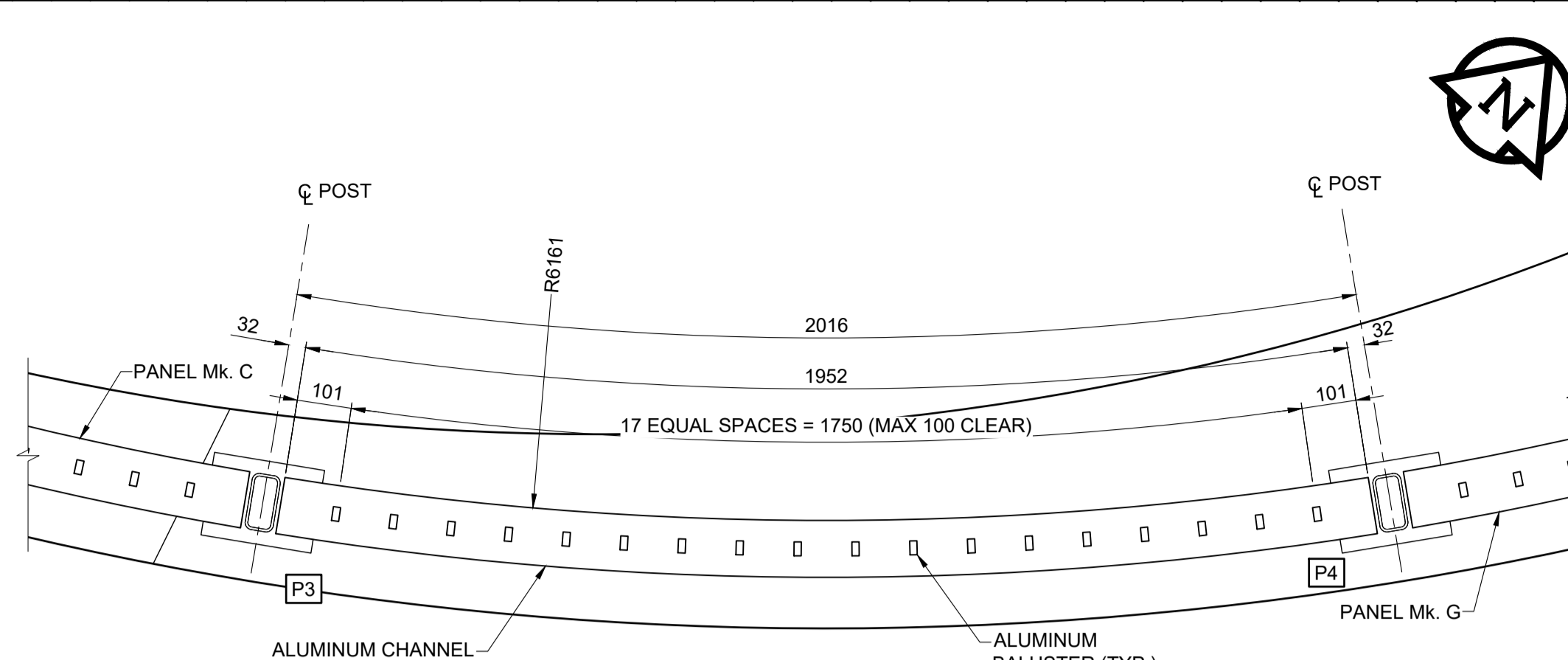
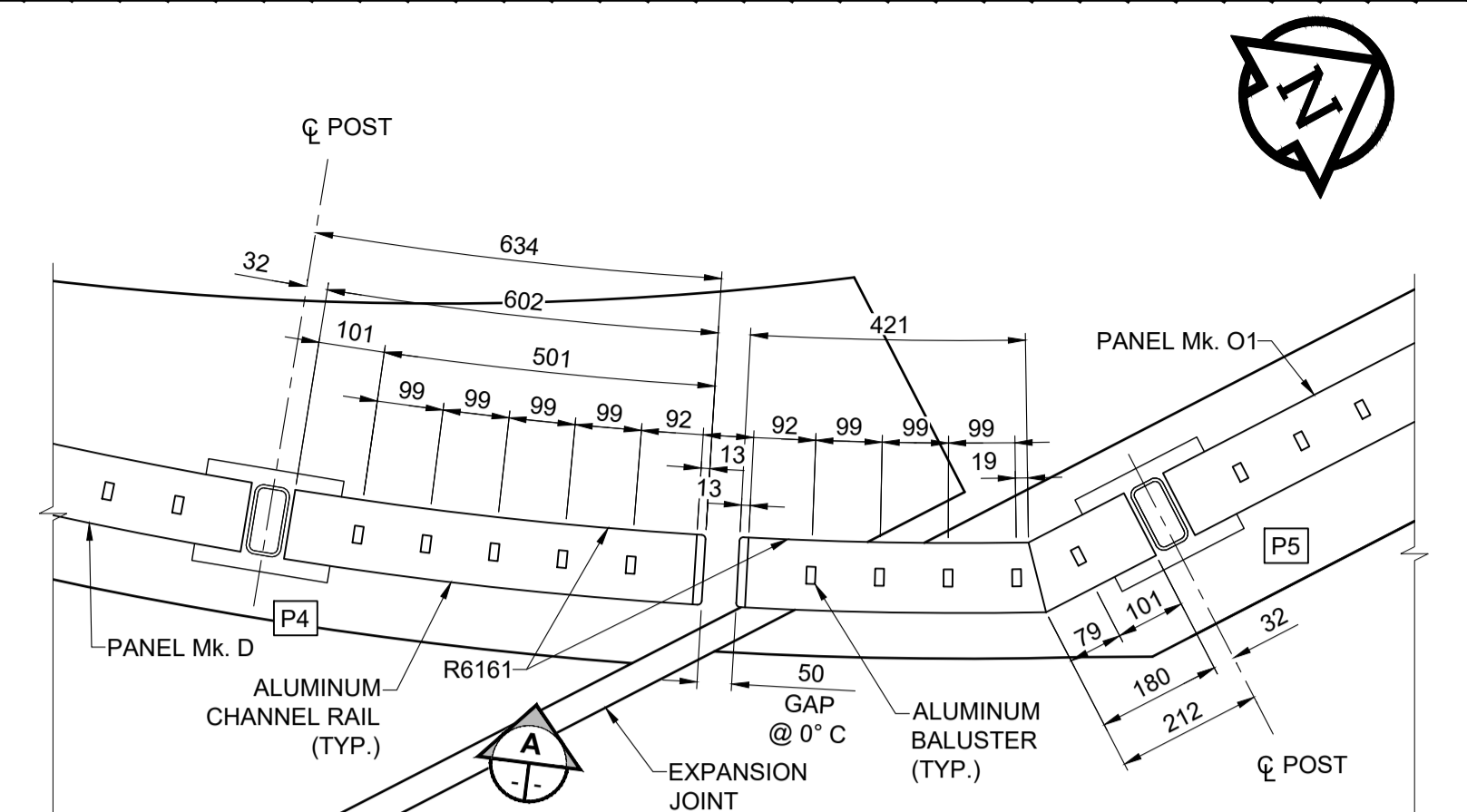


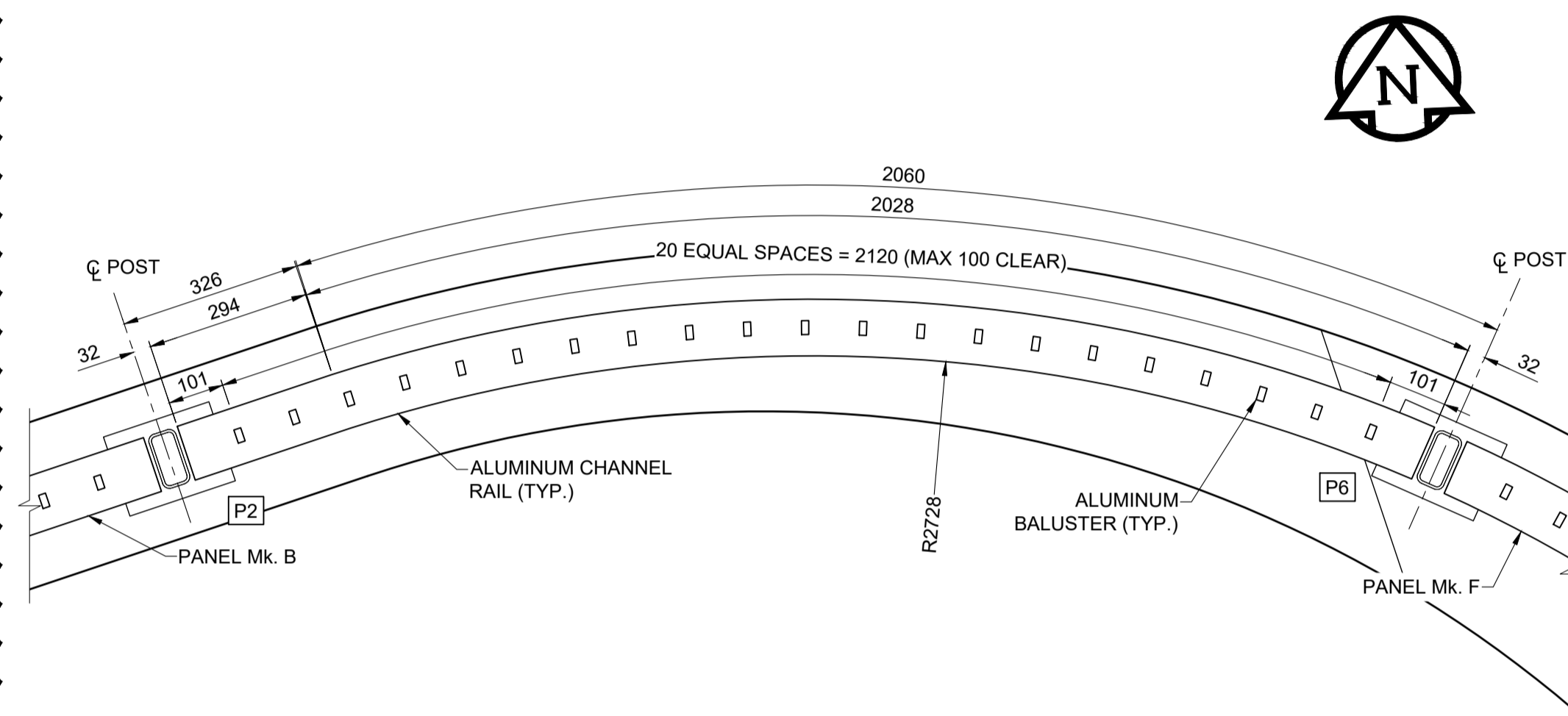
**PANEL Mk. C PLAN**  
SCALE 1:10



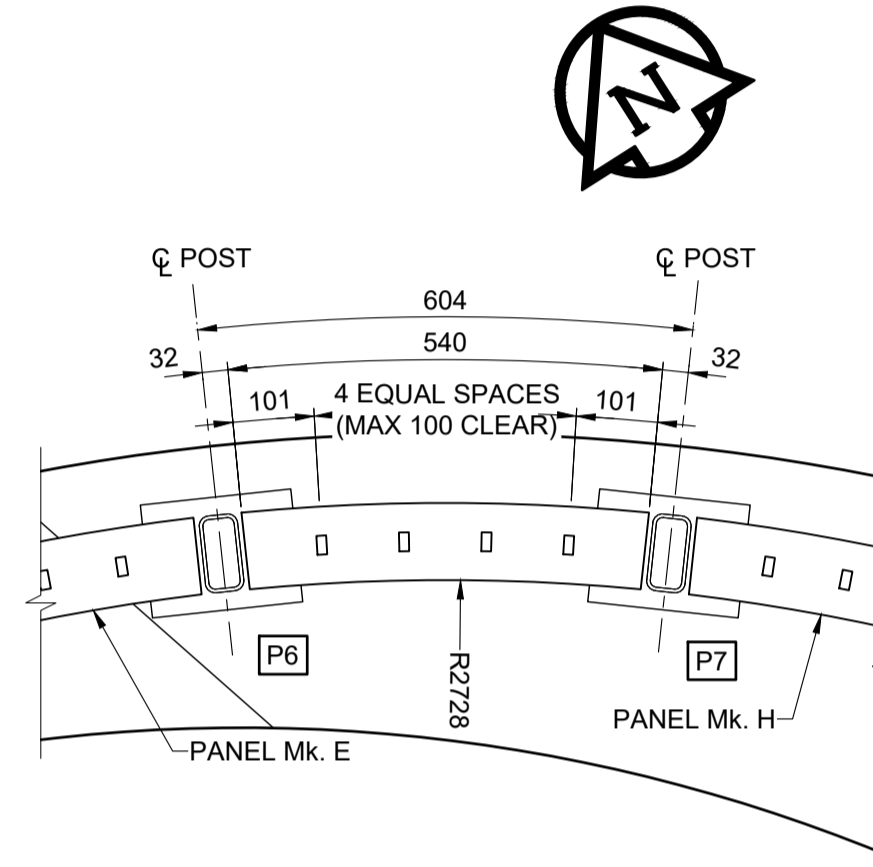
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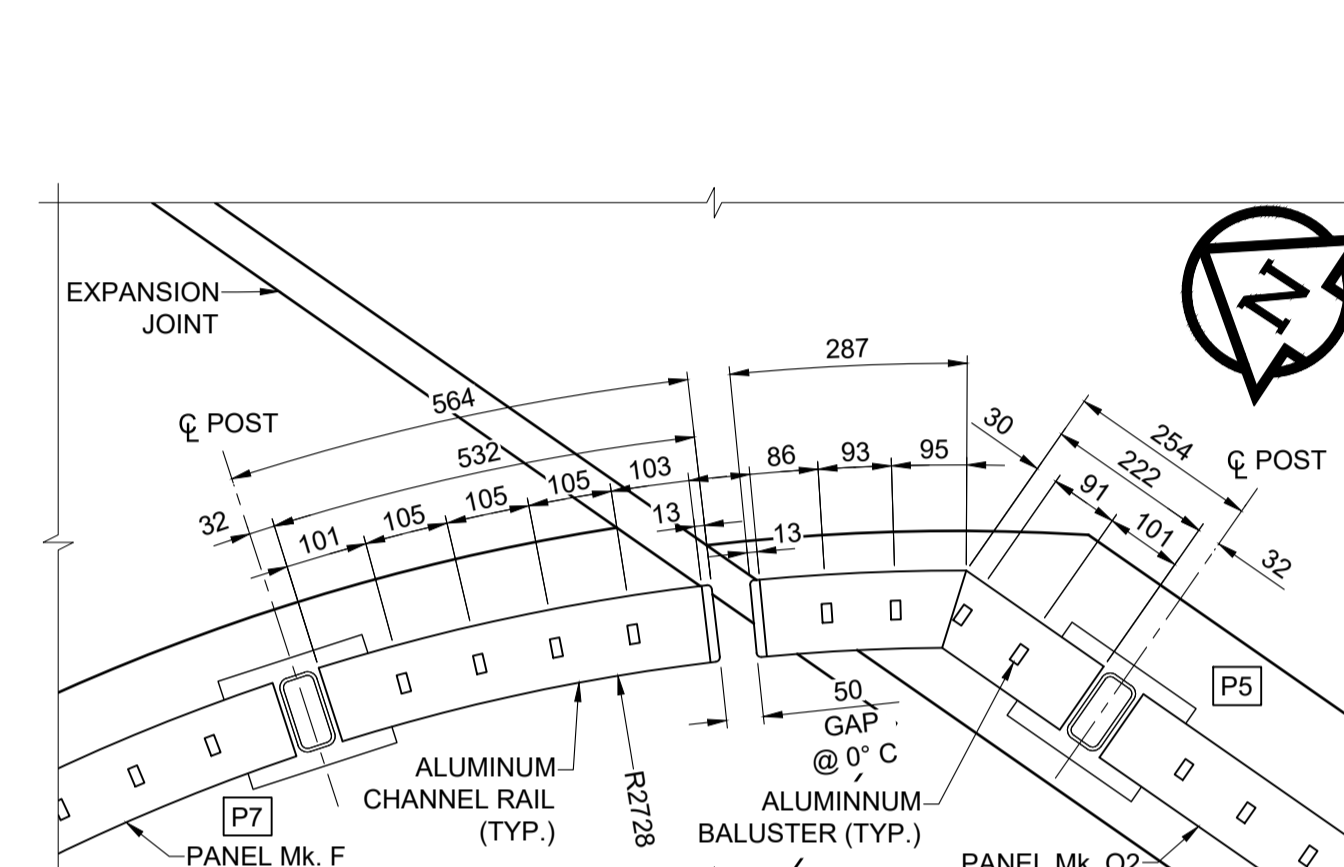
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SCALE 1:10



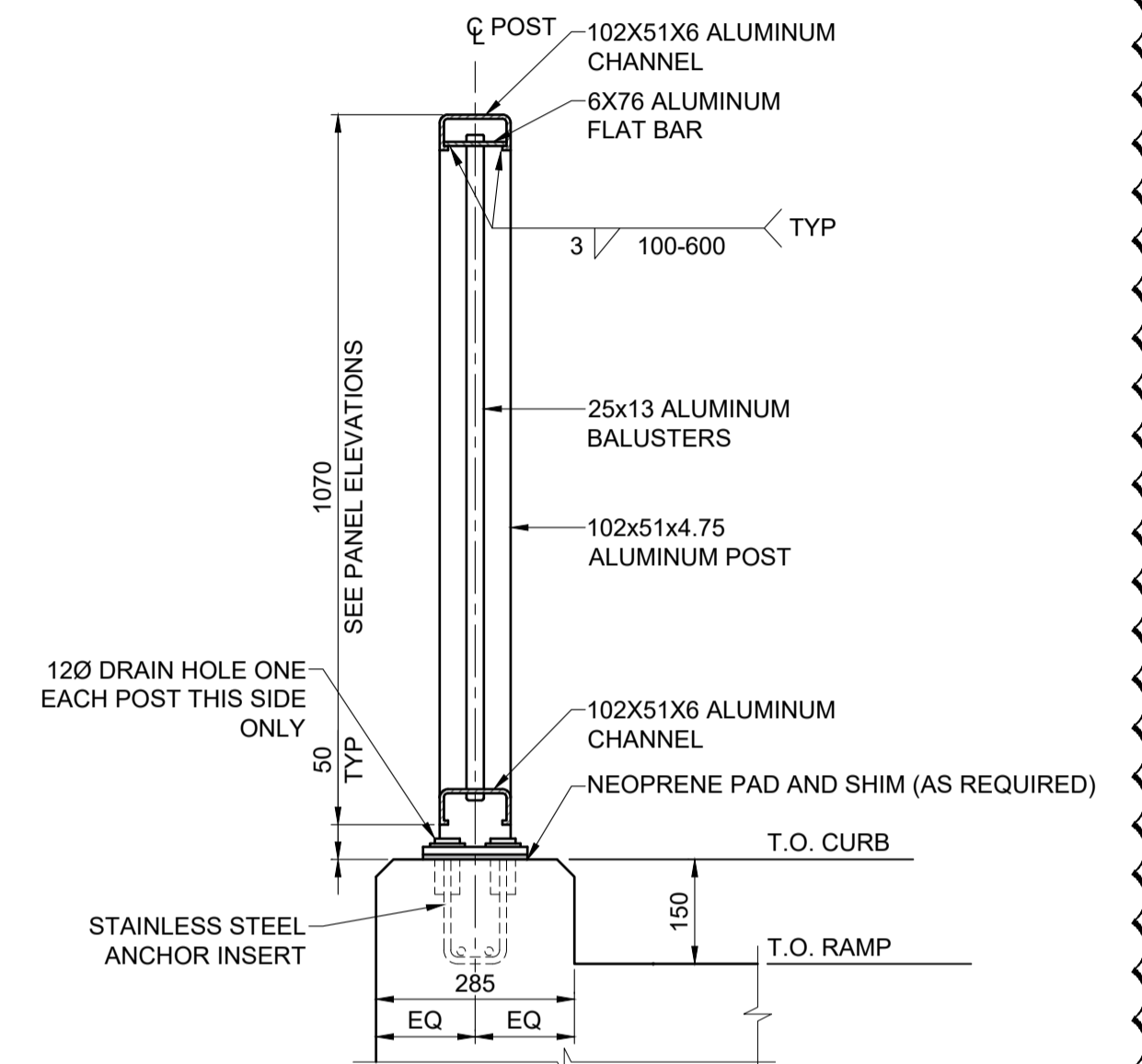
**PANEL Mk. E PLAN**  
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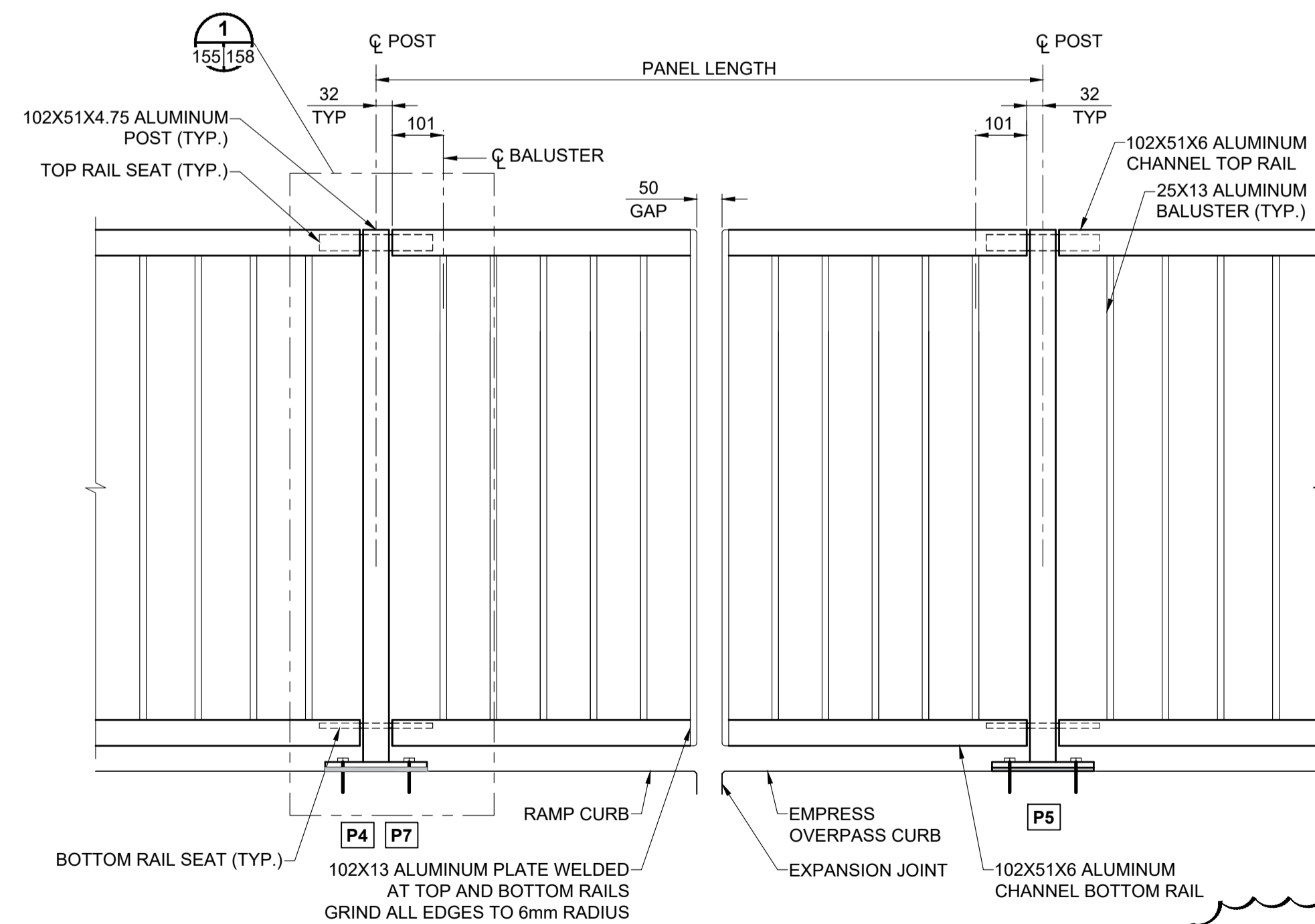
**PANEL Mk. F PLAN**  
SCALE 1:10



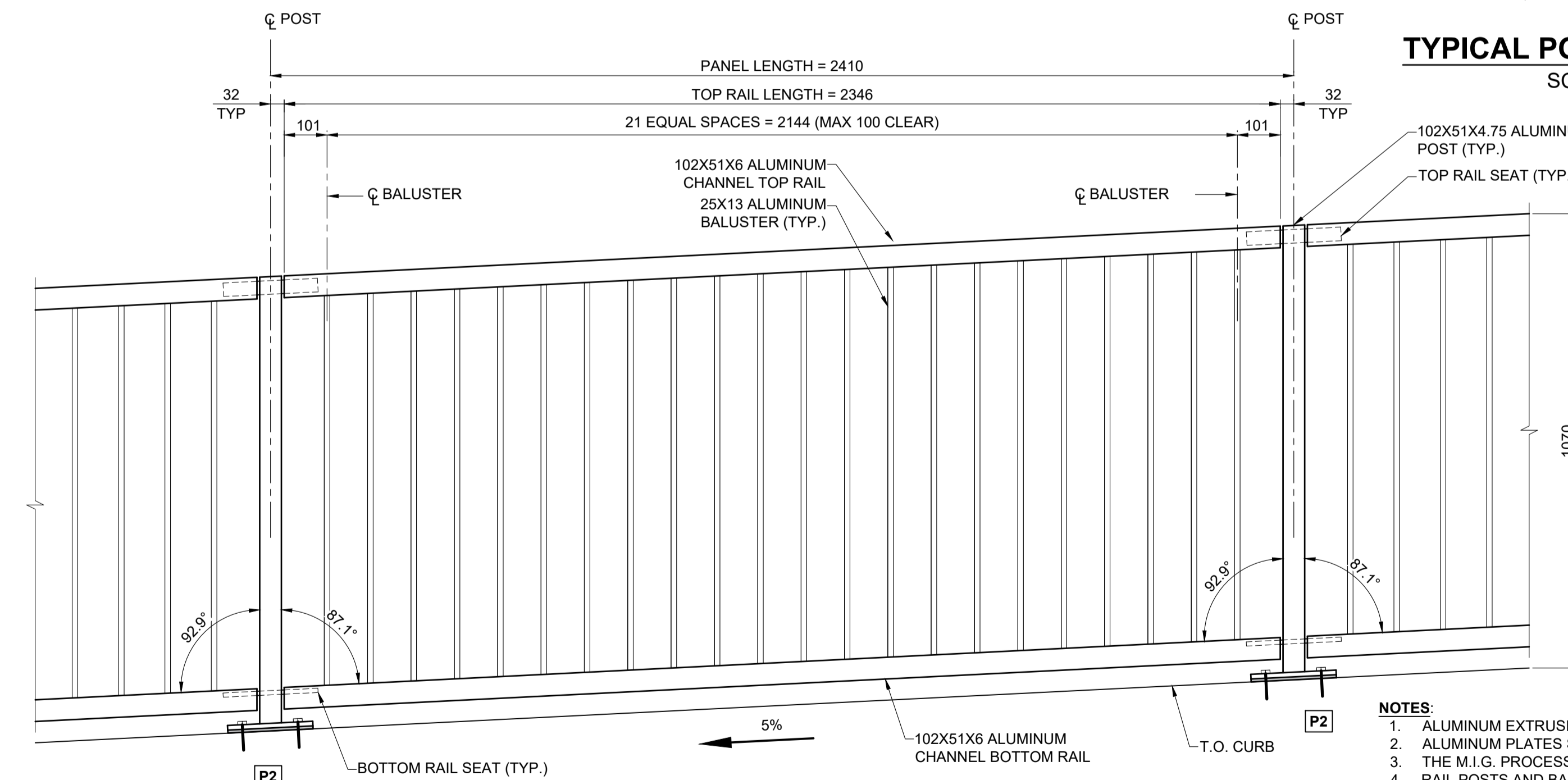
**PANEL Mk. H PLAN**  
SCALE 1:10



**TYPICAL POST ELEVATION**  
SCALE 1:5



**ELEVATION**  
TYPICAL CANTILEVER END PANEL  
SCALE: 1:10



**INTERMEDIATE PANEL Mk. J ELEVATION**  
SCALE: 1:10

- 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.

BID OPPORTUNITY No. 602-2018

**ENGINEERS  
GEOSCIENTISTS**  
Certificate of Authorization  
MORRISON HERSHFELD  
No. 1736

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

**LOCATION APPROVED**  
UNDERGROUND STRUCTURES

SUPR. 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
C	ISSUED FOR ADDENDUM 1	18/10/05	BAP
B	ISSUED FOR TENDER	18/09/04	BAP
A	ISSUED FOR 95% DESIGN REVIEW	18/08/07	BAP

<b>MORRISON HERSHFELD</b>	
DESIGNED BY: ALP	CHECKED BY: BAP
DRAWN BY: ALP	APPROVED BY: BE
HOR SCALE: AS SHOWN	RELEASED FOR CONSTRUCTION
VERT SCALE: AS SHOWN	N/A
DATE:	DATE:

PROFESSIONAL'S SEAL  
PROVINCE OF MANITOBA  
**B.A.F. PHILLIPS**  
Member  
32723  
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME  
W160034 - DD NR  
HANDRAIL.DWG

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

**EMPRESS STREET PROJECT**  
PEDESTRIAN ACCESSIBILITY RAMPS  
NORTH RAMP  
PEDESTRIAN HANDRAIL DETAILS 1

CITY DRAWING NUMBER: P-3494-155  
SHEET OF: 155 OF 169  
DRAWING No.: 155 REV: C