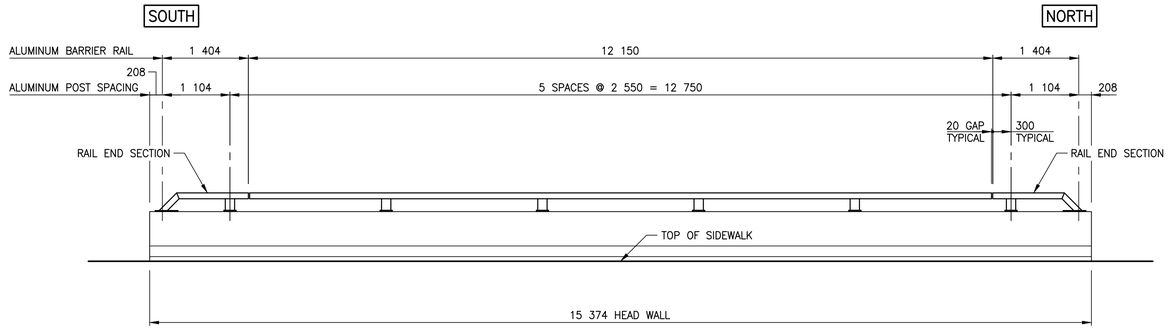
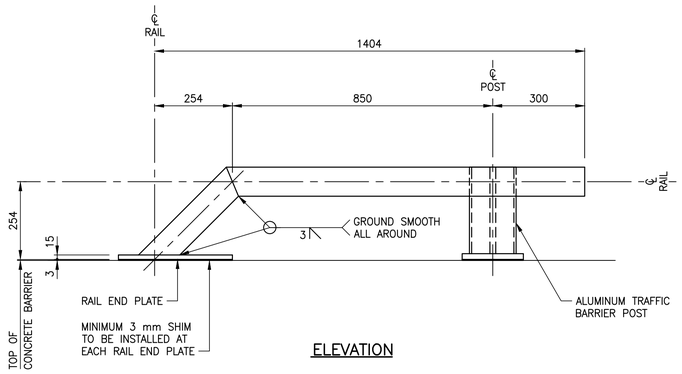
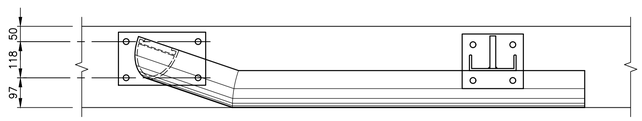


WEST ALUMINUM TOP RAIL LAYOUT

BARRIER ELEVATION LOOKING WEST. EAST ALUMINUM TOP RAIL OPPOSITE HAND.
SCALE 1:50



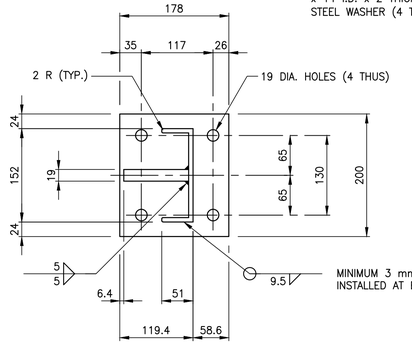
ELEVATION



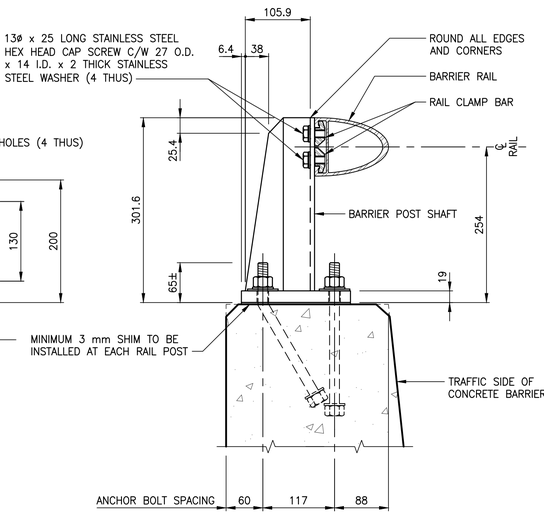
PLAN

RAIL END SECTION DETAIL

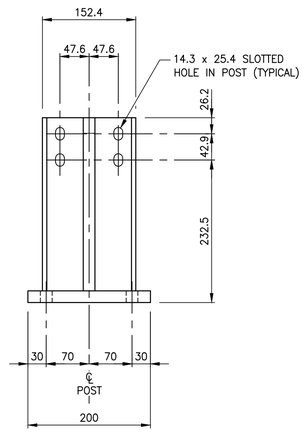
SCALE 1:10



TOP VIEW



SIDE VIEW



REAR VIEW

ALUMINUM TRAFFIC BARRIER RAIL POST DETAILS

SCALE 1:5

MATERIAL SPECIFICATIONS

1. THE 19 mm DIAMETER HOLES (4) IN THE BASE OF THE BARRIER RAIL POSTS AND RAIL PLATES ARE DESIGNED TO ACCOMMODATE 16 mm DIAMETER RAIL POST ANCHOR BOLTS AS DETAILED. SUPPLY WITH EACH ANCHOR BOLT WITH ONE STAINLESS STEEL PLAIN WASHER, ONE STAINLESS STEEL LOCK WASHER, ONE STAINLESS HEX NUT AND ONE 50 mm GALVANIZED PLATE WASHER.
2. EXTRUDED ALUMINUM SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM B221, ALLOY 6061–T6 OR ALLOY 6351–T5 (MINIMUM ELONGATION 10%).
3. THE STAINLESS STEEL HEX HEAD AND SOCKET HEAD CAP SCREWS SHALL MEET THE REQUIREMENTS OF ASTM A276, TYPE 430, AND THE DIMENSIONAL REQUIREMENTS OF ANSI B18.3.
4. 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.
5. 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.
6. WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARDS W59.2–M1991 (R2013), WELDED ALUMINUM CONSTRUCTION AND W47.2–11 (R2015), ALUMINUM WELDING QUALIFICATION CODES. ALUMINUM FILLER ALLOY SHALL BE ONE OF THE FOLLOWING: ER4043, ER5183, ER5356, ER5554, ER5556 AND ER5654.
7. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS CONSISTING OF THREE PRINTS AND ONE REPRODUCIBLE SEPIA TO THE CONTRACT ADMINISTRATOR FOR APPROVAL PRIOR TO FABRICATION OF ALUMINUM TRAFFIC BARRIER COMPONENTS.
8. ANIT–SEIZE COATING TO BE APPLIED TO ALL THREADED COMPONENTS WHEN BEING ASSEMBLED [I.E., LPS–3 MANUFACTURED BY HOLT–LLOYD (CANADA) LTD. MARKHAM, ONT. L3R 2Z3].

NOTE

1. THE 19 mm DIAMETER HOLES (4) IN THE BASE OF THE BARRIER RAIL POSTS AND RAIL PLATES ARE DESIGNED TO ACCOMMODATE 16 mm DIAMETER RAIL POST ANCHOR BOLTS AS DETAILED. SUPPLY WITH EACH ANCHOR BOLT WITH ONE STAINLESS STEEL PLAIN WASHER, ONE STAINLESS STEEL LOCK WASHER, ONE STAINLESS HEX NUT AND ONE 50 mm GALVANIZED PLATE WASHER.
2. A COMBINATION OF 1.5, 3.0 AND/OR 6.0 mm THICK ALUMINUM RAIL POST OR END PLATE SHIMS ARE TO 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. ALL EDGES AND CORNERS OF THE BARRIER POST PLATES AND EXTRUSIONS SHALL BE ROUNDED IN THE SHOP, TO A SMOOTH 2 mm RADIUS TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
4. 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.

METRIC
ALL MEASUREMENTS IN MILLIMETRES UNLESS OTHERWISE STATED

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
WSP Canada Group Limited
No. 6657

LOCATIONS APPROVED UNDERGROUND STRUCTURES

SIGNED BY: _____ SUPV. U/G STRUCTURES _____ DATE

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 EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING

G.B.M. = TOP NUT OF FIRST HYDRANT SOUTH OF INTERSECTION BETWEEN NESS AVENUE AND LINWOOD STREET
ELEV. = 233.659

No.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	17.11.23	JL

WSP Canada Group Limited
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Winnipeg MB R3B 3B1
T+ 1 204-943-3178
F+ 1 204-943-4948
www.wsp.com

DESIGNED BY	MLW	CHECKED BY	WC
DRAWN BY	CP	APPROVED BY	JL
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	17.11.23	DATE	

ENGINEER'S SEAL
PROVINCE OF MANITOBA
M. L. WADELIUS
Member
23808
Nov 23/17
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT No.
17M-00806-00

Winnipeg
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TRURO CREEK CULVERT REPLACEMENT AT LINWOOD STREET

ALUMINUM TOP RAIL DETAILS (SHEET 1 OF 2)

CITY DRAWING NUMBER	C321-17-13
BID OPPORTUNITY NUMBER	1014-2017
SHEET	13
OF	19
REV	0