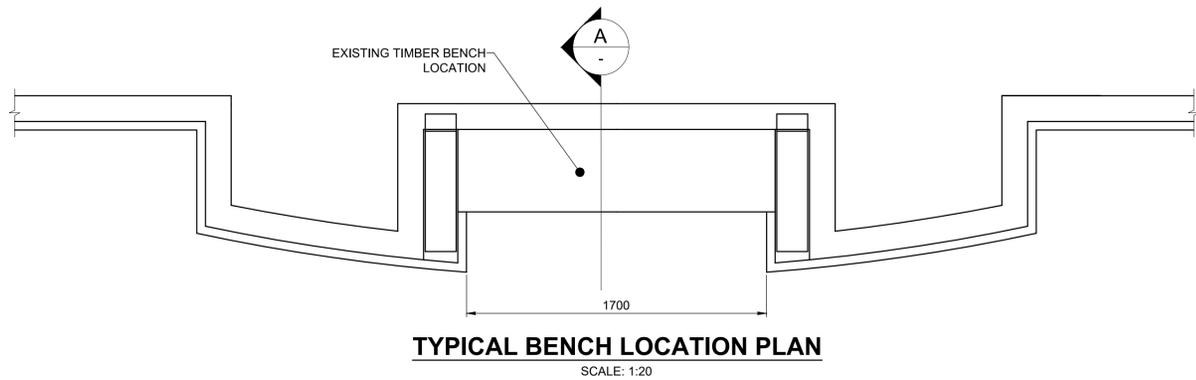


A1 SIZE 594mm x 841mm  
PLOT: 8/15/2019 4:45:03 PM  
P: 2018180514900-Norwood Bridge09\_CAD007\_Sheets180514900-MW-09.dwg  
Last Saved: 8/15/2019 4:36 PM by AGIARSKI  
Plotted: 8/15/2019 4:45 PM by Alex Heppner



**TYPICAL BENCH LOCATION PLAN**

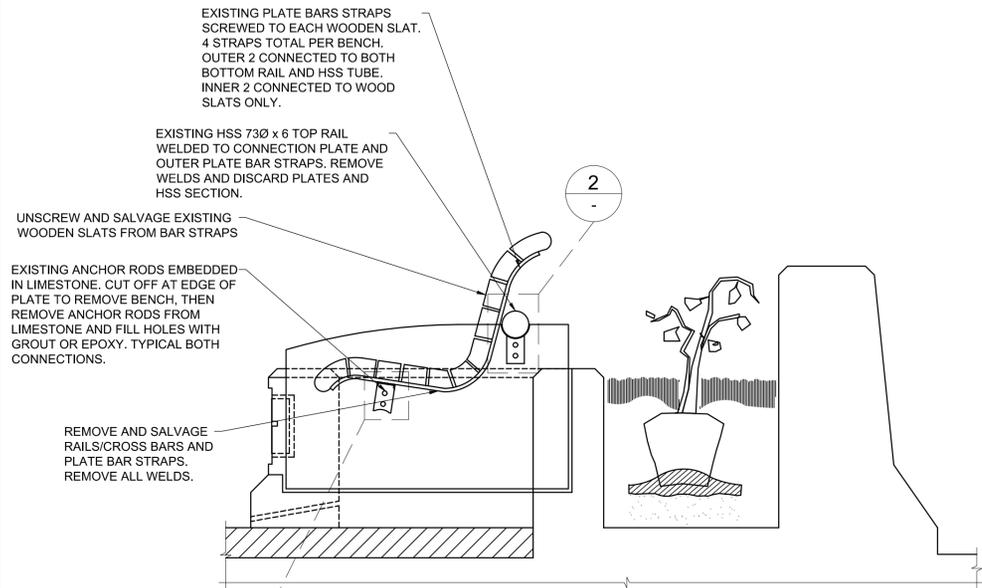
SCALE: 1:20



TYPICAL TIMBER BENCH



TYPICAL BENCH HSS SUPPORT



**SECTION - EXISTING BENCH REMOVAL**

SCALE: 1:10

EXISTING WELD CONNECTING RAIL TO ANCHOR PLATE. REMOVE WELD, DISCARD PLATE, AND RE-USE RAIL.

EXISTING ANCHOR RODS EMBEDDED IN LIMESTONE. CUT OFF AT EDGE OF PLATE TO REMOVE BENCH, THEN REMOVE ANCHOR RODS FROM LIMESTONE AND FILL HOLES WITH GROUT OR EPOXY.

**1 - DETAIL - EXISTING BOTTOM RAIL CONNECTION**

SCALE: 1:2

SALVAGE AND SANDBLAST EXISTING BOTTOM RAIL. WELD RAIL TO NEW 6mm PLATE AND GALVANIZE AS ONE UNIT.

NEW GALVANIZED 6mm PLATE. DRILL AND INSTALL GALVANIZED THREADED DROP-IN ANCHORS INTO LIMESTONE. CONNECT WITH NEW GALVANIZED BOLTS. ORIENTATION OF CONNECTION PLATE CHANGED TO HORIZONTAL DIRECTION.

**3 - DETAIL - REFURBISHED BOTTOM RAIL CONNECTION**

SCALE: 1:2

EXISTING SCREWS CONNECTING BOTTOM RAIL, PLATE BAR STRAPS, AND WOOD SLAT AT OUTER PLATE BAR STRAPS. REMOVE AND DISCARD SCREWS.

EXISTING WELDS CREATING A KEY FOR HSS SECTION TO FIT ON OUTER PLATE BAR STRAPS. REMOVE WELDS AND DISCARD KEY.

EXISTING SCREWS CONNECTING PLATE BAR STRAPS AND WOOD SLAT. REMOVE AND DISCARD SCREWS.

EXISTING WELD CONNECTING HSS 730 x 6 TOP RAIL TO CONNECTION PLATE. DISCARD PLATES AND HSS SECTION.

EXISTING ANCHOR RODS EMBEDDED IN LIMESTONE. CUT OFF AT EDGE OF PLATE TO REMOVE BENCH, THEN REMOVE ANCHOR RODS FROM LIMESTONE AND FILL HOLES WITH GROUT OR EPOXY.

**2 - DETAIL - EXISTING TOP RAIL CONNECTION**

SCALE: 1:2

NEW GALVANIZED BOLTS CONNECTING HSS SECTION TO PLATE BAR STRAPS. DRILL AND TAP THREADS INTO PLATE BAR STRAP IN THE SHOP PRIOR TO GALVANIZING.

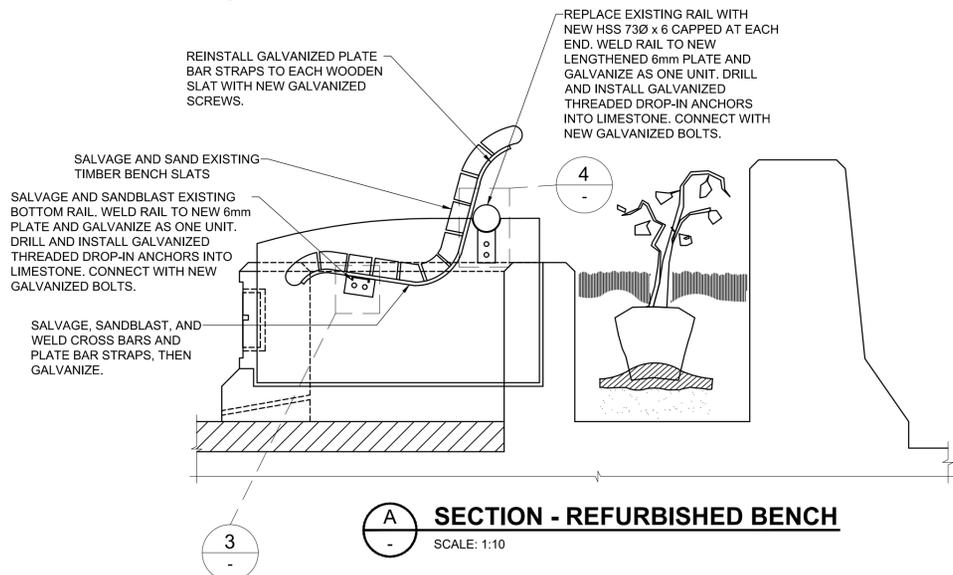
NEW GALVANIZED SCREWS CONNECTING PLATE BAR STRAPS, AND WOOD SLATS.

REPLACE EXISTING RAIL WITH NEW HSS 730 x 6 CAPPED AT EACH END. WELD RAIL TO NEW LENGTHENED 6mm PLATE AND GALVANIZE AS ONE UNIT.

NEW LENGTHENED AND GALVANIZED 6mm PLATE. DRILL AND INSTALL GALVANIZED THREADED DROP-IN ANCHORS INTO LIMESTONE. CONNECT WITH NEW GALVANIZED BOLTS.

**4 - DETAIL - REFURBISHED TOP RAIL CONNECTION**

SCALE: 1:2



**SECTION - REFURBISHED BENCH**

SCALE: 1:10

**GENERAL NOTES:**

- CUT LIMESTONE ANCHOR RODS AT CONNECTION PLATE AND REMOVE BENCH.
- REMOVE REMAINING PORTION OF ANCHOR RODS FROM LIMESTONE AND FILL HOLES WITH GROUT OR EPOXY.
- CUT WELDS ON BENCH MEMBERS.
- DISCARD CONNECTION PLATES AND HSS SECTION.
- UNSCREW WOOD SLATS FROM STEEL MEMBERS.
- FABRICATE NEW HSS SECTION AND CAP OPENINGS AT ENDS, LEAVING LARGE ENOUGH HOLES FOR GALVANIZING. MAKE HOLES FOR BOLT CONNECTIONS. PUT TWO HOLES ON UNDERSIDE OF SECTION AT ENDS FOR TRAPPED WATER DRAINAGE.
- FABRICATE NEW CONNECTION PLATES AND WELD TO HSS AND BOTTOM RAIL. DRILL AND TAP THREADED HOLES FOR HSS CONNECTIONS TO STEEL BAR STRAP.
- GALVANIZE ALL STEEL.
- SAND WOODEN SLATS TO REMOVE SURFACE DEFECTS ALL AROUND.
- DRILL AND INSTALL GALVANIZED THREADED DROP-IN ANCHORS INTO LIMESTONE.
- RECONNECT ALL STEEL TO WOODEN SLATS USING NEW GALVANIZED SCREWS.
- CONNECT REFURBISHED BENCH TO LIMESTONE WITH NEW GALVANIZED BOLTS.
- PLACE NEOPRENE PAD SHIM(S) BETWEEN CONNECTION PLATE AND LIMESTONE SURFACE FOR TIGHT HORIZONTAL FIT AS REQUIRED (TYP).
- NORTHBOUND NORWOOD BENCH SHOWN. SOUTHBOUND BENCHES SIMILAR.
- CITY OF WINNIPEG WILL REFURBISH THE SOUTHERNMOST BENCH ON THE NORTHBOUND NORWOOD BRIDGE AS A DISPLAY BENCH. CONTRACTOR TO MATCH QUALITY AND CONNECTIONS.
- LENGTH OF HSS SECTIONS AND STEEL PLATE DIMENSIONS TO BE VERIFIED ON SITE BY THE CONTRACTOR.



**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

LOCATION APPROVED UNDERGROUND STRUCTURES		BM ELEV
SUPR. U/G STRUCTURES COMMITTEE	DATE	
<b>NOTE:</b> 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.		
0 ISSUED FOR TENDER	19/08/14	BE
No. REVISIONS	YYMMDD	BY DATE

DESIGNED BY		CHECKED BY	
AGG		BAP	
DRAWN BY		APPROVED BY	
AH		BE	
HOR SCALE AS SHOWN		RELEASED FOR CONSTRUCTION	
VERT SCALE AS SHOWN			
0		DATE	



TENDER No. 685-2019

**THE CITY OF WINNIPEG**  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**2019 BRIDGE MAINTENANCE**  
**NORWOOD AND MAIN STREET BRIDGES**

NORWOOD BRIDGES  
BENCH REFURBISHMENT DETAILS

CITY DRAWING NUMBER B103-19-09	DRAWING No. 09	REV 0
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CONSULTANT FILE NAME  
180514900-MW-09.dwg