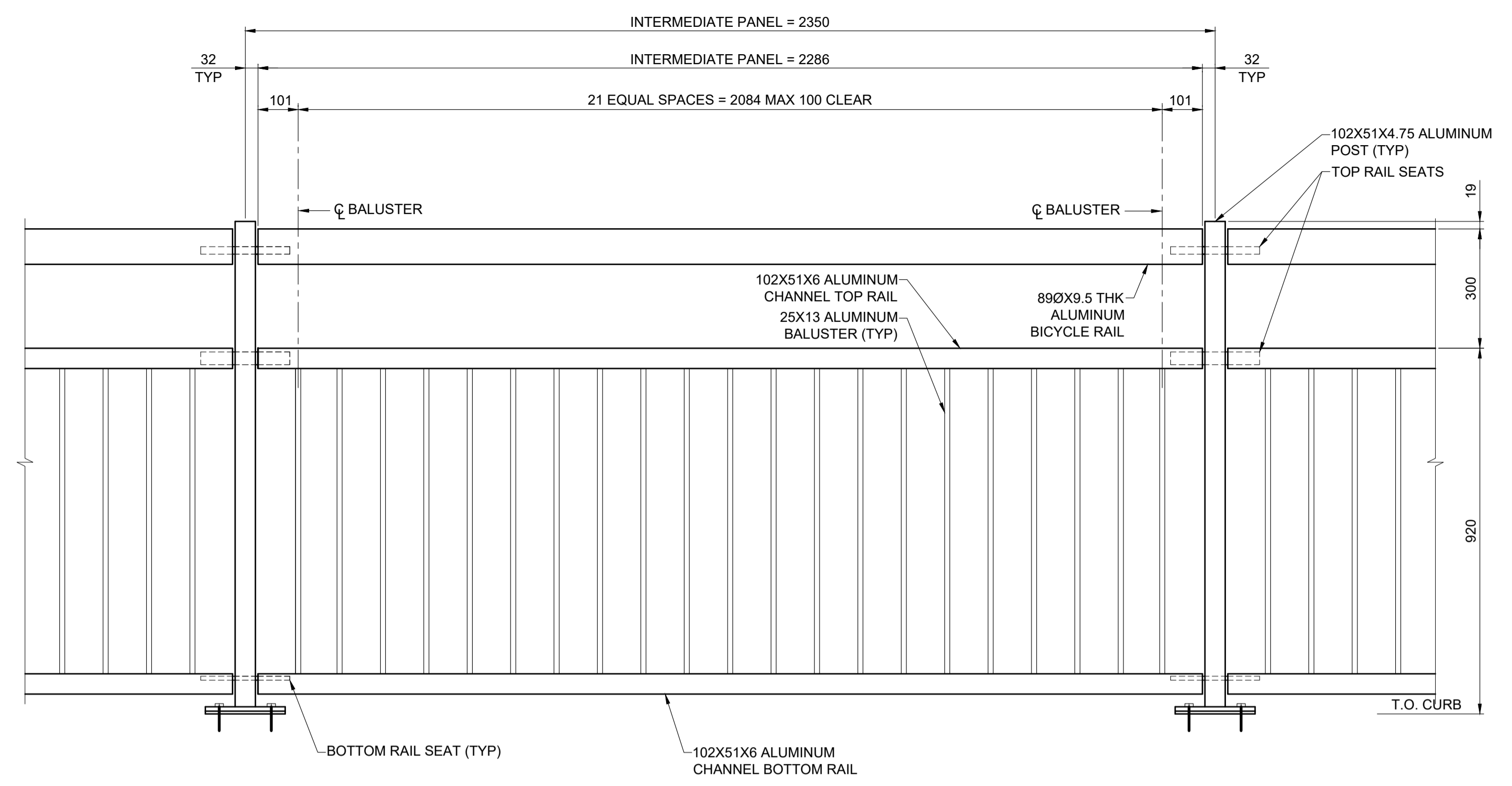
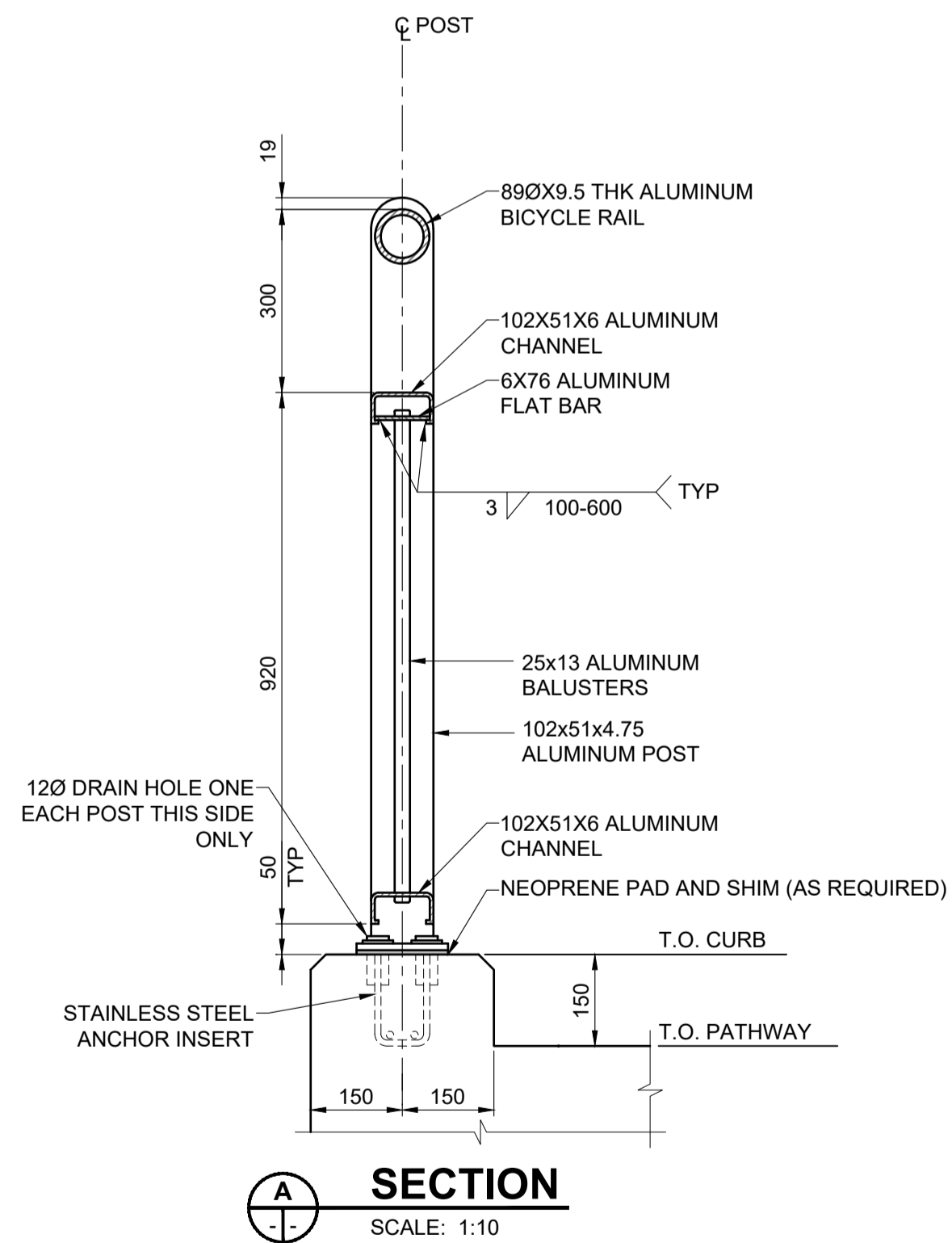


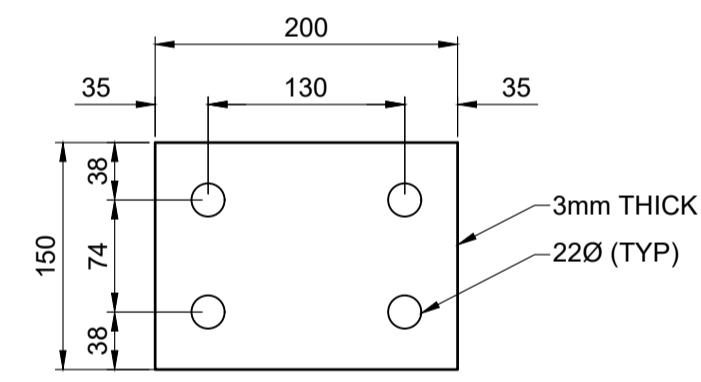
**ELEVATION - END PANEL**  
SCALE: NTS



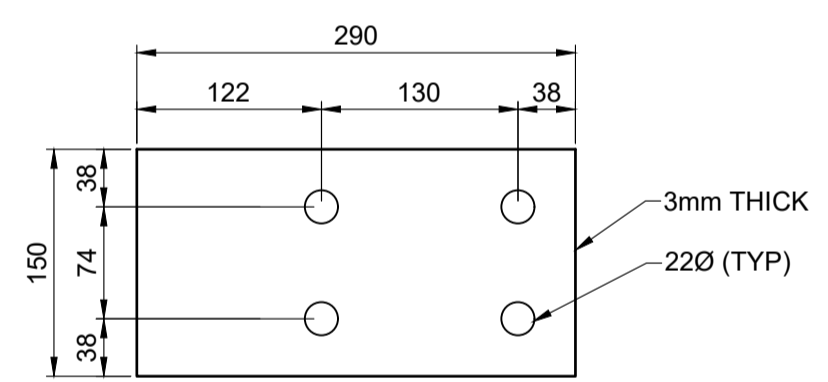
**ELEVATION - INTERMEDIATE PANEL**  
SCALE: NTS



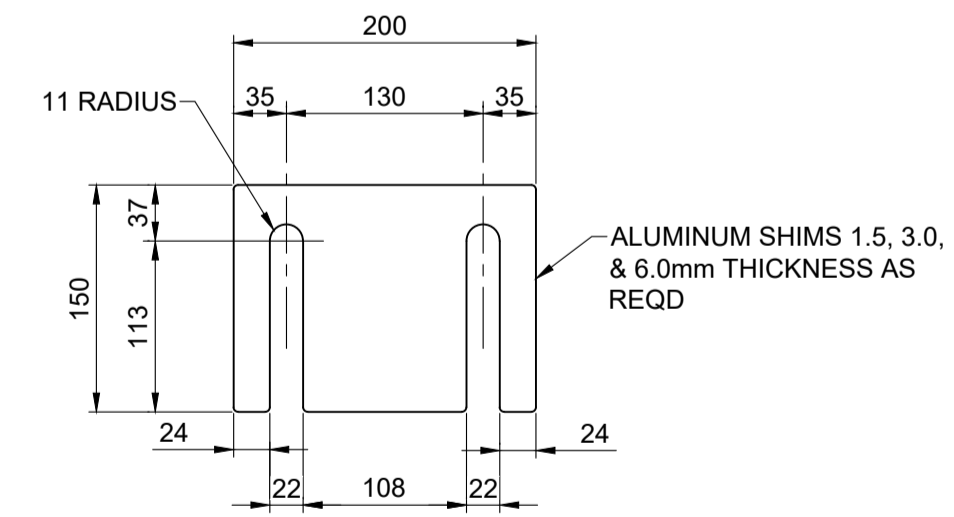
**SECTION**  
SCALE: 1:10



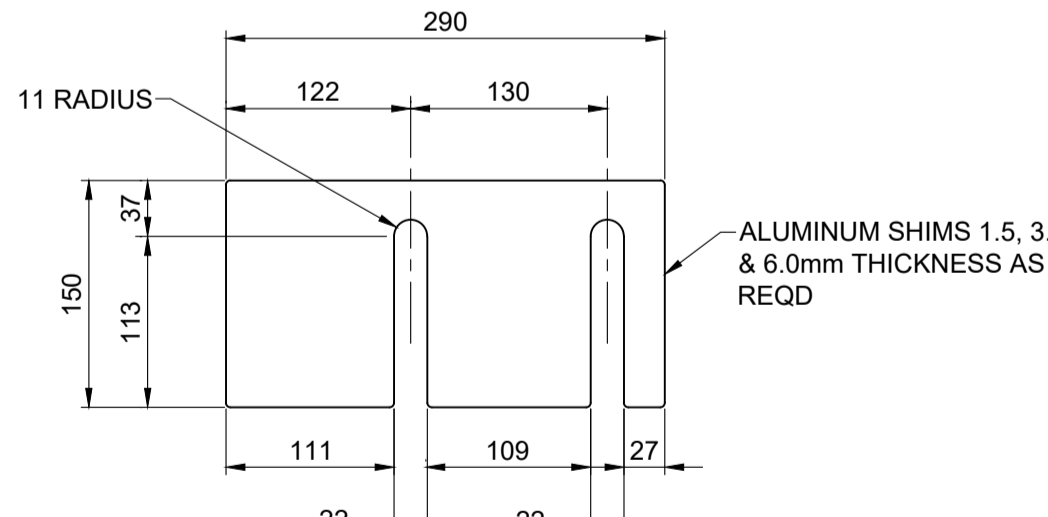
**INTERMEDIATE NEOPRENE PAD DETAIL**  
SCALE 1:5



**END NEOPRENE PAD DETAIL**  
SCALE 1:5



**INTERMEDIATE SHIM DETAIL**  
SCALE 1:5



**END SHIM DETAIL**  
SCALE 1:5

| ALUMINUM BICYCLE RAIL QUANTITIES |     |
|----------------------------------|-----|
| ITEM                             | NO. |
| END PANEL                        | 2   |
| INTERMEDIATE PANEL               | 11  |
| TOTAL NUMBER OF PANELS = 13      |     |

- NOTES:**
- ALUMINUM EXTRUSIONS SHALL CONFORM TO ASTM B221 ALLOY 6351-T6.
  - ALUMINUM PLATES SHALL CONFORM TO ASTM B221 ALLOY 5083.
  - THE M.I.G. PROCESS OF WELDING SHALL BE USED.
  - RAIL POSTS AND BALUSTERS SHALL BE SET PLUMB.
  - PLACE NEOPRENE PAD UNDER EACH POST BETWEEN BASE PLATE OR SHIM AND CONCRETE SURFACE. ALUMINUM SHIMS MAY BE REQUIRED FOR VERTICAL ALIGNMENT.
  - HANDRAIL ANCHOR INSERTS SHALL BE ACROW-RICHMOND TYPE DGRS-1.



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

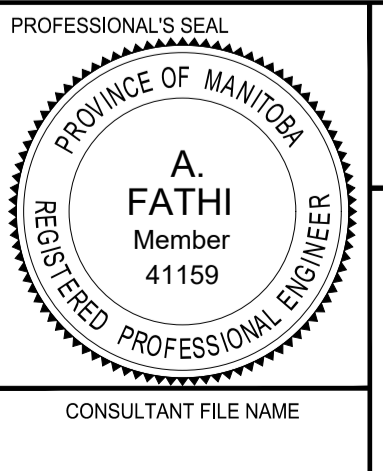
**LOCATION APPROVED**  
UNDERGROUND STRUCTURES

SUPR. 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     | BY  |
|-----|------------------------------|----------|-----|
| B   | ISSUED FOR TENDER            | 18/09/04 | BAP |
| A   | ISSUED FOR 95% DESIGN REVIEW | 18/08/07 | BAP |
|     |                              | YY/MM/DD |     |

|                            |                           |
|----------------------------|---------------------------|
| <b>MORRISON HERSHFIELD</b> |                           |
| DESIGNED BY TN             | CHECKED BY AF             |
| DRAWN BY TN                | APPROVED BY BAP           |
| HOR SCALE AS SHOWN         | RELEASED FOR CONSTRUCTION |
| VERT SCALE AS SHOWN        | N/A                       |
| DATE 17/12/11              | DATE                      |



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

**EMPRESS STREET PROJECT**  
EMPRESS STREET RETAINING WALL  
BICYCLE RAIL DETAILS 1

CITY DRAWING NUMBER P-3494-164  
SHEET 164 OF 168  
DRAWING No. REV 164 B

BID OPPORTUNITY No. 602-2018