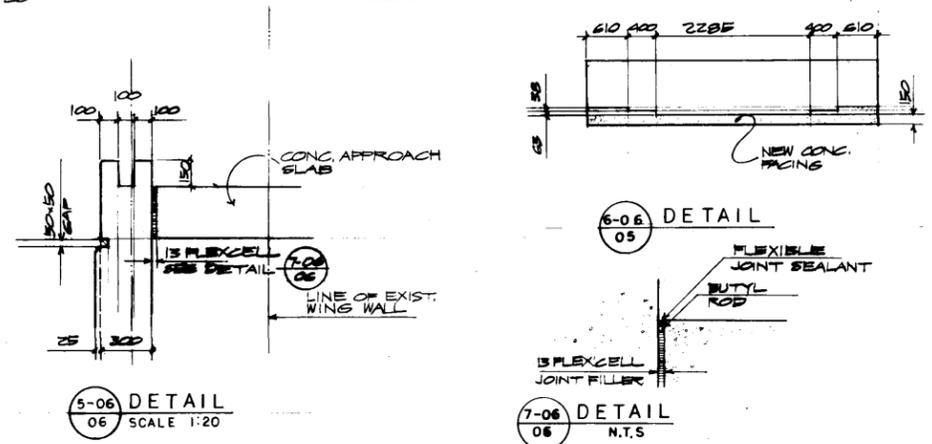


NOTE
SEE GENERAL NOTES
PAGE 5



REID, CROWTHER & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
SIC. *P. J. G.* DATE 27-01-28

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	APP.
1	AS CONSTRUCTED	820607/21	
2	ELEVATIONS REVISED	820414/21	

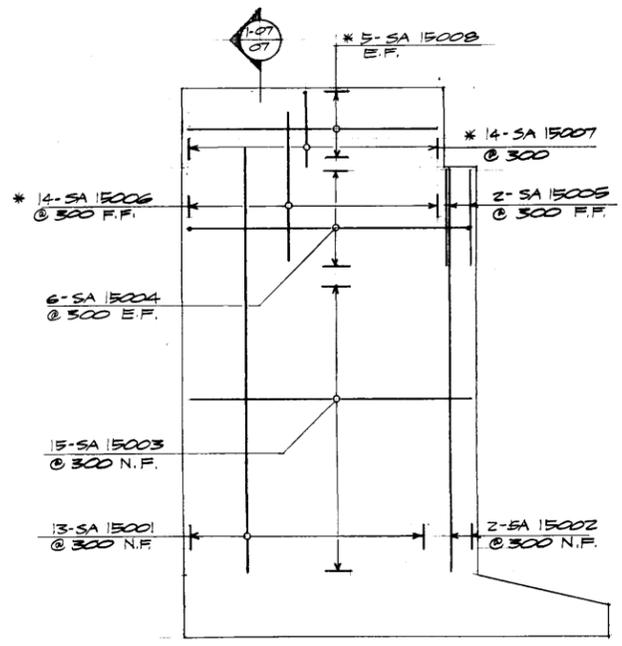
DESIGNED BY: W. J. M. DRAWN BY: R. C. S.
CHECKED BY: D. W. C. DATE: 81 04 15
APPROVED BY: *Charles* DATE: April 21/81

ENGINEER'S SEAL

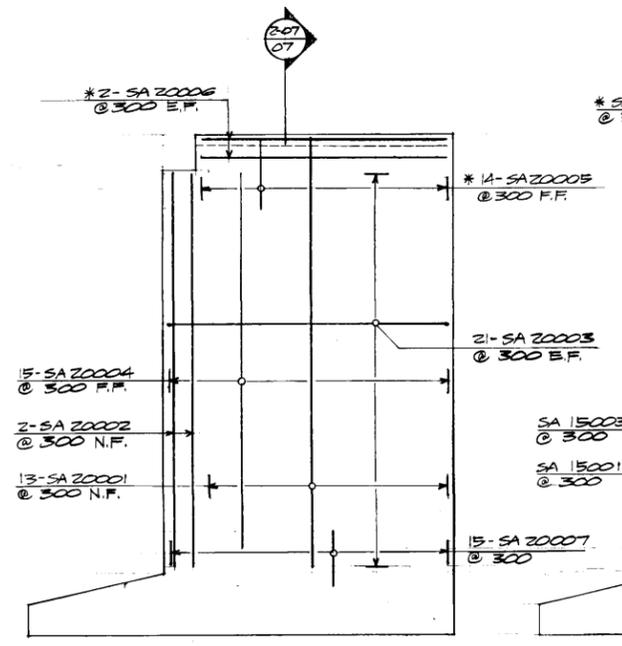
THE CITY OF WINNIPEG
WORKS & OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

ST. JAMES BRIDGE SOUTHBOND STRUCTURAL STRENGTHENING AND RELATED WORKS
NORTH ABUTMENT CONCRETE DETAILS
AUTHORIZED BY: *W. J. M.* 1981-07-15
ACCEPTED BY: *Charles* 81-07-14
SCALE: 1:50 UNO. DRAWING NO. B101-82-06

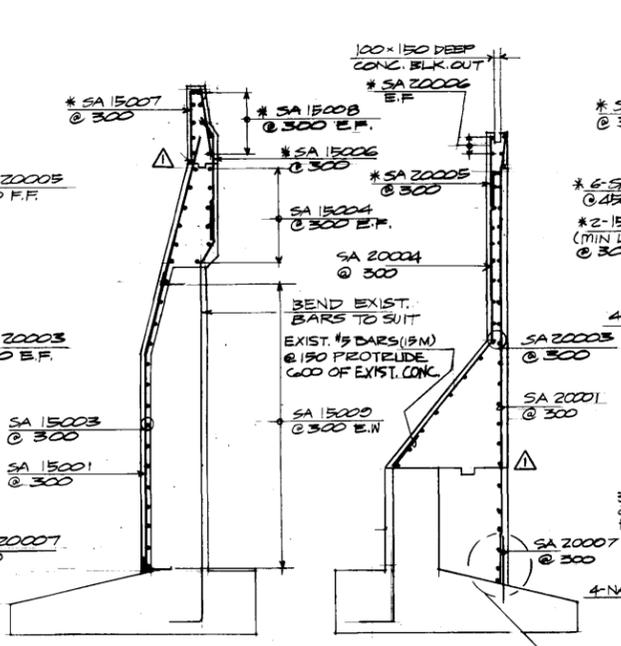
R.C.P.L. No 60268-7



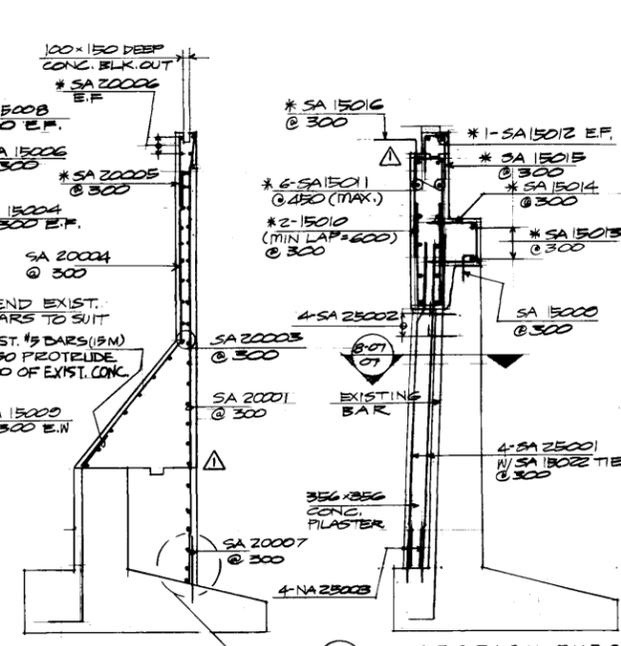
SOUTH EAST WING WALL



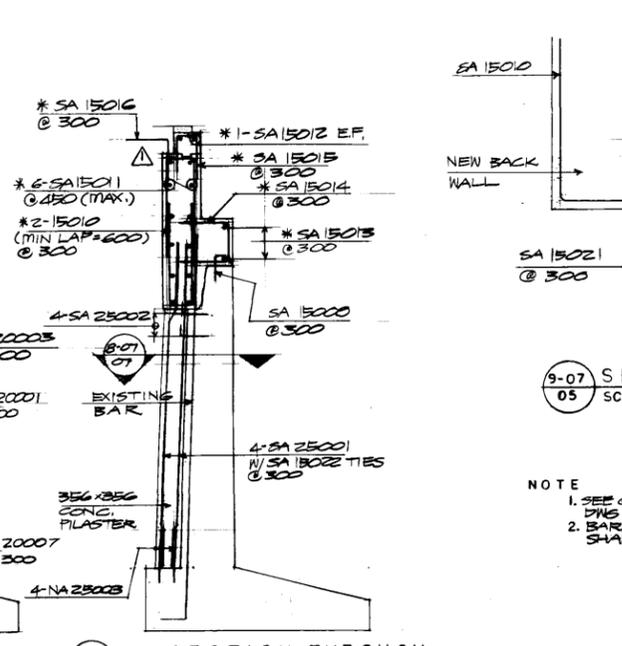
SOUTH WEST WING WALL



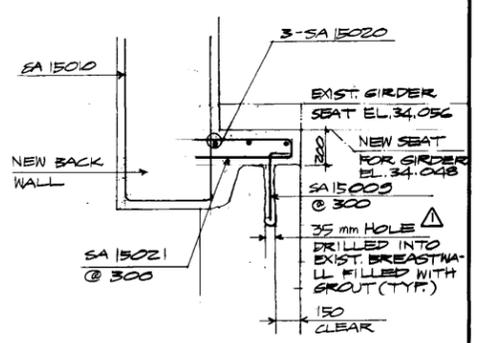
1-07 SECTION



2-07 SECTION

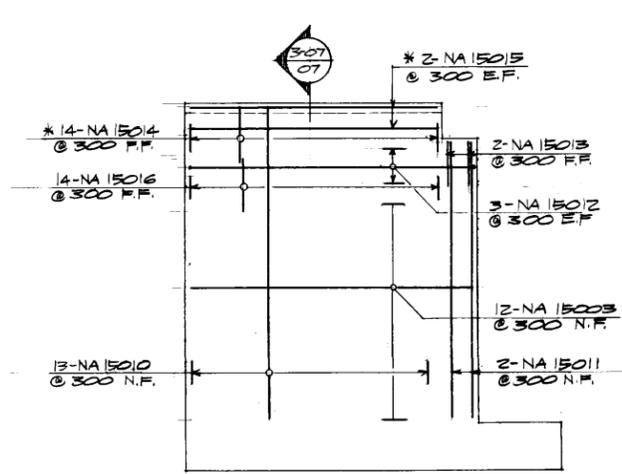


SECTION THROUGH BACKWALL

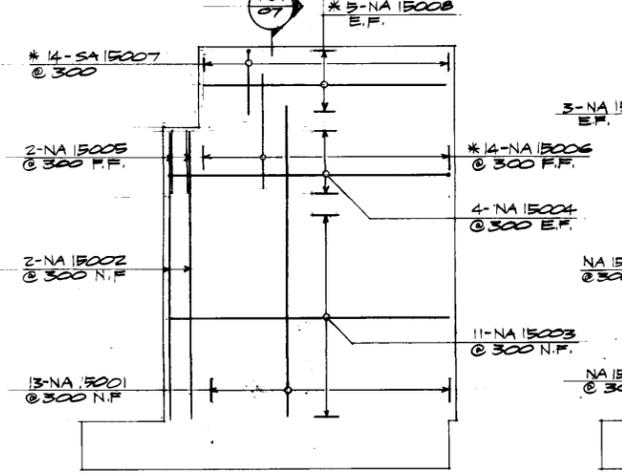


9-07 SECTION SCALE 1:10

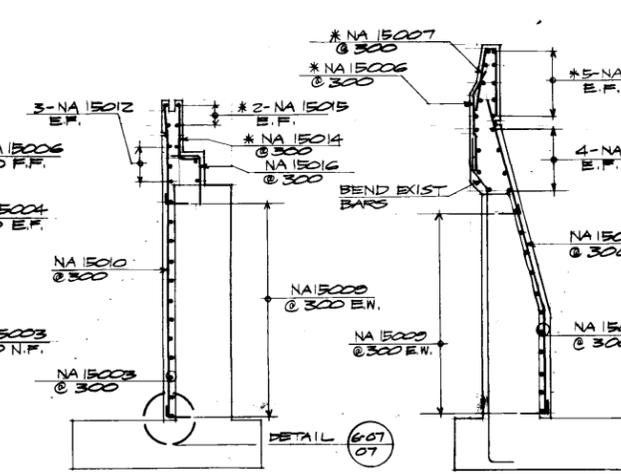
NOTE
1. SEE GENERAL NOTES
2. BARS MARKED WITH * SHALL BE EPOXY COATED



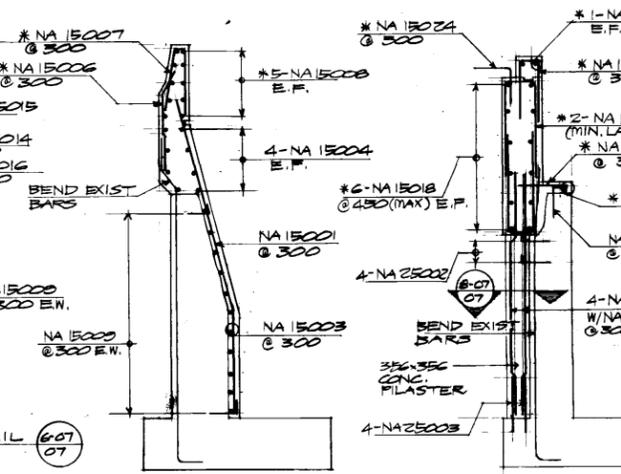
NORTH WEST WING WALL



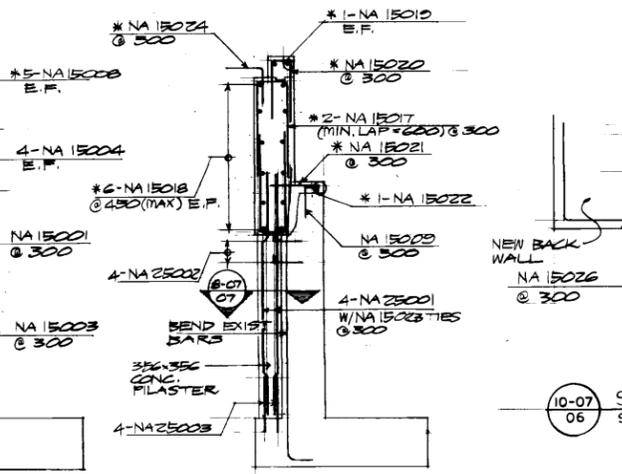
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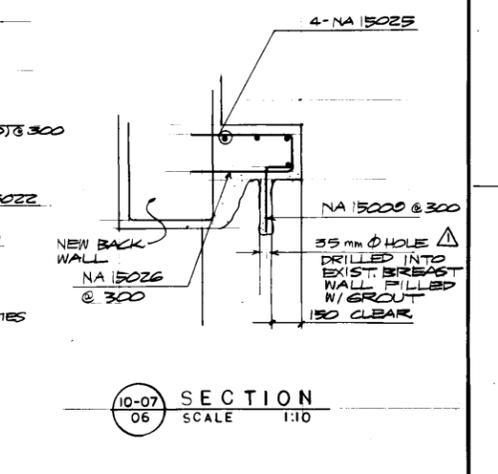
3-07 SECTION



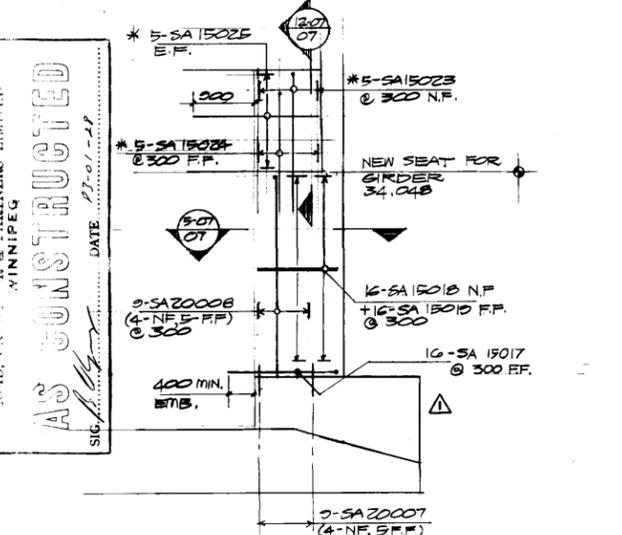
4-07 SECTION



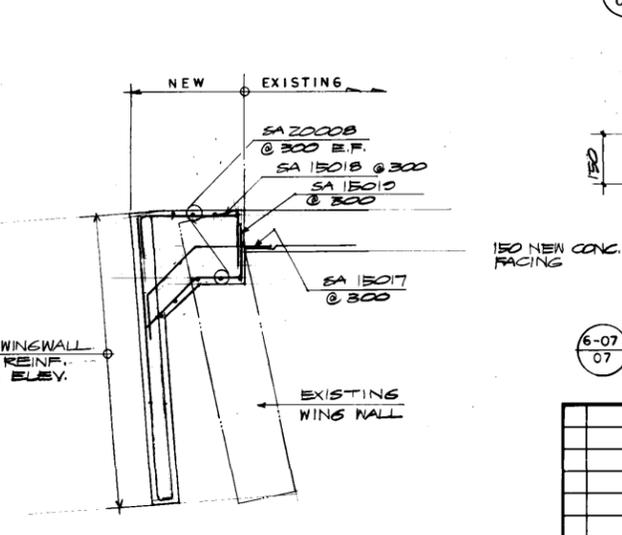
SECTION THROUGH BACKWALL



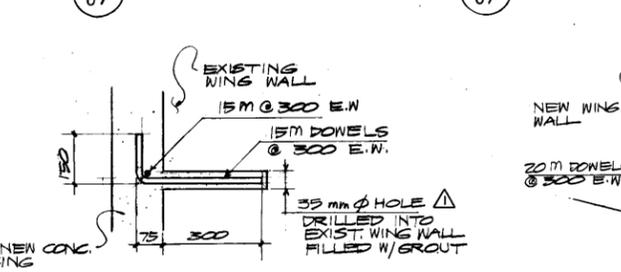
10-07 SECTION SCALE 1:10



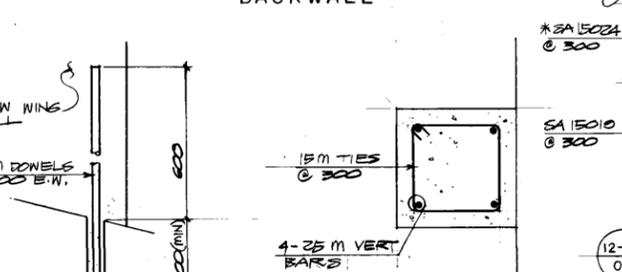
11-07 DET. OF SOUTH ABUTMENT ADDITION

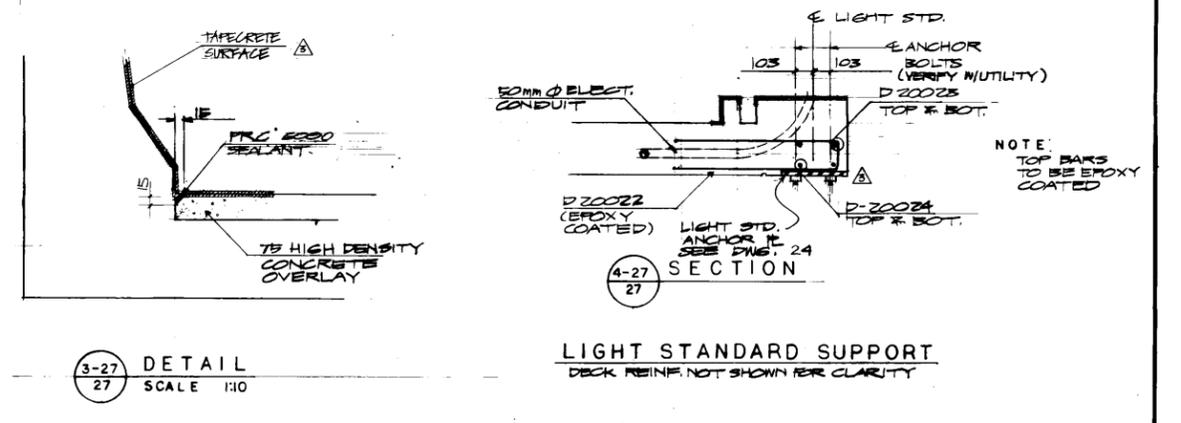
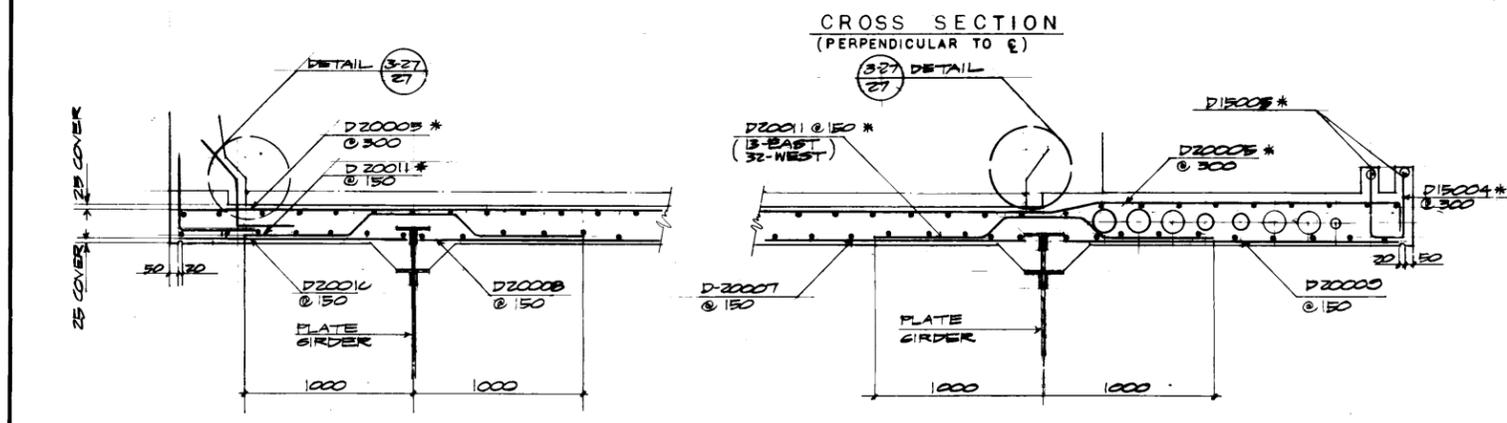
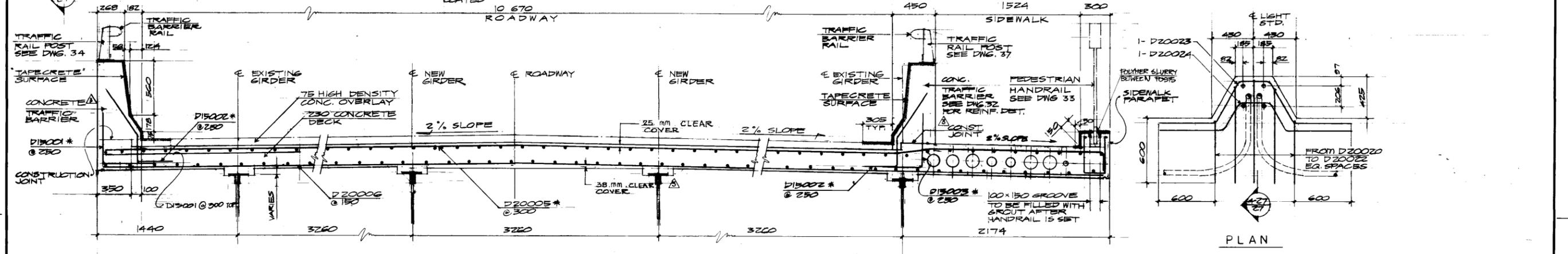
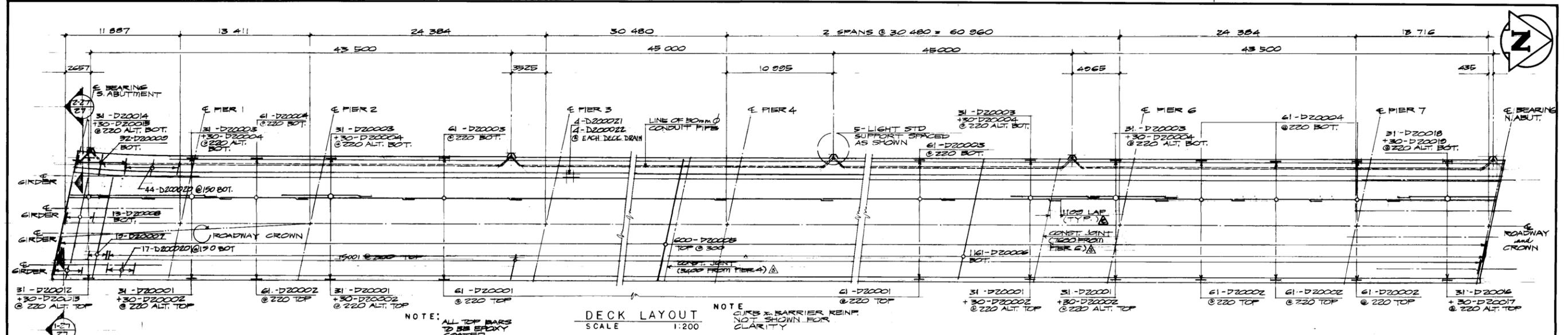


5-07 SECTION

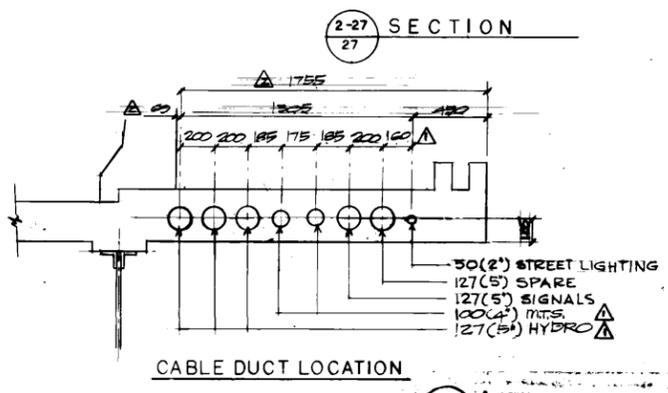


6-07 DETAIL SCALE 1:10





NOTE
ALL BARS MARKED THIS # TO BE EPOXY COATED.



REID, CROWTHER & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
DATE 8/20/15

NO.	REVISIONS	DATE	APP.
1	AS CONSTRUCTED	82.10.28	[Signature]
2	DIMENSIONS REVISED	82.04.20	[Signature]
3	DUCTS RELOCATED	82.02.15	[Signature]

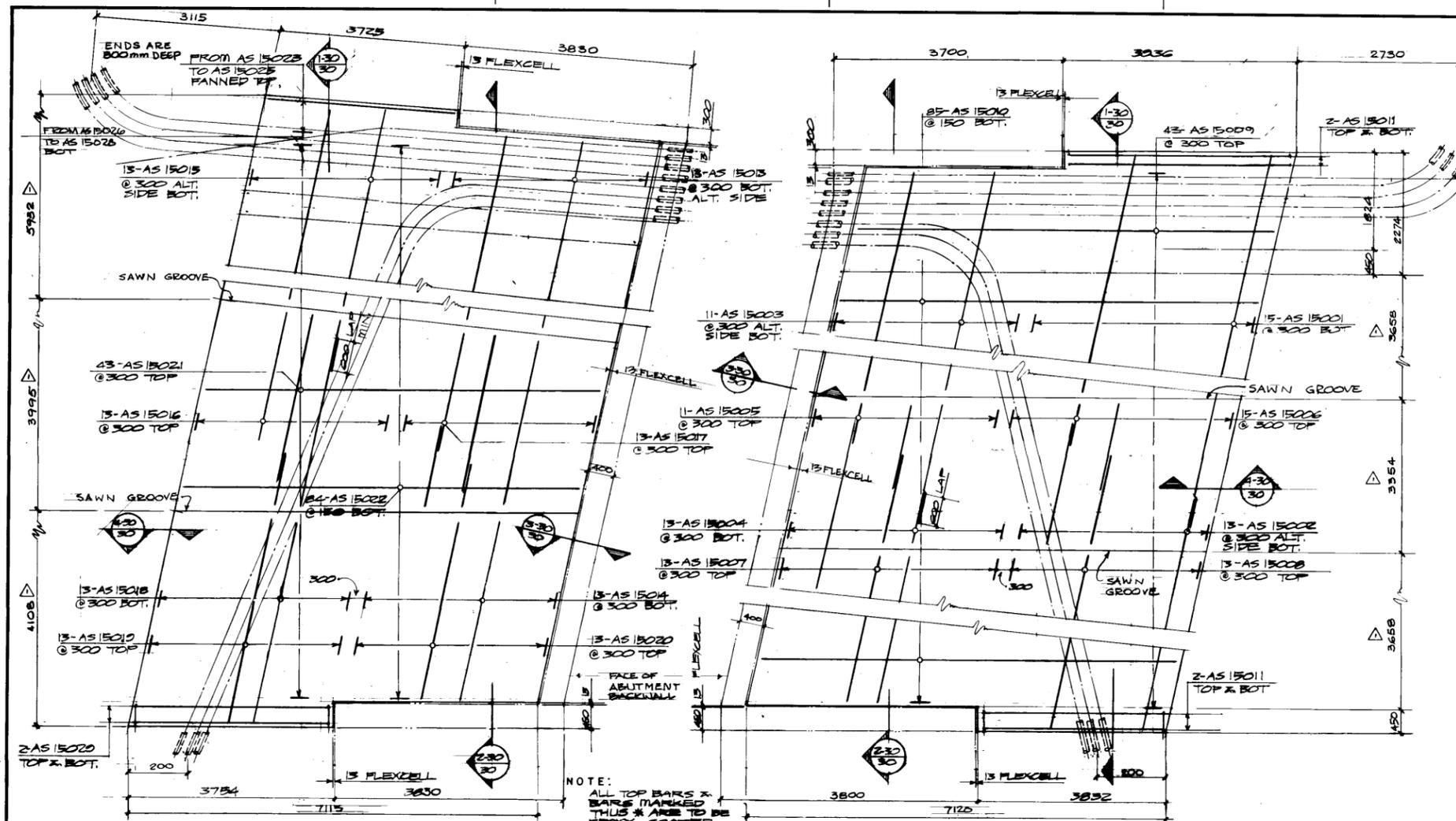
ENGINEER'S SEAL
[Signature]

DESIGNED BY: W. J. M.
DRAWN BY: R. C. S.
CHECKED BY: D. W. C.
DATE: 81 04 16
APPROVED BY: [Signature]
DATE: April 21/15

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

ST. JAMES BRIDGE SOUTHBOUND
STRUCTURAL STRENGTHENING AND RELATED WORKS
DECK REINFORCEMENT
AUTHORIZED BY: [Signature] 1581-07-15
ACCEPTED BY: [Signature] 8-07-15
SCALE: 1:20 U.N.O. DRAWING NO. B101-82-27

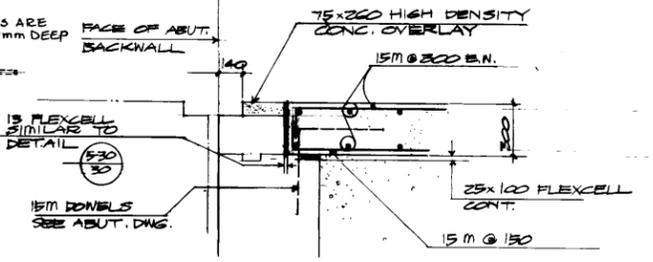
NOTE:
ANCHOR BOLTS FOR LIGHT STD. TO BE 250 400 MPa BARS 3/8" DIA. N/175 THREAD EACH END C/N/2 LOCKWASHERS AND 2 NUTS. (ALL GALVANIZED).
ALL EXPOSED EDGES ARE CHAMFERED 20 mm
B-5481-27
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



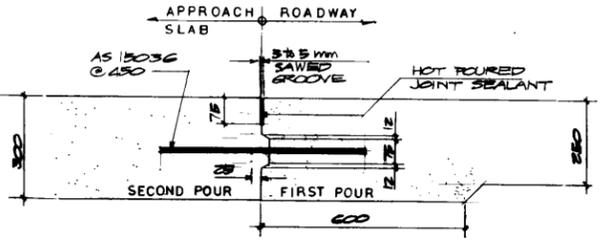
PLAN-SOUTH APPROACH SLAB
SCALE 1:50

PLAN-NORTH APPROACH SLAB
SCALE 1:50

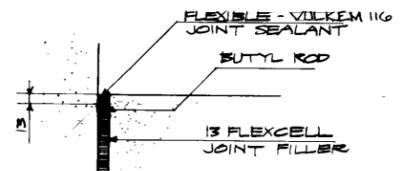
NOTE:
ALL TOP BARS & BARS MARKED WITH * ARE TO BE EPXY COATED.
FOR ADDITIONAL REINFORCEMENT SEE CROSS SECT.
FOR BARRIER REIN. SEE DWG. NO. 32



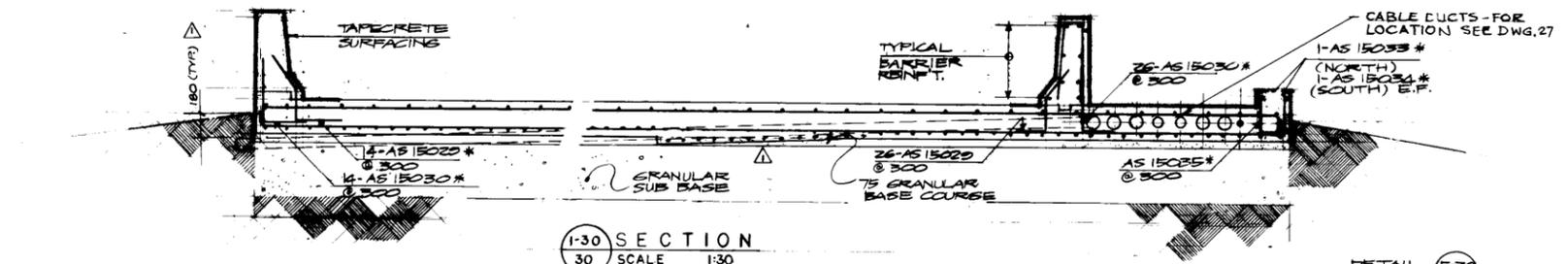
3-30 SECTION
SCALE 1:20



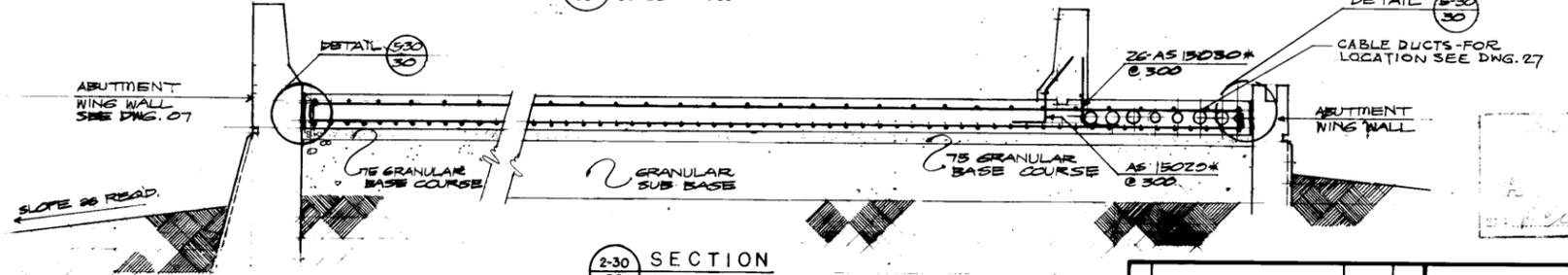
4-30 SECTION
SCALE 1:10



5-30 DETAIL
SCALE 1:5

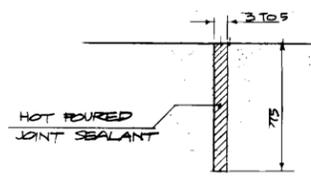


1-30 SECTION
SCALE 1:30



2-30 SECTION
SCALE 1:30

NOTE:
SEE PLAN FOR SLAB REINFT.



6-30 SECTION
SCALE 1:2

RAIL, CROWTHER & PARTNERS LIMITED
CONSULTING ENGINEERS AND PLANNING
WISSEMAN STREET WINNIPEG
MANITOBA
1981-07-16

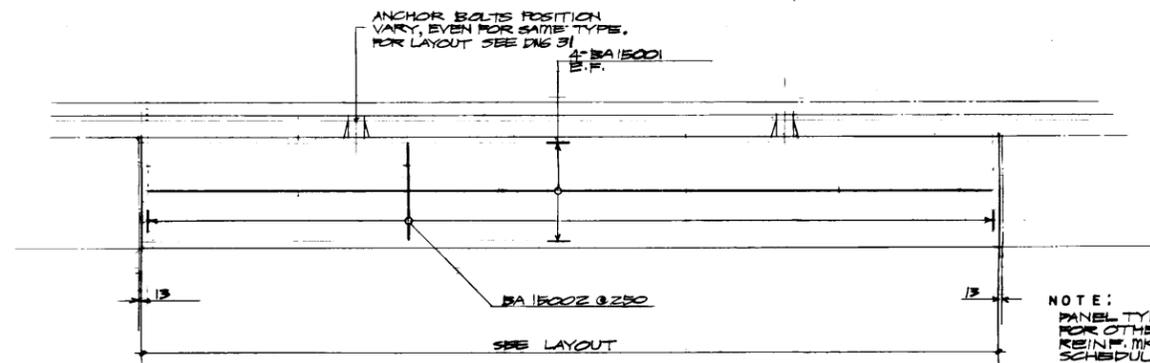
AS CONSTRUCTED	82-10-25		
NO.	REVISIONS	DATE	APP.

ENGINEER'S SEAL
8/104/16
W.M.L.

DESIGNED BY: W. J. M.
DRAWN BY: R. C. S.
CHECKED BY: D. W. C.
DATE: 81 04 16
APPROVED: [Signature]
DATE: April 21/81

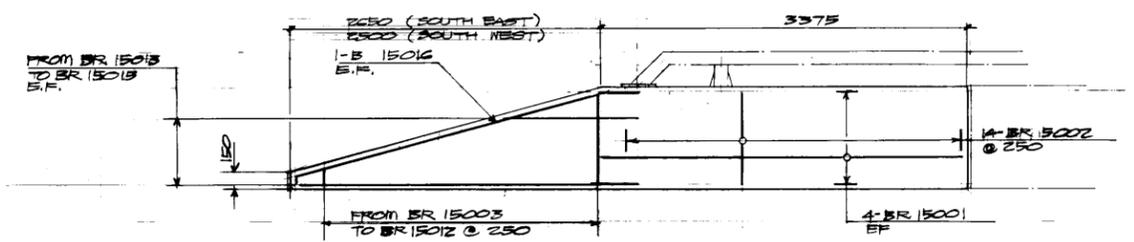
THE CITY OF WINNIPEG
WORKS & OPERATIONS DIVISION
STREETS & TRANSPORTATION DEPARTMENT

B-5481-30
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES
ST. JAMES BRIDGE SOUTHBOUND
STRUCTURAL STRENGTHENING
AND RELATED WORKS
APPROACH SLABS
AUTHORIZED BY: [Signature] 1981-07-15
ACCEPTED BY: [Signature] 8-27-81
SCALE: AS SHOWN
DRAWING NO. B101-82-30

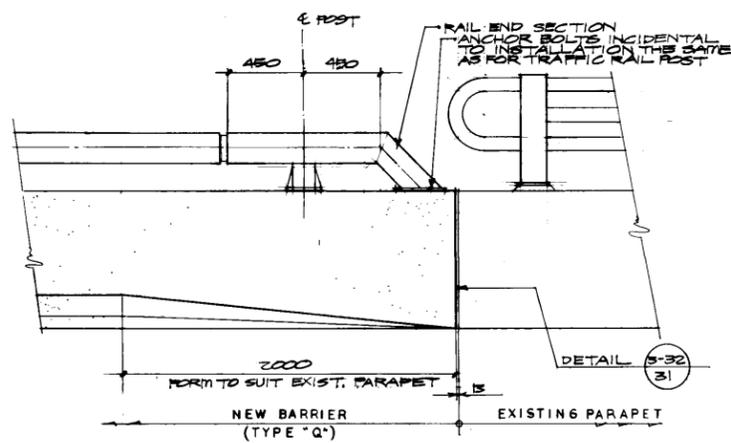


TYP. PANEL REINFORCEMENT (TYPE 'A' TO 'Q' INCLUSIVE)
SCALE 1:30

NOTE:
PANEL TYPE 'A' SHOWN FOR OTHER PANEL TYPE REINFORCING. SEE BAR SCHEDULE.
SECOND LETTER IN MK. NO. DENOTES PANEL TYPE. TYPICAL FOR BARRIER REINFORCING.



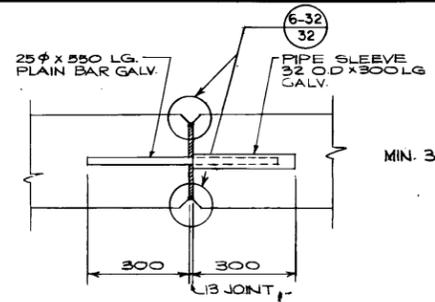
PANEL TYPE 'R' REINFORCEMENT
SCALE 1:30



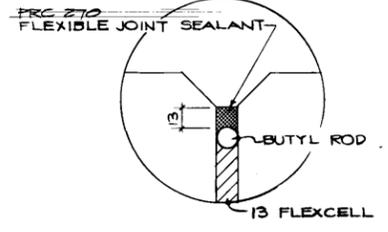
1-32 ELEVATION
31 N.T.S.

TYPE	NO. REQ'D.	LENGTH
A	24	7607
B	16	6083
C	6	6692
D	1	5401
E	2	6845
F	2	7077
G	1	5401
H	2	7339
I	2	4912
J	12	5987
K	2	5167
L	1	3872
M	1	4877
N	4	6087
O	1	3813
P	1	7097
Q	1	7701
R	2	5981
S	1	5981

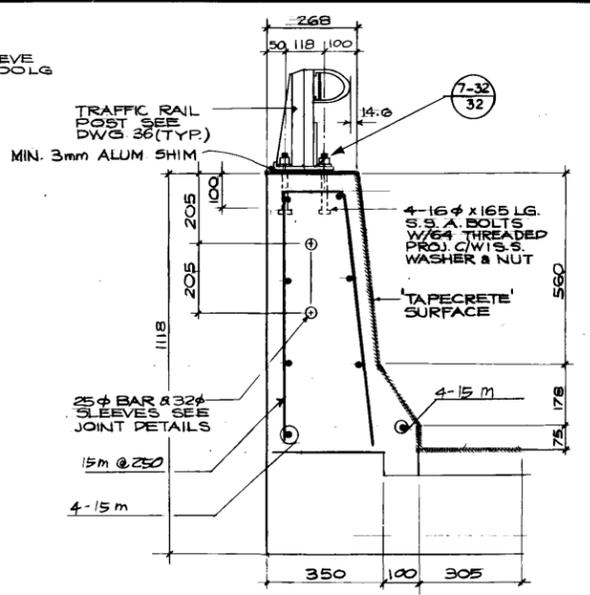
BEHN, CROWTHER & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
B. D. Long
DATE: 11.01.11



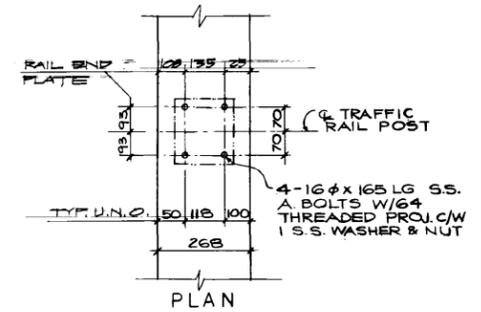
3-32 JOINT DETAIL
31 N.T.S.



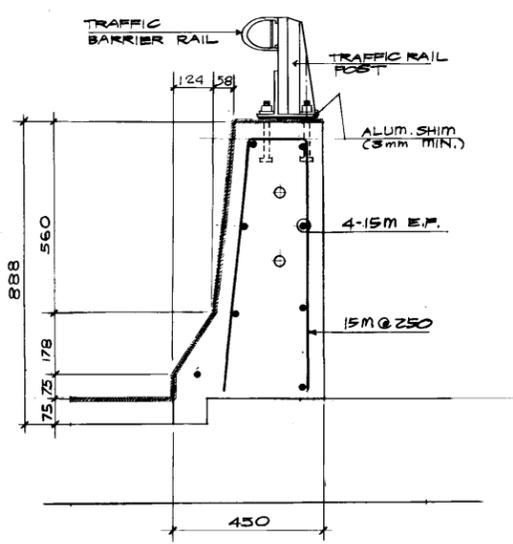
6-32 DETAIL
32 N.T.S.



4-32 SECTION
31 1:10



7-32 TRAFFIC RAIL POST
32 ANCHOR LOCATION
N.T.S.



5-32 SECTION
31 1:10

NOTE:
ASPHALT COATING SHALL BE APPLIED TO ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE.

B-5481-32

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

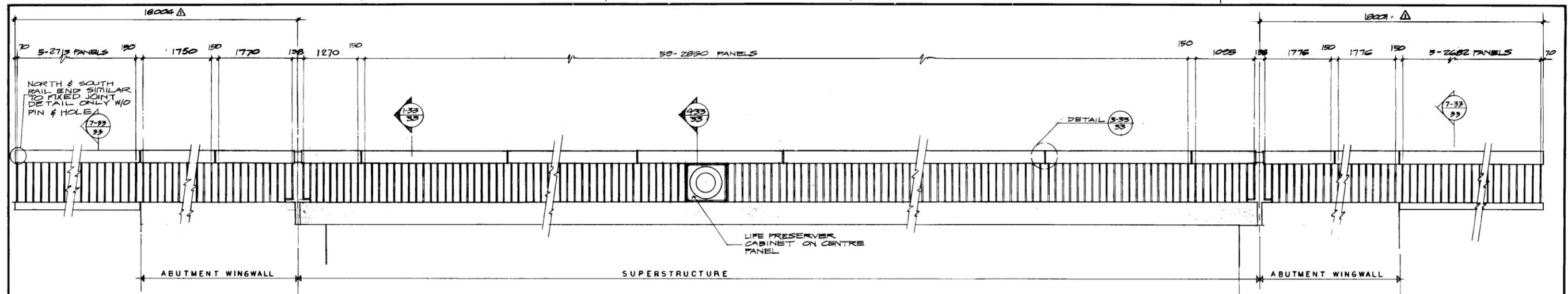
NO.	REVISIONS	DATE	APP.
Δ	AS CONSTRUCTED	02/10/14	JS

PROVINCE OF MANITOBA
8/16/16
W. J. M.
ENGINEER'S SEAL

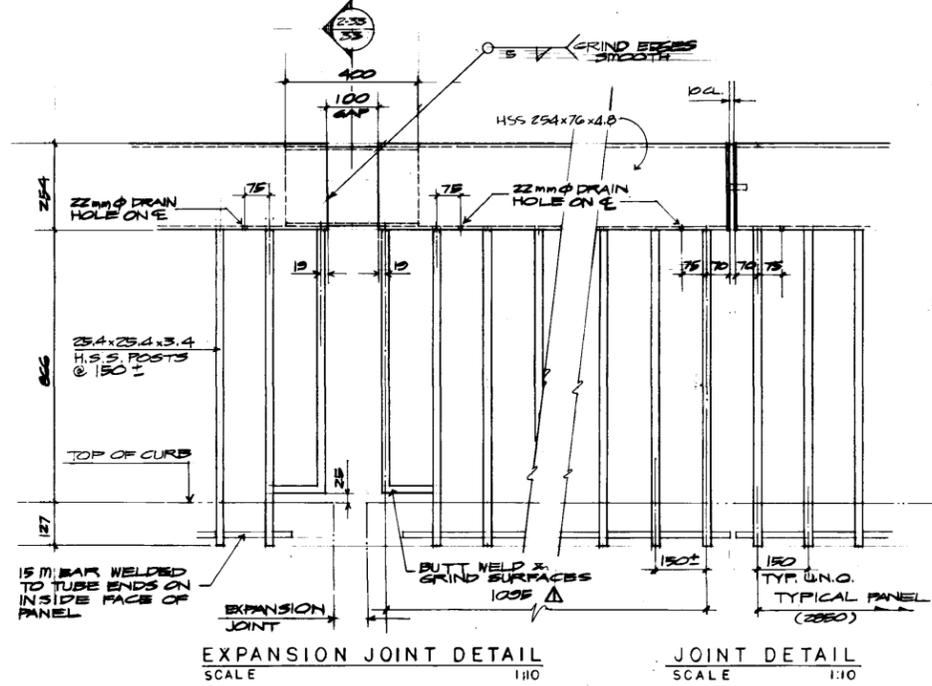
DESIGNED BY: W. J. M.	DRAWN BY: R. C. S.
CHECKED BY: D. W. C.	DATE: 01 04 16
APPROVED BY: D. Charbon	DATE: April 21 16

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

ST. JAMES BRIDGE SOUTHBOUND
STRUCTURAL STRENGTHENING AND RELATED WORKS
CONCRETE TRAFFIC BARRIER DETAILS
AUTHORIZED BY: [Signature] 1981-07-15
ACCEPTED BY: [Signature] 01-07-16
SCALE: AS SHOWN
DRAWING NO. B101-02-32

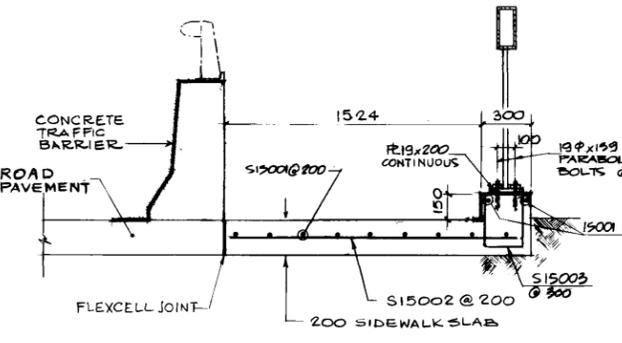


PEDESTRIAN HANDRAIL ELEVATION
LOOKING EAST
SCALE 1:400

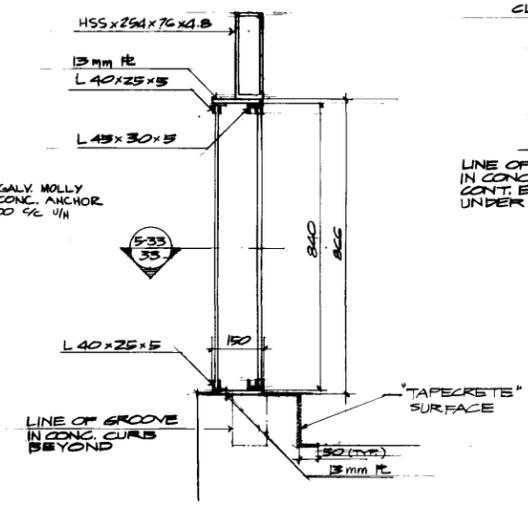


EXPANSION JOINT DETAIL
SCALE 1:10

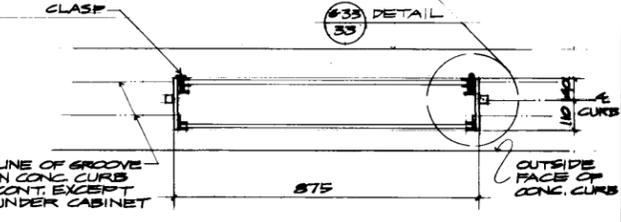
JOINT DETAIL
SCALE 1:10



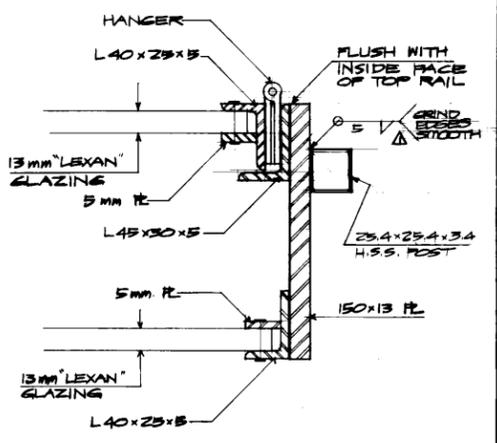
7-33 SIDEWALK DETAIL
SCALE 1:20



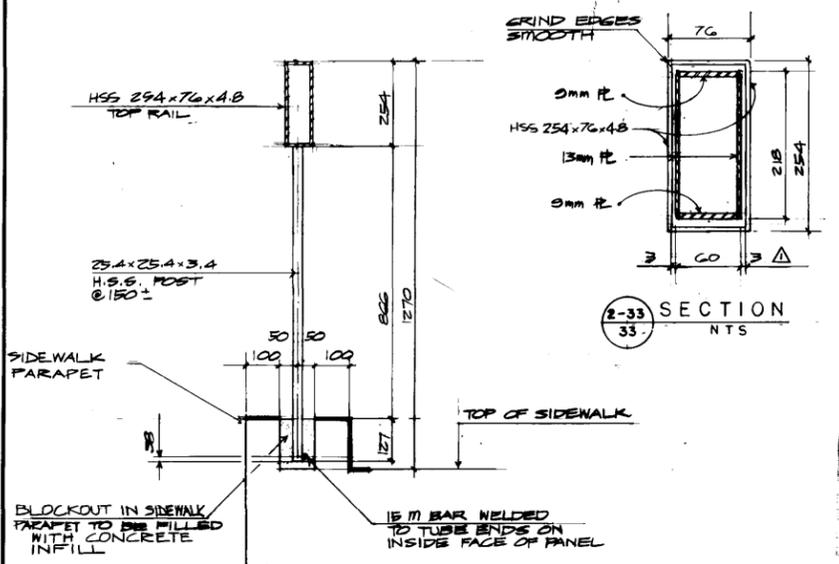
4-33 SECTION
SCALE 1:10



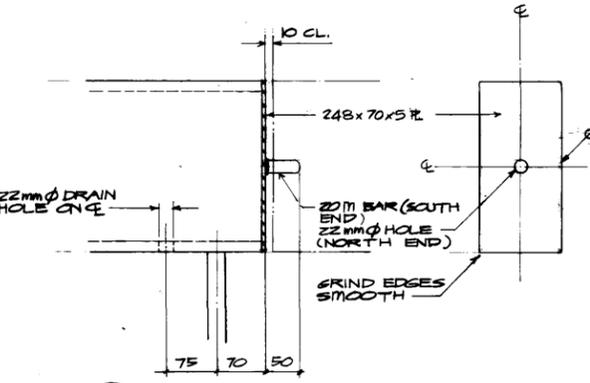
6-33 SECTION
SCALE 1:10



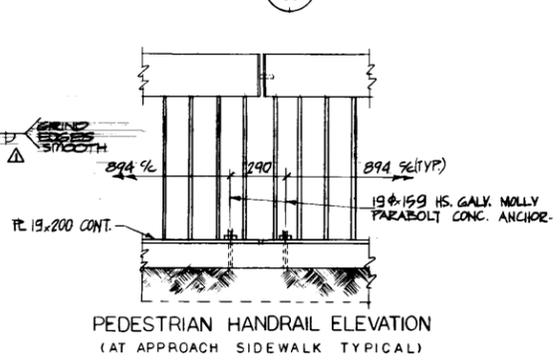
6-33 DETAIL
SCALE 1:2



1-33 SECTION
SCALE 1:10



3-33 TYPICAL FIXED JOINT DETAIL
N T S



PEDESTRIAN HANDRAIL ELEVATION
(AT APPROACH SIDEWALK TYPICAL)

NOTE:
1. ALL MATERIALS FOR PEDESTRIAN HANDRAIL SHALL BE GALVANIZED UNLESS OTHERWISE SPEC'D.
2. SEE GENERAL NOTES DWG. No 9

B-5481-33

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

BLM, GROWTH & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
B. Thompson

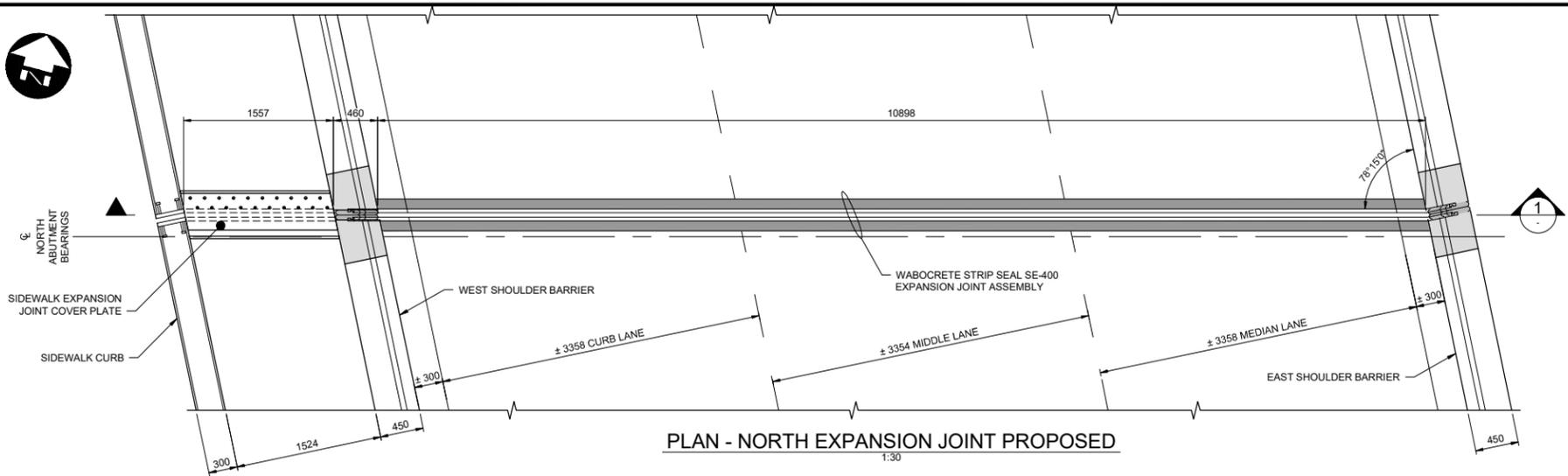
NO	REVISIONS	DATE	APP.
AS CONSTRUCTED		82-10-14	AW
REVISED		81-12-21	AW

PROVINCE OF MANITOBA
8/04/16
W.M. Caldwell
ENGINEER'S SEAL

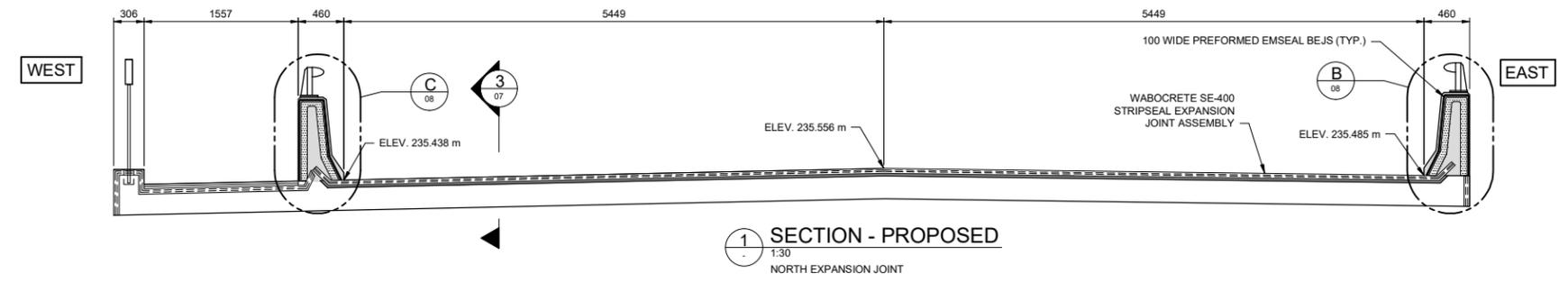
DESIGNED BY:	W. J. M.	DRAWN BY:	R. C. S.
CHECKED BY:	D. W. C.	DATE:	81 04 16
APPROVED BY:	<i>B. Walker</i>	DATE:	April 16/81

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

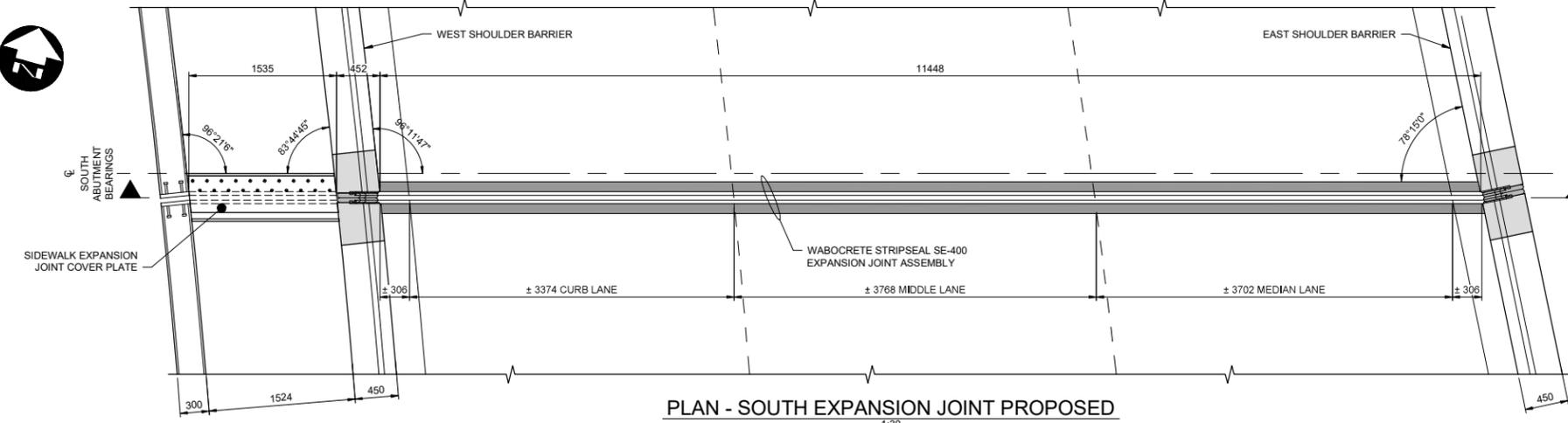
ST. JAMES BRIDGE SOUTHBOUND
STRUCTURAL STRENGTHENING
AND RELATED WORKS
PEDESTRIAN HANDRAIL
AUTHORIZED BY: *[Signature]* 1981-07-15
ACCEPTED BY: *[Signature]* 81-07-15
SCALE: AS SHOWN DRAWING NO. B101-82-33



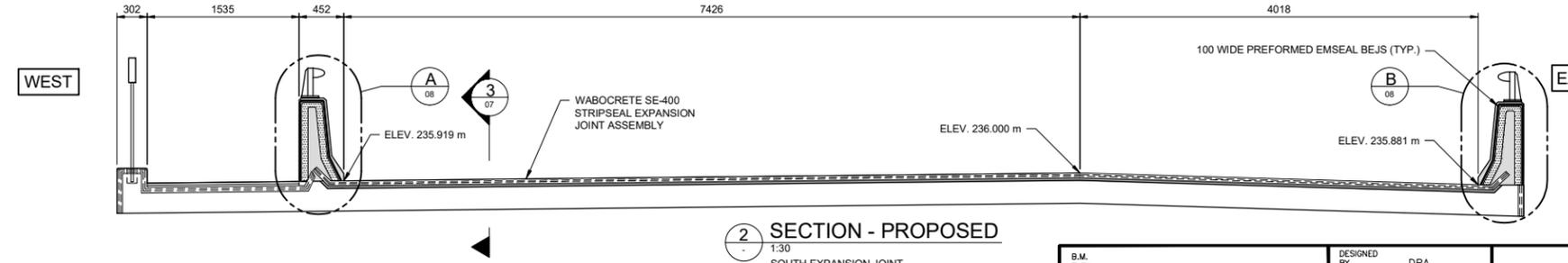
PLAN - NORTH EXPANSION JOINT PROPOSED
1:30



SECTION - PROPOSED
1:30
NORTH EXPANSION JOINT



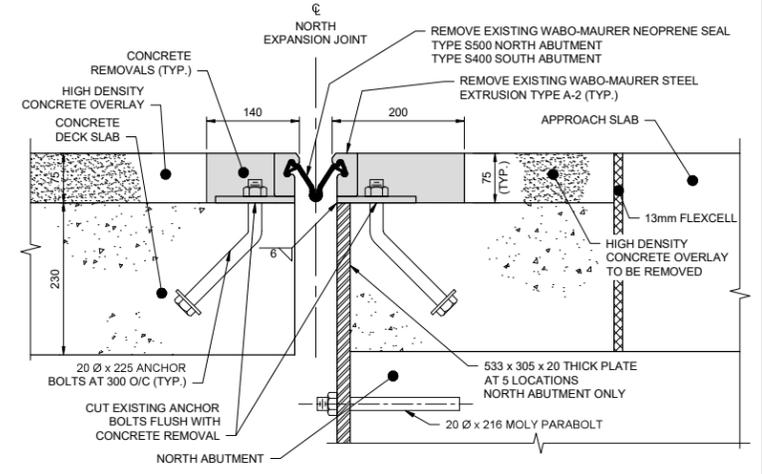
PLAN - SOUTH EXPANSION JOINT PROPOSED
1:30



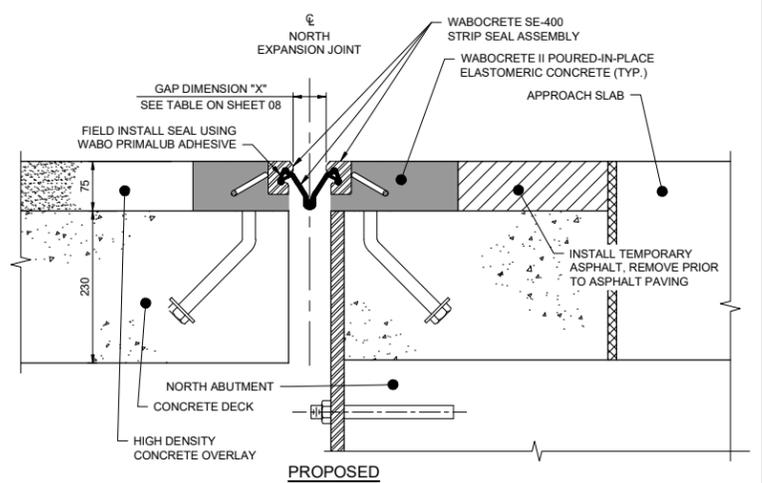
SECTION - PROPOSED
1:30
SOUTH EXPANSION JOINT

NOTES:

1. DIMENSIONS AND ELEVATIONS OF EXISTING EXPANSION JOINTS ARE APPROXIMATE.
2. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXPANSION JOINTS PRIOR TO FABRICATION OF THE REPLACEMENT EXPANSIONS JOINTS.
3. DIMENSIONS SHOWN OF REPAIR AREAS ARE APPROXIMATE, LAYOUT ACTUAL REPAIR AREAS WITH THE CONTRACT ADMINISTRATOR ON SITE.
4. SEE SPECIFICATION FOR REPAIR PREPARATION AND CONCRETE REPLACEMENT DETAILS.



EXISTING



PROPOSED

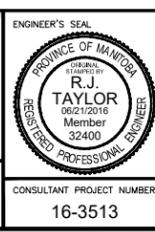
SECTION
1:5
NORTH EXPANSION JOINT SHOWN, SOUTH EXPANSION JOINT SIMILAR

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



B.M. ELEV.	DESIGNED BY	DRA
	DRAWN BY	KB
	CHECKED BY	RJT
	APPROVED BY	SSR
	HOR. SCALE	-
	VERTICAL	-
0 ISSUED FOR TENDER	DATE	6/21/16
	BY	RJT
	DATE	JUNE 21, 2016
NO. REVISIONS	DATE	BY



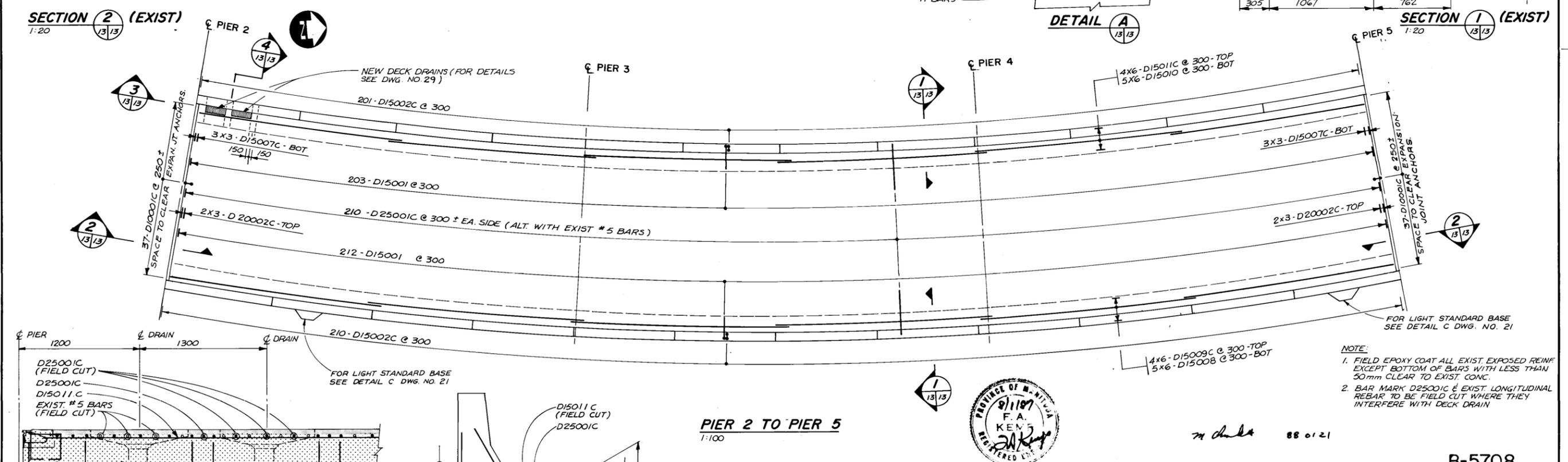
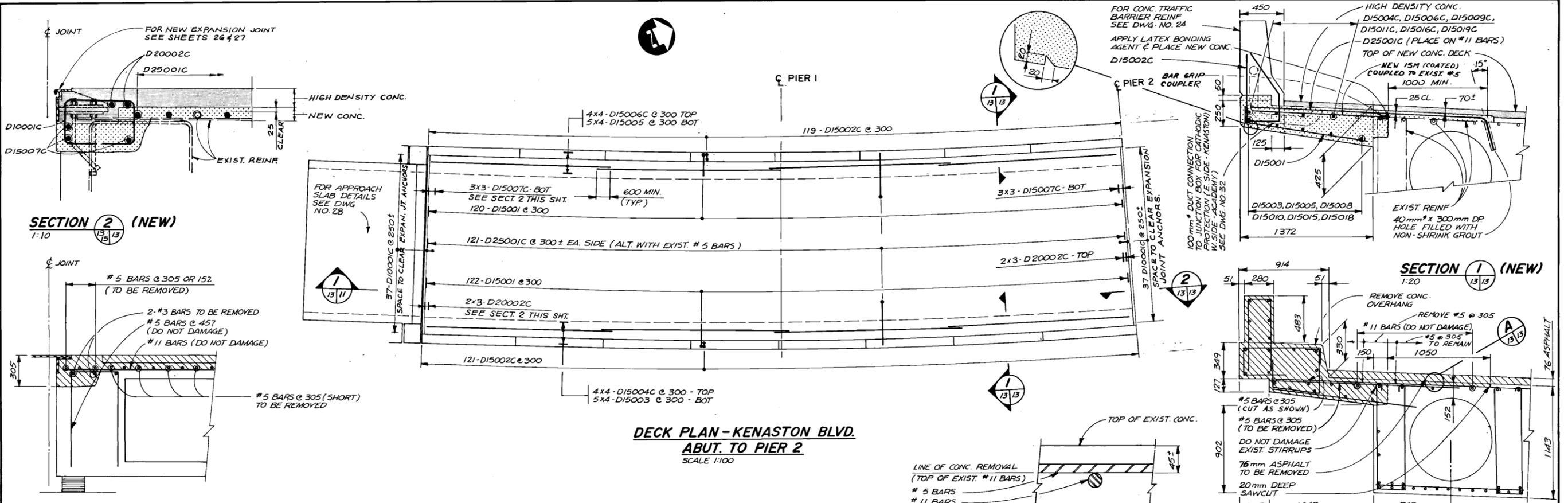
THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT

2016 BRIDGE MAINTENANCE - ST. JAMES SOUTHBOUND BRIDGE REPAIRS

ST. JAMES SB EXPANSION JOINT LAYOUT - PROPOSED

CITY DRAWING NUMBER B101-16-07
SHEET 07 OF 11

CONSULTANT PROJECT NUMBER 16-3513
CONSULTANT DRAWING NUMBER --



B-5708

ST. JAMES BRIDGE NORTHBOUND
 DECK REHABILITATION, STRUCTURAL STRENGTHENING AND RELATED WORKS
KENASTON ABUT. TO PIER 5
 DECK REINFORCING

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

DILLON
 Consulting Engineers - Planners
 Environmental Scientists

DESIGNED BY: S.S.R./F.A.K. DRAWN BY: C.R.B./D.M.W.
 CHECKED BY: DATE: DEC 1986
 APPROVED BY: DATE: 9 Jan 87

PROVINCE OF MANITOBA REGISTERED ENGINEER
 S.S. RIHAL
 17905

PROVINCE OF MANITOBA REGISTERED ENGINEER
 F.A. KEM
 91107

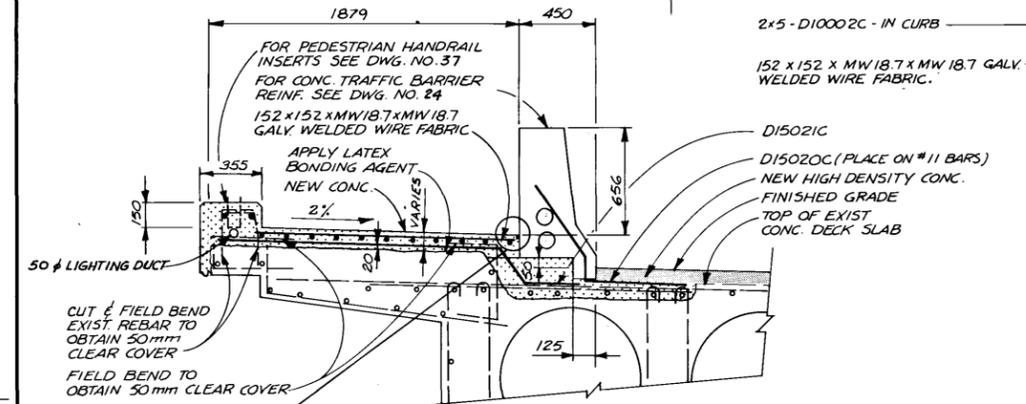
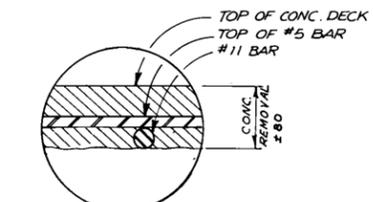
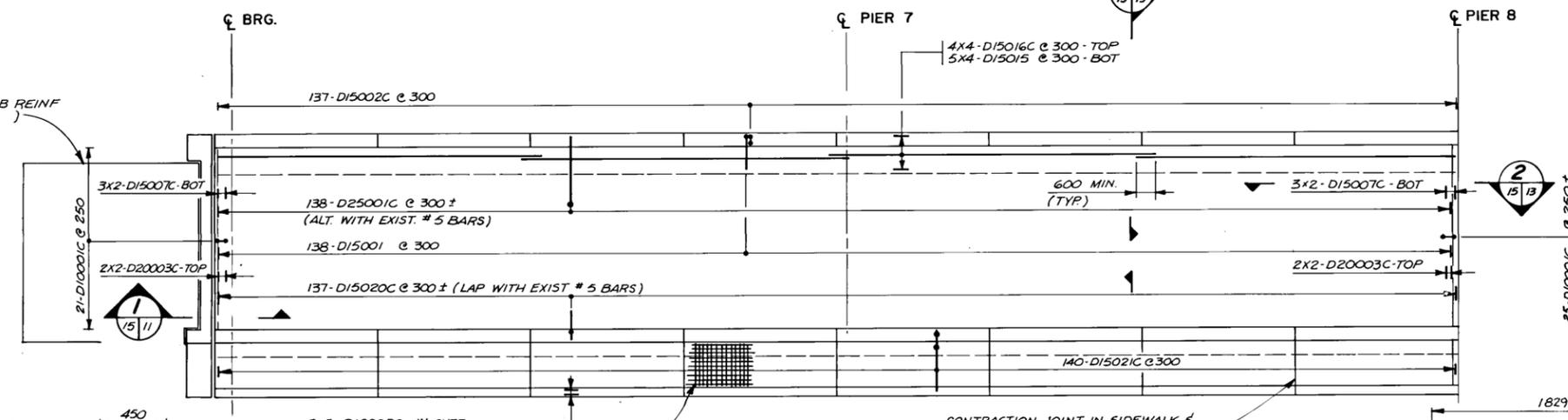
NO.	REVISIONS	DATE	APP.

ENGINEER'S SEAL

AUTHORIZED BY: *Winnipeg* 1587-21-12
 ACCEPTED BY: *Winnipeg* 1701-12
 SCALE: 1:100 DRAWING NO. B102-87-13

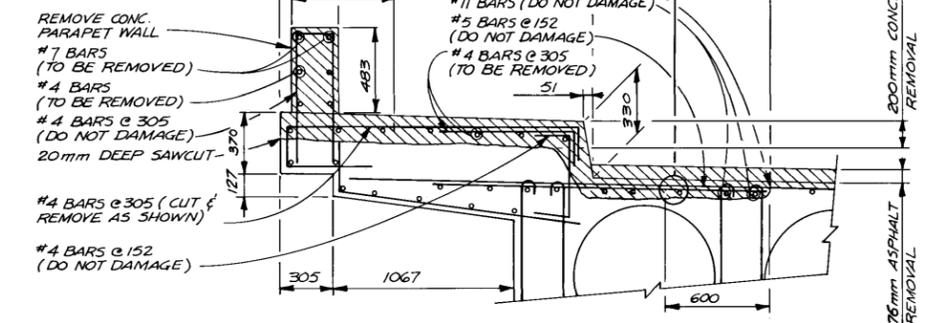


FOR APPROACH SLAB REINF (SEE DWG. NO. 28)



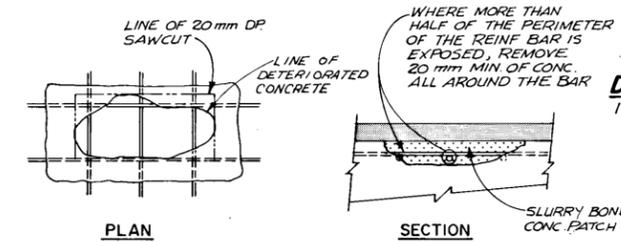
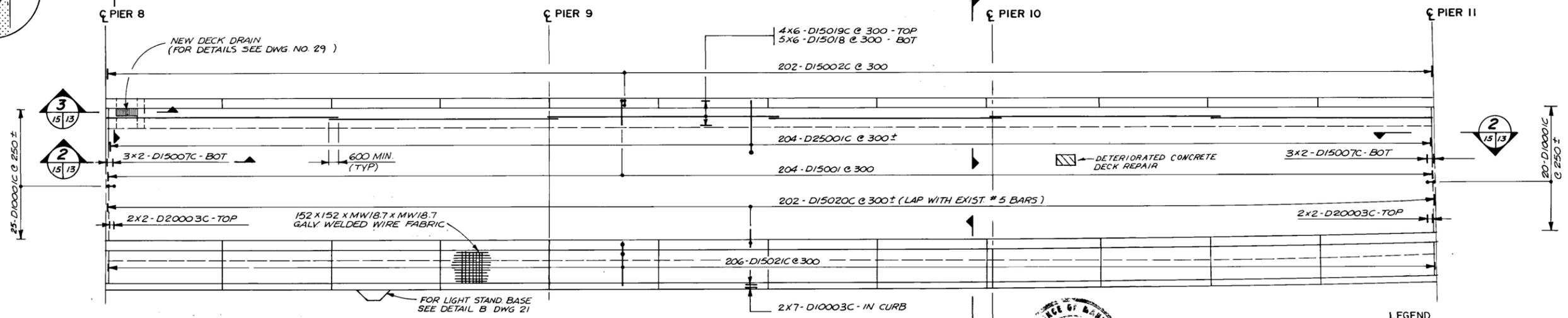
DECK PLAN-ACADEMY RD. ABUT. TO PIER 8

- NOTES
1. FIELD EPOXY COAT ALL EXIST. EXPOSED REINF. EXCEPT BOTTOM OF BARS WITH LESS THAN 50 mm CLEAR TO EXIST. CONC.
 2. BAR MARK D25001C IS EXIST. LONGITUDINAL REBAR TO BE FIELD CUT WHERE THEY INTERFERE WITH DECK DRAIN



SECTION 1 (NEW) 1:20

SECTION 1 (EXIST) 1:20



DETERIORATED CONC. DECK REPAIR



88 01 21

LEGEND

- CONCRETE REMOVAL
- NEW CONCRETE
- HIGH DENSITY CONCRETE

NO.	REVISIONS	DATE	APP.



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Consulting Engineers - Planners
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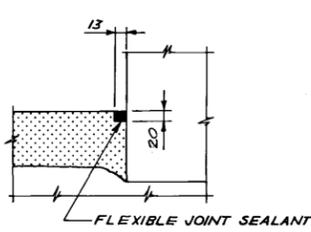
DESIGNED BY: S.S.R./F.A.K. DRAWN BY: C.R.B./D.M.W.
CHECKED BY: R.A.W./N.B.U. DATE: DEC. 1986
APPROVED BY: [Signature] DATE: 9 Jan 87

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

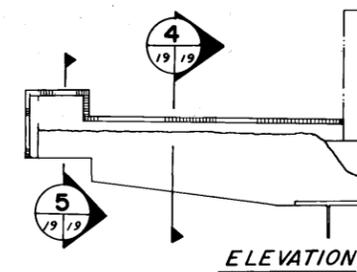
ST. JAMES BRIDGE NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING AND RELATED WORKS
ACADEMY RD. ABUT TO PIER 11
DECK REINFORCING

AUTHORIZED BY: [Signature] 1587-01-12
ACCEPTED BY: [Signature] 87/1/12
SCALE: 1:100 DRAWING NO: B102-87-15

B-5710



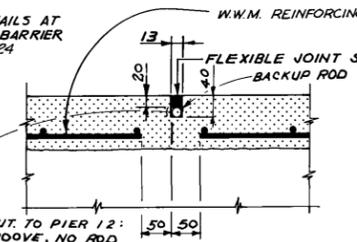
DETAIL 'A'
N.T.S.



ELEVATION

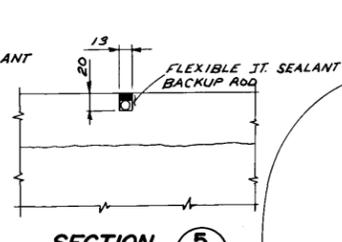
CONTRACTION JOINT DETAIL

N.T.S.

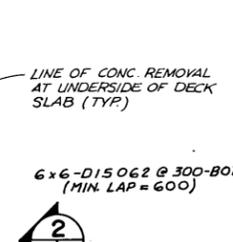


SECTION 4

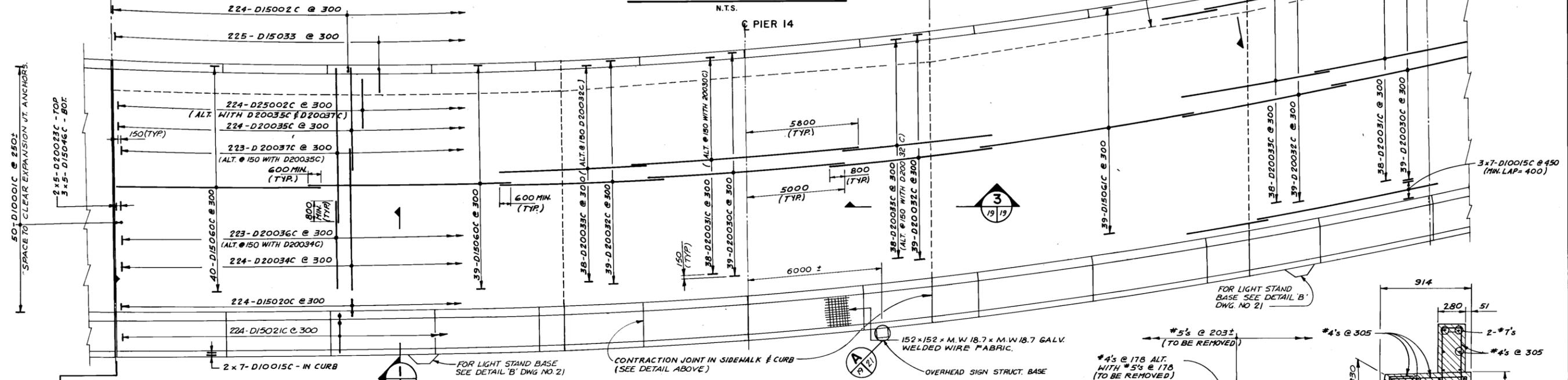
SECTION 5



SECTION 2

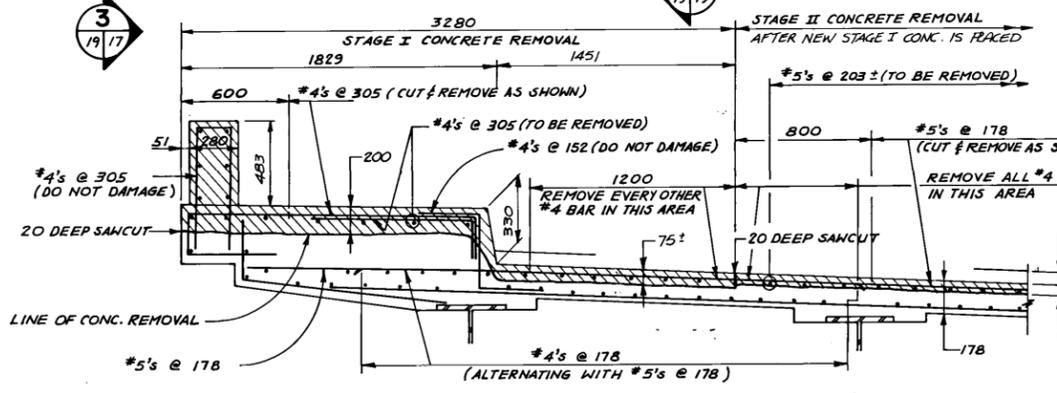


PIER 15

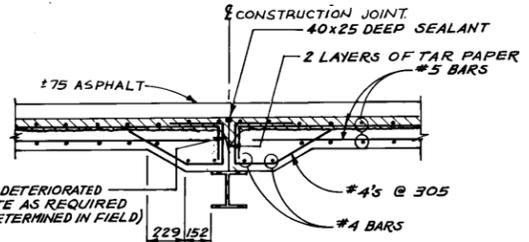


DECK PLAN - PIER 13 TO PIER 15

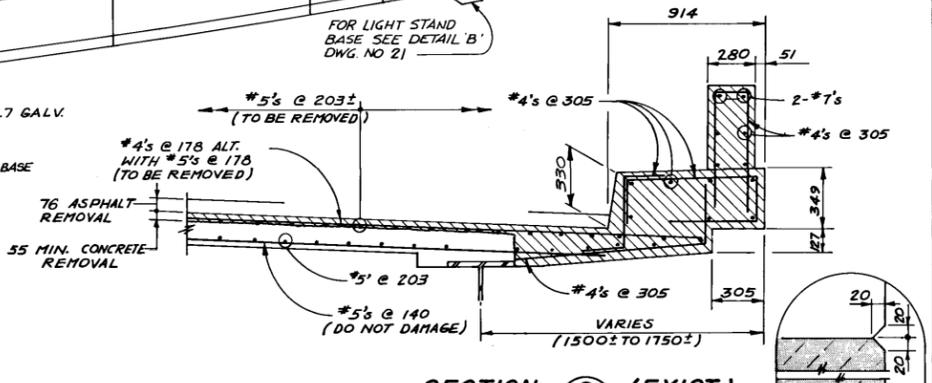
1:100



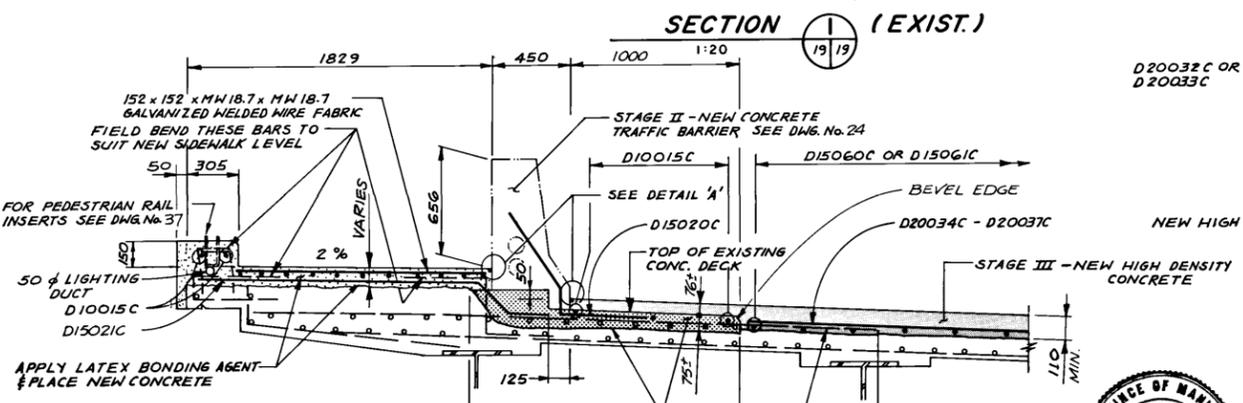
SECTION 1 (EXIST.)



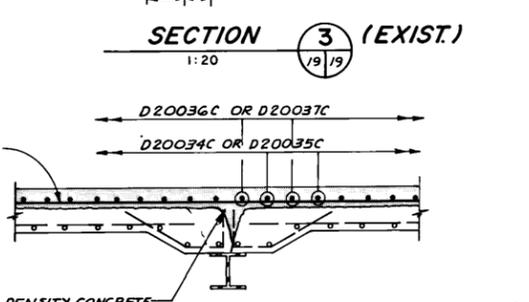
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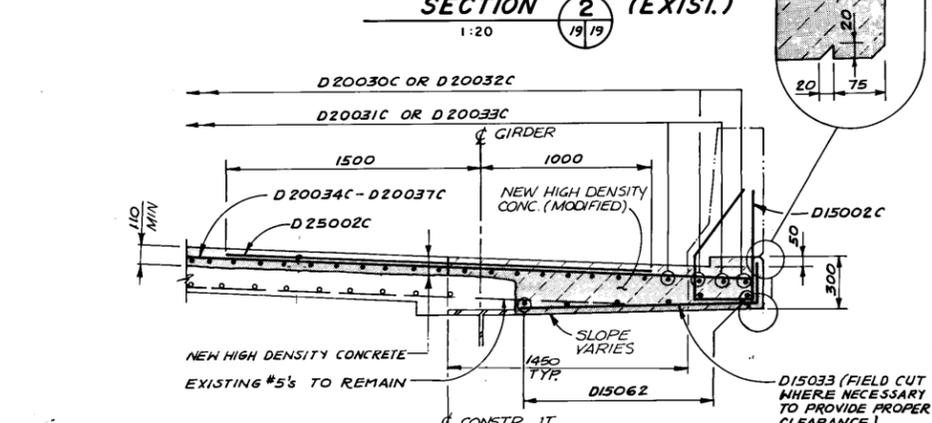
SECTION 2 (EXIST.)



SECTION 1 (NEW)



SECTION 3 (NEW)



SECTION 2 (NEW)



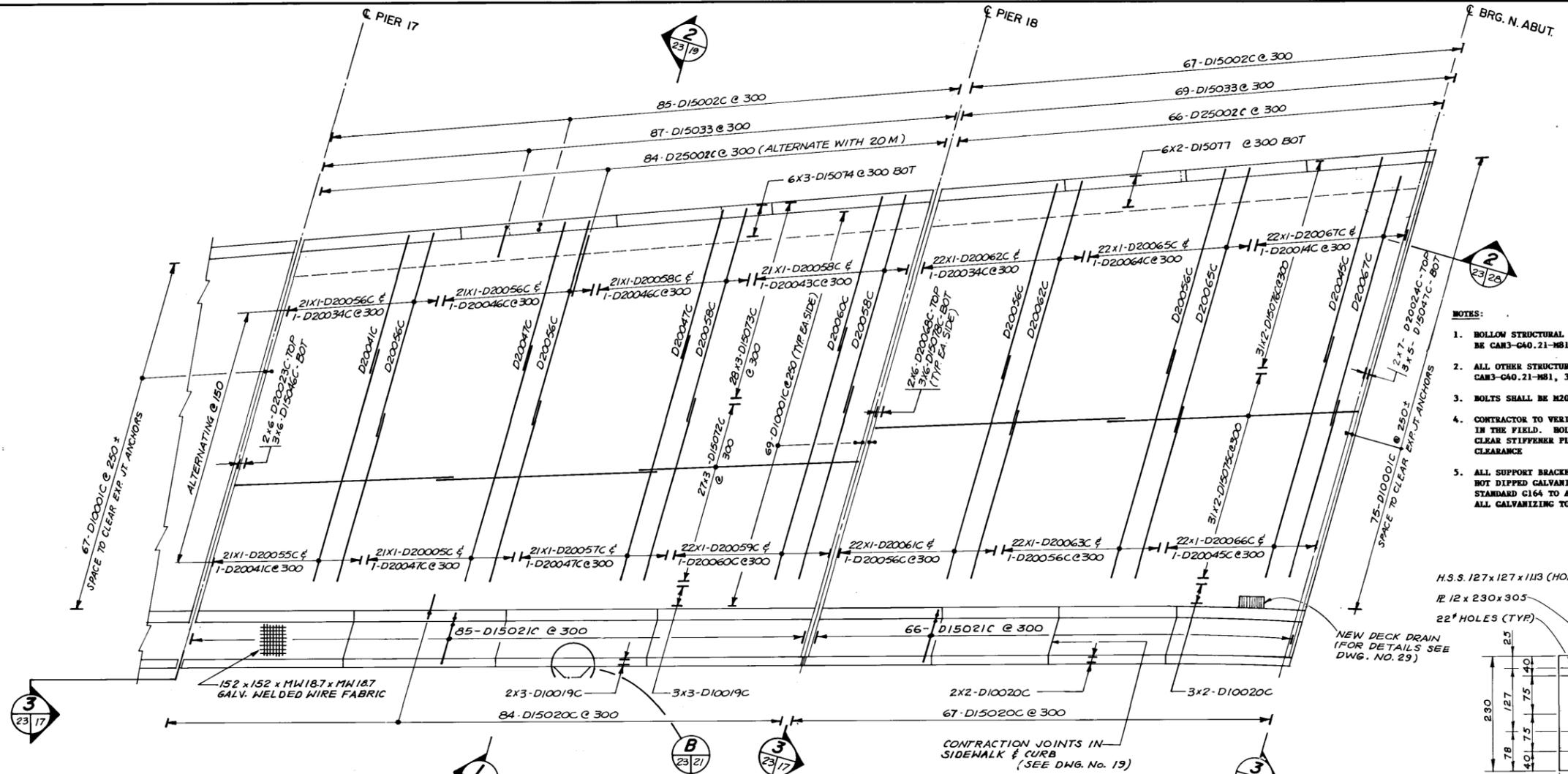
DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: S.S.R./P.A.K. DRAWN BY: C.G.
CHECKED BY: N.B.U./R.A.W. DATE: DEC. 1986
APPROVED BY: [Signature] DATE: 9 JAN 87

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

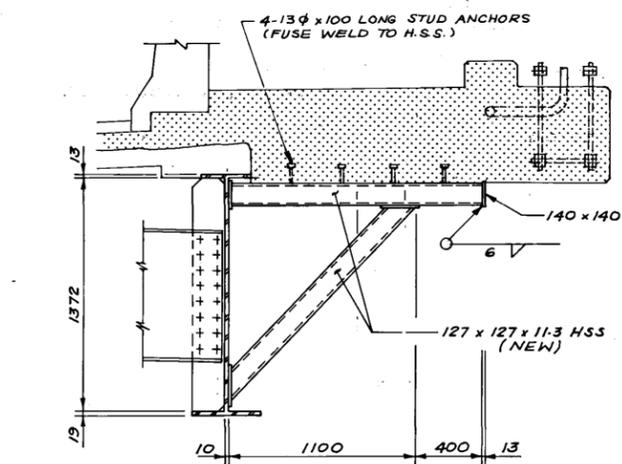
B-5714
ST. JAMES BRIDGE
NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING
AND RELATED WORKS
PIER 13 TO PIER 15
DECK REINFORCING
AUTHORIZED BY: [Signature] DATE: 1987-01-12
ACCEPTED BY: [Signature] DATE: 87/12
SCALE: AS NOTED DRAWING NO. B102-87-19

NO.	REVISIONS	DATE	APP.	ENGINEER'S SEAL

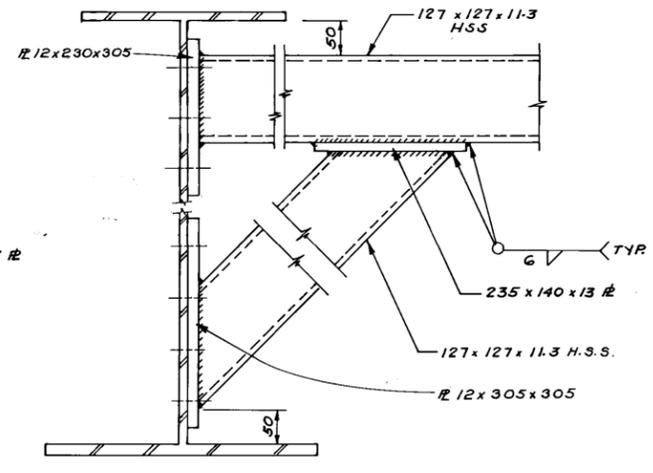


- NOTES:**
1. BOLLOW STRUCTURAL SECTIONS FOR BRACKETS SHALL BE CAN3-C40.21-M81, 350M, CLASS H
 2. ALL OTHER STRUCTURAL STEEL SHALL BE CAN3-C40.21-M81, 350W.
 3. BOLTS SHALL BE M20 (3/4") A-325 BOLTS
 4. CONTRACTOR TO VERIFY EXACT LOCATION OF BRACKETS IN THE FIELD. BOLT SPACING MAY BE ADJUSTED TO CLEAR STIFFENER PLATES TO PROVIDE MINIMUM 75MM CLEARANCE
 5. ALL SUPPORT BRACKETS AND CONNECTORS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH C.S.A. STANDARD C164 TO A RESTRICTION OF 600 G/M². ALL GALVANIZING TO BE DONE AFTER FABRICATION.

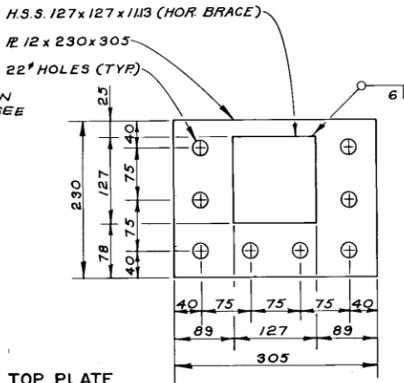
DECK PLAN - PIER 17 TO NORTH ABUTMENT
1:100



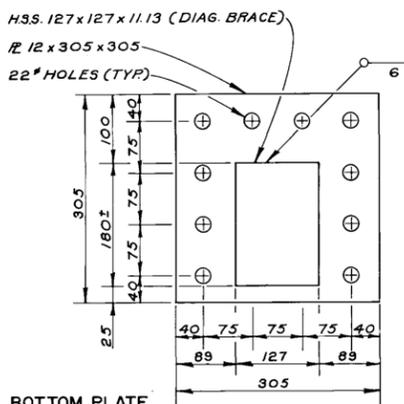
STEEL SUPPORT FOR OVERHEAD SIGN BASE
SCALE: 1:20



CONNECTIONS DETAIL
1:5



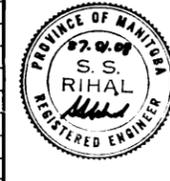
TOP PLATE



BOTTOM PLATE

BOLTED FIELD CONNECTION
PLATE DETAILS B-5718
SCALE: 1:5

RECORD
M. Chisholm 88.01.21



NO.	REVISIONS	DATE	APP.

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: F.A.K./S.S.R.
DRAWN BY: C.R.B./D.M.W.
CHECKED BY: R.A.W./N.B.U.
DATE: DEC. 1986

APPROVED BY: *V.B. Wright* 9 Jan. 87

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

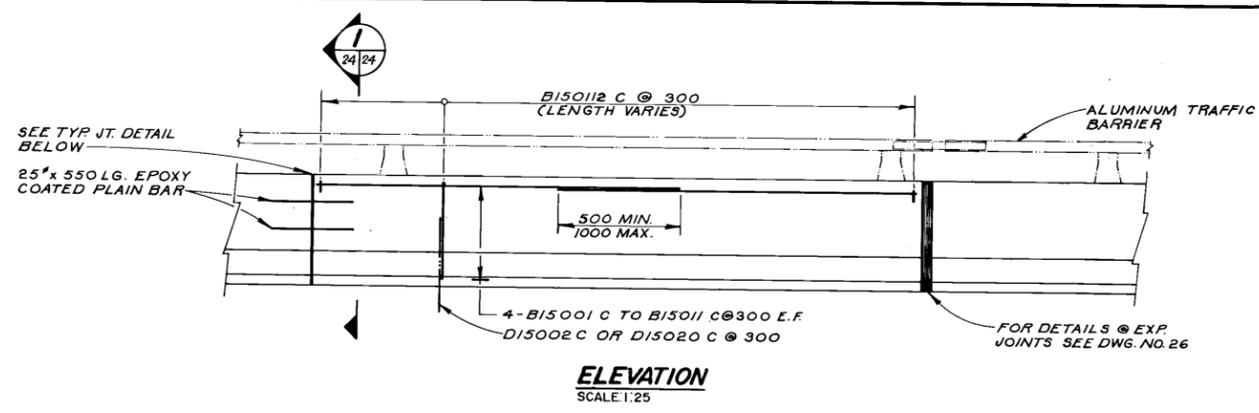
ST. JAMES BRIDGE NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING
AND RELATED WORKS

PIER 17 TO NORTH ABUTMENT
DECK REINFORCING

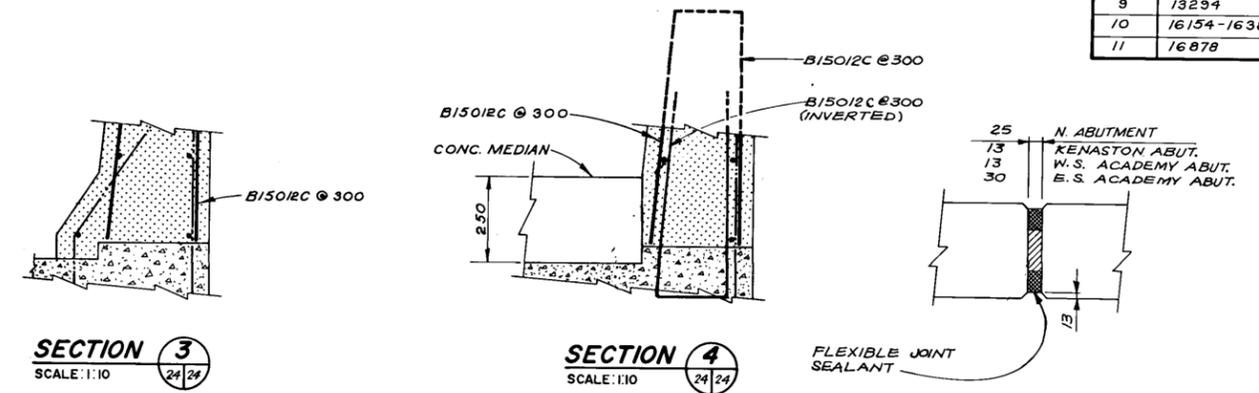
AUTHORIZED BY: *Winnipeg* 1987-01-12
ACCEPTED BY: *Winnipeg* 1/12

SCALE: AS NOTED
DRAWING NO. B102-87-23

CONC. TRAFFIC BARRIER REINFORCING REQUIREMENTS											PANEL LENGTH			
PANEL 1	PANEL 2	PANEL 2A	PANEL 3	PANEL 4	PANEL 5	PANEL 6	PANEL 7	PANEL 8	PANEL 9	PANEL 10	PANEL 11	TOTAL REQ'D	TYPE	LENGTH VARIABLE
5 - REQ'D	23 - REQ'D	2 - REQ'D	91 - REQ'D	32 - REQ'D	23 - REQ'D	3 - REQ'D	1 - REQ'D	2 - REQ'D	1 - REQ'D	4 - REQ'D	1 - REQ'D	BAR MK.	1	800
B/5001 C	B/5002 C	B/5002 C	B/5003 C	B/5004 C	B/5005 C	B/5006 C	B/5007 C	B/5008 C	B/5009 C	B/5010 C	B/5011 C	BAR MK.	2	4500 - 4900
8	16	12	16	16	16	16	16	16	16	16	16	NO. REQ'D.	3	4986 - 5474
B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	B/5012 C	BAR MK.	4	5517 - 6019
3	17	17	19	21	22	23	26	35	45	55	57	NO. REQ'D.	5	6046 - 6570
		B/5013 C										BAR MK.	6	6720
		4										NO. REQ'D.	7	7522
													8	9982 - 10287
													9	13294
													10	16154 - 16383
													11	16878

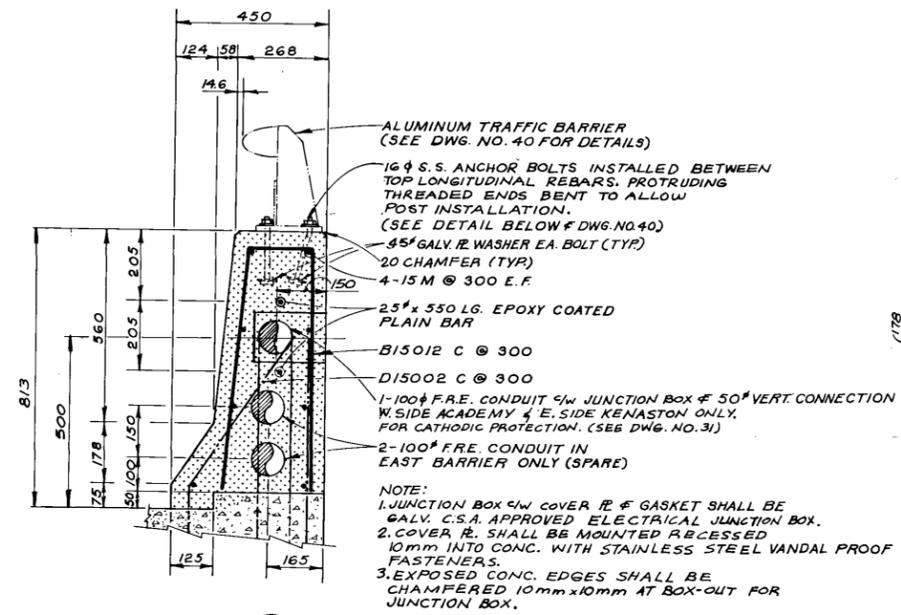


ELEVATION
SCALE: 1:25

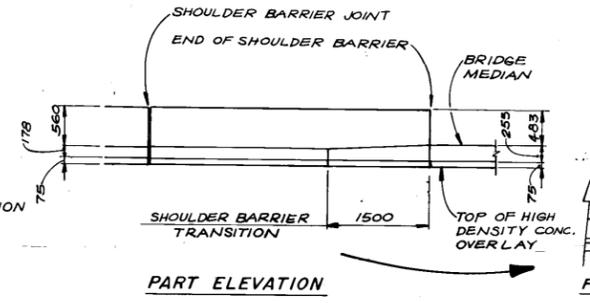


SECTION 3
SCALE: 1:10

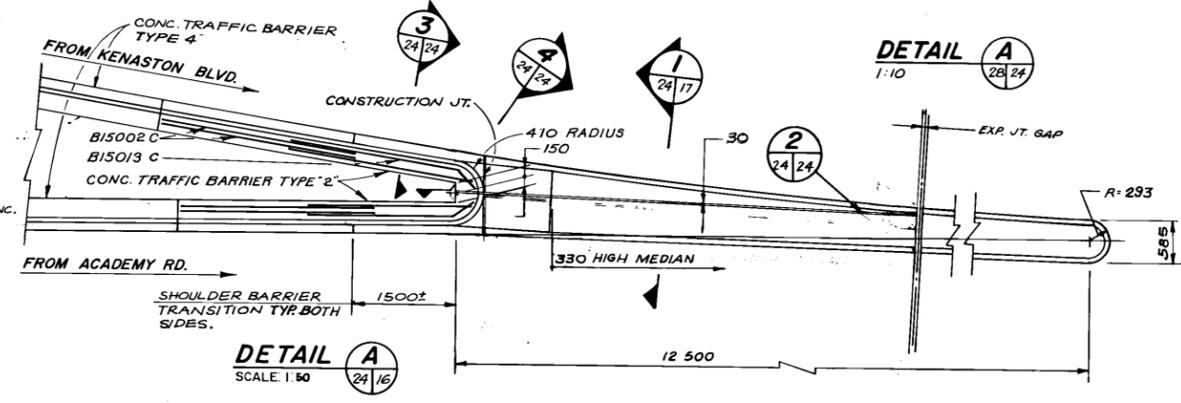
SECTION 4
SCALE: 1:10



SECTION 1
SCALE: 1:10

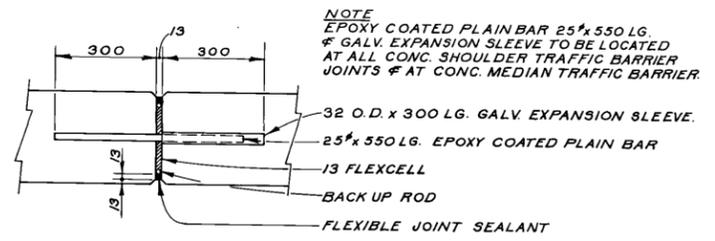


PART ELEVATION

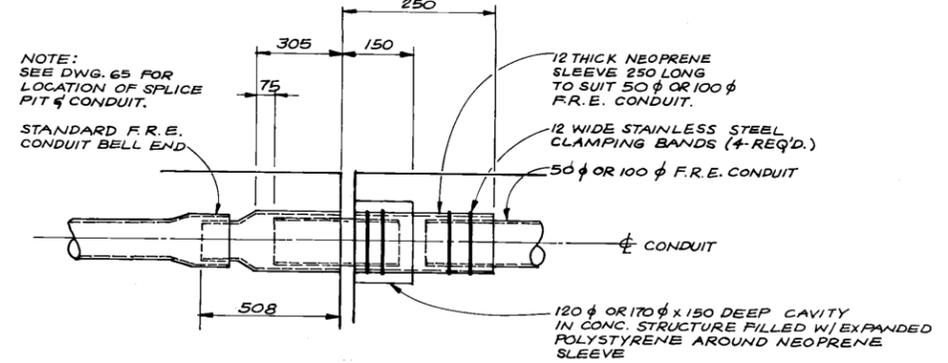


DETAIL A
SCALE: 1:50

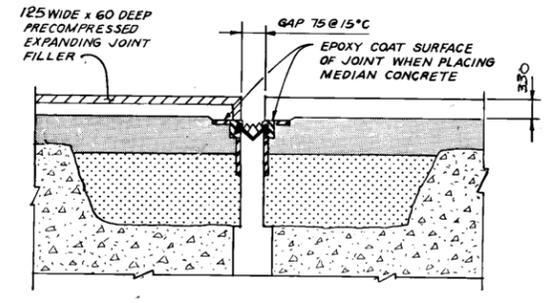
DETAIL A
1:10



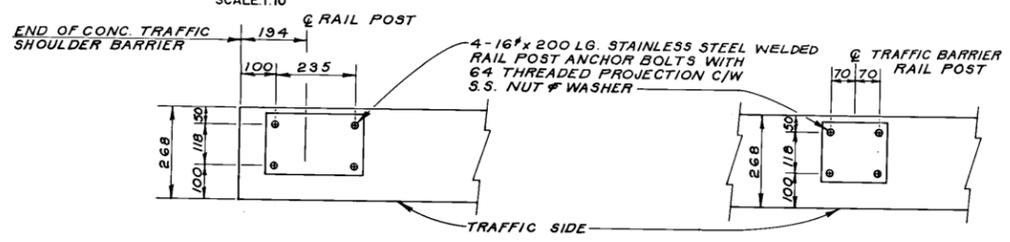
TYPICAL JOINT DETAIL
SCALE: 1:10



TYPICAL CONDUIT EXPANSION JOINT ASSEMBLY AT ABUTMENTS & PIERS
N.T.S.



DETAIL 2
SCALE: 1:25



RAIL POST ANCHOR BOLT LAYOUT DETAILS
SCALE: 1:10



DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: R.A.W. DRAWN BY: C.R.B.
CHECKED BY: N.B.U. DATE: DEC. 1986
APPROVED BY: [Signature] DATE: 2 JAN 87

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

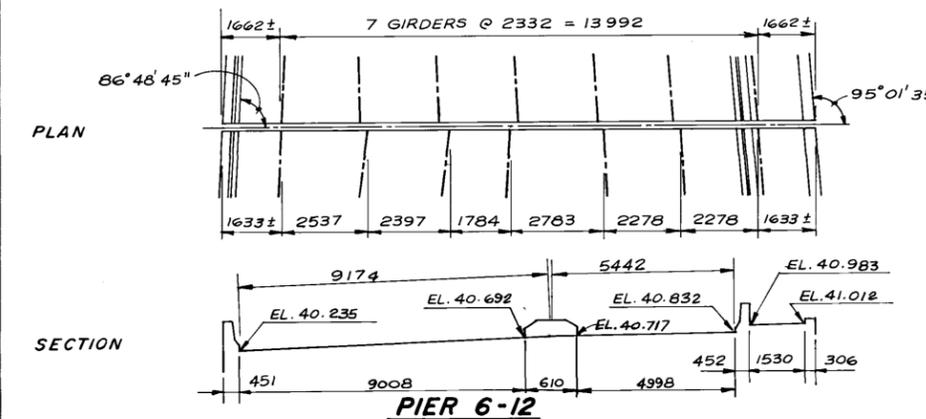
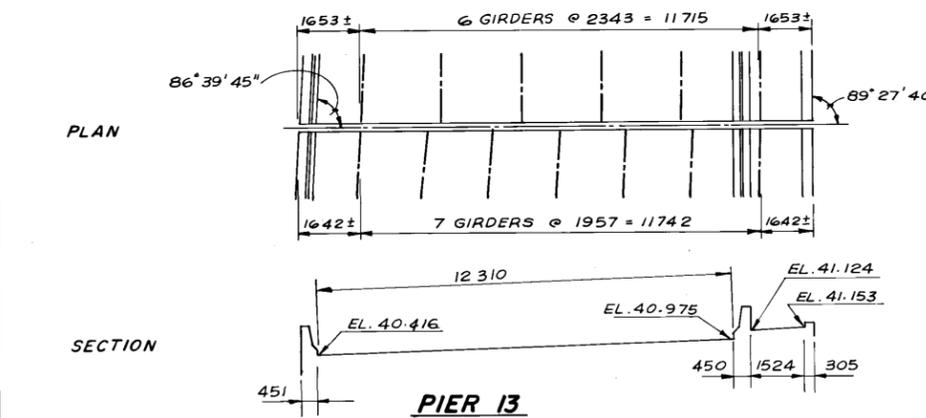
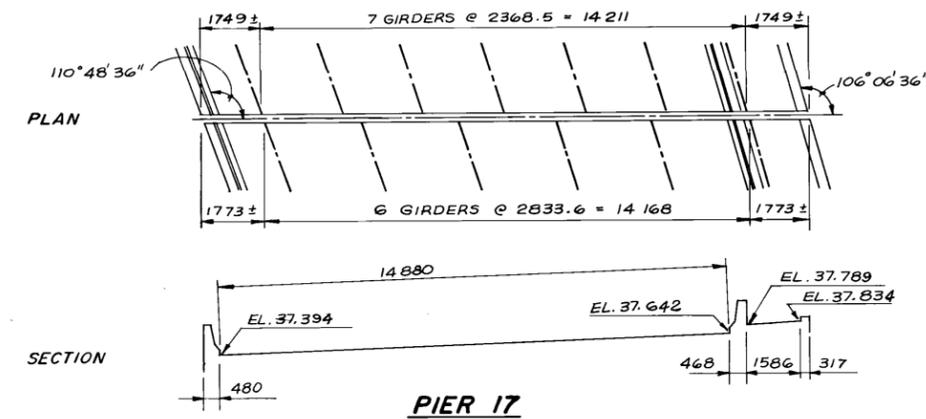
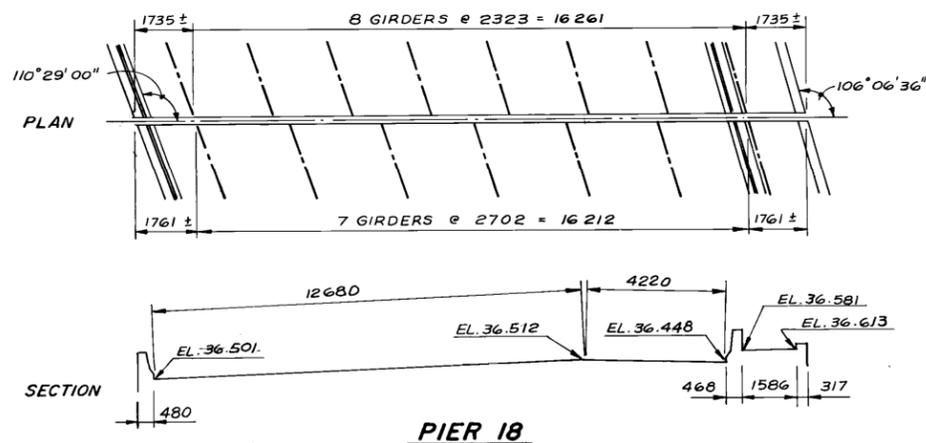
ST. JAMES BRIDGE NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING AND RELATED WORKS

BRIDGE
CONCRETE TRAFFIC BARRIER DETAILS

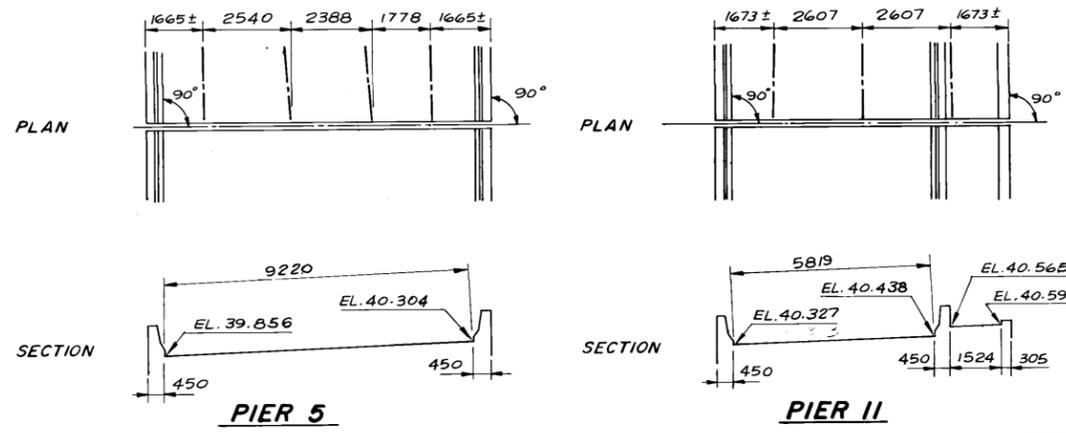
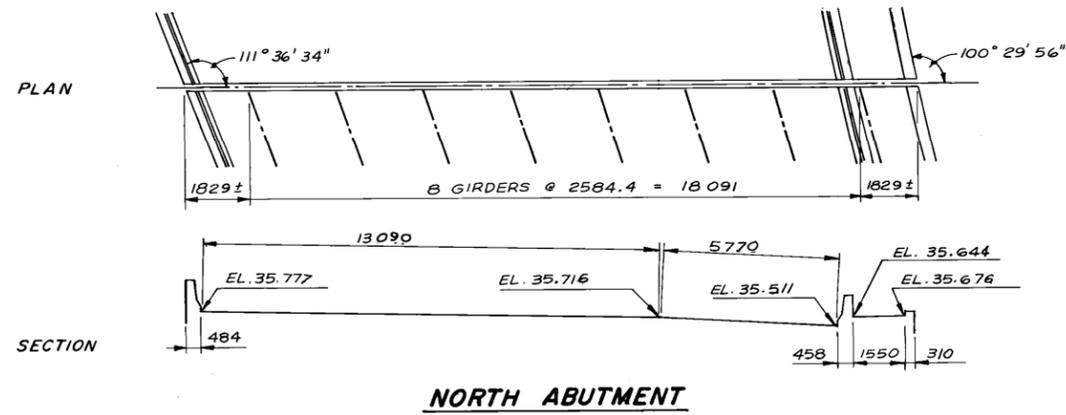
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ACCEPTED BY: [Signature] 07/12
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NO.	REVISIONS	DATE	APP.

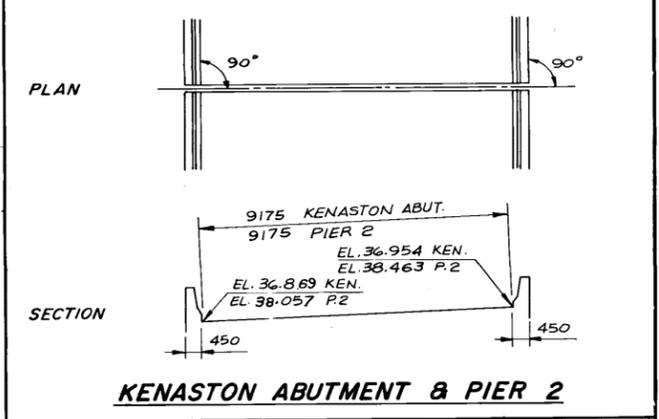
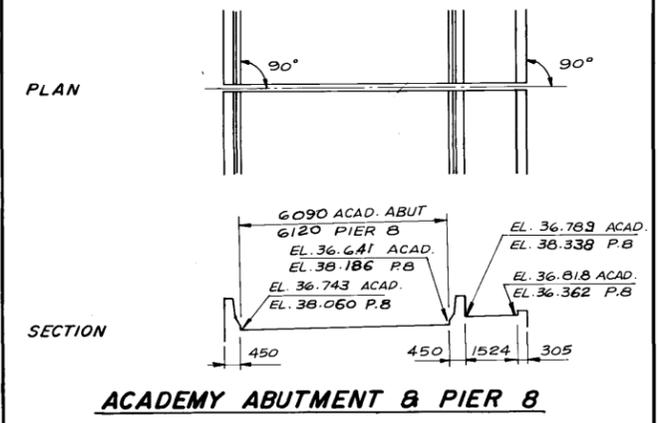
M. Chilton 88 01 21
B-5719



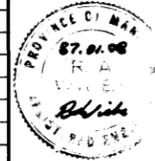
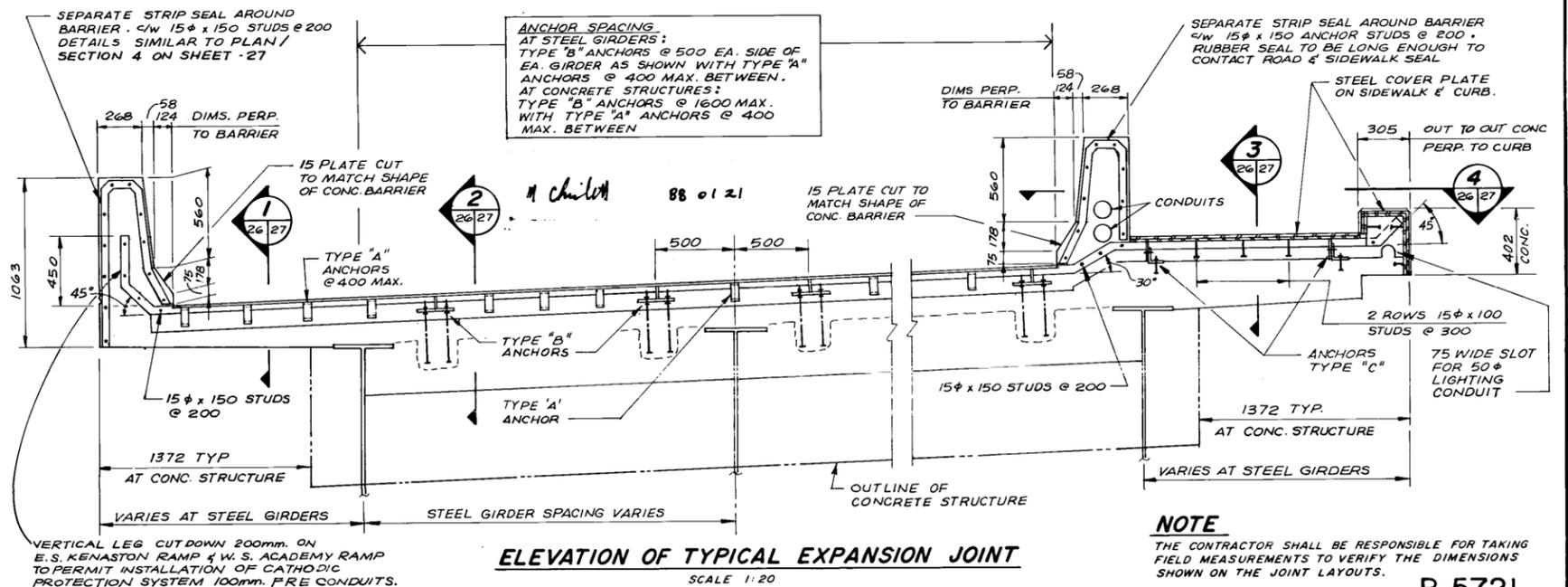
EXPANSION JOINT LAYOUTS
STEEL GIRDERS BOTH SIDES OF JOINT
SCALE 1:100



EXPANSION JOINT LAYOUTS
CONCRETE STRUCTURE ONE SIDE & STEEL GIRDERS OTHER SIDE OF JOINT
SCALE 1:100



EXPANSION JOINT LAYOUTS
CONCRETE STRUCTURE BOTH SIDES OF JOINT
SCALE 1:100



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Consulting Engineers - Planners
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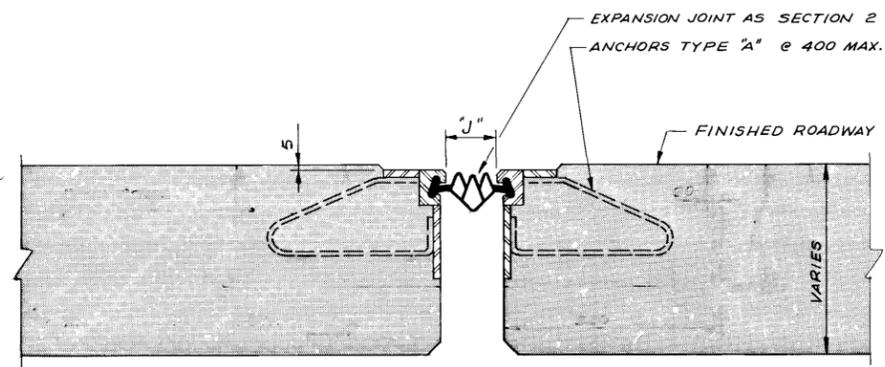
DESIGNED BY: W.P.S. DRAWN BY: W.P.S.
CHECKED BY: R.A.W. DATE: JAN. 87
APPROVED BY: *W.P. Wyatt* DATE: 9 Jan 87

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

ST. JAMES BRIDGE NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING AND RELATED WORKS

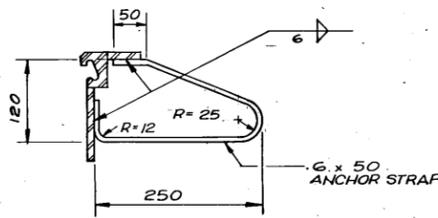
NEW EXPANSION JOINTS
1 OF 2

AUTHORIZED BY: *Winnipeg* 1987-01-12
ACCEPTED BY: *Winnipeg* 8/0/12
SCALE: AS NOTED DRAWING NO. B102-87-26

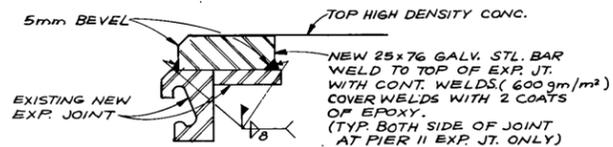


EXPANSION JOINT IN CANTILEVERED ROADWAY

SECTION 1
26/27

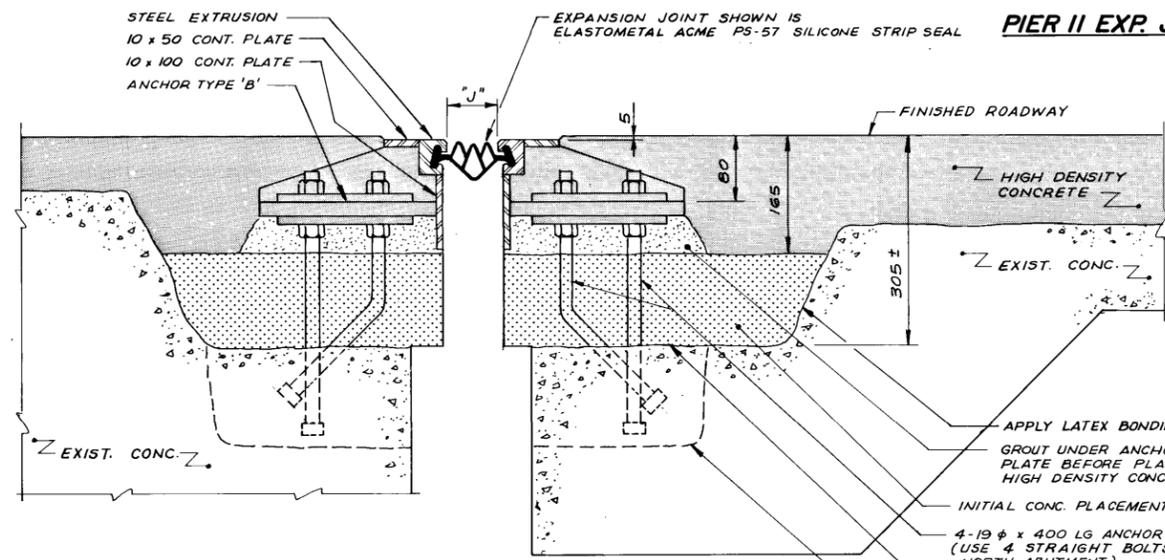


ELEVATION
ANCHOR TYPE "A"



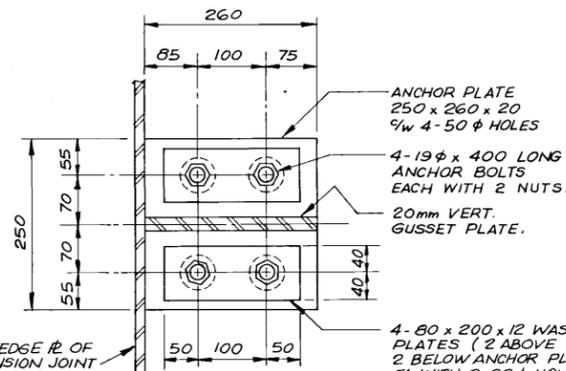
PIER II EXP. JT. RISER PLATES

LOCATION	DIM. 'J'				
	5°	10°	15°	20°	30°
KENASTON ABUTMENT	78	77	75	74	73
PIER 2	83	79	75	71	67
PIER 5	81	78	75	72	69
ACADEMY ABUTMENT	78	77	75	74	73
PIER 8	83	79	75	71	67
PIER II	81	78	75	72	69
PIER 6-12	79	77	75	73	71
PIER 13	84	79	75	70	65
PIER 17	84	79	75	70	65
PIER 18	80	77	75	71	67
NORTH ABUTMENT	75	75	75	75	75



EXPANSION JOINT IN NON-CANTILEVERED ROADWAY

SECTION 2
26/27



PLAN
ANCHOR TYPE "B"

SEPARATE STRIP SEAL & STEEL EXTRUSION 5/8" 15 φ x 150 ANCHOR STUDS @ 200 AROUND FACES OF BARRIER. (SEAL AS PER SECTION 2)

STEEL COVER PLATE 20 φ STAINLESS STEEL, HEX. SOCKET, FLAT HEAD SCREWS

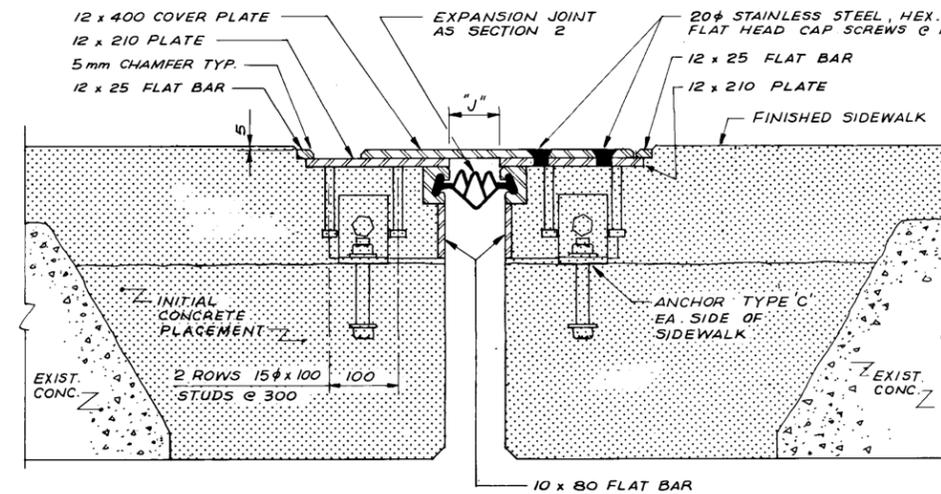
10mm COVER PLATE AROUND CURB

5
27/27

12 φ x 75 STUDS @ 150

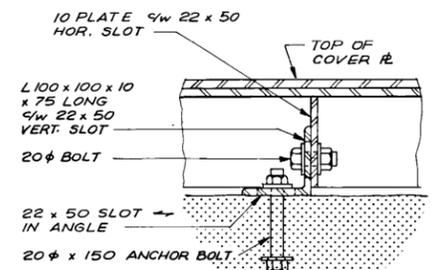
20 φ S.S. HEX. SOCKET, FLAT HEAD CAP SCREWS @ 100 STAGGER

PLAN / SECTION 4
26/27

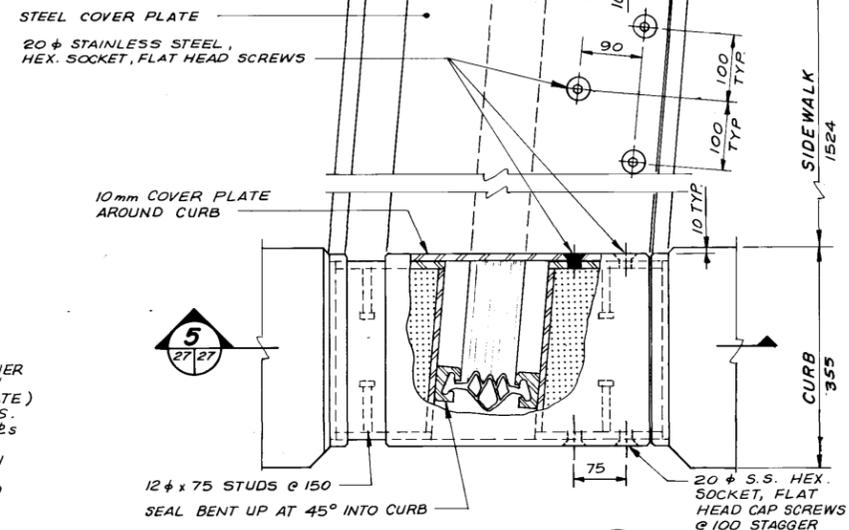


EXPANSION JOINT IN SIDEWALK

SECTION 3
26/27



ELEVATION
ANCHOR TYPE "C"



PLAN / SECTION 4
26/27

EXPANSION JOINT IN CURB

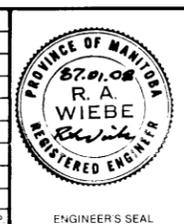
SECTION 5
27/27

B-5722

NOTES

- MANUFACTURER'S SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST FOURTEEN (14) WORKING DAYS PRIOR TO FABRICATION. THE EXPANSION JOINT ASSEMBLIES SHALL BE DESIGNED TO CARRY AASHTO HS20-44 LIVE LOADING.
- STEEL SHALL CONFORM TO CSA STANDARD C40.21M, GRADE 300M OR EQUAL.
- STEEL EXTRUSIONS SHALL CONFORM TO CSA C40.21 M GRADE 230C MINIMUM.
- ALL STEEL SURFACES SHALL BE HOT DIP GALVANIZED TO A NET RETENTION OF 600 CM² IN ACCORDANCE WITH CSA STANDARD C 164 AFTER FABRICATION AND INSTALLED IN ONE CONTINUOUS PIECE.
- JOINT ASSEMBLY SHALL BE FABRICATED AND COMPLETELY SHOP ASSEMBLED AND PRESET TO DIMENSION "J" FOR 15°C PRIOR TO SHIPMENT.
- WELDING SHALL BE OF LOW HYDROGEN CLASSIFICATION. MANUAL ELECTRODES SHALL BE E7016 OR E7018. ALL WELDING SHALL BE IN ACCORDANCE WITH CSA STANDARD W59.
- SEAL SHALL BE PERFORMED SILICON RUBBER SEAL. EACH RUBBER SEAL SHALL BE SUPPLIED AND INSTALLED IN ONE CONTINUOUS PIECE. NO SPLICES IN THE RUBBER SEAL WILL BE PERMITTED.
- JOINT ASSEMBLY SHALL BE INSTALLED 5mm BELOW ELEVATION AND GRADE OF BRIDGE DECK.
- AFTER REMOVAL OF CLAMPING CHANNELS AND SPACER DAM, BOLT AND BLEEDER HOLES TO BE FILLED WITH AN APPROVED EPOXY GROUT.
- INSTALLATION TEMPERATURE SHALL BE TAKEN AS THE MEAN SHADE AIR TEMPERATURE PRIOR TO JOINT INSTALLATION AT THE STRUCTURE.
- ALL AREAS OF DAMAGED GALVANIZING SHALL BE REPAIRED BY USING THE GALVALLOY PROCEDURE AS SPECIFIED.

NO.	REVISIONS	DATE	APP.



DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: W.P.S. DRAWN BY: W.P.S.
CHECKED BY: R.A.W. DATE: JAN 87
APPROVED BY: [Signature] DATE: 7 Jan 87

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

ST. JAMES BRIDGE NORTHBOUND
DECK REHABILITATION, STRUCTURAL STRENGTHENING
AND RELATED WORKS
NEW EXPANSION JOINTS
2 OF 2

AUTHORIZED BY: [Signature] 1987-01-12
ACCEPTED BY: [Signature] 1/11/87
SCALE: 1:5 DRAWING NO: B102-87-27



N. Ulyatt 88 01 21