET 1 OF 3
	CITY DRAWING NUMBER: B216-89-54S SHEET OF: _____ B-5828-58



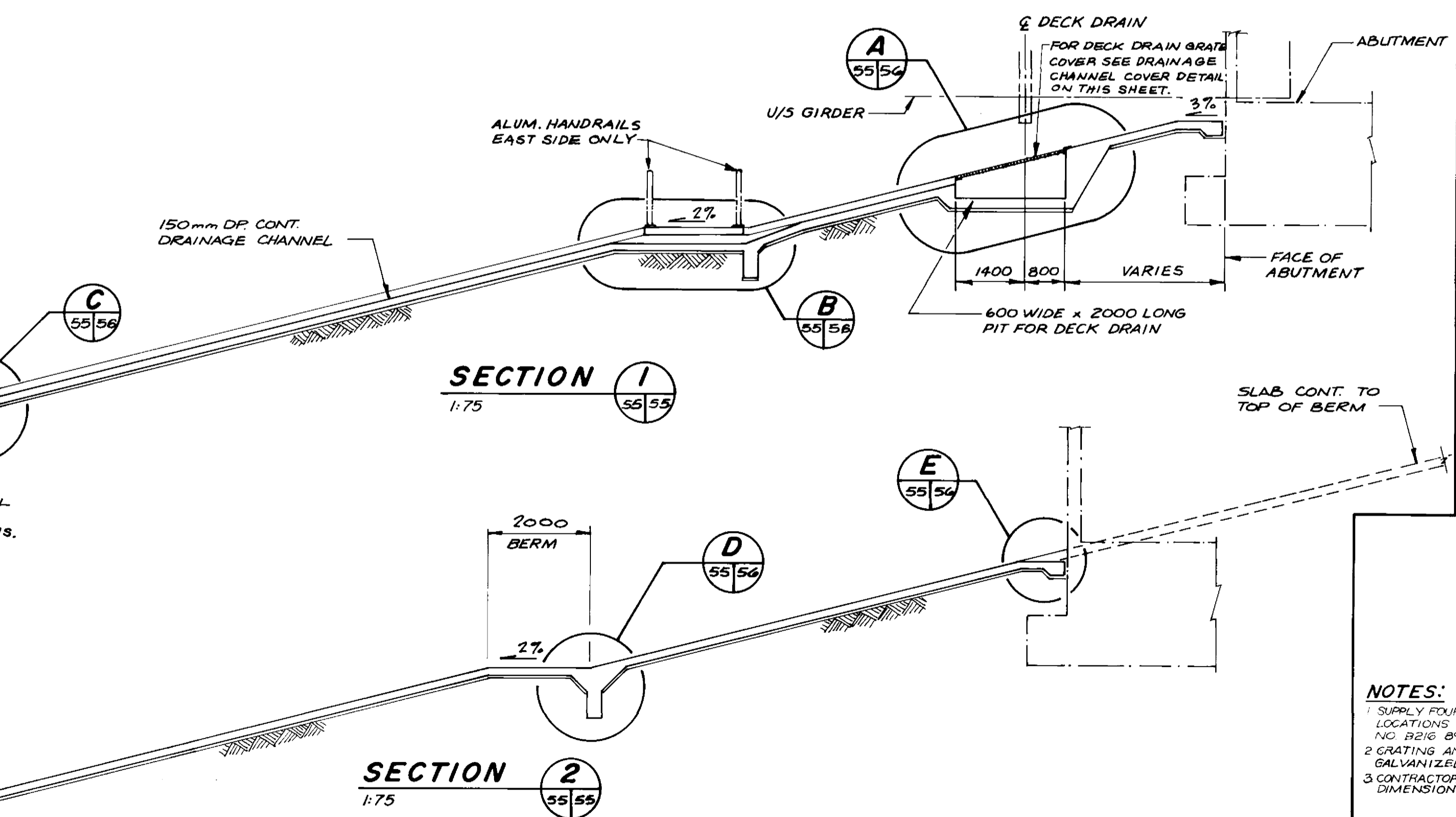
REINFORCING LAYOUT (WEST)
(TYPICAL FOR EAST SLOPE UNLESS OTHERWISE NOTED)

PLAN
1:200

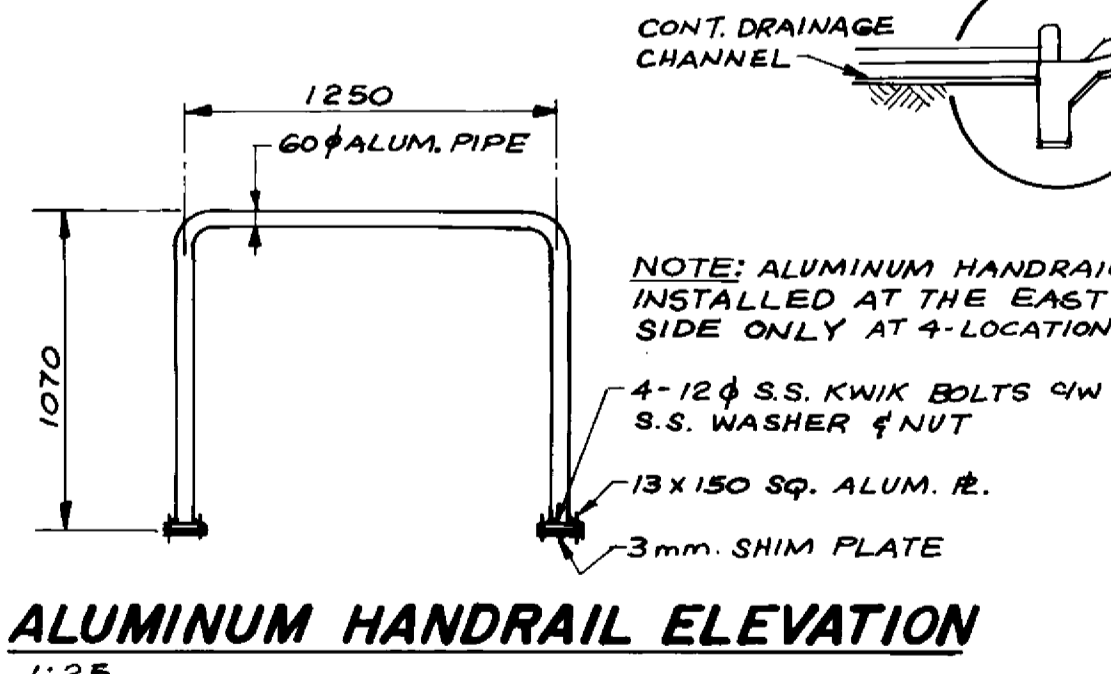
JOINT LAYOUT (EAST)
(TYPICAL FOR WEST SLOPE UNLESS OTHERWISE NOTED)



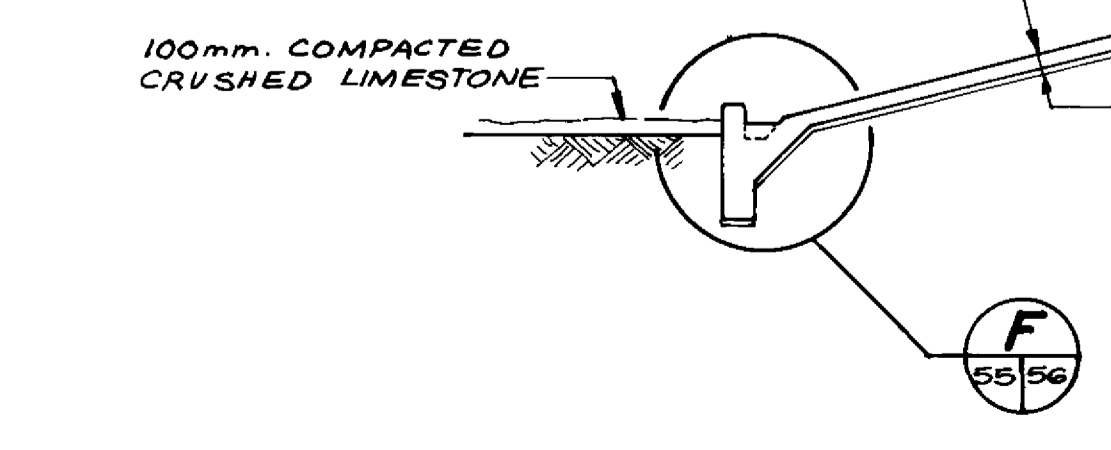
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1:20



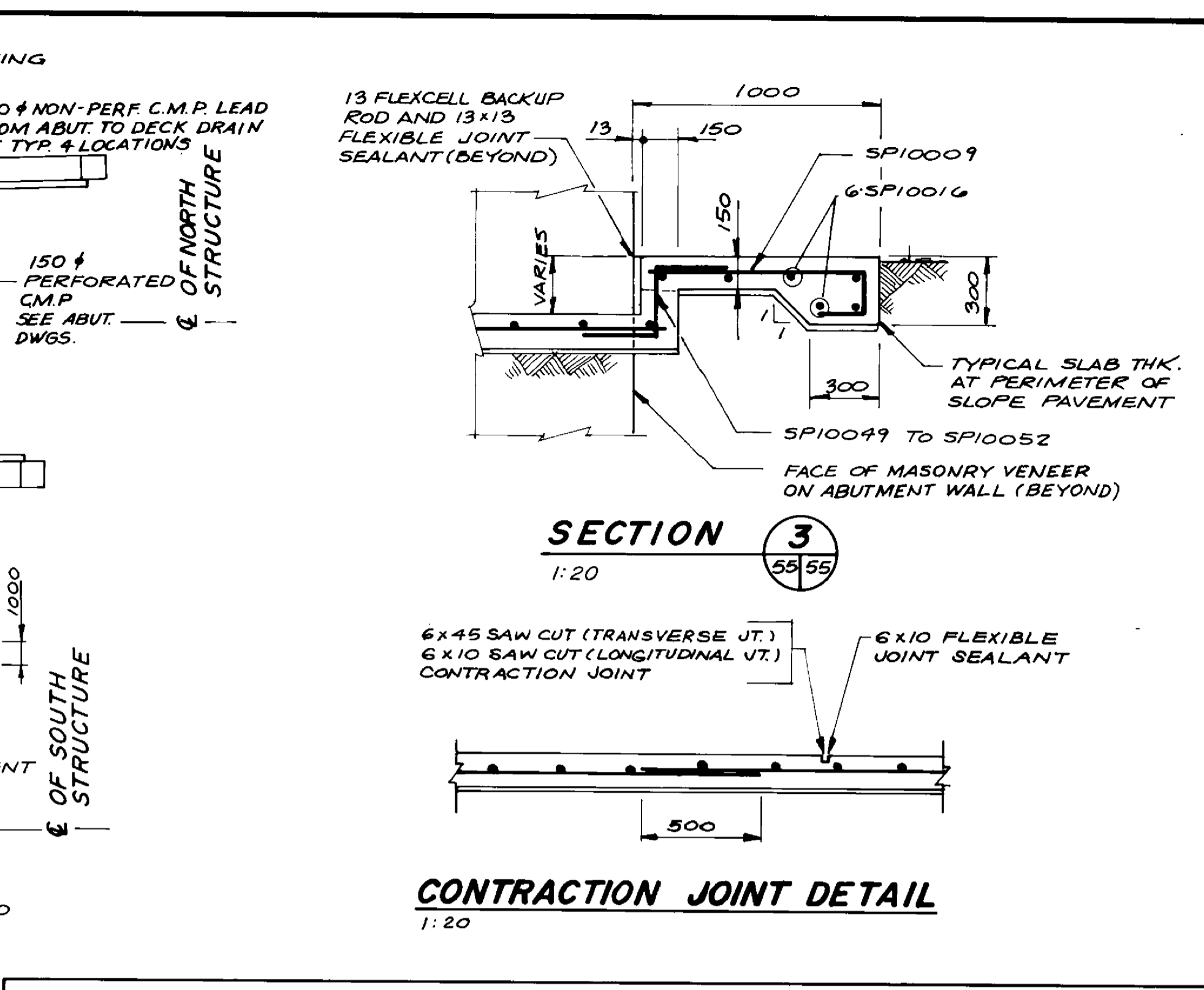
SECTION 1
1:75



ALUMINUM HANDRAIL ELEVATION
1:25

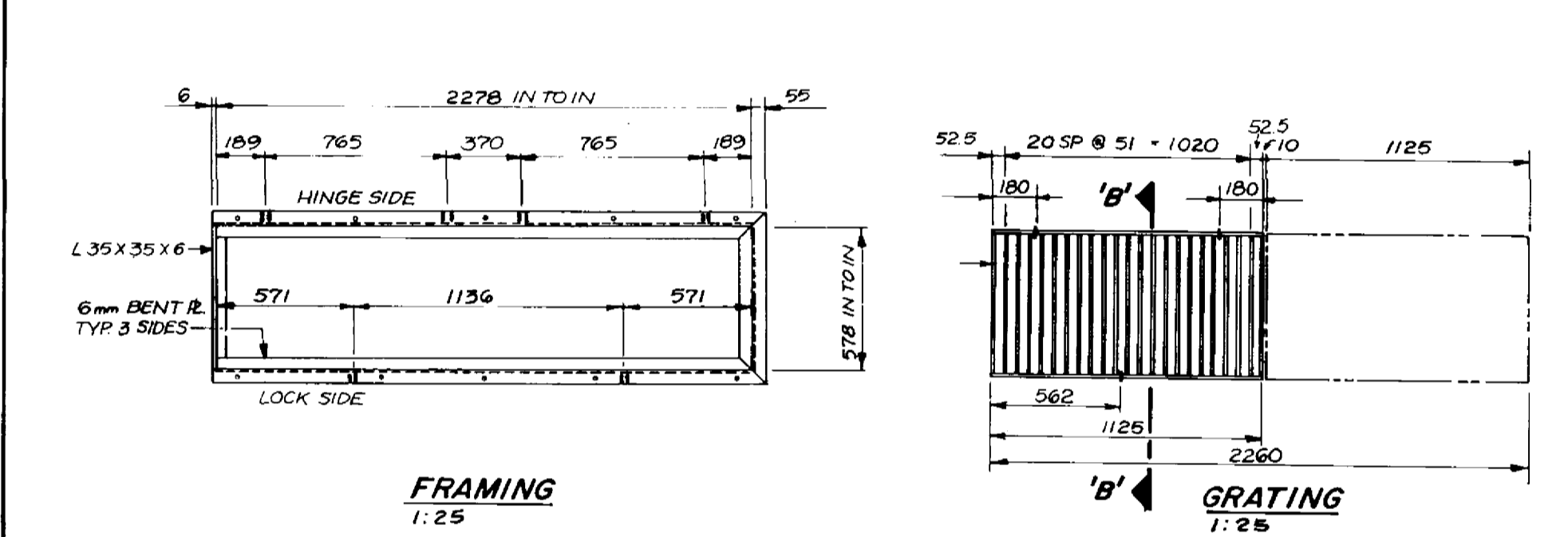


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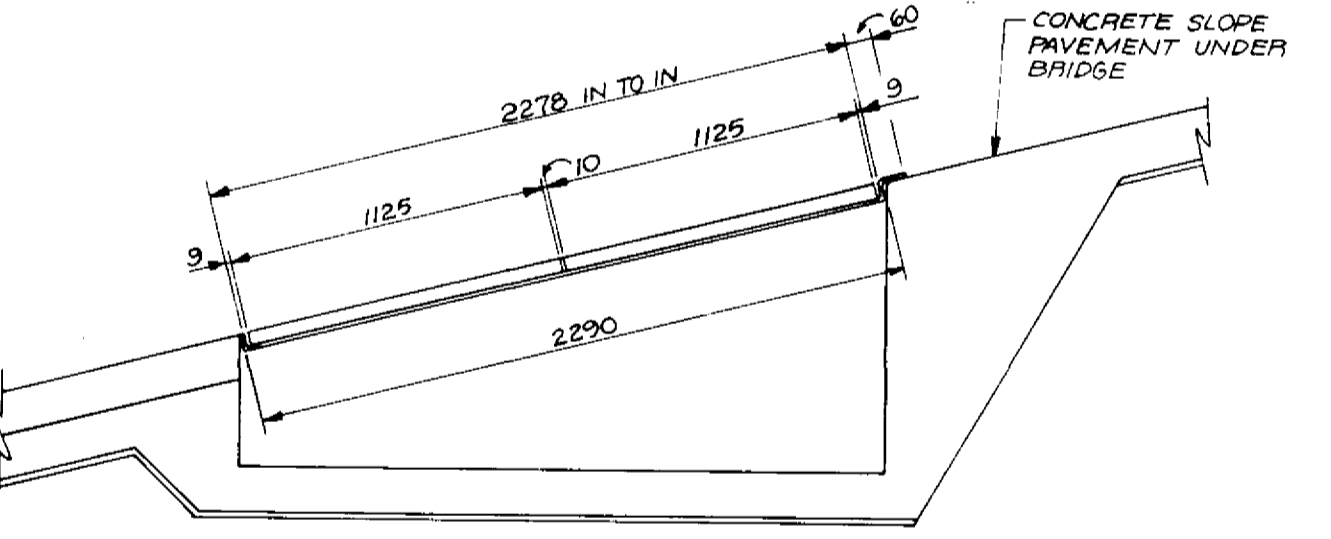
SECTION 3
1:20

CONTRACTION JOINT DETAIL
1:20

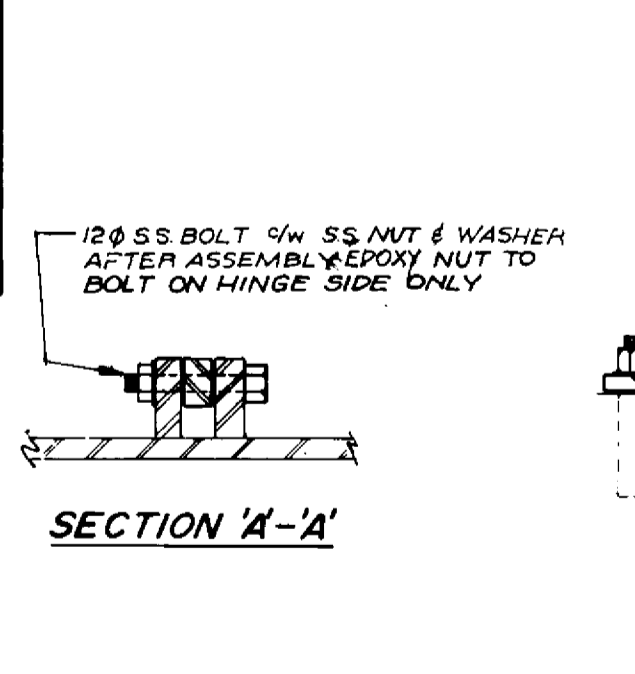


FRAMING
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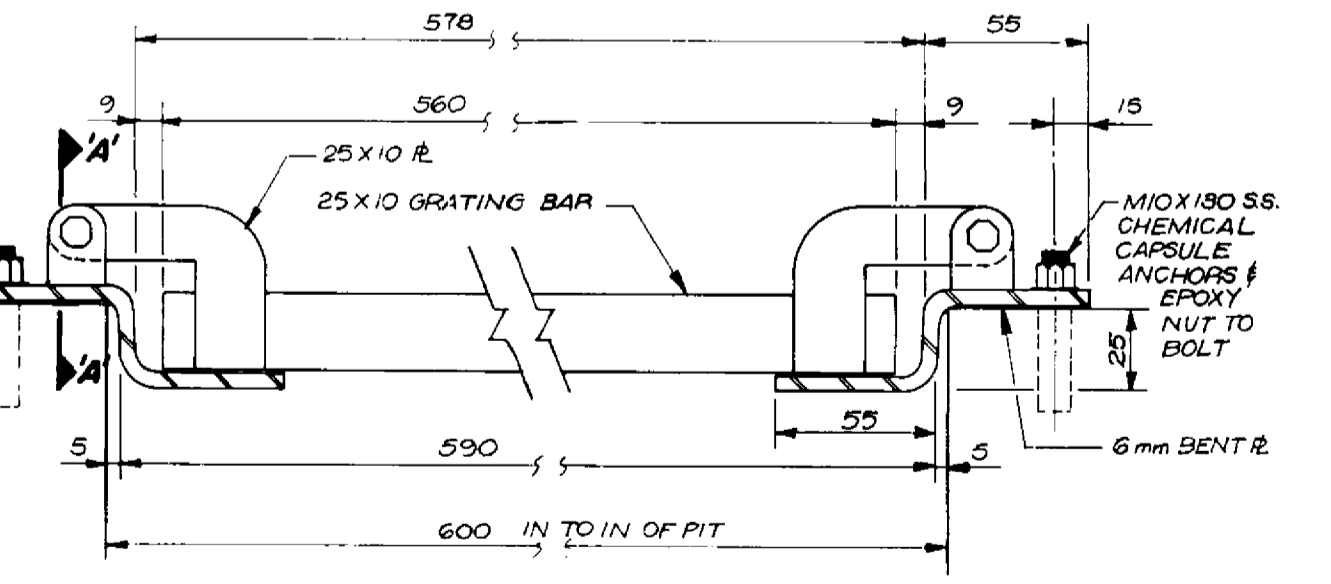
GRATING
1:25



SECTION THRU DECK DRAIN PIT
1:25



SECTION 'A-A'
1:25



SECTION 'B-B'
N.T.S.

DRAINAGE CHANNEL COVER DETAIL

- NOTES:**
- SUPPLY FOUR COMPLETE ASSEMBLIES AS DETAILED FOR LOCATIONS OF DECK DRAIN PITS. SEE SLOPE PAVEMENT C/WG NO. B216 09-555
 - GRATING AND FRAME ASSEMBLIES SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION TO A RETENTION OF 600g/m²
 - CONTRACTOR SHALL MEASURE EXIST PITS TO CONFIRM DIMENSIONS PRIOR TO FABRICATION.

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.	
NA			
SUPV. U/G STRUCTURES COMMITTEE	DATE	DESIGNED BY	CHECKED BY
		W.P.S.	S.S.R.
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT COORDINATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		DRAWN BY	APPROVED BY
		K.C.	[Signature]
		HOR. SCALE	VERTICAL
		AS SHOWN	
		DATE	MAR. 1989
		NO. REVISIONS	DATE BY

RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.28

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Environmental Scientists

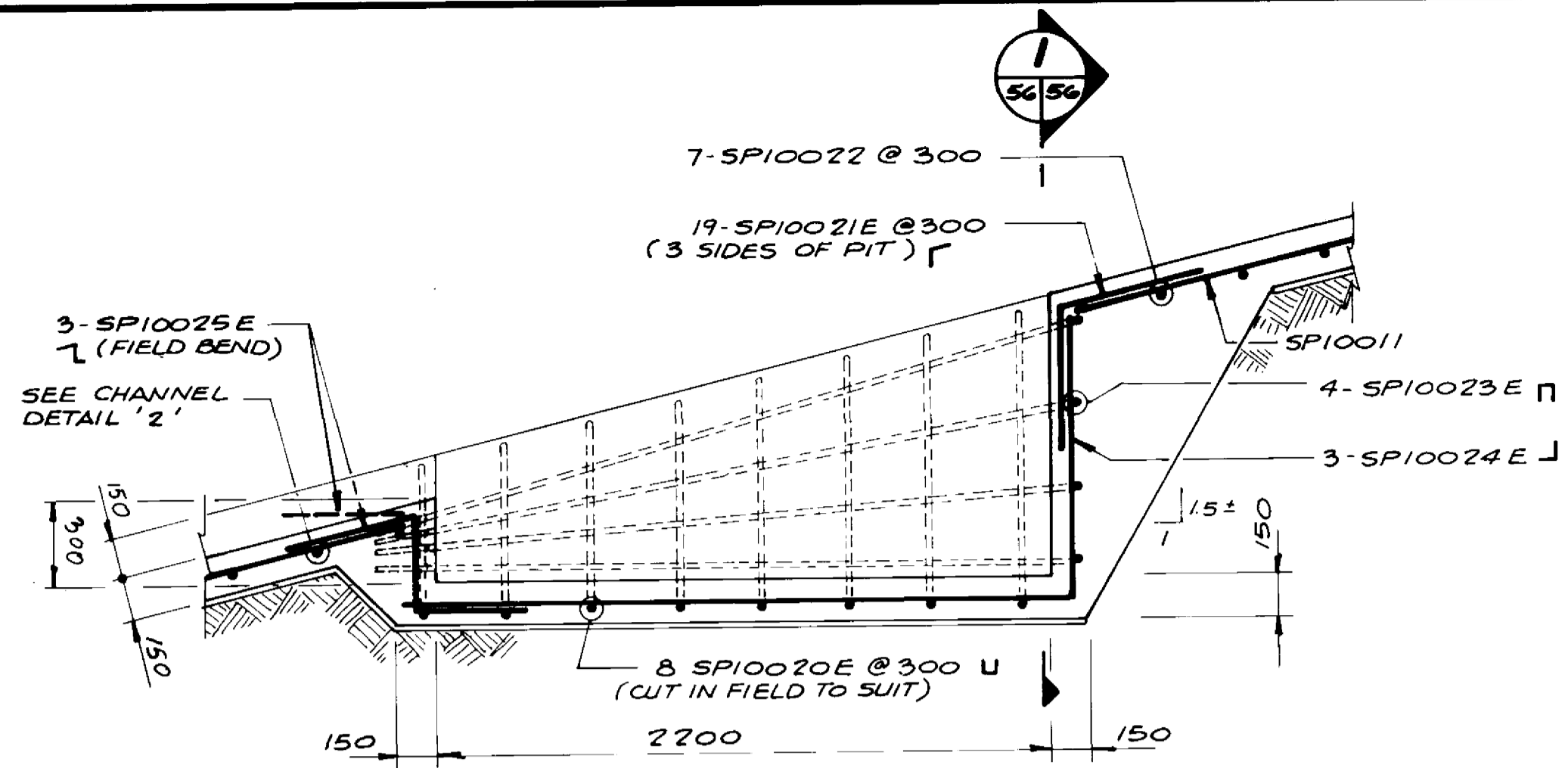
DESIGNED BY: W.P.S. CHECKED BY: S.S.R.
DRAWN BY: K.C. APPROVED BY: [Signature]
HOR. SCALE: AS SHOWN VERTICAL: AS SHOWN
DATE: MAR. 1989

ENGINEER OF RECORD
S.S. RIHAL
REGISTERED ENGINEER

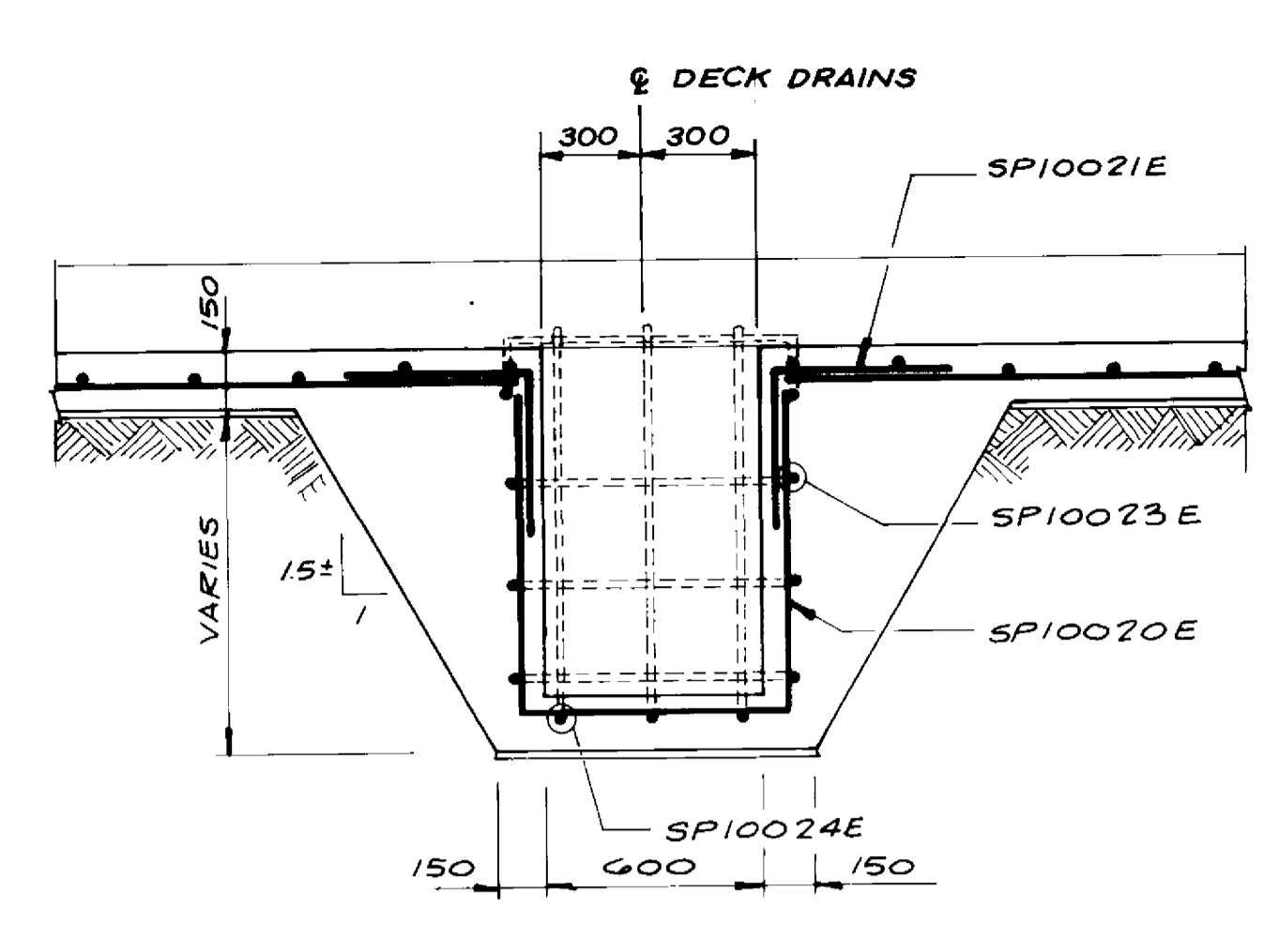
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
SLOPE PAVEMENT
RIVERBANK AND PIER PROTECTION
SHEET 2 OF 3

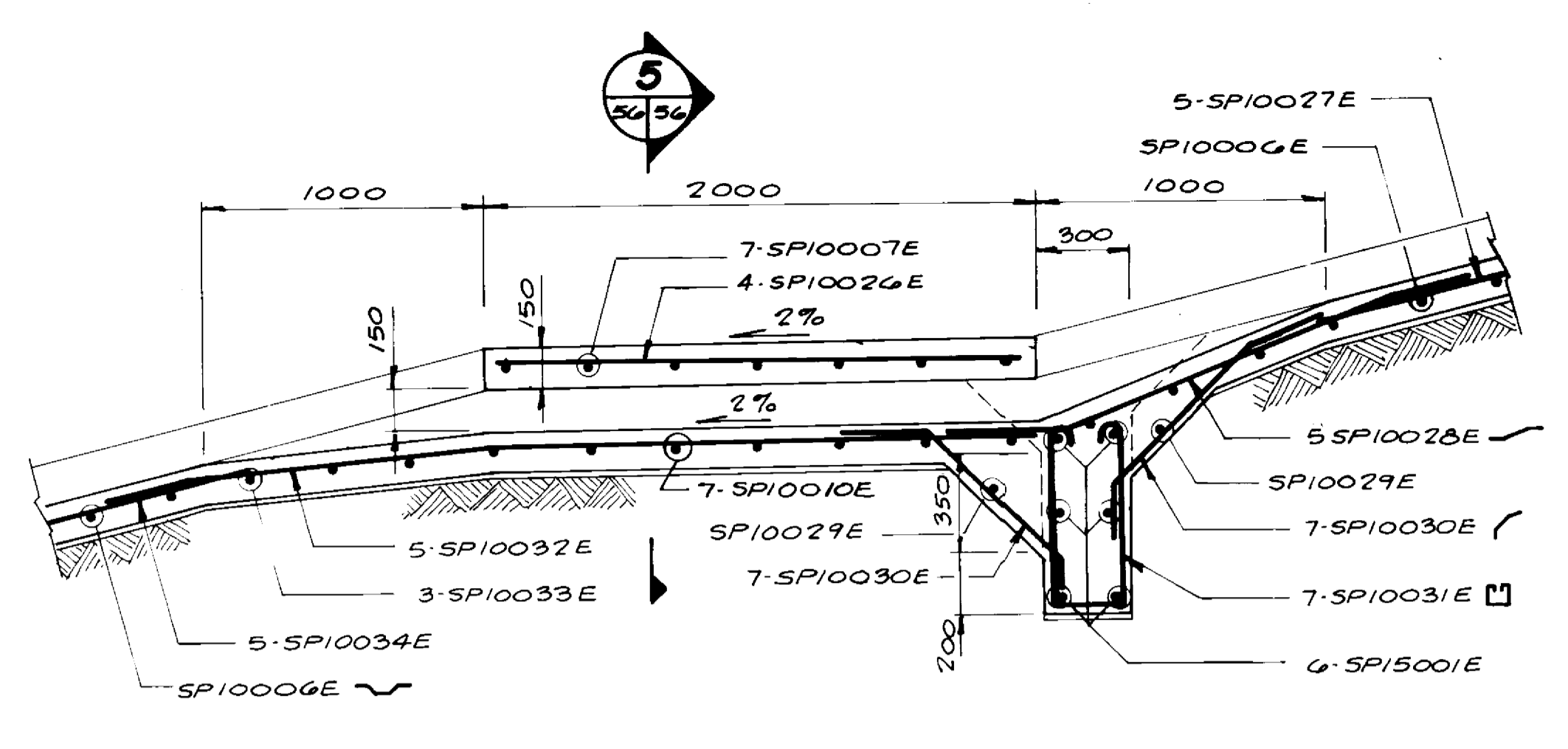
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CONSULTANT DRAWING NO.: B-5828-59



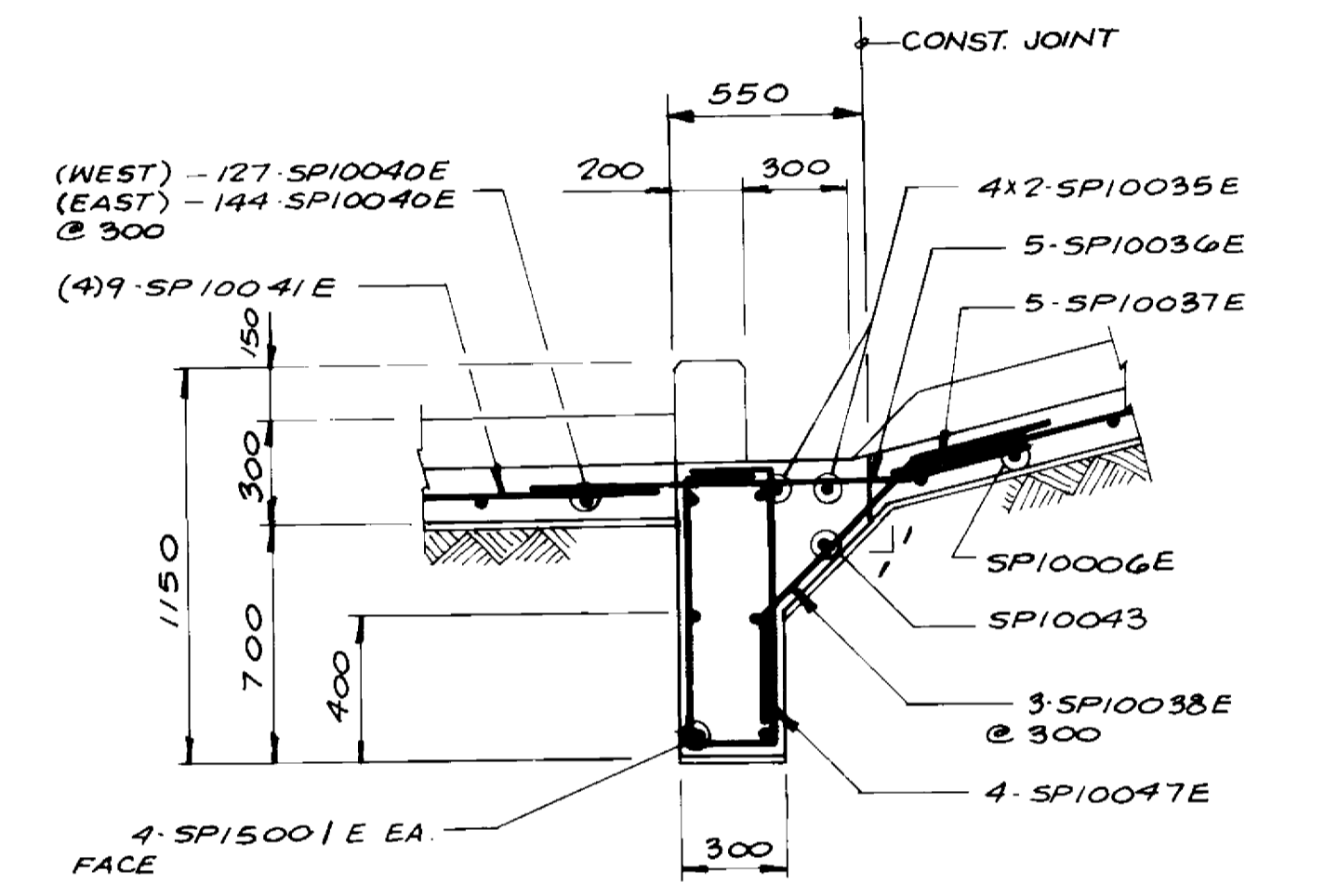
DETAIL A
1:20



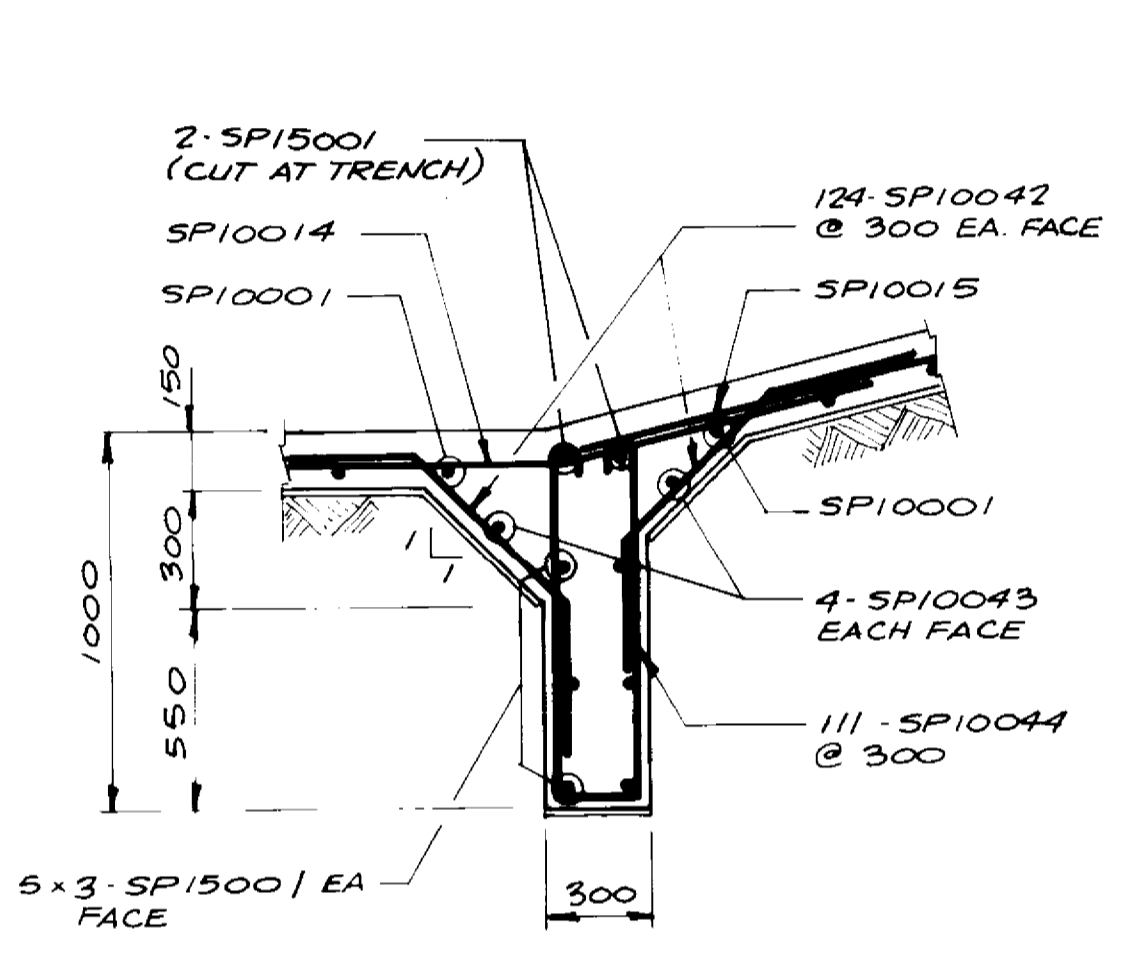
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1:20



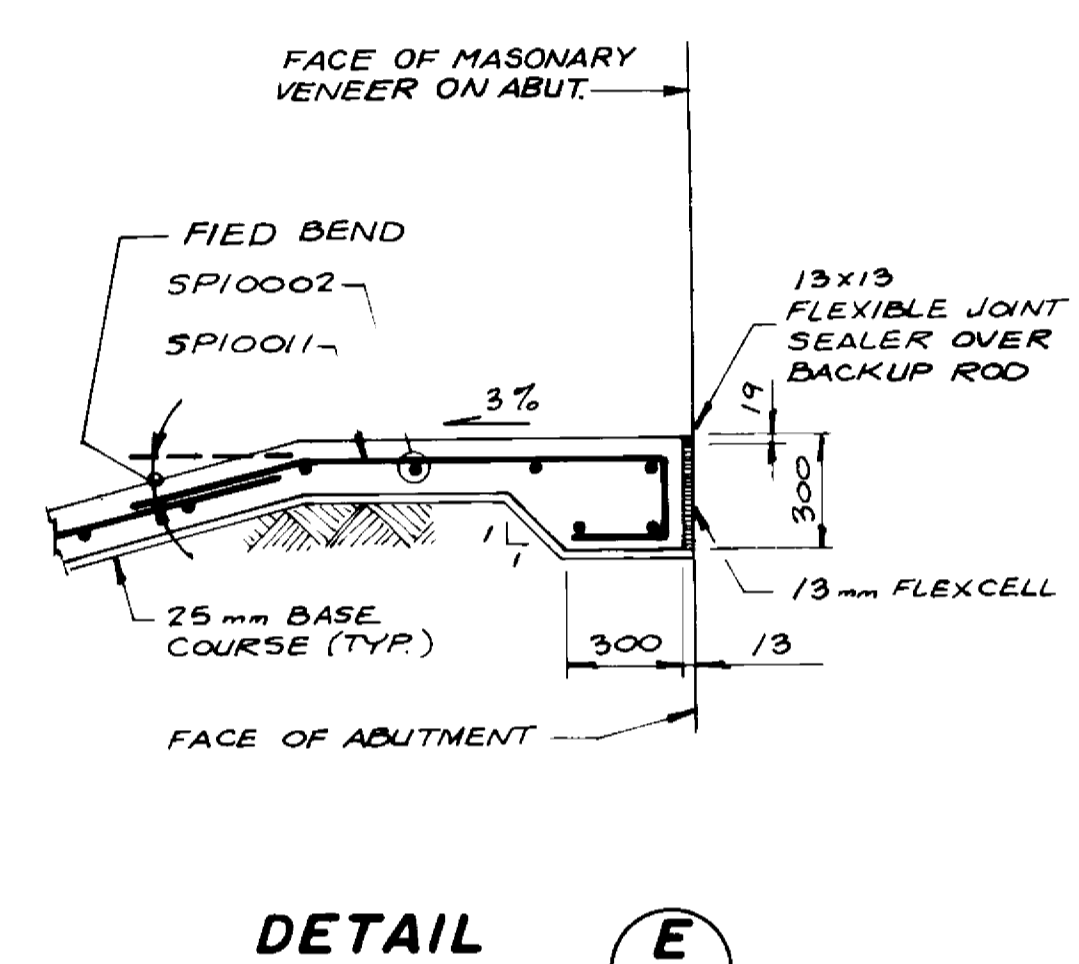
DETAIL B
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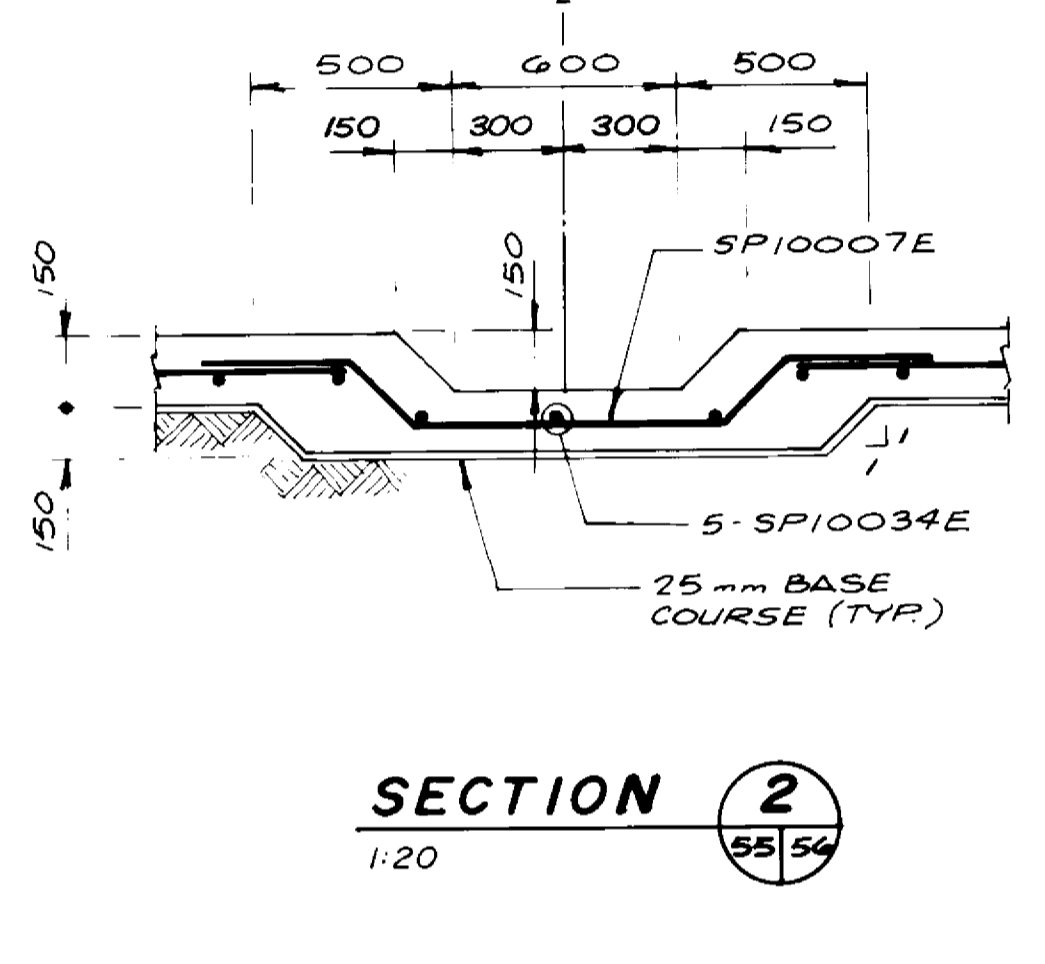
DETAIL C
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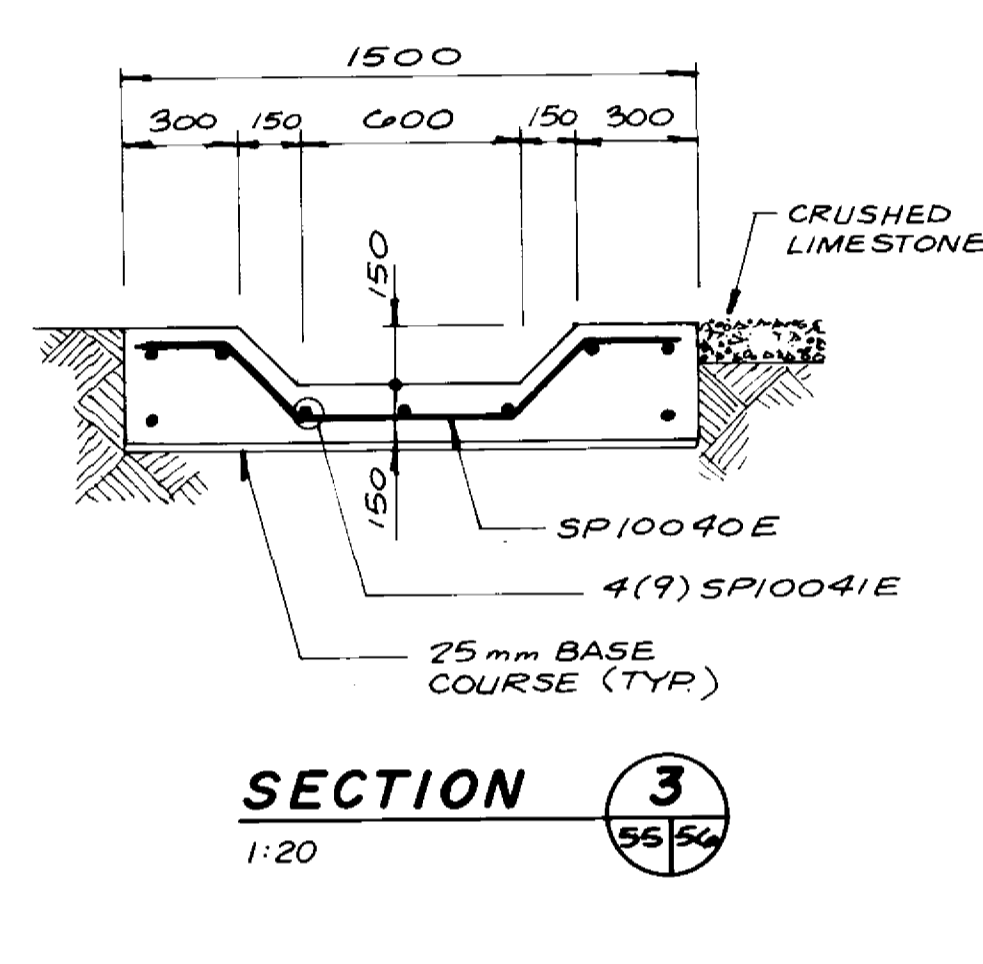
DETAIL D
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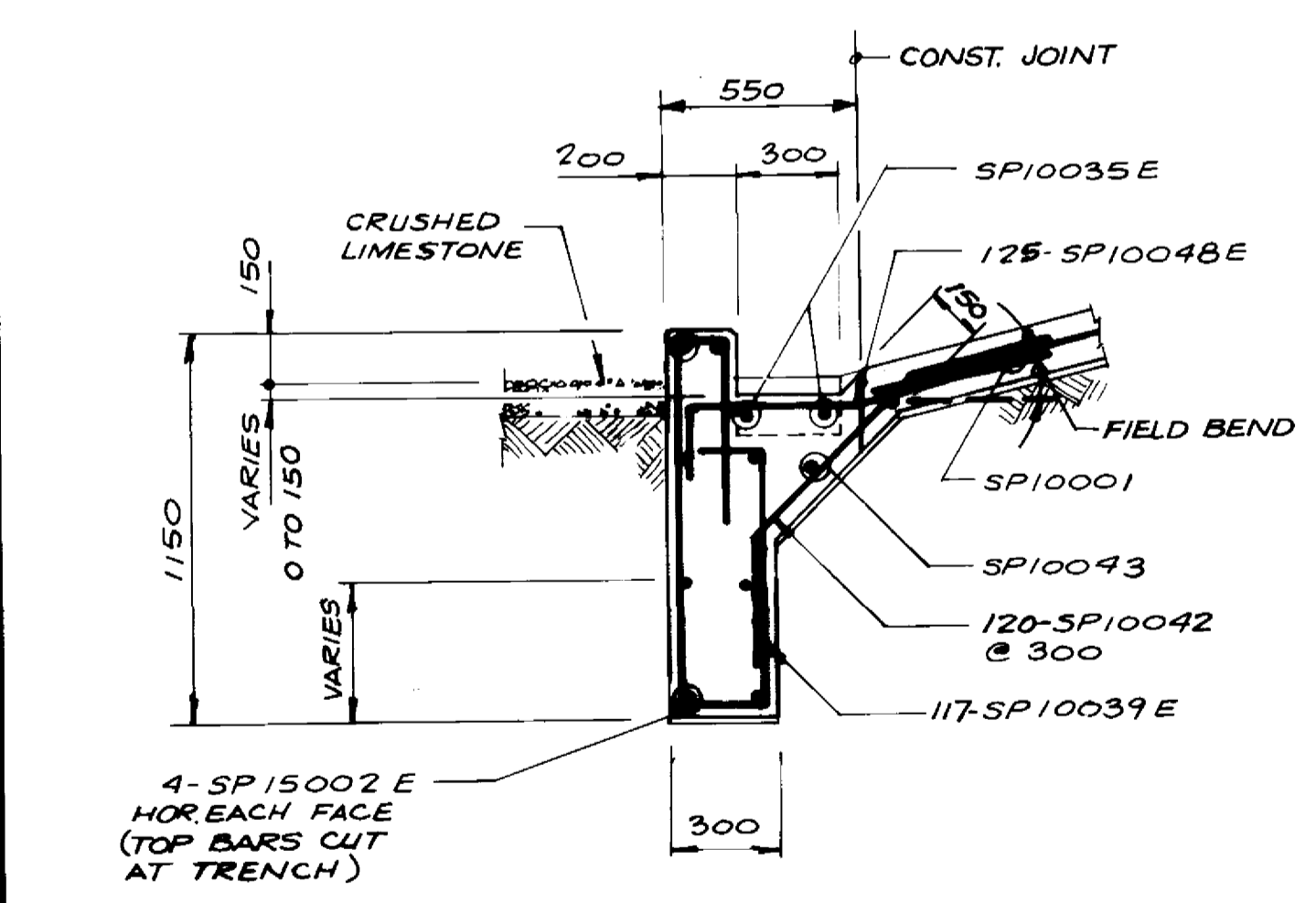
DETAIL E
N.T.S.



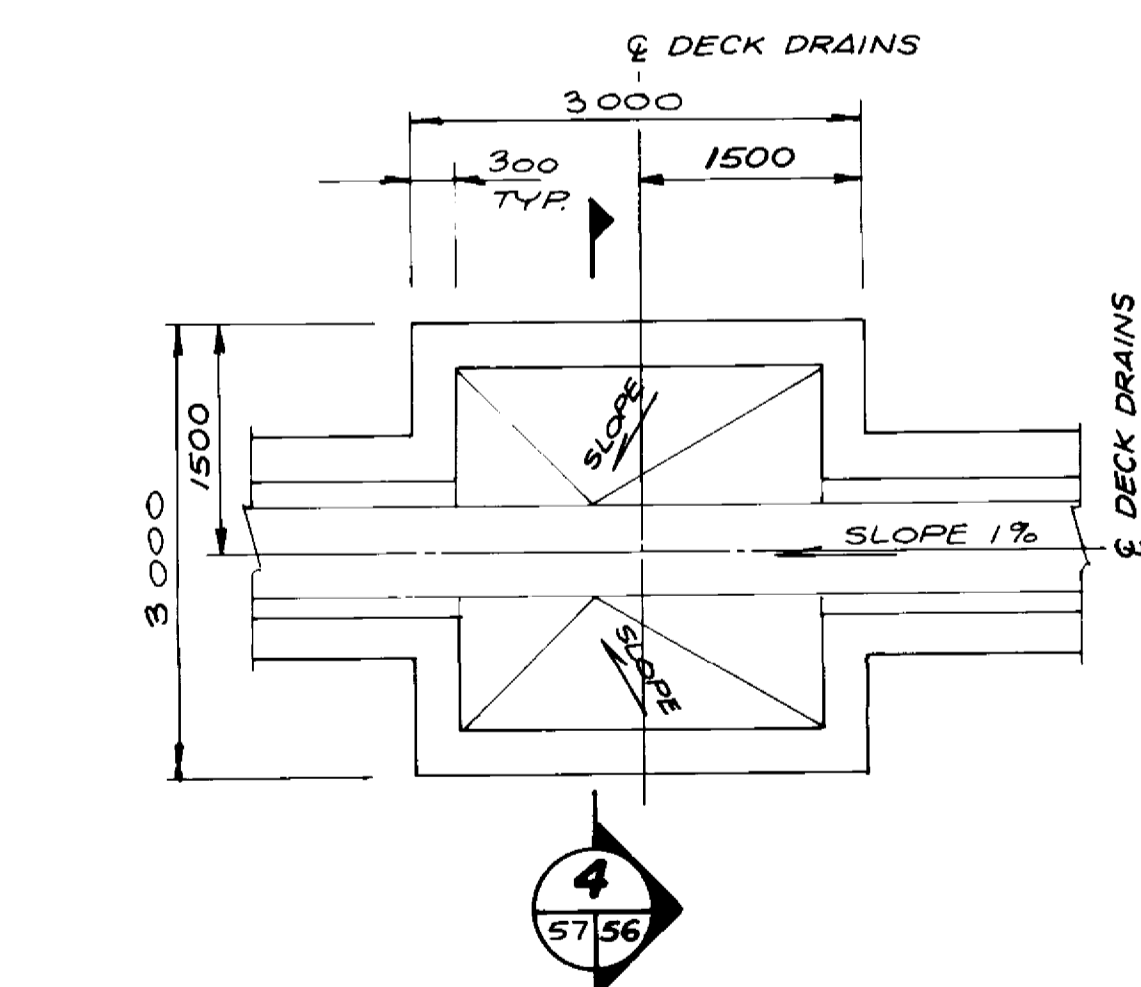
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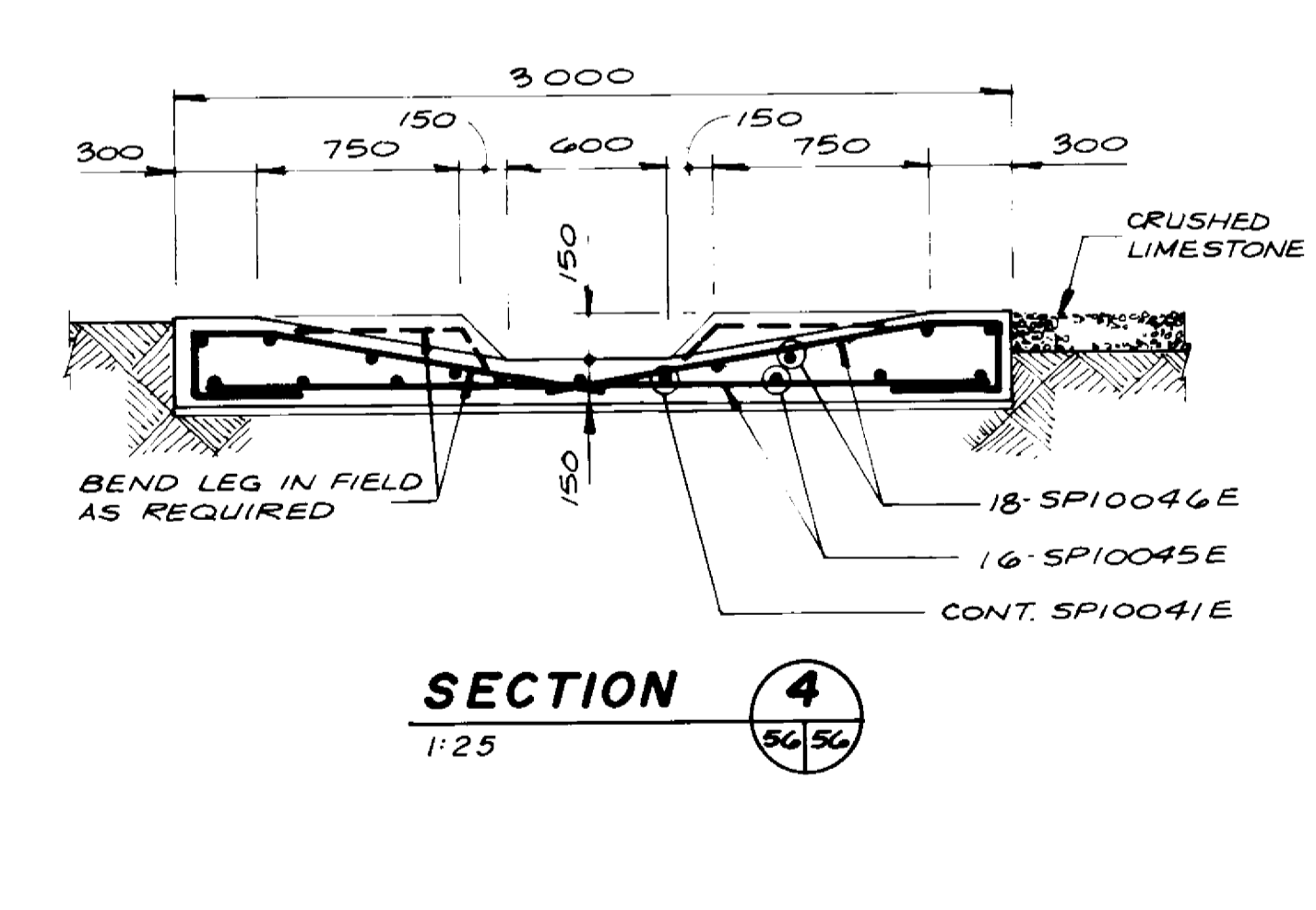
SECTION 3
1:20



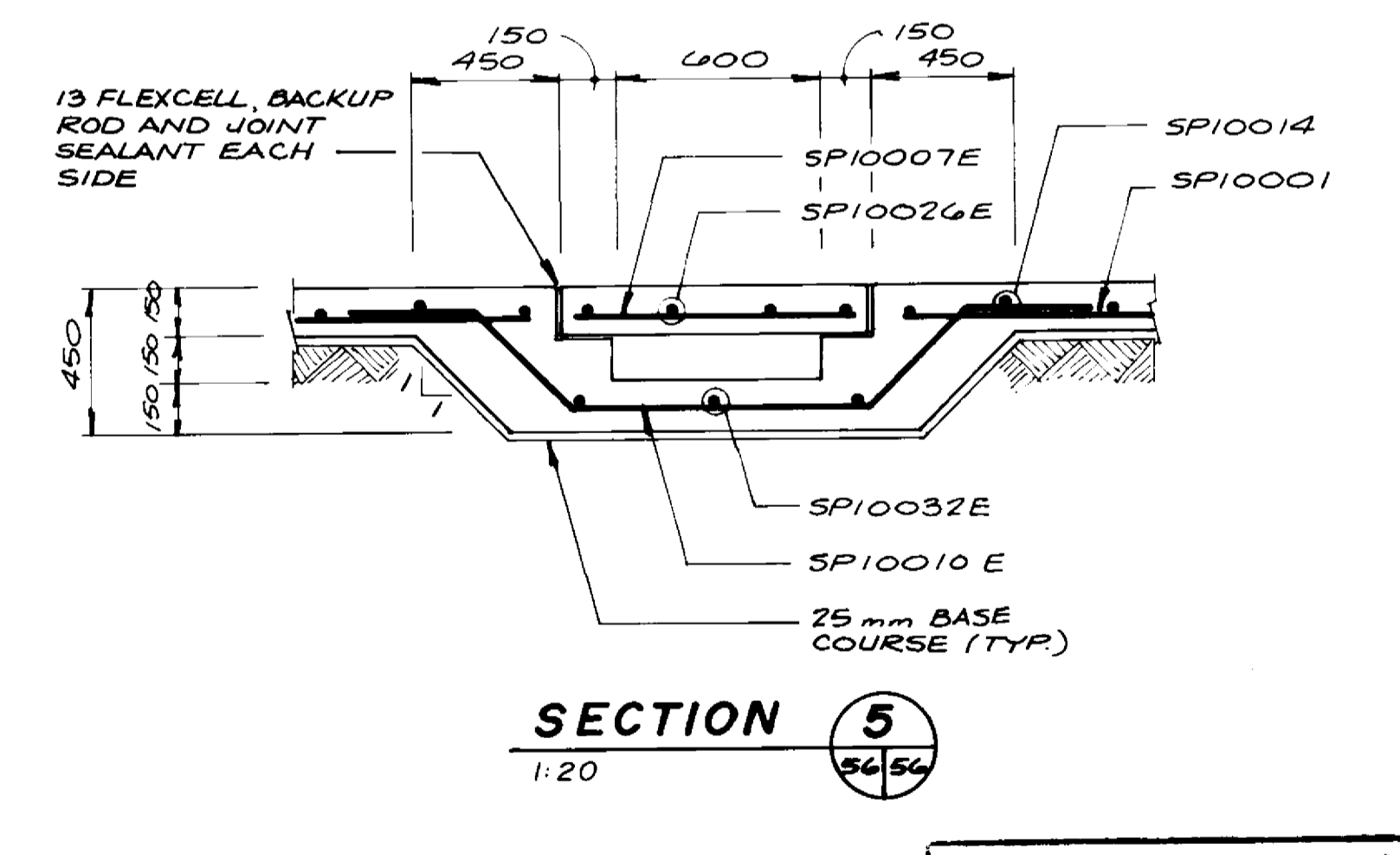
DETAIL F
1:20



DETAIL G
1:50



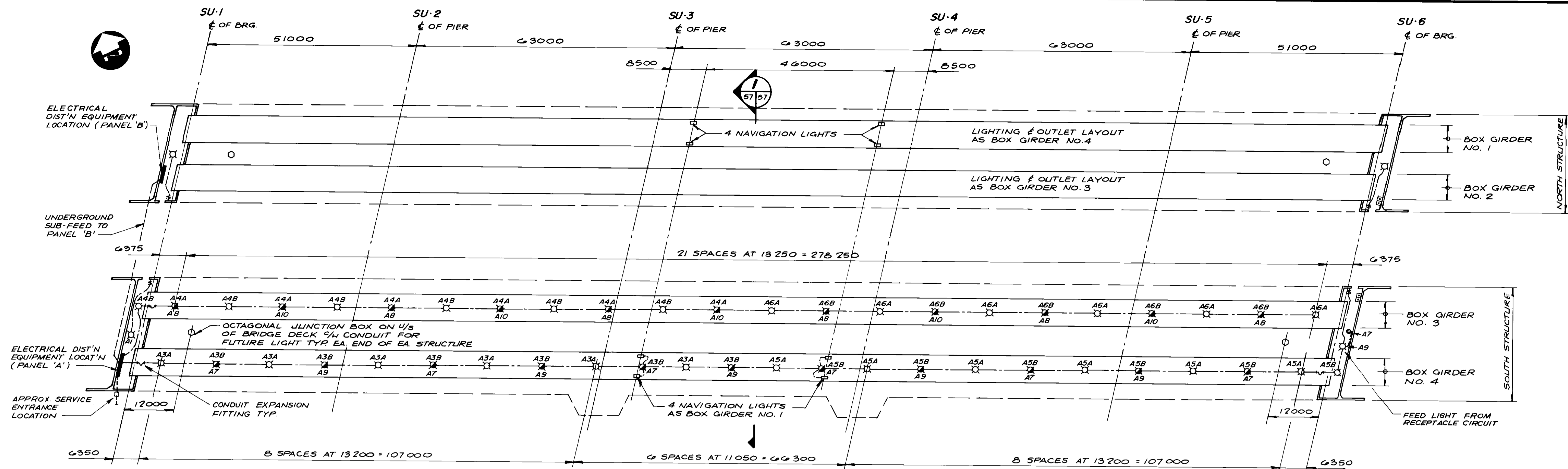
SECTION 4
1:25



SECTION 5
1:20

RECORD DRAWING
APPROVED BY: *R. W. H.* DATE: 90.11.28

<p>LOCATION APPROVED UNDERGROUND STRUCTURES NA SUPV U/G STRUCTURES COMMITTEE DATE</p> <p>NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.</p>	<p>B.M. ELEV.</p> <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table> <p>NO REVISIONS DATE BY</p>																	<p>DILLON Consulting Engineers • Planners Environmental Scientists</p> <p>DESIGNED BY: W.P.S. CHECKED BY: S.S.R. DRAWN BY: K.C. HOR. SCALE: AS SHOWN VERTICAL: AS SHOWN</p> <p>DATE: MAR. 1989</p>	<p>PROFESSOR OF NATIONAL S.S. RIHAL REGISTERED ENGINEER</p> <p>CONSULTANT DRAWING NO.</p>	<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT</p> <p>KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE SLOPE PAVEMENT RIVERBANK AND PIER PROTECTION SHEET 30 OF 3</p> <p>CITY DRAWING NUMBER: B216-89-56s SHEET OF: 30 B-5828-60</p>



PLAN

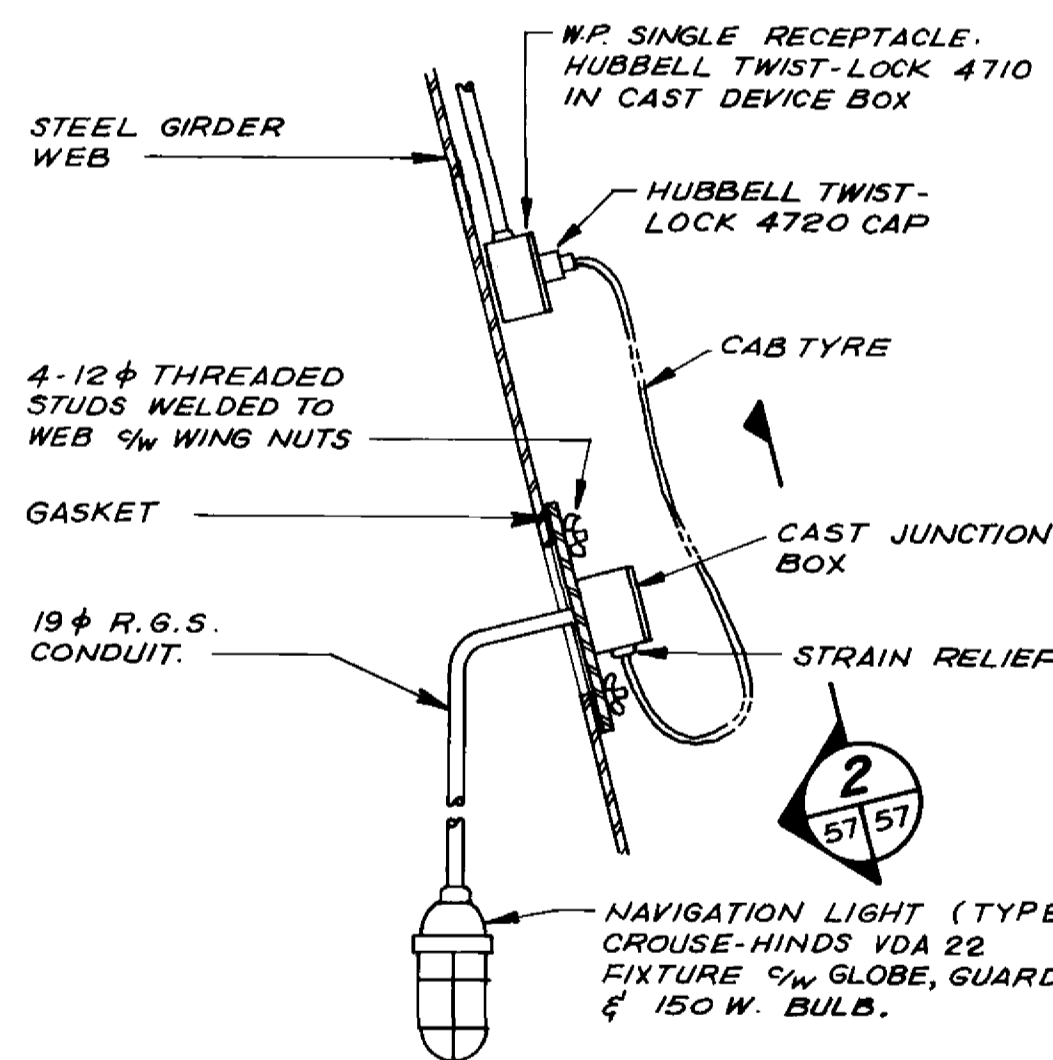
1:500
1:250

NOTES

- 32 φ MAIN CONDUIT RUN TO BE FASTENED TO 1/8" OF DECK WITH STAINLESS STEEL SCREWS INTO INSERTS CAST IN DECK.
- DUPLEX RECEPTACLES & LIGHTS TO BE FASTENED TO DECK WITH STAINLESS STEEL DRILLED-IN FASTENERS.
- ALLOW FOR 150 CONDUIT EXPANSION & CONTRACTION AT EACH END OF BRIDGE.

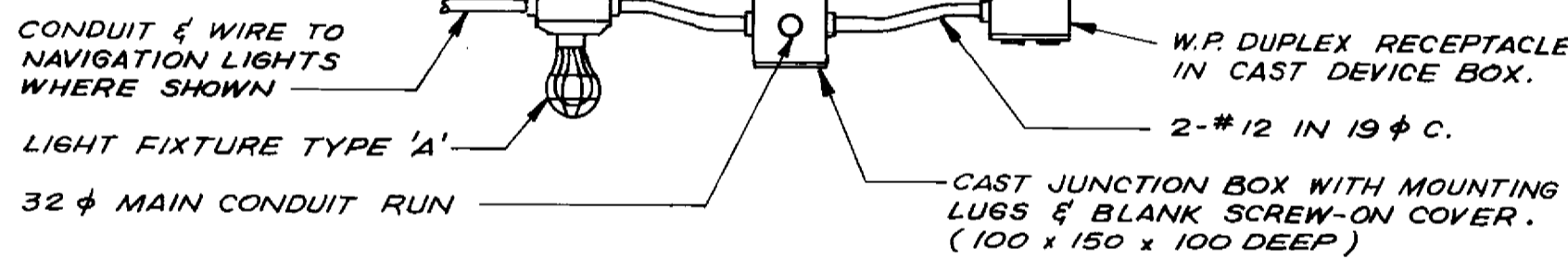
LEGEND

- - INCANDESCENT LIGHT FIXTURE TYPE 'A'
- ⊗ - INCANDESCENT LIGHT FIXTURE TYPE 'A' & W.P. DUPLEX RECEPTACLE (SEE TYP DETAIL)
- ⊕ - SINGLE POLE WEATHERPROOF LIGHT SWITCH
- - WIRING IN E.M.T. CONDUIT SURFACE MOUNTED.
- ⊕ - DUPLEX RECEPTACLE (15 AMP, 120 V.)
- ⊞ - PUSHBUTTON STATION 1/4" W. PILOT LIGHT FOR GIRDER LIGHTS.
- A5B - LIGHT CONNECTED TO PANEL 'A', CIRCUIT 5B.



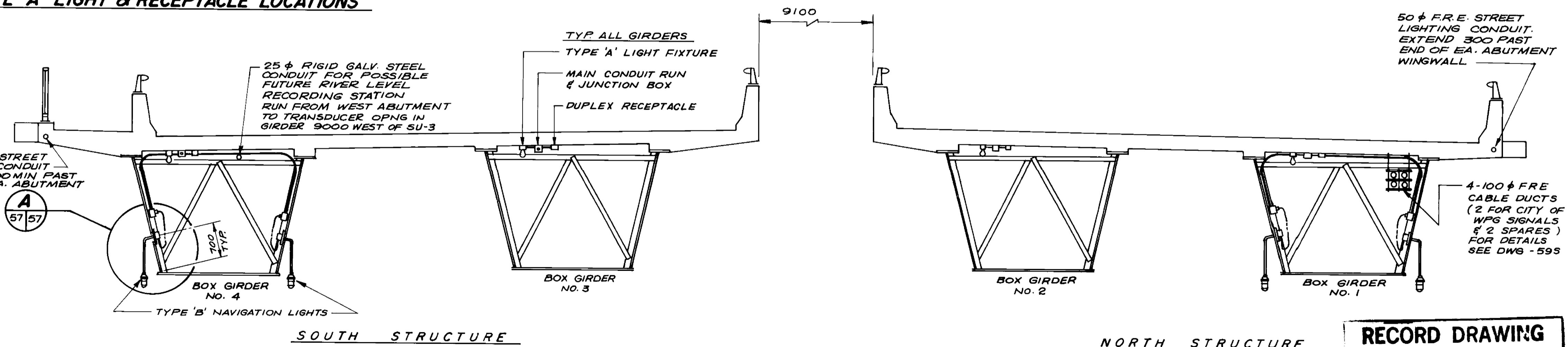
TYPICAL NAVIGATION LIGHT

DETAIL A
1:10



TYPICAL ARRANGEMENT AT TYPE 'A' LIGHT & RECEPTACLE LOCATIONS

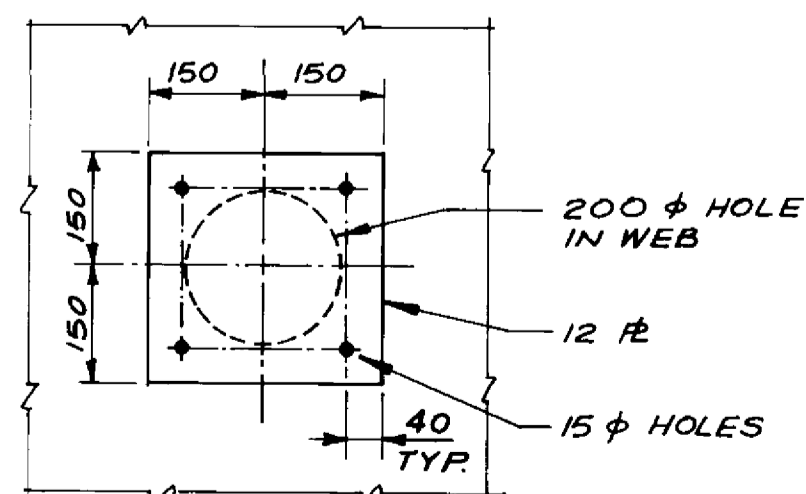
50 φ F.R.E. STREET LIGHTING CONDUIT EXTEND 300 MIN PAST END OF EA. ABUTMENT WINGWALL



SECTION 1
1:50

RECORD DRAWING

APPROVED BY: [Signature] DATE: 24/12/89



ELEVATION 2
1:10

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: J.H.
CHECKED BY: S.S.R.

DRAWN BY: K.C. & P.S.
APPROVED BY: [Signature]

HOR. SCALE: AS SHOWN
VERTICAL: AS SHOWN

DATE: MAR. 1989

ENGINEER

PROFESSOR OF HONORARY

S.S. RIHAL

REGISTERED ENGINEER

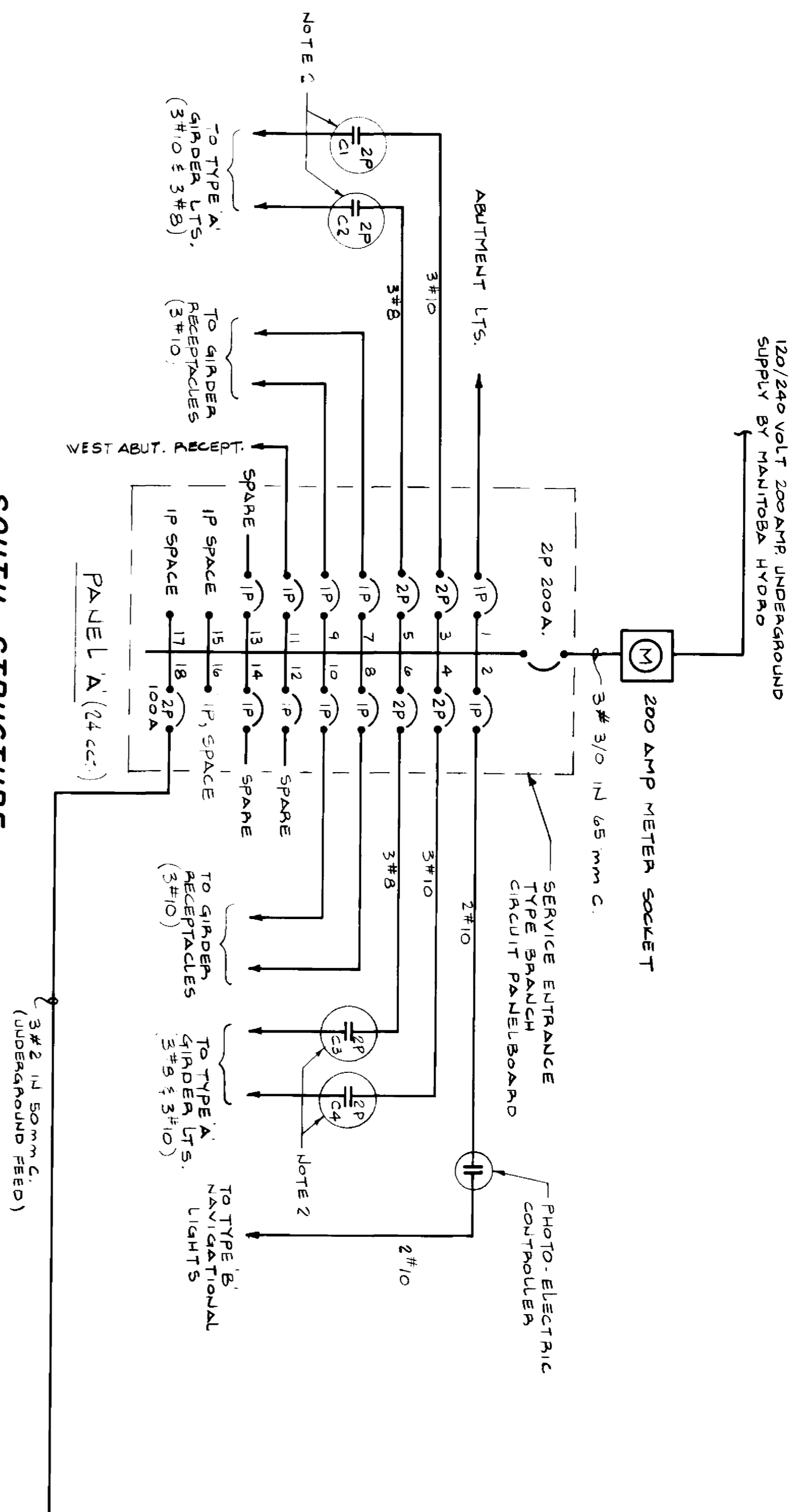
CONSULTANT DRAWING NO.

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE

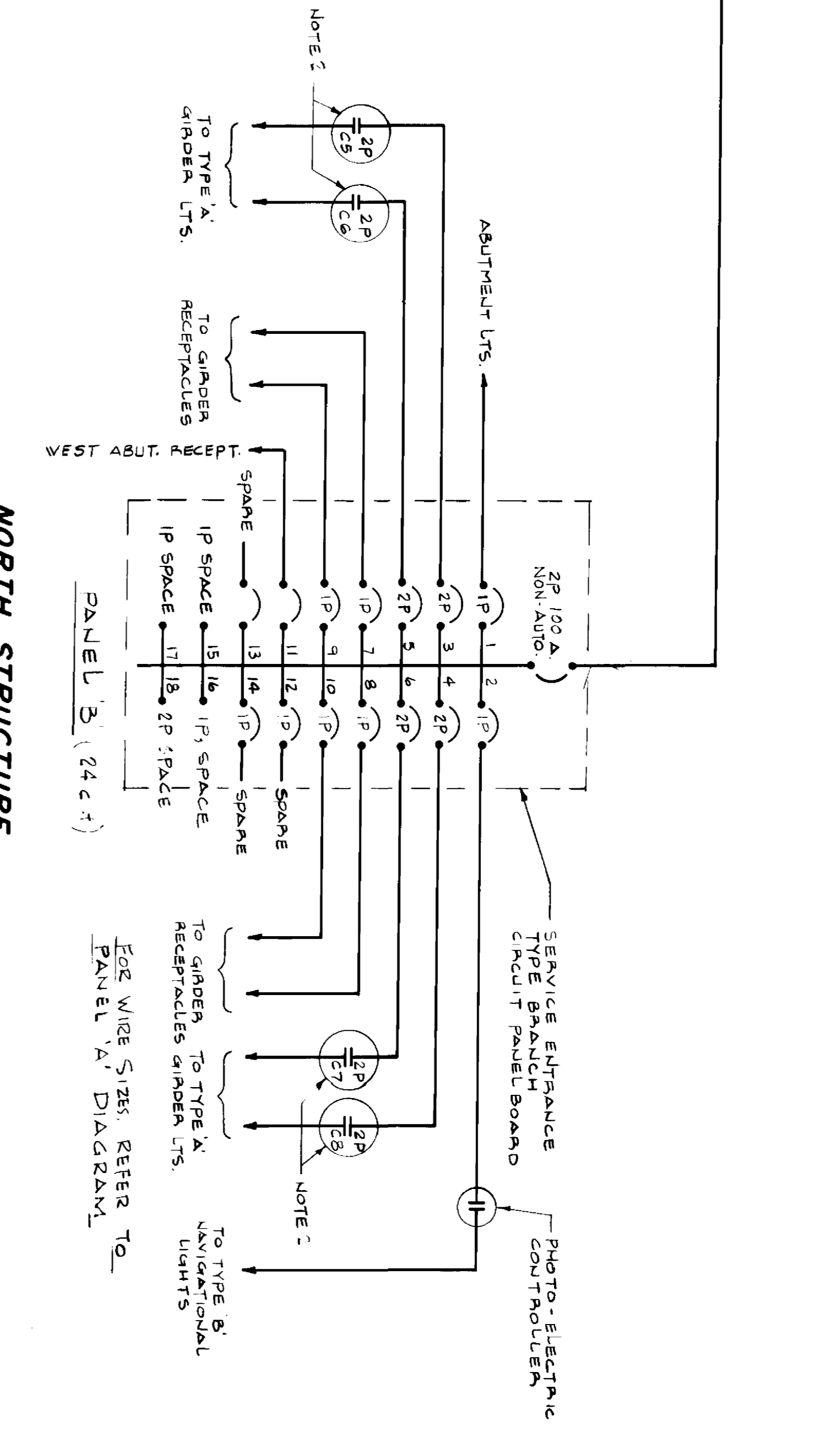
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SHEET OF: []

B-5828-61



SOUTH STRUCTURE

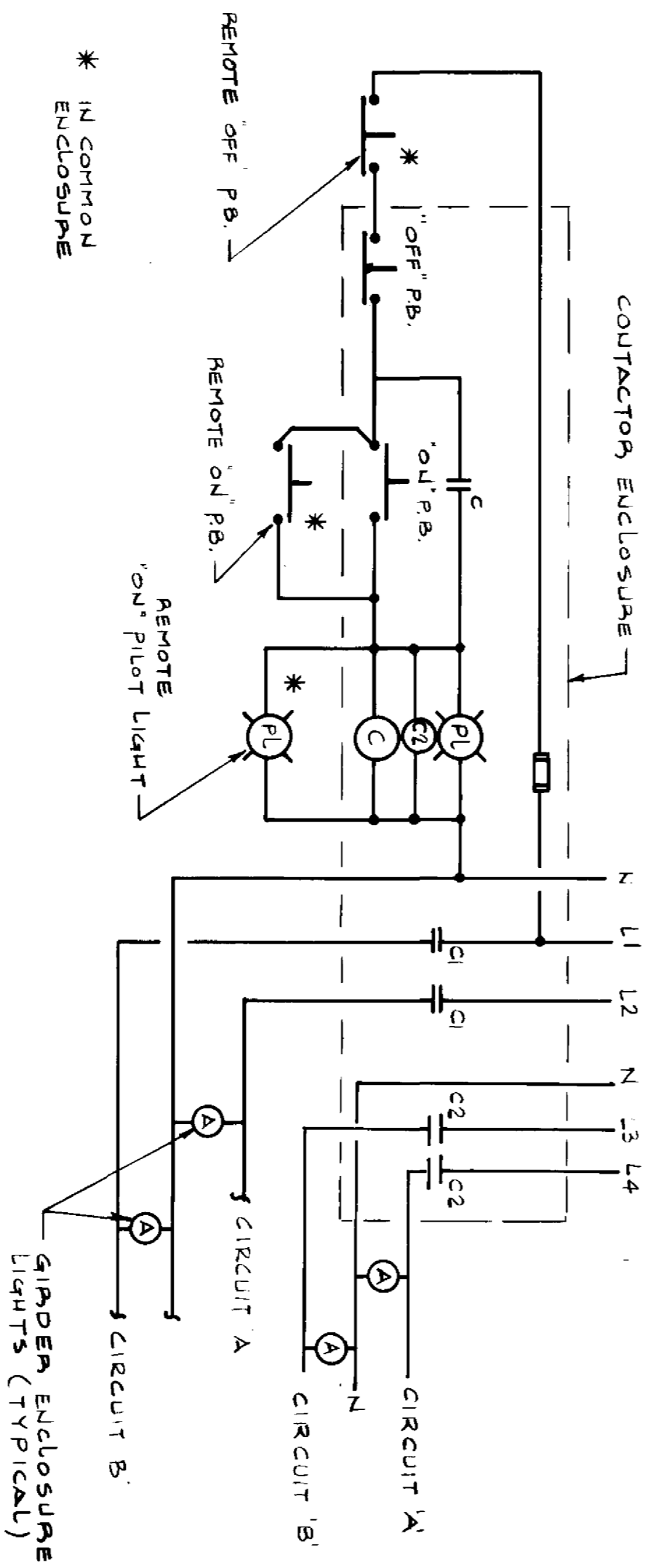
SINGLE LINE DIAGRAM



NORTH STRUCTURE

NOTES

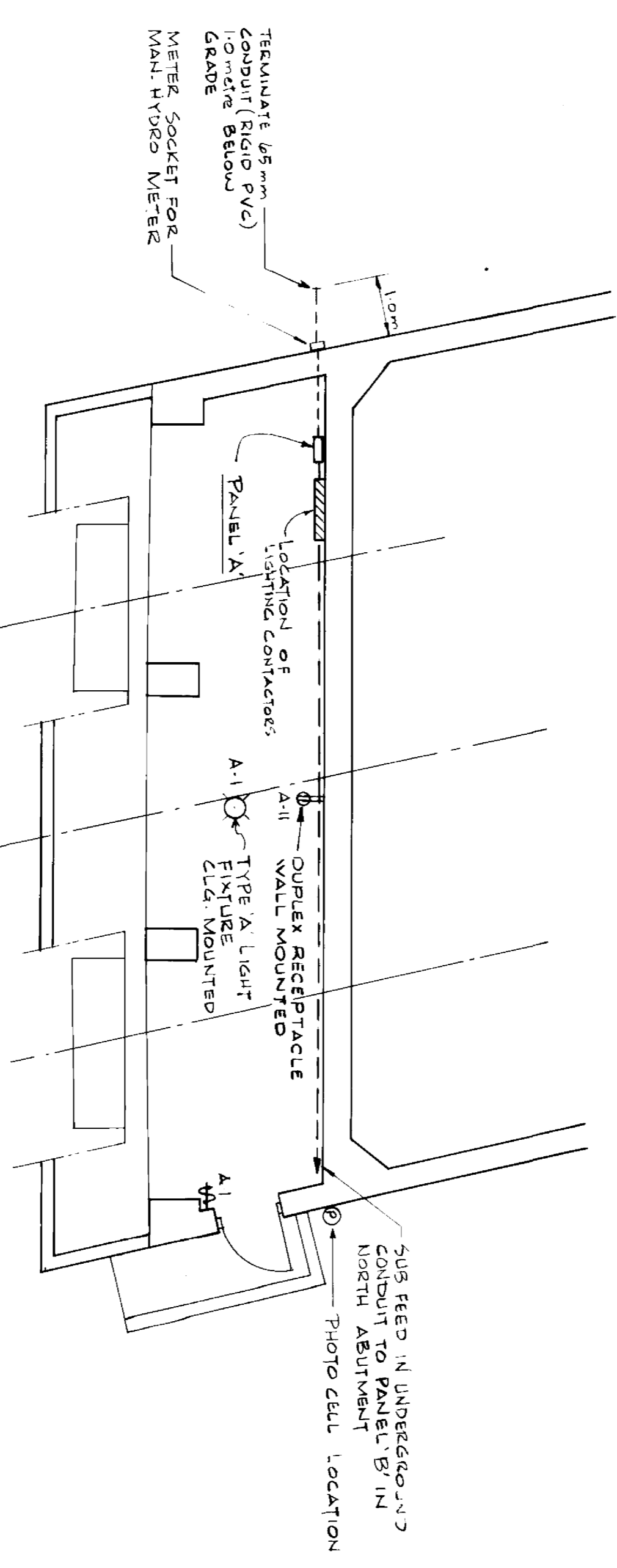
1. CIRCUIT BREAKERS IN PANELBOARDS SHALL BE 15 A, SINGLE POLE EXCEPT AS OTHERWISE NOTED.
2. 2 POLE LIGHTING CONTACTORS IN COMMON ENCLOSURE. SEE TYPICAL LIGHTING CONTROL DIAGRAM.



TYPICAL CONTROL DIAGRAM FOR TYPE 'A' GIRDER LIGHTS (IN ONE GIRDER)

NOTES ON LIGHTING CONTROL

1. TWO-2 POLE CONTACTORS CONTROLLING LIGHTING IN THE SAME BOX GIRDER, SHALL BE OPERATED BY COMMON PUSHBUTTON STATIONS ONE AT CONTACTOR LOCATION AND ONE REMOTE AT EAST ABUTMENT.
2. 10# 12 AWG CONDUCTORS FOR 2- REMOTE P.B. STATIONS OPERATING SOUTH STRUCTURE LIGHTING, SHALL BE INSTALLED IN 32 mm MAIN CONDUIT RUN IN BOX GIRDER NO. 4.
3. 10# 12 AWG CONDUCTORS FOR 2- REMOTE PUSHBUTTON STATIONS OPERATING NORTH STRUCTURE LIGHTING, SHALL BE INSTALLED IN 32 mm MAIN CONDUIT RUN IN BOX GIRDER NO. 1.

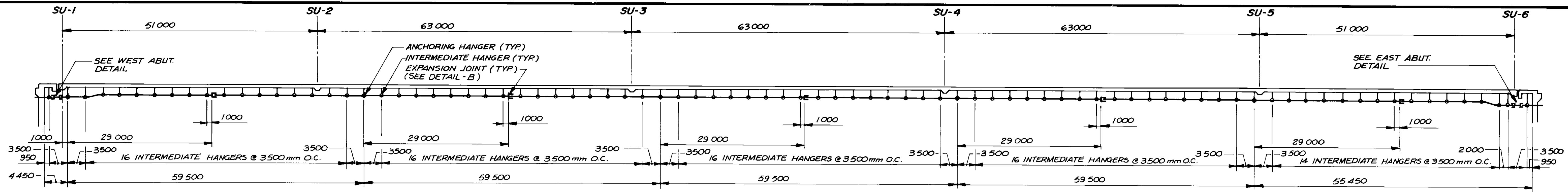


SOUTH STRUCTURE WEST ABUTMENT ELECTRICAL LAYOUT

NORTH STRUCTURE WEST ABUTMENT SIMILAR.

RECORD DRAWING
 APPROVED BY: [Signature]
 DATE: 9/1/20

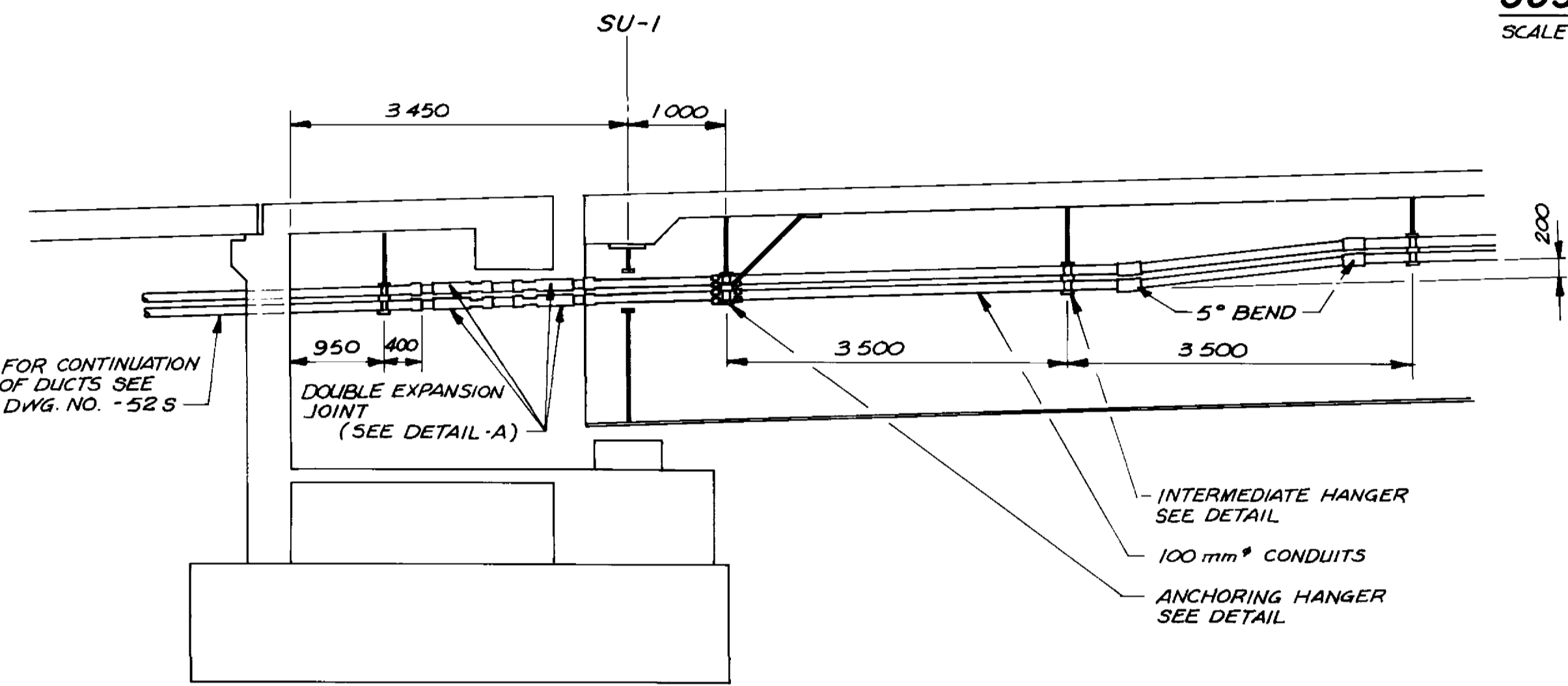
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UNDERGROUND STRUCTURES		M.A.	
SIPY U/G STRUCTURES COMMITTEE			
<p>DILION Consulting Engineers + Planners Environmental Scientists</p>			
DESIGNED BY	J.H.	CHECKED BY	E.C.
DRAWN BY	J.H.	APPROVED BY	[Signature]
HOR. SCALE	AS SHOWN	DATE	MAR 1989
VERTICAL		DATE	
<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE LIGHTING DETAILS</p>			
CITY DRAWING NUMBER	B216-89-585	SHEET	OF
B-5828-62			



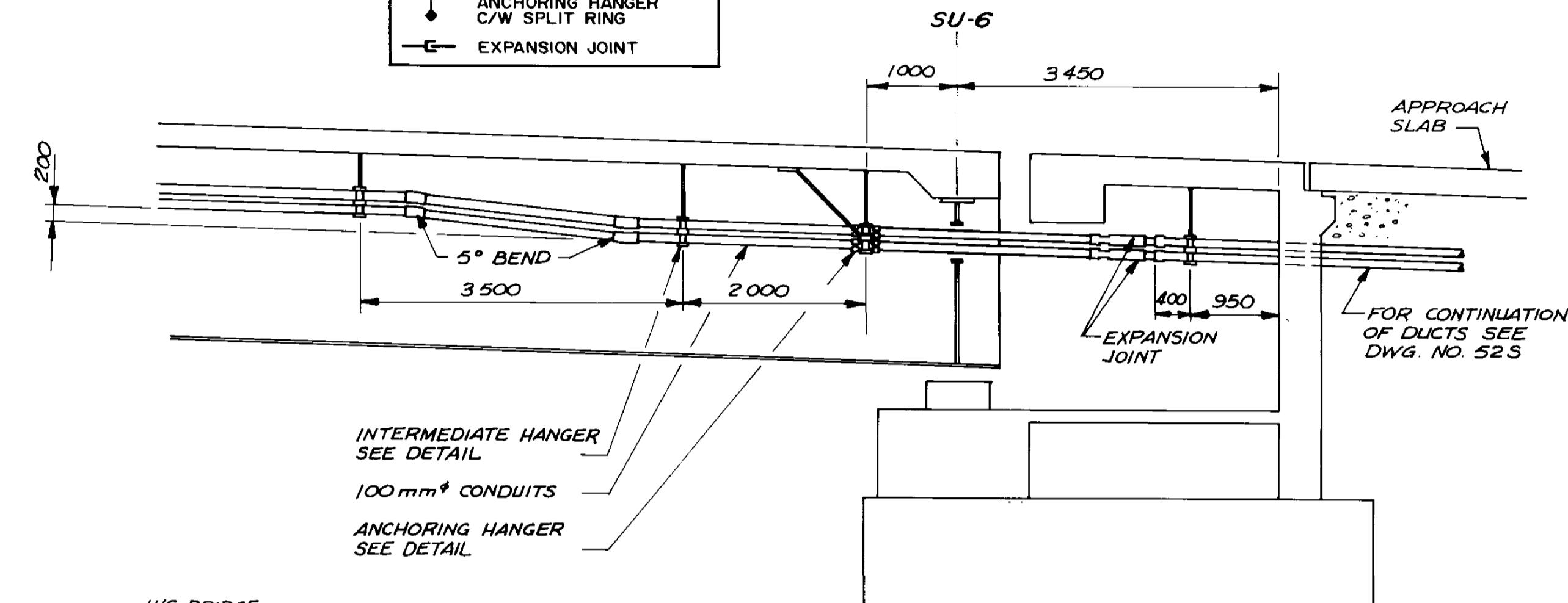
SUSPENDED DUCT LAYOUT IN BOX GIRDER NO. 1
SCALE HOR 1:400
VER N.T.S.

LEGEND

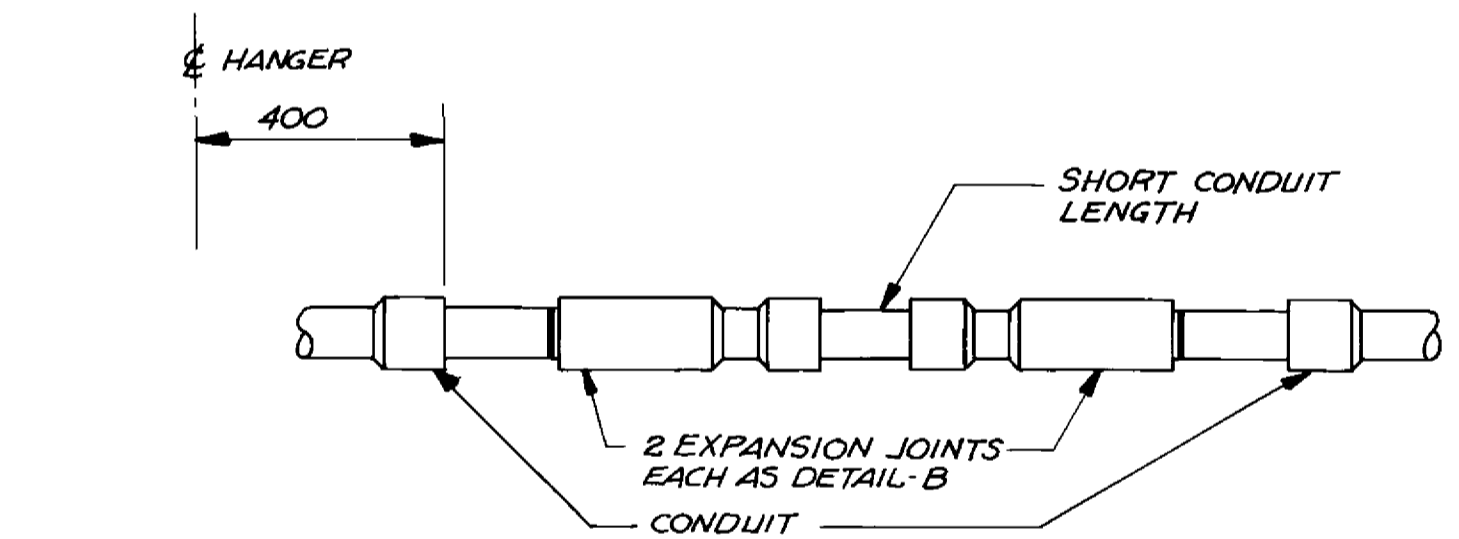
- INTERMEDIATE HANGERS
- ⊥ ANCHORING HANGER C/W SPLIT RING
- EXPANSION JOINT



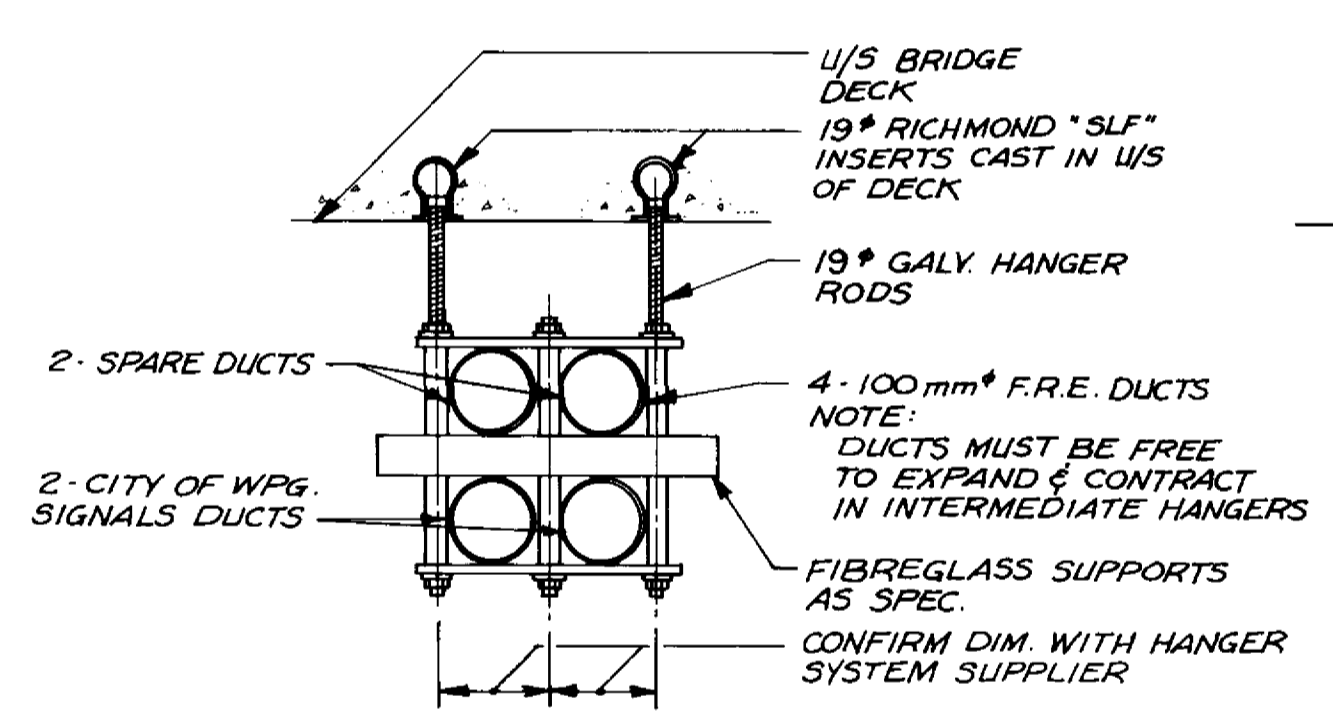
WEST ABUTMENT DETAIL
SCALE 1:50



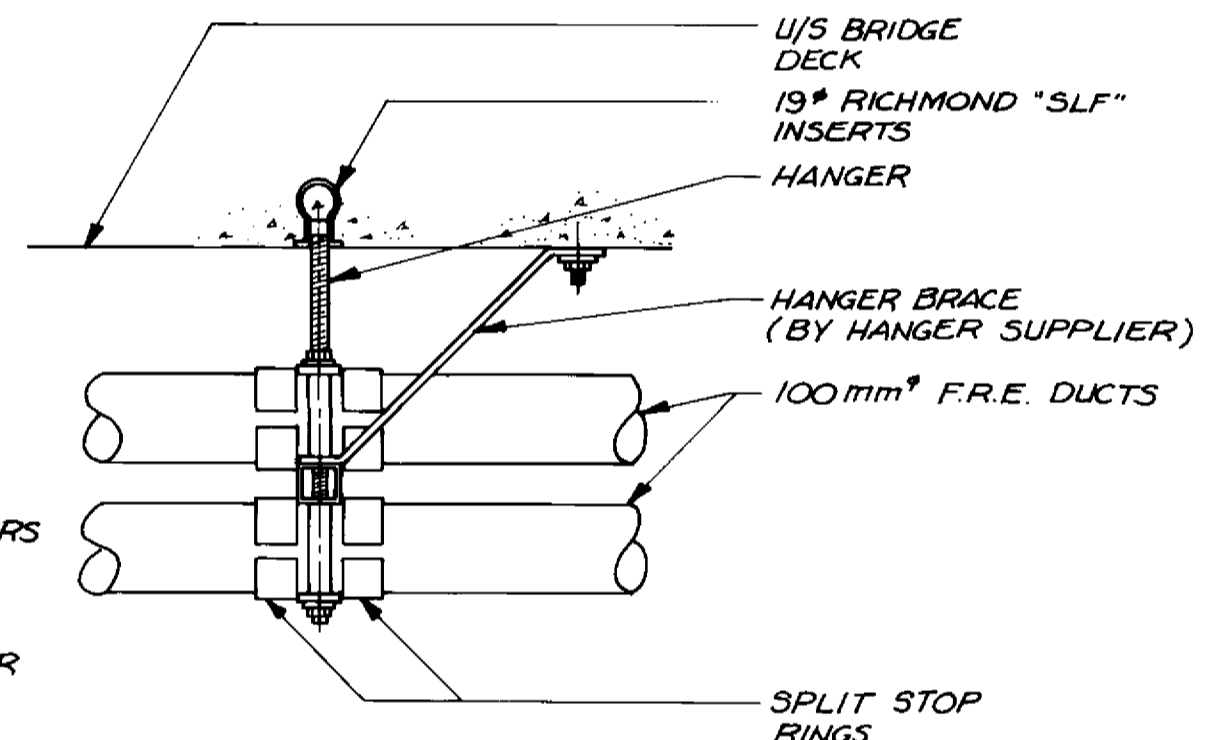
EAST ABUTMENT DETAIL
SCALE 1:50



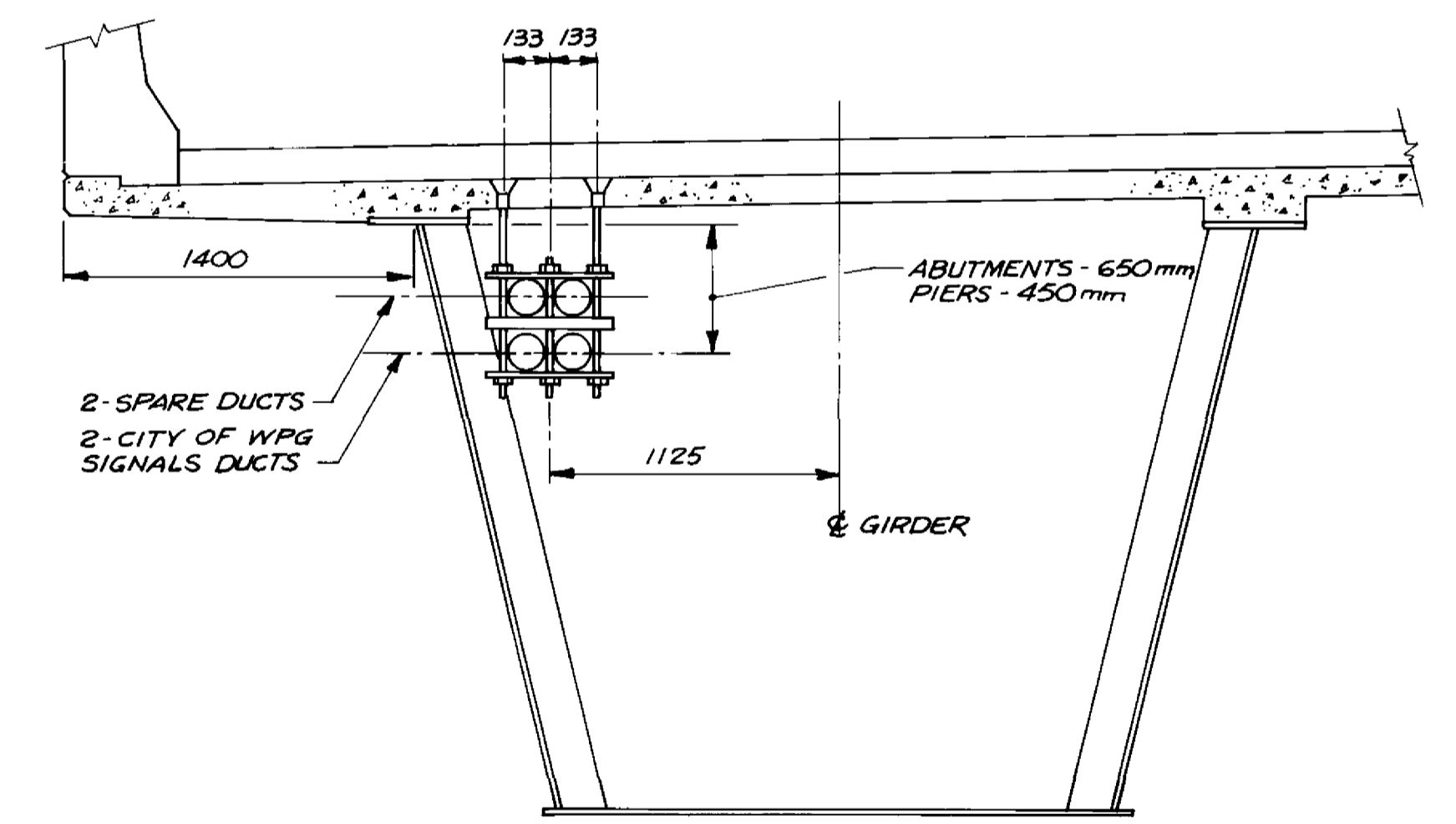
DETAIL A
N.T.S.



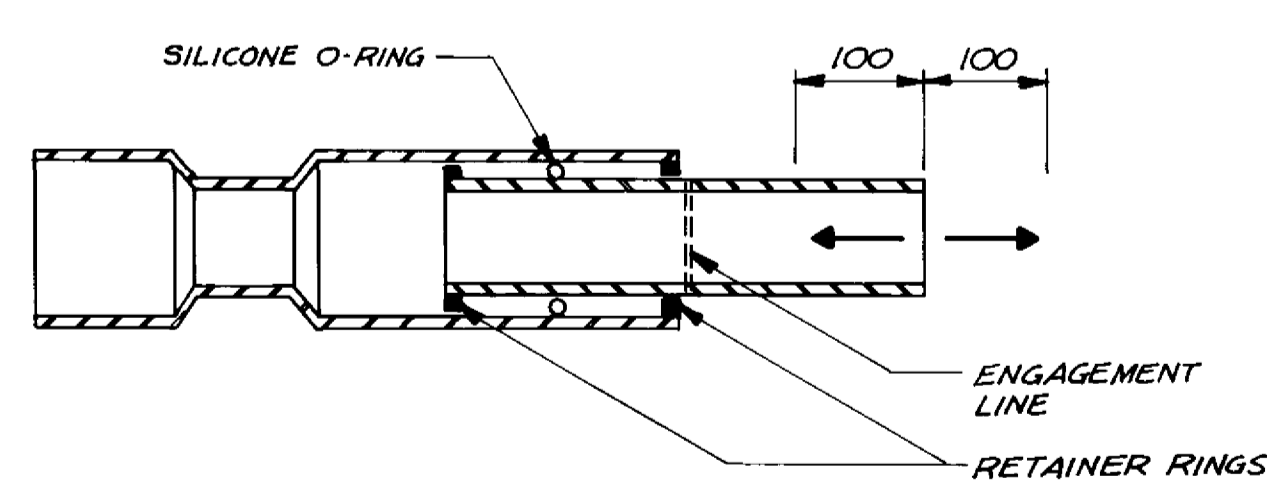
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N.T.S.



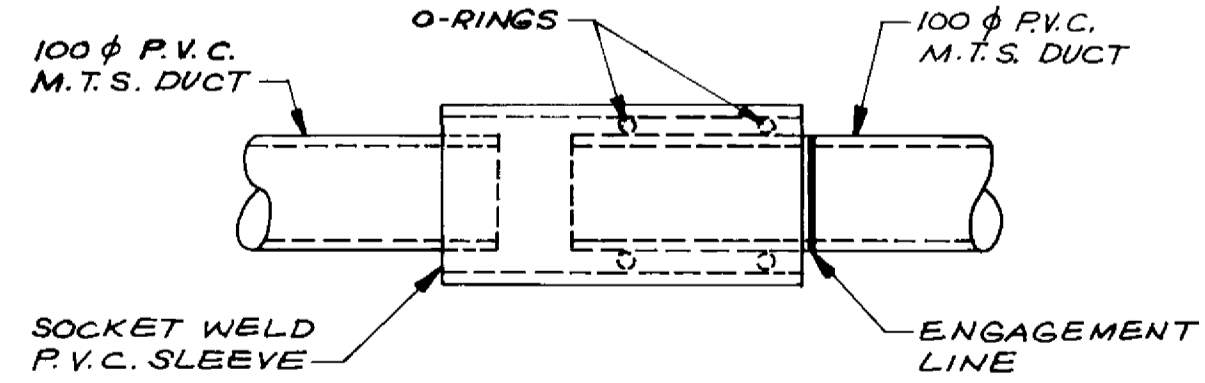
ANCHORING HANGER DETAIL
N.T.S.



TYPICAL SECTION THROUGH GIRDER NO. 1
SCALE 1:25



DETAIL B
N.T.S.



M.T.S. SIDEWALK DUCT EXPANSION JOINT DETAIL
N.T.S.

RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 2011.28

<p>LOCATION APPROVED UNDERGROUND STRUCTURES NA</p> <p>SUPV. U/G STRUCTURES COMMITTEE DATE</p> <p>NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.</p>	<p>B.M. ELEV.</p> <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: B.H. & W.P.S.	CHECKED BY: W.P.S.
DRAWN BY: D.M.W.	APPROVED BY: <i>[Signature]</i>
HOR. SCALE: AS SHOWN	AUTHORIZED BY: <i>[Signature]</i> 1989-04-07
VERTICAL:	ACCEPTED BY: <i>[Signature]</i> 1989-04-07
DATE: MAR 89	BRIDGE ENGINEER DATE:

ENGINEER'S SEAL
PROVINCE OF MANITOBA REGISTERED ENGINEER
S.S. RIHAL
CONSULTANT DRAWING NO.

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

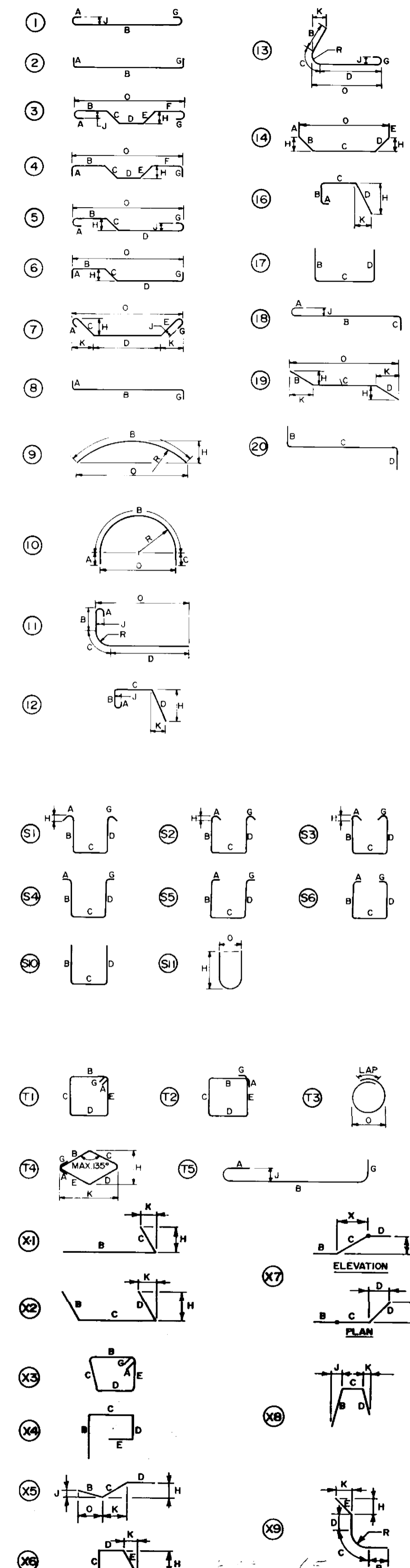
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
NORTH STRUCTURE
SUSPENDED DUCT LAYOUT & DETAILS

CITY DRAWING NUMBER: B216-89-59S
SHEET OF: 1
B-5828-63

BAR TYPES

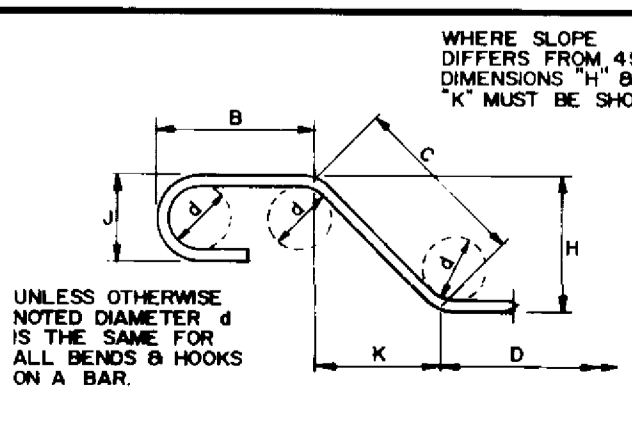
Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sections for NORTH STRUCTURE ABUTMENTS and WING WALLS CONTINUED.

Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes section for NORTH STRUCTURE ABUTMENTS and WING WALLS CONTINUED.



- NOTES: 1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT 'A' & 'G' ON STANDARD 180° & 135° HOOKS. 2. 'J' DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.

- 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED. 6. FOR RECOMMENDED DIAMETER 'D', OF BENDS, HOOKS, ETC. SEE TABLES.



RECORD DRAWING
APPROVED BY: [Signature] DATE: 90-11-28

Table with columns: NO, REVISIONS, DATE, BY. Includes a 'DESIGNED BY' section with 'N.A.' and 'W.P.S.'

DILLON Consulting Engineers - Planners Environmental Scientists. Includes fields for DESIGNED BY, CHECKED BY, DRAWN BY, APPROVED BY, HOR. SCALE, VERTICAL, DATE, MAR 89.

PROVINCE OF MANITOBA S. S. RIHAL REGISTERED ENGINEER. Includes CONSULTANT DRAWING NO. field.

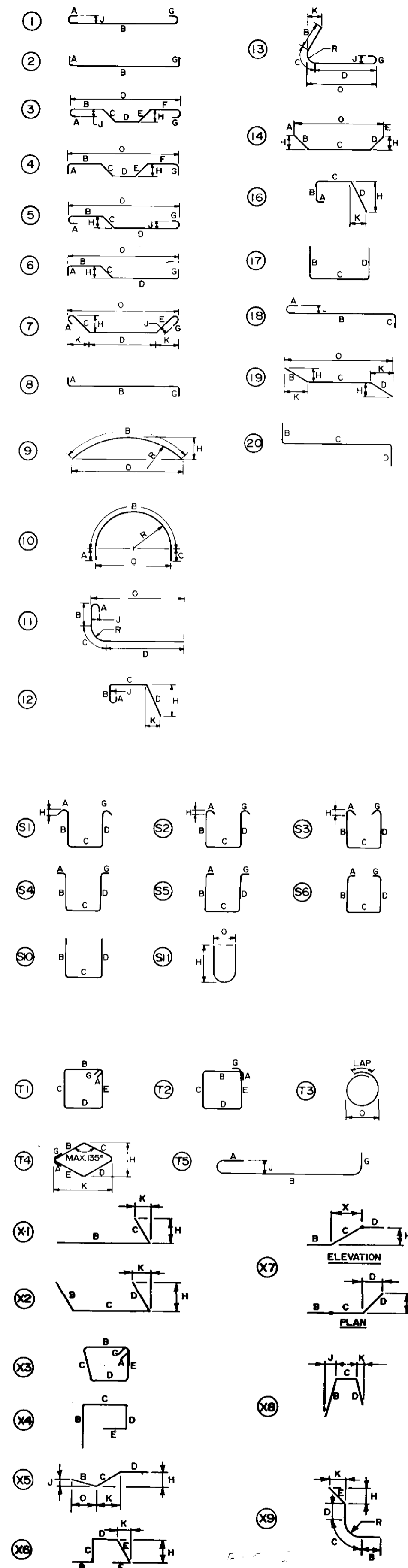
THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT. KILDONAN CORRIDOR BRIDGE. STEEL GIRDER ALTERNATIVE REINFORCING STEEL SCHEDULE NORTH STRUCTURE ABUTMENTS II. B216-89-61 S. SHEET OF B-5828-65. MMD 1572-04

TOTAL MASSES THIS SHEET (kg) 1481.4 755.5 CONTINUED ON NEXT SHEET

BAR TYPES

Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes rows for NORTH STRUCTURE ABUTMENTS, WINOWALLS CONTINUED and various bar types (W15118 E to W10036 E).

Empty table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS.



TOTAL MASSES THIS SHEET (kg) 250.6 21.5
TOTAL MASSES FOR ONE NORTH STRUCTURE ABUTMENT (kg) 9089.9 5805.9
TOTAL MASSES FOR TWO NORTH STRUCTURE ABUTMENTS (kg) 18179.8 11611.8

RECORD DRAWING
APPROVED BY: [Signature] DATE: 9.11.28

NOTES
1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" & "G" ON STANDARD 180° & 135° HOOKS.
2. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
3. WHERE "J" IS NOT SHOWN "J" WILL BE KEPT EQUAL TO, OR LESS THAN "H". WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT WITHIN CONCRETE.

5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
6. FOR RECOMMENDED DIAMETER "d", OF BENDS, HOOKS, ETC. SEE TABLES.

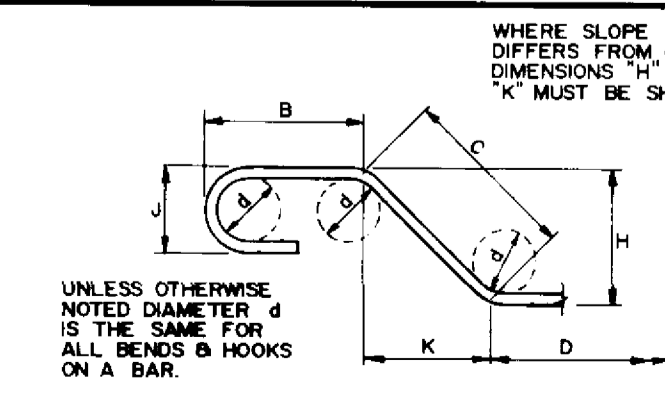
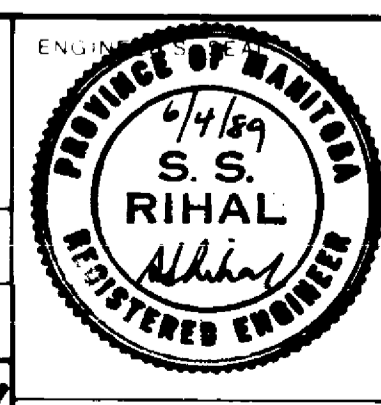


Table for REVISIONS with columns: NO, REVISIONS, DATE, BY.

DILLON Consulting Engineers - Planners Environmental Scientists. Includes fields for DESIGNED BY, DRAWN BY, HOR SCALE, VERTICAL, CHECKED BY, APPROVED BY, ACCEPTED BY, and DATE (MAR 89).

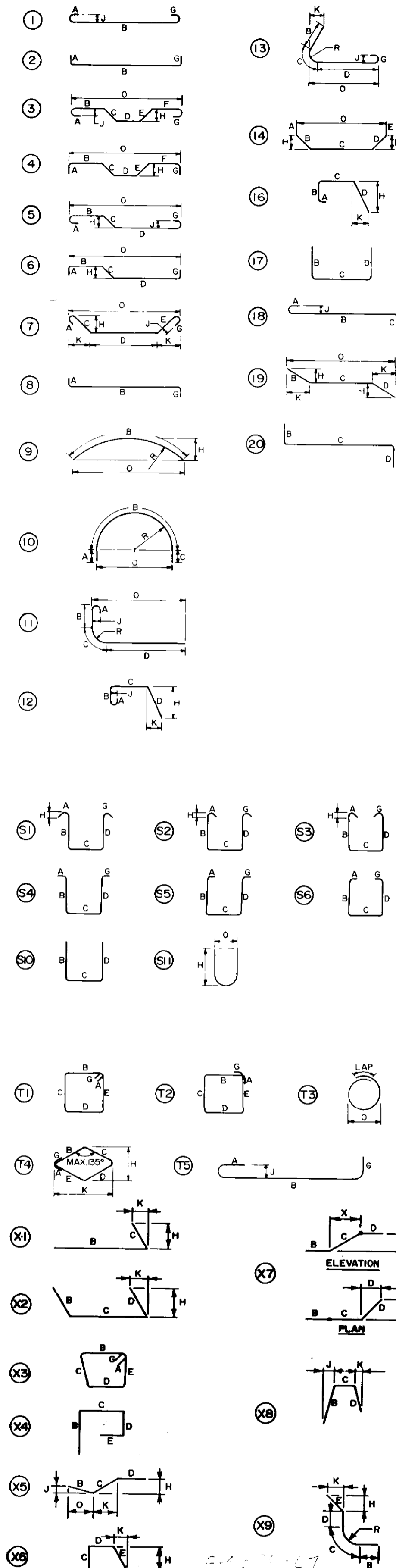


THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT. KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE REINFORCING STEEL SCHEDULE NORTH STRUCTURE ABUTMENTS III. SHEET B-5828-66

BAR TYPES

Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sections for SOUTH STRUCTURE ABUTMENTS, FOOTINGS, ABUTMENTS, and WINGWALLS.

Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sections for SOUTH STRUCTURE ABUTMENTS, FOOTINGS, ABUTMENTS, and WINGWALLS.



RECORD DRAWING
APPROVED BY: [Signature] DATE: 9.11.28

- NOTES
1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT 'A' & 'G' ON STANDARD 180° & 135° HOOKS.
2. 'J' DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE...

- 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
6. FOR RECOMMENDED DIAMETER 'D', OF BENDS, HOOKS, ETC. SEE TABLES.

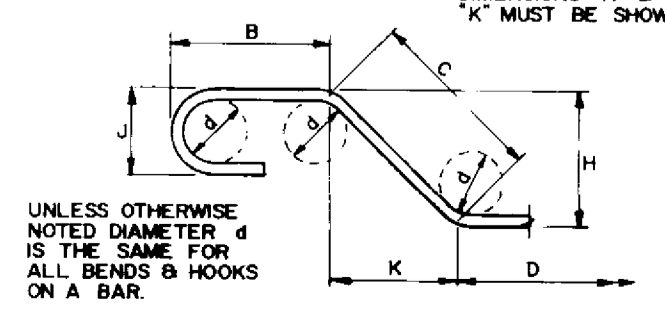
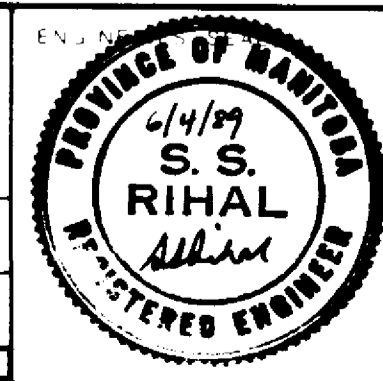


Table with columns: NO, REVISIONS, DATE, BY, DATE. Includes a section for 'WHERE SLOPE DIFFERS FROM 45°'.

DILLON
Consulting Engineers - Planners
Environmental Scientists

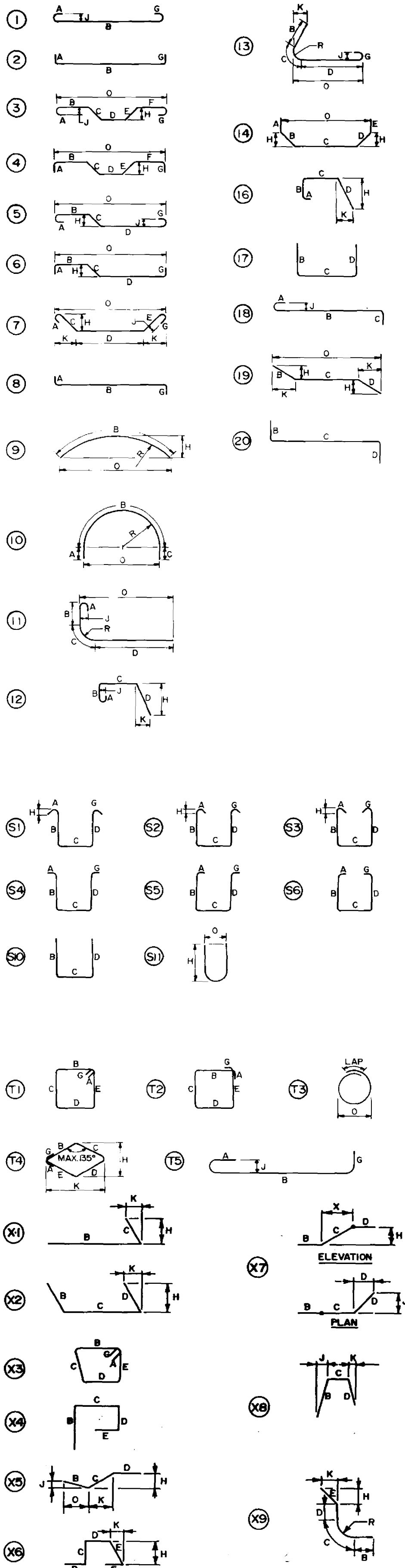
DESIGNED BY: N.A. CHECKED BY: W.P.S.
DRAWN BY: S.K.B. APPROVED BY: [Signature]
HOR. SCALE: N.A. VERTICAL: N.A.
DATE: MAR 89



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
REINFORCING STEEL SCHEDULE
SOUTH STRUCTURE ABUTMENTS I
B216-89-63S
B-5827-67

BAR TYPES



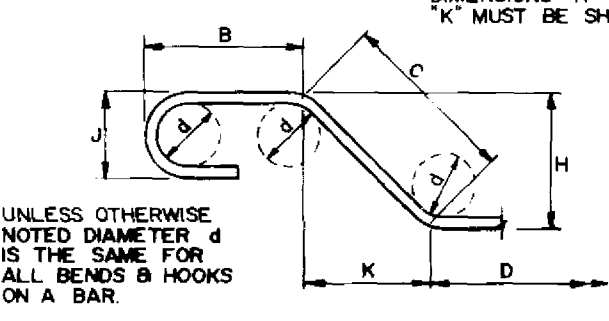
Main table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sub-headers for 'SOUTH STRUCTURE ABUTMENTS CONTINUED' and 'WINGWALLS'. Contains multiple rows of data for different bar types and their masses.

Empty table with the same column structure as the main table, intended for additional bar specifications.

RECORD DRAWING
Approved by: [Signature]
DATE: 90.11.28

NOTES
1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" & "G" ON STANDARD 180° & 135° HOOKS.
2. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
3. WHERE "J" IS NOT SHOWN "J" WILL BE KEPT EQUAL TO OR LESS THAN "H", WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT WITHIN CONCRETE.

5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
6. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC. SEE TABLES.



WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" & "K" MUST BE SHOWN.

Table with columns: NO, REVISIONS, DATE, BY. Includes a section for 'B.M. ELEV.' with a grid for recording values.

DILLON Consulting Engineers - Planners Environmental Scientists
DESIGNED BY: N.A. CHECKED BY: W.P.S.
DRAWN BY: S.K.B. APPROVED BY: [Signature]
HOR. SCALE: N.A. VERTICAL: N.A.
DATE: MAR. 1989



THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
REINFORCING STEEL SCHEDULE
SOUTH STRUCTURE ABUTMENTS III
B-5828-69

BAR TYPES

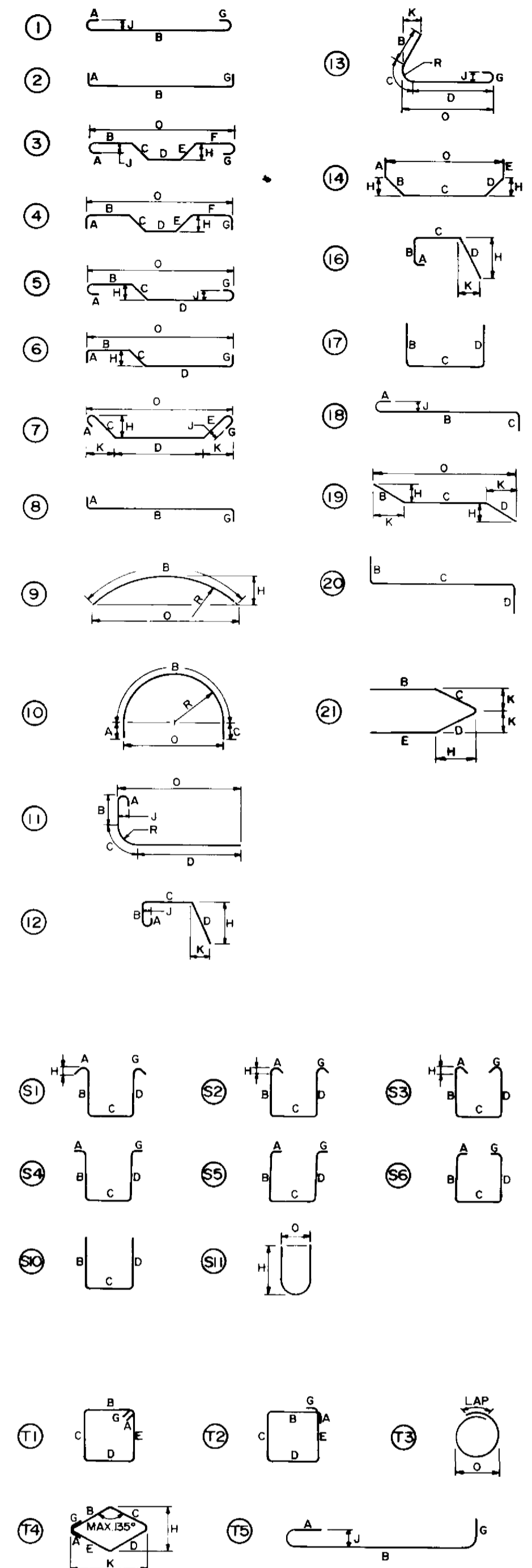


Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sub-totals for SUB FOOTINGS and PIER SU-4.

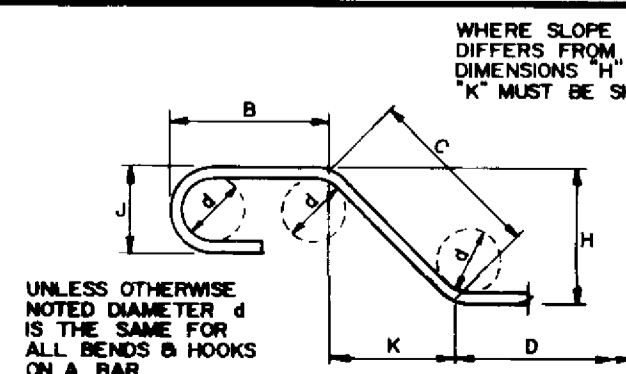
Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes sub-totals for FOOTING, PIER, and SU-4 (ROCK-SOCKETED CAISSONS).

TOTAL MASS PIER SU-4 (kg) 79826.0
ROCK SOCKETED CAISSONS 9364.2

RECORD DRAWING
APPROVED BY: [Signature] DATE: 90.11.28

NOTES

- 1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" & "G" ON STANDARD 180° & 135° HOOKS.
2. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE...
3. WHERE "J" IS NOT SHOWN "J" WILL BE KEPT EQUAL TO OR LESS THAN "H"...
4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT WITHIN CONCRETE.
5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES...
6. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC. SEE TABLES.



BAR BENDING DETAILS

WHERE SLOPE DIFFERS FROM 45°, DIMENSIONS "H" & "K" MUST BE SHOWN.

Table with columns: NO, REVISIONS, DATE, BY. Includes a note: PIER HEIGHTS INCREASED 89-06-30 WRS.

DILLON Consulting Engineers - Planners Environmental Scientists. Includes fields for DESIGNED BY, DRAWN BY, HOR SCALE, VERTICAL, and DATE (MAR 89).

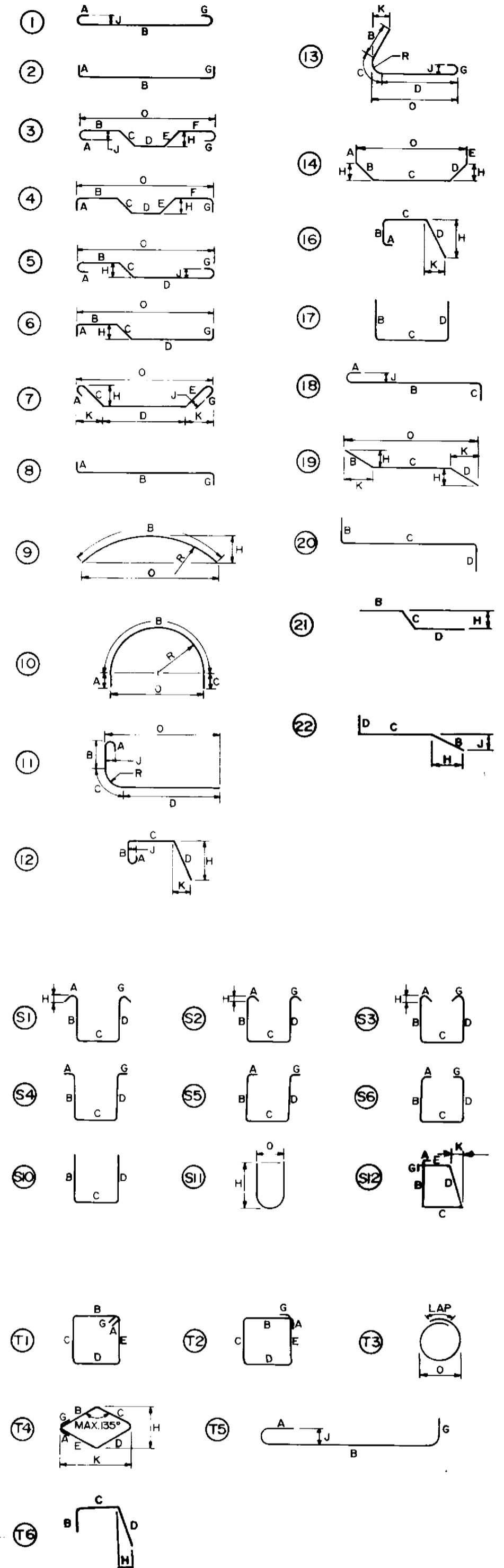
PROVINCE OF MANITOBA REGISTERED ENGINEER S.S. RIHAL. Includes a stamp with name and registration details.

THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION STREETS & TRANSPORTATION DEPARTMENT. KILDONAN CORRIDOR BRIDGE STEEL GIRDER ALTERNATIVE REINFORCING STEEL SCHEDULE PIERS SU-3 & SU-4. B-5828-71

BAR TYPES

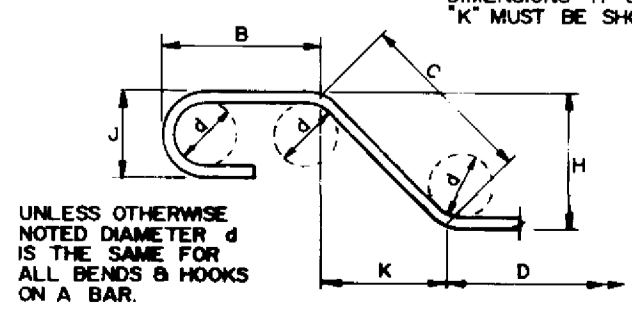
MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	SHAPE	MASS UNCOATED BARS	MASS EPOXY BARS
APPROACH SLABS (NORTH STRUCTURE)																			
AS25001	153	25	6500	17	180	6140	180											3903.4	
AS10012	8	10	7000	ST														44.0	
AS10013	28	10	2050	17	800	450	800											45.1	
AS10014	36	10	750	17	150	450	150											21.2	
AS10015	4	10	3300	ST														10.4	
AS10016	4	10	4500	ST														14.1	
AS15001 E	44	15	11240	ST															776.5
AS15002	84	15	11240	ST														1482.3	
AS15003 E	153	15	6140	ST															1474.9
AS15004 E	22	15	800	ST															27.8
AS15005	42	15	800	ST															52.8
APPROACH SLABS (SOUTH STRUCTURE)																			
AS25001	153	25	6500	17	180	6140	180											3903.4	
AS20001 E	42	20	1120	22	550	270	300					450	315						110.8
AS15003 E	169	15	6140	ST															1629.1
AS15004 E	22	15	800	ST															27.8
AS15005	42	15	800	ST															52.8
AS15006 E	44	15	11760	ST															812.4
AS15007	84	15	11760	ST														1550.9	
AS15008	16	15	6140	ST														154.2	
AS15009 E	44	15	2250	21	1450	200	600					140							155.4
AS15010	44	15	2150	21	1350	200	600					140							148.5
AS15011	12	15	1340	6	600	250	190	300				175							25.2
AS15012	4	15	1410	ST															8.9
AS15013 E	16	15	6120	ST															153.7
AS15014 E	42	15	1488	T6	520	168	800					100							98.1
AS15015 E	42	15	1100	17	800	300													72.5
AS10001	14	10	6640	21	3200	2640	800					600							73.0
AS10002	10	10	1950	17	200	1550	200												15.3
AS10003	16	10	750	17	200	350	200												9.4
AS10004	8	10	5000	ST															31.4
AS10005	4	10	2800	17	650	1500	650												8.8
AS10006	2	10	2680	17	590	1500	590												4.2
AS10007	2	10	2440	17	470	1500	470												3.8
AS10008	2	10	2200	17	350	1500	350												3.5
AS10009	2	10	1960	17	230	1500	230												3.1
AS10010	4	10	2500	19	1250	1250						292	1215						7.9
TOTAL MASSES APPROACH SLABS (kg)																		11472.0	5283.4
CONCRETE TRAFFIC BARRIERS																			
B15001 E	4080	15	1530	T6	560	170	800					82							9800.6
B15002 E	672	15	600	ST															633.0
B15003 E	1568	15	5610	ST															13810.5
B15004 E	128	15	3080	ST															619.0
B10001 E	1680	10	670	17	250	170	250												883.6
TOTAL MASS TRAFFIC BARRIERS (kg)																			25746.7

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	O	R	SHAPE	MASS UNCOATED BARS	MASS EPOXY BARS
STRUCTURAL SIDEWALK (SOUTH STRUCTURE)																			
SW15001E	4	15	1400	ST															8.8
SW15002E	4	15	4910	ST															30.8
SW10001E	18	10	1000	ST															14.1
SW10002E	6	10	1800	ST															8.5
SW10003E	31	10	1750	ST															42.6
SW10004E	18	10	900	ST															12.7
SW10005E	7	10	6670	ST															36.7
SW10006E	23	10	1405	S12	100	325	330	350	200		100			130					25.4
TOTAL MASSES STRUCTURAL SIDEWALK (kg)																			179.6



NOTES

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- "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- WHERE "J" IS NOT SHOWN "J" WILL BE KEPT EQUAL TO OR LESS THAN "H", WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT WITHIN CONCRETE.
- WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
- FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC. SEE TABLES.



REINFC ADDED
 REINFC STEEL QUANTITIES
 DATE BY

DATE BY

DILLON
 Consulting Engineers - Planners
 Environmental Scientists

DESIGNED BY: N.A.
 DRAWN BY: N.B.G.
 CHECKED BY: J.I.
 APPROVED BY: [Signature]
 LICENSE NO. 15849
 DATE: [Signature]
 STREET & BRIDGE ENGINEER
 ACCEPTED BY: [Signature]
 LICENSE NO. [Signature]
 DATE: [Signature]



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
 STREETS & TRANSPORTATION DEPARTMENT

KILDONAN CORRIDOR BRIDGE
 STEEL GIRDER ALTERNATIVE
 REINFORCING STEEL SCHEDULE
 TRAFFIC BARRIERS AND
 APPROACH SLABS

RECORD DRAWING
 Approved By: [Signature]
 DATE: 70.11.28

SHEET 04
B-5828-74

BAR TYPES

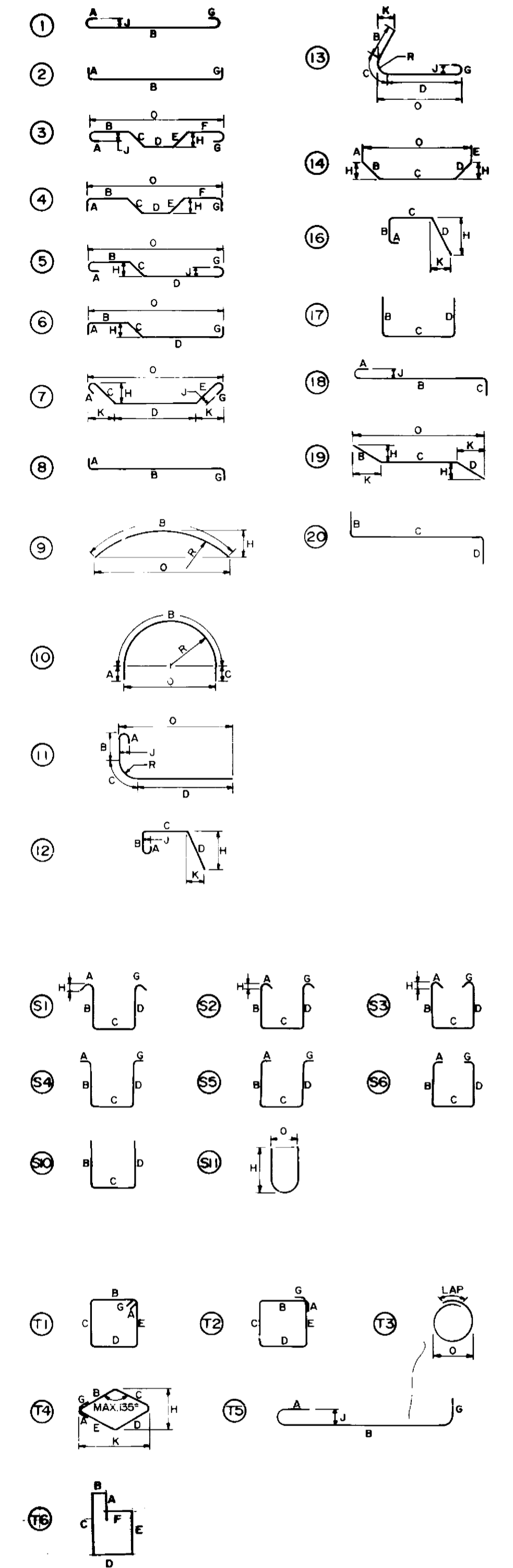


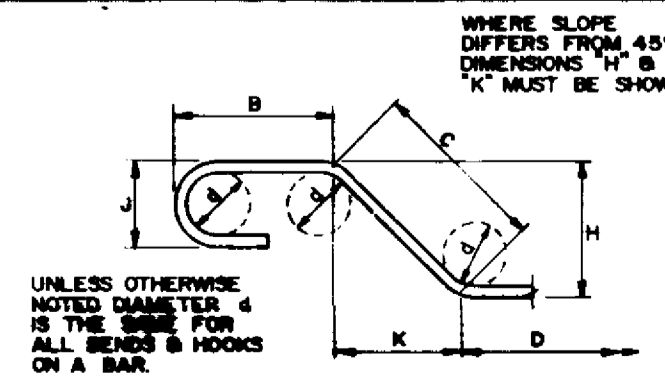
Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes data for SLOPE PAVEMENT - WEST EMBANKMENT and a total mass of 7289.0 kg.

Table with columns: MARK, NO. BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, O, R, SHAPE, MASS UNCOATED BARS, MASS EPOXY BARS. Includes data for SLOPE PAVEMENT - EAST EMBANKMENT and a total mass of 6414.2 kg.

RECORD DRAWING
APPROVED BY: [Signature]
DATE: 90.12.28

- NOTES
1. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" & "G" ON STANDARD 180° & 135° HOOKS.
2. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE...

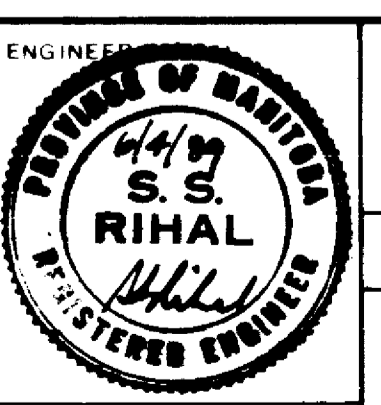
- 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER WORKING SHOULD HAVE LIMITS INDICATED.
6. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC. SEE TABLES.



BAR BENDING DETAILS

Table with columns: NO, REVISIONS, DATE, BY. Includes a signature and date MAR 89.

DILLON Consulting Engineers - Planners Environmental Scientists
DESIGNED BY: N.A. CHECKED BY: J.I.
DRAWN BY: K.C. APPROVED BY: [Signature]
HOR SCALE: N.A. VERTICAL: N.A.
DATE: MAR 89



THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT
KILDONAN CORRIDOR BRIDGE
STEEL GIRDER ALTERNATIVE
REINFORCING STEEL SCHEDULE SLOPE PAVEMENT
CITY DRAWING NUMBER: B216-89-71 S
SHEET: 01
B-5828-75