



SCALE = 1:8

SIGN COLOURS

- SIGN BOARD BACKGROUND RED**  
PANTONE COLOUR MATCHING  
SYSTEM NO.485 SOLID COATED  
PANTONE PMS 485 C  
CMYK 0/96/100/0  
RGB 213/43/30  
HEXDECIMAL #D52B1E
- SIGN BOARD TEXT AND BACKGROUND WHITE**  
CMYK 0/0/0/0  
RGB 255/255/255  
HEXDECIMAL #FFFFFF
- SIGN BOARD TEXT BLACK**  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000
- LOGO FLAG RED**  
PANTONE COLOUR MATCHING  
SYSTEM NO.032 SOLID COATED  
PANTONE PMS 032 C  
CMYK 0/100/100/0  
RGB 213/43/30  
HEXDECIMAL #338BEE
- LOGO TEXT BLACK**  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 300 mm, MIN. 225mm  
UPPERCASE

- ILLUSTRATED ON THIS DRAWING AS THE WORD 'DANGER'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 200 mm, MIN. TEXT HEIGHT 150mm, FIRST LETTER CAPITALIZED EVERY WORD

- INCLUDES 2 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DAM AHEAD' AND 'KEEP OUT'
- \*NAME OF DAM - HELVETICA NEUE 55 ROMAN (BOLD), TEXT HEIGHT 60 mm, NAME CASE

(ADHESIVE DECAL BY OTHERS)
- \*EMERGENCY CONTACT - HELVETICA NEUE 55 ROMAN (BOLD), TEXT HEIGHT 40 mm, UPPERCASE

(ADHESIVE DECAL BY OTHERS)
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING, AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.5 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.

SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

- 1.0 MATERIALS SPECIFICATIONS**
- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.

1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.

1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

**1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS**

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 MM (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE. CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

**1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS**

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

FOR MORE INFORMATION AND TYPICAL DETAIL, PLEASE REFER TO THE FOLLOWING SOURCES:

ALBERTA T&U DRAWING TEB 1.95 ( [HTTP://WWW.TU.GOV.AB.CA/CONTENT/DOCTYPE233/PRODUCTION/SIGNAGE.PDF](http://www.tu.gov.ab.ca/content/doctype233/production/signage.pdf) )

BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004 ( [HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

MINISTÈRE DES TRANSPORTS DU QUÉBEC ( [HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )

**1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS**

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3 mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM-D4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANEL WEIGHT NOT TO EXCEED 13.6 kg (30lbs) AND NON-STRUCTURAL PANEL WEIGHT NOT TO EXCEED 9.1 kg (20lbs) WHEN CUT TO SPECIFIED DIMENSIONS.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

2.0 FABRICATION SPECIFICATIONS

2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.

2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENTAL REPRESENTATIVE. HOLES SIZES AND LAYOUT WILL BE PROVIDED TO FABRICATOR PRIOR TO FABRICATION. MOUNTING DETAILS MAY VARY FROM SIGN TO SIGN. ALL HOLES REQUESTED TO BE MADE MUST BE DRILLED AND NOT PUNCHED. TRANSPARENT PLASTIC GROMMETS OF HIGH DENSITY UV TREATED POLYCARBONATE MATERIAL SUCH AS 'LEXAN' MUST BE PROVIDED FOR EACH HOLE TO ACT AS AN INSULATOR AGAINST GALVANIC REACTION WITH SIGN PANEL FASTENERS. 'SNAP-IN' TYPE GROMMETS WILL BE ACCEPTED.

2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPOURS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.

2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.

2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY

2.6 A MAXIMUM OF ONE VERTICAL OVERLAP SPLICE APPROXIMATELY 6mm WIDE WILL BE ALLOWED ON SIGN DIMENSION GREATER THAN 1220. APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL SPLICES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOUR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOUR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE



SCALE = 1:8

### SIGN COLOURS

	<b>SIGN BOARD BACKGROUND RED</b> PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 RGB 213/43/30 HEXIDECIMAL #D52B1E
	<b>SIGN BOARD TEXT AND BACKGROUND WHITE</b> CMYK 0/0/0/0 RGB 255/255/255 HEXIDECIMAL #FFFFFF
	<b>SIGN BOARD TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000
	<b>LOGO FLAG RED</b> PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 RGB 213/43/30 HEXIDECIMAL #338BEE
	<b>LOGO TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000

### SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 70 mm, MIN TEXT HEIGHT 60mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORD 'DANGER'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 50 mm, MIN. TEXT HEIGHT 40mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 5 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'KEEP OUT' AND 'ACCESS BEYOND THIS POINT MAY RESULT IN DROWNING'

PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.5 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

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## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
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### 1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

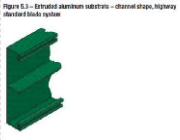
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MINISTÈRE DES TRANSPORTS DU QUÉBEC ( [HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )



### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012<sup>5</sup>) TO 0.4mm (0.015<sup>5</sup>) THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012<sup>5</sup>) TO 0.4mm (0.015<sup>5</sup>) THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

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STRUCTURAL PANEL WEIGHT NOT TO EXCEED 13.6 kg (30lbs) AND NON-STRUCTURAL PANEL WEIGHT NOT TO EXCEED 9.1 kg (20lbs) WHEN CUT TO SPECIFIED DIMENSIONS.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDD OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

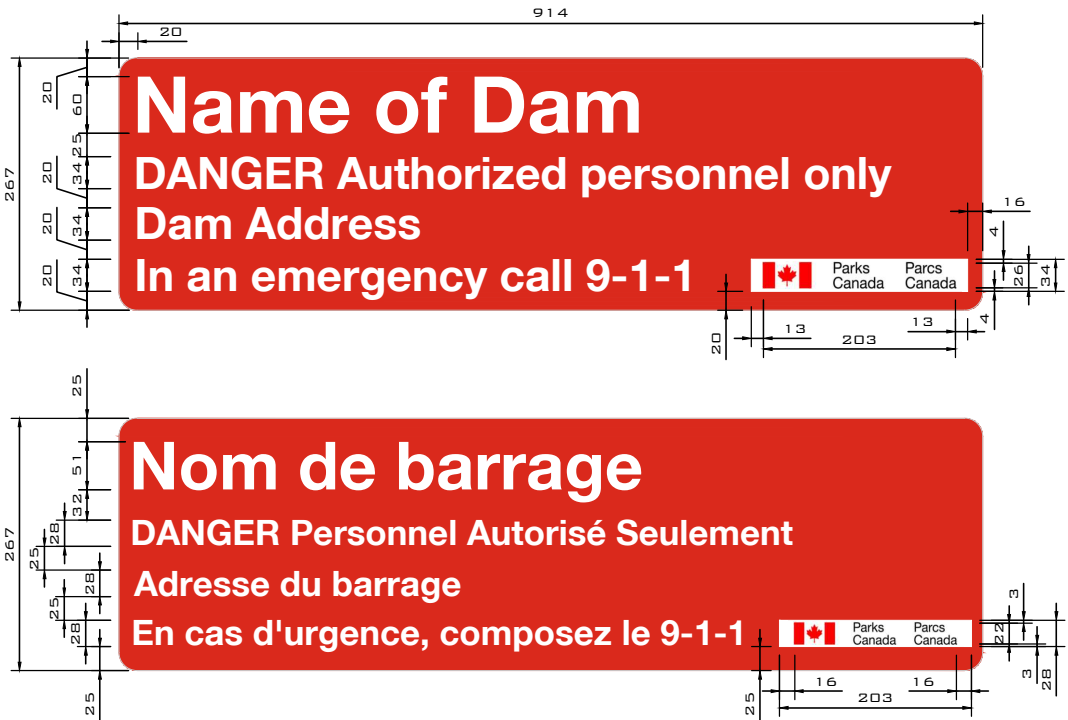
- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
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- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
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- 2.6 A MAXIMUM OF ONE VERTICAL OVERLAP SPLICE APPROXIMATELY 6mm WIDE WILL BE ALLOWED ON SIGN DIMENSION GREATER THAN 1220. APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL SPLICES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.
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Project Name:

Drawing Name:

Drawing No:



SIGN COLOURS

	SIGN BOARD BACKGROUND RED PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 R68 213/43/30 HEXIDECIMAL #D5281E
	SIGN BOARD TEXT AND BACKGROUND WHITE CMYK 0/0/0/0 R68 255/255/255 HEXIDECIMAL #FFFFFF
	SIGN BOARD TEXT BLACK CMYK 0/0/0/100 R68 0/0/0 HEXIDECIMAL #000000
	LOGO FLAG RED PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 R68 213/43/30 HEXIDECIMAL #338BEE
	LOGO TEXT BLACK CMYK 0/0/0/100 R68 0/0/0 HEXIDECIMAL #000000

SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD); MAX TEXT HEIGHT 60 mm, MIN TEXT HEIGHT 51 mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORDS NAME OF DAM'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 34 mm, MIN. TEXT HEIGHT 28mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 3 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DANGER AUTHORIZED PERSONNEL ONLY....IN AN EMERGENCY CALL 9-1-1'
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA
- TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.
- +/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.

SCALE = 1:8

SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 mm (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

FOR MORE INFORMATION AND TYPICAL DETAIL, PLEASE REFER TO THE FOLLOWING SOURCES:

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BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004 ([HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

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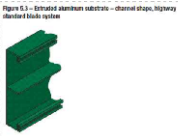
1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3 mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTMD-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.



STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

2.0 FABRICATION SPECIFICATIONS

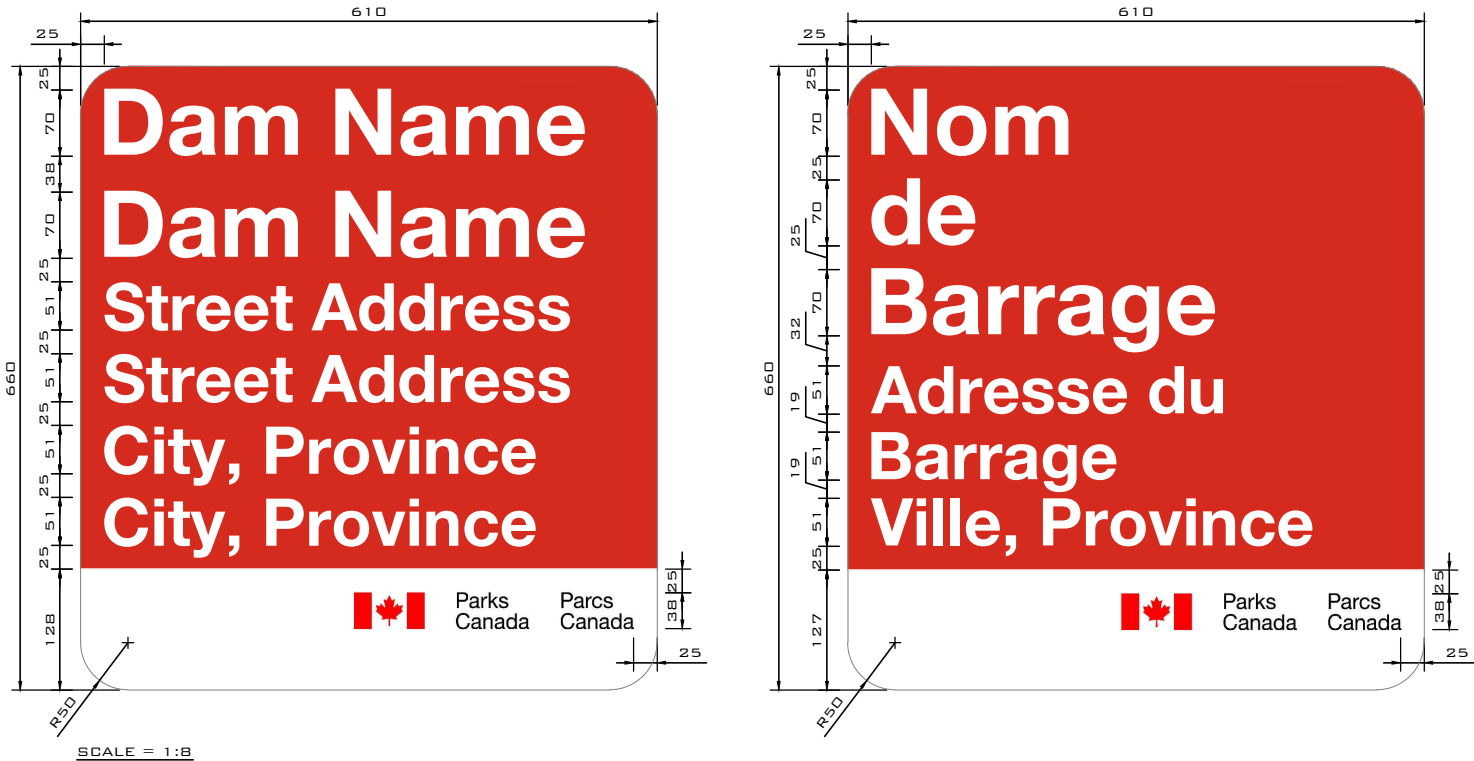
- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY
- 2.6 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.



Drawing Name:

Drawing No:



### SIGN COLOURS

	<b>SIGN BOARD BACKGROUND RED</b> PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED PANTONE PMS 485 C CMYK 0/96/100/0 RGB 213/43/30 HEXIDECIMAL #D52B1E
	<b>SIGN BOARD TEXT AND BACKGROUND WHITE</b> CMYK 0/0/0/0 RGB 255/255/255 HEXIDECIMAL #FFFFFF
	<b>SIGN BOARD TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000
	<b>LOGO FLAG RED</b> PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 RGB 213/43/30 HEXIDECIMAL #33BBEE
	<b>LOGO TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000

### SIGN FONTS AND TEXT HEIGHTS

- SIGN HEADER - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 70 mm, MIN TEXT HEIGHT 60mm ,UPPERCASE
- ILLUSTRATED ON THIS DRAWING AS THE WORDS 'DAM NAME'
- SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD), MAX TEXT HEIGHT 51 mm, MIN. TEXT HEIGHT 41mm, FIRST LETTER CAPITALIZED EVERY WORD
- INCLUDES 3 LINES OF TEXT AS ILLUSTRATED ON THIS DRAWING AS THE WORDS 'STREET ADDRESS' AND 'CITY, PROVINCE'
- PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA
- TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.
- +/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

**NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.**

## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

### 1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

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### 1.5 STRUCTURAL - EXTRUDED ALUMINIUM SIGNS

STRUCTURAL EXTRUSION BASED SIGN FACES (FIGURE 5.3) MUST BE CONSTRUCTED USING 305 MM (12") STANDARD HIGHWAY EXTRUDED BLADES (SHAPE # 73247) USING ALUMINIUM ALLOY 6061-T6 OR 6063-T5. EXTRUDED BLADES ARE TO BE MILL FINISHED WITH NO EXPOSURE TO ANY SILICONE-BORNE PRODUCTS.

FOR MORE INFORMATION AND TYPICAL DETAIL, PLEASE REFER TO THE FOLLOWING SOURCES:

ALBERTA T&U DRAWING TEB 1.95 ( [HTTP://WWW.TU.GOV.AB.CA/CONTENT/DOCTYPE233/PRODUCTION/SIGNAGE.PDF](http://www.tu.gov.ab.ca/content/doctype233/production/signage.pdf) )

BRITISH COLUMBIA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2004  
([HTTP://WWW.TH.GOV.BC.CA/PUBLICATIONS/CONST\\_MAINT/CONTRACT\\_SERV/STANDARDSPECS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspecs.htm) )

MINISTÈRE DES TRANSPORTS DU QUÉBEC ( [HTTP://WWW.PUBLICATIONSDUQUEBEC.GOUV.QC.CA/PRODUITS/OUVRAGE\\_ROUTIER.FR.HTML](http://www.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier.fr.html) )

### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS

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SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

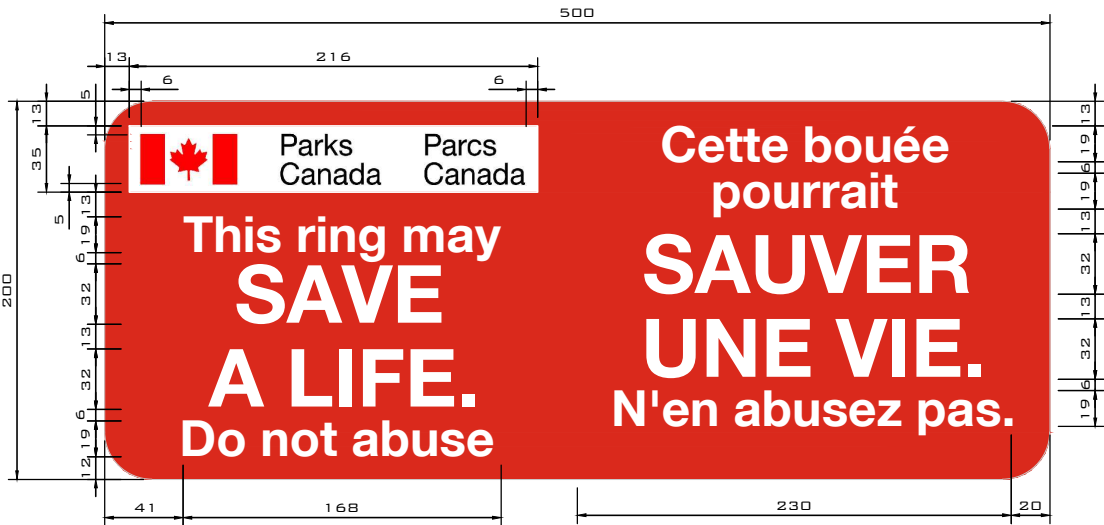
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ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
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- 2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
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SCALE = 1:4

## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

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#### 1.6 NON-STRUCTURAL AND STRUCTURAL - ALUMINIUM COMPOSITE SIGNS


NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3mm (0.012") TO 0.4mm (0.015") THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 10 mm CORRUGATED OR SINGLE PROFILE (FLUTED) POLYALLOMER CORE. SOLID POLYETHYLENE OR FOAM CORE COMPOSITE PRODUCTS WILL NOT BE ACCEPTED FOR STRUCTURAL PANELS DUE TO EXCESSIVE WEIGHT.


ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.


SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.


## SIGN COLOURS

 SIGN BOARD BACKGROUND RED  
PANTONE COLOUR MATCHING SYSTEM NO.485 SOLID COATED  
PANTONE PMS 485 C  
CMYK 0/96/100/0  
RGB 213/43/30  
HEXDECIMAL #D52B1E

 SIGN BOARD TEXT AND BACKGROUND WHITE  
CMYK 0/0/0/0  
RGB 255/255/255  
HEXDECIMAL #FFFFFF

 SIGN BOARD TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

 LOGO FLAG RED  
PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED  
PANTONE PMS 032 C  
CMYK 0/100/100/0  
RGB 213/43/30  
HEXDECIMAL #33BBEE

 LOGO TEXT BLACK  
CMYK 0/0/0/100  
RGB 0/0/0  
HEXDECIMAL #000000

## SIGN FONTS AND TEXT HEIGHTS

SIGN MESSAGE - HELVETICA NEUE 55 ROMAN (BOLD)  
- TEXT HEIGHTS AND POSITION AS SHOWN AND CENTRE JUSTIFIED.

PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY PARKS CANADA

TOLERANCES FOR MODIFYING TEXT SIZES - TEXT HEIGHTS MAY BE MODIFIED AS REQUIRED TO FIT ON SIGN PANEL. ALL TEXT IS TO BE AS LARGE AS POSSIBLE, NOT TO EXCEED THE MAXIMUM TEXT HEIGHTS INDICATED BELOW AND AT MINIMUM EQUAL TO THE MINIMUM TEXT HEIGHTS INDICATED BELOW. BOTH LINES OF SIGN MESSAGE TEXT MUST BE A SINGLE HEIGHT. WHERE MODIFYING TEXT HEIGHTS, MAINTAIN SPACING AND HEIGHT TO WIDTH PROPORTIONS OF LETTER FONT TYPES SPECIFIED. CONDENSED FONTS WILL NOT BE ACCEPTED. ALL TEXT MUST BE BOTTOM LEFT JUSTIFIED. MAINTAIN MINIMUM EDGE DISTANCES SPECIFIED ON DRAWING. AS A GENERAL RULE HEADER LINE TEXT MUST BE AT MINIMUM 1.75 TIMES LARGER THAN MESSAGE LINE TEXT.

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS

**NOTE: WORDING ON THE SIGN SHOWN ON THIS DRAWING IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THIS DRAWING FOR DIMENSIONAL AND COLOUR INFORMATION ONLY. REFER TO INDIVIDUAL SIGNS DRAWINGS FOR REQUIRED WORDING IN ENGLISH OR FRENCH AS APPLICABLE.**

STRUCTURAL PANELS TO BE TESTED IN ACCORDANCE WITH ASTM E72 AND DESIGNED TO WITHSTAND A MINIMUM WIND FORCE OF +/- 0.96kPa (20Psf).

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCTS FOR STRUCTURAL PANELS ARE 'PROLITE' OR 'ALUMALITE' BY LAMINATORS INC. OR 'ALUMACORR' BY NUDO OR APPROVED EQUAL.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.

2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.

2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.

2.4 BACKGROUND COLOURING (RED AND WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.

2.5 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY

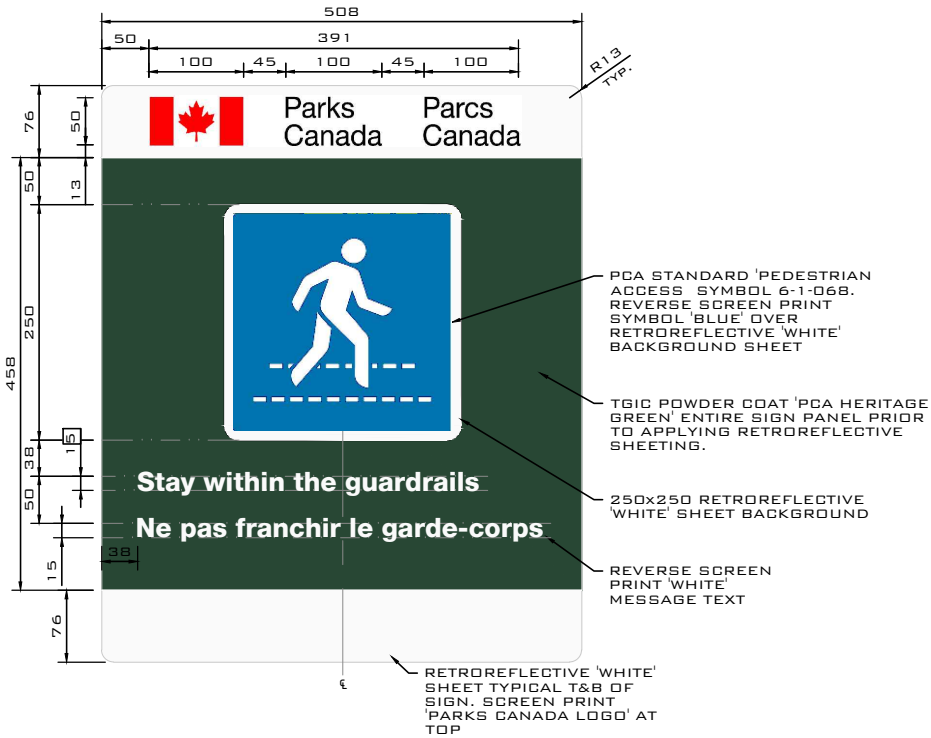
2.6 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.

2.7 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.



PARKS CANADA LOGO - DIGITAL LOGO FILE TO BE PROVIDED TO FABRICATOR BY  
PARKS CANADA

+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS



### SIGN COLOURS

	<b>SIGN BOARD BACKGROUND PARKS CANADA HERITAGE GREEN</b> PANTONE COLOUR MATCHING SYSTEM NO.553 SOLID COATED PANTONE PMS 553 C CMYK 60/0/55/80 RGB 43/70/53 HEXIDECIMAL #214332
	<b>SIGN BOARD TEXT AND BACKGROUND WHITE</b> CMYK 0/0/0/0 RGB 255/255/255 HEXIDECIMAL #FFFFFF
	<b>SIGN BOARD SYMBOL BLUE</b> PANTONE COLOUR MATCHING SYSTEM NO.2935 SOLID COATED PANTONE PMS 2935 C CMYK 100/50/0/0 RGB 30/113/184
	<b>LOGO FLAG RED</b> PANTONE COLOUR MATCHING SYSTEM NO.032 SOLID COATED PANTONE PMS 032 C CMYK 0/100/100/0 RGB 213/43/30 HEXIDECIMAL #33BBEE
	<b>LOGO TEXT BLACK</b> CMYK 0/0/0/100 RGB 0/0/0 HEXIDECIMAL #000000

### SIGN FONTS AND TEXT HEIGHTS

PARKS CANADA LOGO AND OTHER STANDARD SYMBOLS  
- DIGITAL IMAGE FILES TO BE PROVIDED TO FABRICATOR BY PARKS CANADA  
  
+/-3MM MUST BE THE ALLOWABLE FABRICATION TOLERANCE FOR ALL LETTERS AND SYMBOLS  
  
MESSAGE TEXT TO BE HELVETICA NEUE 75

SCALE = 1:8

## SIGNS MATERIALS AND FABRICATION SPECIFICATIONS

### 1.0 MATERIALS SPECIFICATIONS

- 1.1 ALL MATERIALS MUST BE OF NEW STOCK AND FREE FROM DEFECTS.
- 1.2 SIGNS MUST CONSIST OF ALUMINIUM FLAT SHEETS, EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS RETRO-REFLECTORIZED ON THE FACE SIDE WITH ALL LETTERS, NUMERALS, SYMBOLS, BORDERS AND CORNERS AS SHOWN ON THE PLANS.
- 1.3 SIGNS EQUAL TO OR GREATER IN WIDTH THAN SIX FEET ARE CONSIDERED STRUCTURAL (ST) AND MUST BE FABRICATED ON EXTRUDED PANELS OR ALUMINIUM COMPOSITE PANELS. SIGNS LESS THAN SIX FEET IN WIDTH WILL BE CONSIDERED NON-STRUCTURAL (NS) SIGNS TO BE FABRICATED WITH ALUMINIUM FLAT SHEET OR FOAM CORE COMPOSITE. ANY EXCEPTIONS TO THESE FABRICATION STANDARDS WILL BE INDICATED BY THE DEPARTMENTAL REPRESENTATIVE AT TIME OF PURCHASE ORDER.

#### 1.4 NON-STRUCTURAL - FLAT SHEET ALUMINIUM SIGNS

SHEET ALUMINIUM SIGNS MUST BE FLAT-SHEET TENSION-LEVELLED, SIGN GRADE ALUMINIUM, ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE. NOMINAL THICKNESS FOR SHEET-FACED SIGNS IS 3.0 MM (0.125"). TO ENSURE MAXIMUM TOLERANCING AND BEST APPEARANCE, SHEET ALUMINIUM SIGN PANELS MUST BE CUT USING A NUMERICALLY CONTROLLED DEVICE SUCH AS WATER JET OR LASER CUTTING SYSTEM. ALTERNATIVELY, SHEET ALUMINIUM SUBSTRATES MAY BE SHEARED TO SIZE, CORNER-PUNCHED AND DETAILED, PROVIDED THAT THE DIMENSIONS AND CORNER RADII EXACTLY MATCH THE SUPPLIED SIGN ARTWORK. ALL EDGES MUST BE BROKEN, DE-BURRED AND MADE SMOOTH.

#### 1.5 NON-STRUCTURAL ALUMINIUM COMPOSITE SIGNS

NON-STRUCTURAL ALUMINIUM COMPOSITE PANELS ARE TO CONSIST OF DOUBLE SIDED 0.3 mm (0.012<sup>5</sup>) TO 0.4mm (0.015<sup>5</sup>) THICK ALUMINIUM FRONT AND BACK FACE BONDED TO 3mm POLYETHYLENE FOAM CORE.

ALUMINIUM FACE SHEETS FOR COMPOSITE PANELS TO BE SIGN GRADE ALLOY 5052-H32, CONFORMING TO THE REQUIREMENTS OF ASTM B209M, SPECIFICATION FOR ALUMINIUM AND ALUMINIUM-ALLOY SHEET AND PLATE.

SINGLE FACE TO BE FINISHED WITH 20 MICRONS FACTORY BAKED ACRYLIC WHITE PAINT MEETING REQUIREMENTS OF ASTM D-4214, D-2244. FACTORY COATED FACE WILL ACT AS BACK FACE OF FINISHED SIGN. NO-FACTORY COATED FACE MAY BE SUPPLIED AS MILL FINISH PROVIDED IT WILL ACCEPT LAMINATED RETRO-REFLECTIVE SHEETING, SCREEN PRINT AND DIGITAL PRINT TYPE INKS ASSOCIATED WITH SIGN GRAPHICS DESIGN.

PANELS SHALL BE PERFORMANCE BOND TESTED TO PASS ASTM C481-C.

ACCEPTABLE PRODUCT FOR NON-STRUCTURAL PANELS IS 'ALUPANEL' BY MULTIPANEL

### 2.0 FABRICATION SPECIFICATIONS

- 2.1 THE MAXIMUM ALLOWABLE DEVIATION FROM FLATNESS MUST NOT EXCEED 0.1MM PER 1CM (0.010 INCH PER INCH) WIDTH OF THE SIGN PANEL.
- 2.2 NO HOLES MUST BE MADE IN SIGNS FACES UNLESS REQUESTED BY DEPARTMENT. MOUNTING DETAILS VARY FROM SIGN TO SIGN. WHERE HOLES ARE REQUESTED, THEY MUST BE DRILLED AND EDGE SEALED SIMILAR TO OTHER CUT EDGES.
- 2.3 ALL ALUMINIUM SUBSTRATE MUST BE GIVEN A CHROMATE CONVERSION COATING IN ACCORDANCE WITH ASTM B 449, CLASS 2, AND MUST BE PREPARED BY ONE OF THE TREATMENT SEQUENCE OPTIONS DESCRIBED IN ASTM B 449, APPENDIX X2. THE CHEMICALS AND SOLVENTS MUST BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SUFFICIENT LABORATORY FACILITIES TO TEST AND CONTROL THE CONCENTRATION OF THE SOLUTIONS USED MUST BE MAINTAINED AT THE TREATING PLANT. A LOG OF THE CONCENTRATION OF TREATING SOLUTIONS MUST BE MAINTAINED. TREATED PANELS MUST BE HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION. PANELS MUST BE STORED IN A DRY, CLEAN AREA FREE FROM DUST, ACID FUMES OR VAPORS. WHEN ALUMINIUM IS SHIPPED TO A SECONDARY LOCATION FOR RETRO-REFLECTORIZING, ADEQUATE PRECAUTIONS MUST BE TAKEN TO ENSURE THAT THE MATERIAL ARRIVES AT THE DESTINATION UNCONTAMINATED.
- 2.4 BACKGROUND COLOURING (WHITE) MUST BE APPLIED AS A LAMINATED RETRO-REFLECTIVE SHEETING, COLOURED AS INDICATED ON DRAWINGS. SHEETING TO BE ASTM STANDARD D4956-11A, TYPE IV, CLASS I. USE ASTM D 4956 TYPE IX, XI OR AASHTO M 268 TYPE C OR D PRISMATIC RED FOR RED BACKGROUND PORTIONS OF SIGNS.RETROREFLECTIVE SHEETING MUST BE HIGH INTENSITY THAT IS AN UNMETALLIZED MICRO PRISMATIC REFLECTIVE MATERIAL.
- 2.5 BACKGROUND COLOURING (GREEN) MUST BE APPLIED USING POWDER COAT PROCESS.THE ENTIRE SIGN PANEL MUST BE POWDER COATED PRIOR TO APPLYING RETROREFLECTIVE SHEETING.
  - 2.5.1 BASE COAT: THERMOSETTING EPOXY POWDER COATING, WHITE OR GRAY IN COLOUR. APPLY ONE (1) COAT OF MINIMUM THICKNESS OF 2 MILS (0.0508 MM).
  - 2.5.2 TOP COAT: TRIGLYCIDYL ISOCYANURATE (TGIC) POLYESTER POWDER COAT FINISH, HIGH GLOSS, 'PCA HERITAGE GREEN' IN COLOUR. APPLY ONE (1) COAT OF MINIMUM THICKNESS OF 2 MILS (0.0508 MM).
  - 2.5.3 USE "POWDURA POLYESTER TGIC POWDER COATING" BY SHERWIN-WILLIAMS OR APPROVED EQUAL. PRODUCT SUBSTITUTIONS MUST BE APPROVED BY MASTER PAINTER'S INSTITUTE (MPI) AND SHALL MEET ASTM D3451 - 06(2012) STANDARD GUIDE FOR TESTING COATING POWDERS AND POWDER COATINGS AS A MINIMUM STANDARD.
- 2.6 ALL SIGNS MUST BE OF THE HIGHEST QUALITY WITH CONSISTENT DAYTIME AND NIGHTTIME COLOR AND RETRO-REFLECTIVITY
- 2.7 APPLY CLEAR COATING OR EDGE SEALER AFTER APPLICATION OF THE RETRO-REFLECTIVE SHEETING AS RECOMMENDED BY THE SHEETING MANUFACTURER. WHERE CLEAR FINISH IS USED, THE FINISH MUST BE APPLIED AFTER SCREENING OF MESSAGES AND BORDERS AND DRILLING OF ALL HOLES. WHERE EDGE SEALER IS USED, THE SEALER MUST BE APPLIED TO ALL HOLES AND EDGES. THE COMPLETED SIGN FACE MUST BE FREE FROM AIR BUBBLES, WRINKLES OR OTHER BLEMISHES.
- 2.8 LETTERS AND SYMBOLS MUST BE APPLIED TO THE BACKGROUND OF THE SIGN BY THE DIRECT OR REVERSE SCREEN PROCESS. MESSAGES AND BORDERS OF A COLOR DARKER THAN THE SIGN FIELD MUST BE APPLIED TO THE RETROREFLECTIVE SHEETING BY THE DIRECT PROCESS. MESSAGES AND BORDERS OF A COLOR LIGHTER THAN THE SIGN FIELD MUST BE PRODUCED BY THE REVERSE SCREEN PROCESS. INKS USED IN THE SILKSCREEN PROCESS MUST BE OF THE TYPE TO PRODUCE THE DESIRED COLOR AND DURABILITY WHEN APPLIED ON RETROREFLECTIVE SHEETING. SILKSCREEN INKS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INK MUST PRODUCE THE DESIRED COLOR WHEN APPLIED ON RETROREFLECTIVE SHEETING BACKGROUND AND MUST DRY TO A GOOD FILM WITHOUT RUNNING, STREAKING OR SAGGING. THE SCREENING MUST BE DONE IN A MANNER THAT RESULTS IN A UNIFORM COLOR AND TONE, WITH SHARPLY DEFINED EDGES OF LEGEND AND BORDER WITHOUT BLEMISHES ON THE SIGN FIELD THAT WILL AFFECT THE INTENDED USE. SIGNS AFTER SCREENING MUST BE DRIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A SMOOTH HARD FINISH. ANY SIGNS ON WHICH BLISTERS APPEAR DURING THE DRYING PROCESS WILL BE REJECTED.





**DANGER**

**Dam Outflow**

**Keep Out**

**Name of Dam**

**In An Emergency Call (XXX) XXX-XXXX**



**Parks  
Canada**

**Parcs  
Canada**

32  
Ø 16 TYP.  
HOLE  
FOR M12  
BOLT.  
OVER  
SIZE FOR  
PLASTIC  
GROMMET  
AS REQ'D

SCALE=1:5



**DANGER**  
**Dam Ahead**  
**Keep Out**

**Name of Dam**



**Parks  
Canada**

**Parcs  
Canada**

**In An Emergency, Call 9-1-1**

SCALE= 1:5

 <b>Parks Canada</b> 	 <b>Parcs Canada</b>		Office of the Executive Director, Waterways	Project Name: Graphics Designs and Materials and	TYPE A1 HEADPOND DANGER SIGN - ENGLISH  SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	<b>A1</b> REV.2
			Parks Canada Agency	Fabrication Specifications for		Checked: November 3, 2014	Checked by: S.Gauthier	
			Government of Canada	Public Safety Signs around Dams		Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

## Barrage devant

## Accès interdit

**Nom du barrage**



Parcs  
Canada

Parks  
Canada

En cas d'urgence, composez le 9-1-1

SCALE = 1 : 5

 Parks Canada 	 Office of the Executive Director, Waterways Parks Canada Agency Government of Canada	<small>Project Name:</small> Graphics Designs and Materials and Fabrication Specifications for Public Safety Signs around Dams	<small>Drawing Name:</small> TYPE A1 HEADPOND DANGER SIGN - FRENCH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	<small>Drawing No:</small> <b>A1</b> REV.2
				Checked: November 3, 2014	Checked by: S.Gauthier	
				Approved: November 3, 2014	Approved by: S.Gauthier	

# DANGER

## Dam Outflow

## Keep Out

**Name of Dam**



Parks  
Canada

Parcs  
Canada

**In An Emergency Call (XXX) XXX-XXXX**

SCALE=1:5

	 Office of the Executive Director, Waterways	Project Name: Graphics Designs and Materials and	TYPE A8 TAILRACE DANGER SIGN - ENGLISH SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Revised: November 3, 2014	Drawn by: S.Gauthier	
	Parks Canada Agency	Fabrication Specifications for		Checked: November 3, 2014	Checked by: S.Gauthier	
	Government of Canada	Public Safety Signs around Dams		Approved: November 3, 2014	Approved by: S.Gauthier	



# DANGER

Zone de décharge  
du barrage  
Accès interdit

**Nom du barrage**



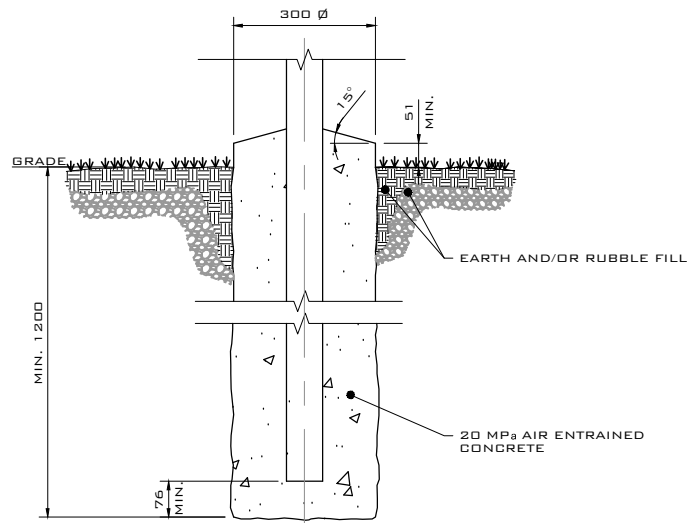
Parcs  
Canada

Parks  
Canada

En cas d'urgence, composez le (XXX) XXX-XXXX

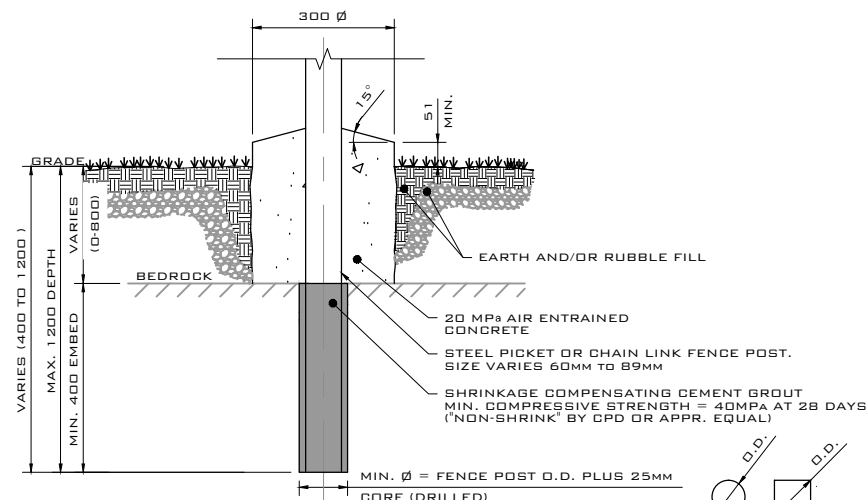
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 Parks Canada 	 Parks Canada		Office of the Executive Director, Waterways	Project Name:	Drawing Name:	Revised: November 3, 2014	Drawn by: S.Gauthier	 REV.1
			Parks Canada Agency	Fabrication Specifications for	TYPE A8 TAILRACE DANGER SIGN - FRENCH	Checked: November 3, 2014	Checked by: S.Gauthier	
			Government of Canada	Public Safety Signs around Dams	SIZE 4x6 (1220x1830) - REFER TO G1 FOR SPECS	Approved: November 3, 2014	Approved by: S.Gauthier	



POST FOOTING TYPE I

FULL DEPTH FOOTING IN EARTH AND/OR  
COMPACT COBBLESTONE RUBBLE FILL  
(STONE SIZE 100-300MM Ø +/-)

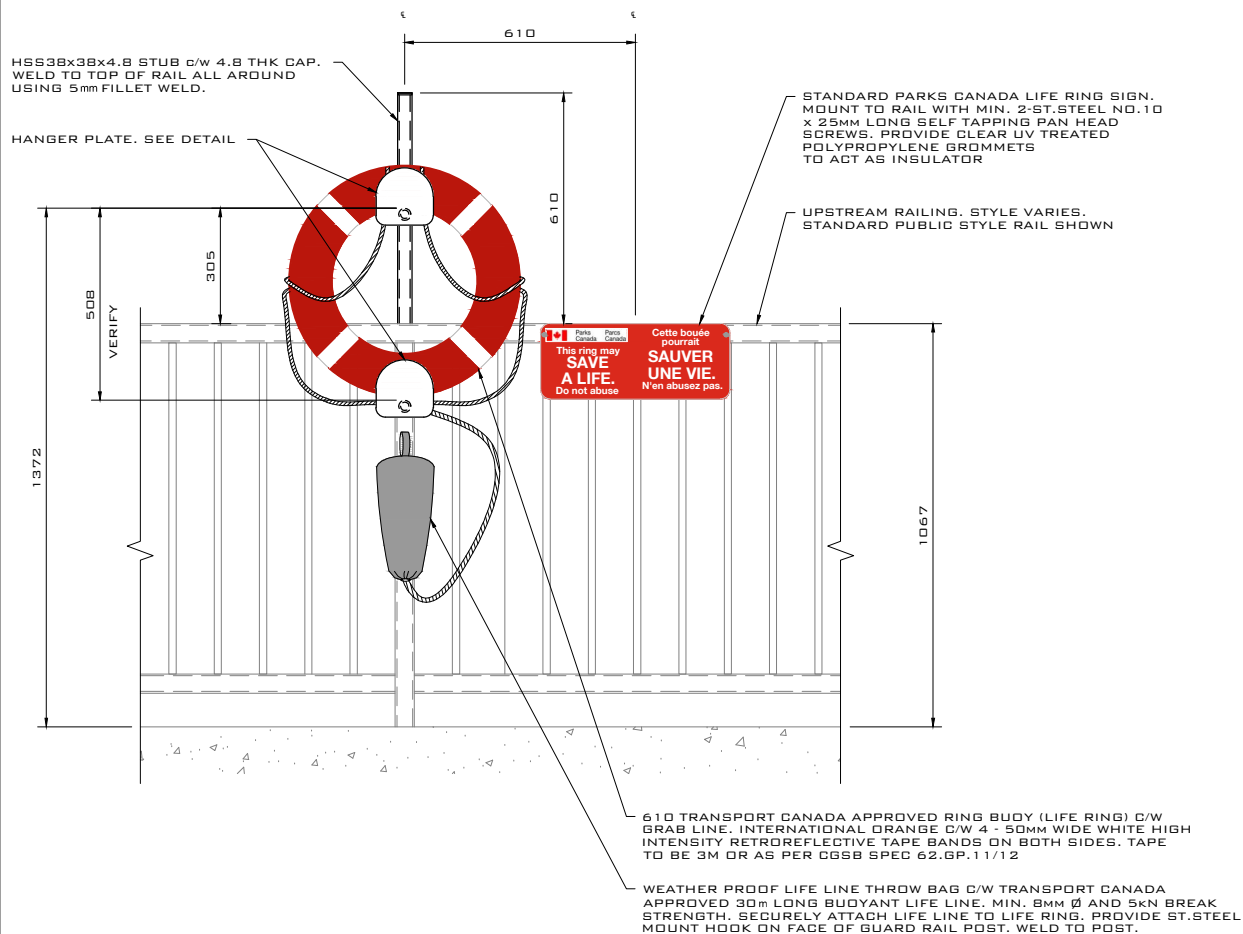


POST FOOTING TYPE II

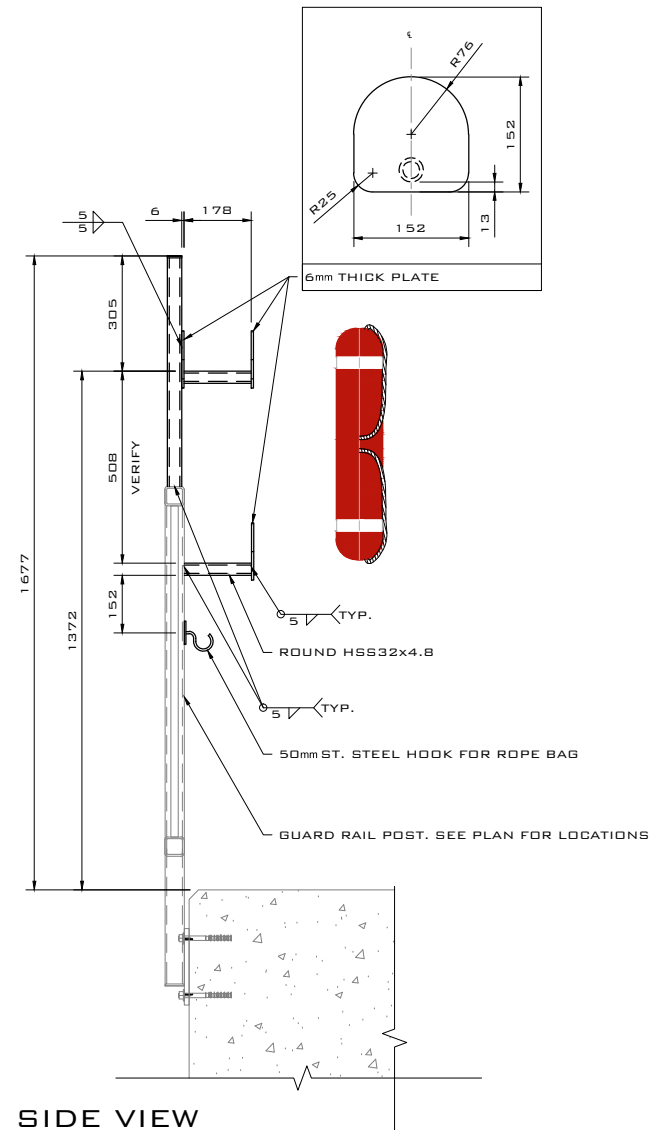
FOOTING IN BEDROCK  
(OVERBURDEN VARIES)

#### GENERAL NOTES:

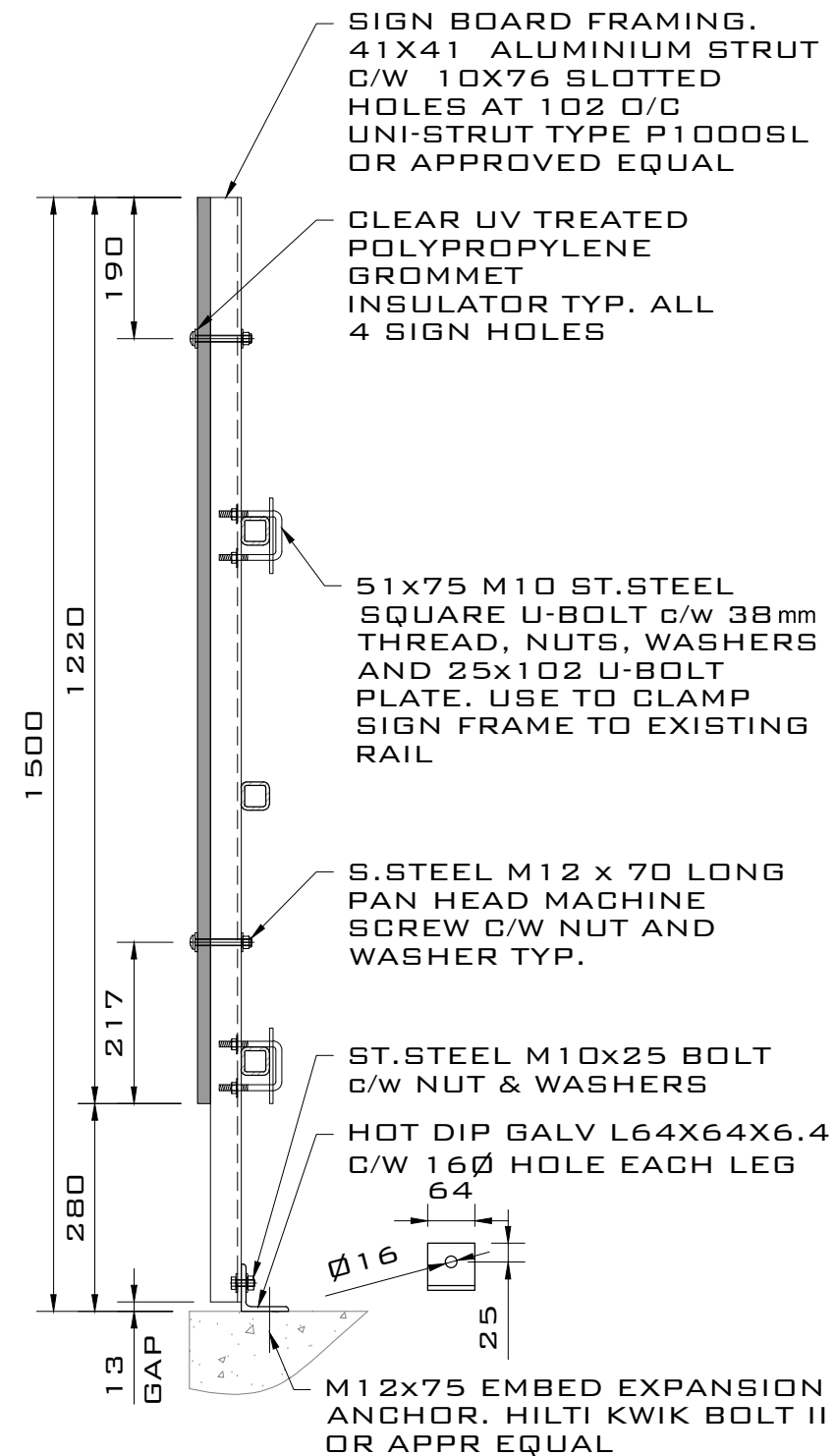
- 1) ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE
- 2) THESE FOUNDATION DETAILS APPLY TO BOTH STANDARD CHAIN LINK AND STEEL PICKET SECURITY FENCING WHERE POSTS ARE TO BE INSTALLED IN SOIL OR ROCK CONDITIONS.
- 3) THESE DETAILS DO NOT APPLY TO CONCRETE MOUNTING APPLICATIONS. REFER TO STANDARD DRAWINGS FOR FENCE POST SURFACE MOUNT CONCRETE DETAILS.
- 4) CONCRETE MIX AS FOLLOWS:
  - .1 NOMINAL COARSE AGGREGATE SIZE: 10MM
  - .2 COMPRESSIVE STRENGTH: 20 MPA MINIMUM 28 DAYS.
  - .3 ADDITIVES: FLY ASH TO CSA A3000 OR ASTM C 618.
  - .4 EXPOSURE CLASS: C-2 (MODIFIED STRENGTH)
  - .5 MAXIMUM SLUMP: 75MM +/- 20MM
  - .5 MAXIMUM WATER TO CEMENT MATERIALS RATIO: 0.45
  - .6 AIR ENTRAINMENT: 6% TO 9%
  - .7 AVOID USE OF ADDITIVES CONTAINING CHLORIDES SUCH AS COLD WEATHER ACCELERATORS TO PREVENT CORROSION OF EMBEDDED STEEL POSTS
- 6) DETAILS ASSUME DRILLED POST HOLES. STAY IN PLACE CIRCULAR FIBREBOARD FORMS (SONOTUBES) MAY BE USED IN RUBBLE FILL OR VOIDED SOIL CONDITIONS TO PREVENT CONCRETE SEEPAGE.
- 7) FOR NON-DRILLED EXCAVATED HOLES EMPLOY STAY IN PLACE CIRCULAR FIBRE BOARD FORMS (SONOTUBES) TO ASSIST CONCRETE POUR. EXCAVATE AROUND FORM A MINIMUM OF 200MM AND BELOW FOOTING DEPTH BY 102MM. SET FORM ON 102MM COMPACTED BED OF GRANULAR A SIZE GRAVEL. PLACE AND BACKFILL AROUND FORM WITH GRANULAR A SIZE GRAVEL. TAMP COMPACT AT 1/3 DEPTHS RESERVE TOP 100MM FOR TOPSOIL AND SEED TO RESTORE EXISTING GRASS AREAS. ALTERNATIVELY THE ENTIRE HOLE MAY BE FILLED WITH CONCRETE. INQUIRE WITH DEPARTMENTAL REPRESENTATIVE FOR PREFERRED METHOD.
- 8) DO NOT DISTURB NATIVE SOIL BELOW FOOTING EXCAVATION DEPTH. WHERE SOIL IS DISTURBED REMOVE SOIL AND EXTEND CONCRETE FOOTING DEPTH



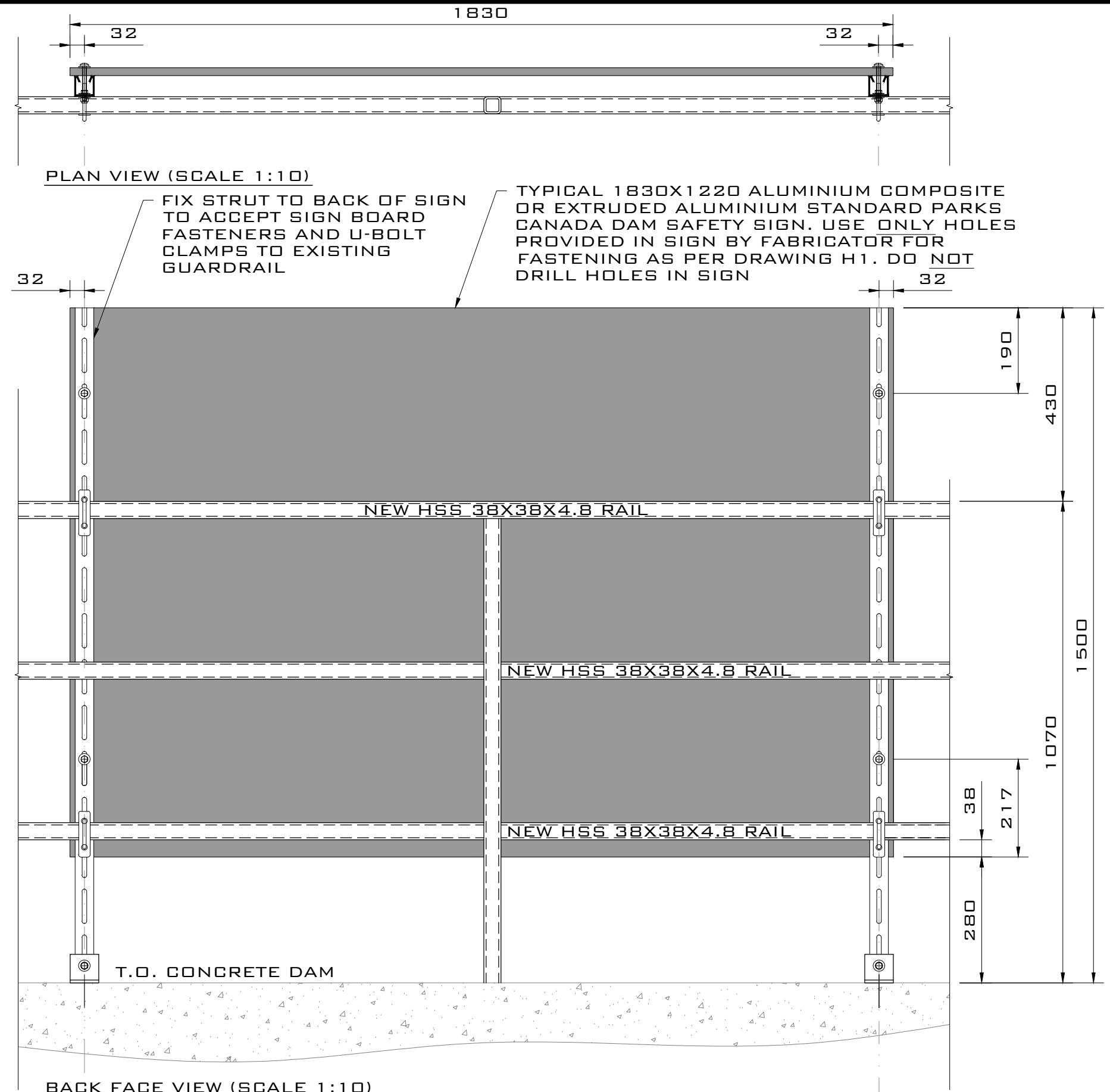
**FACE VIEW**



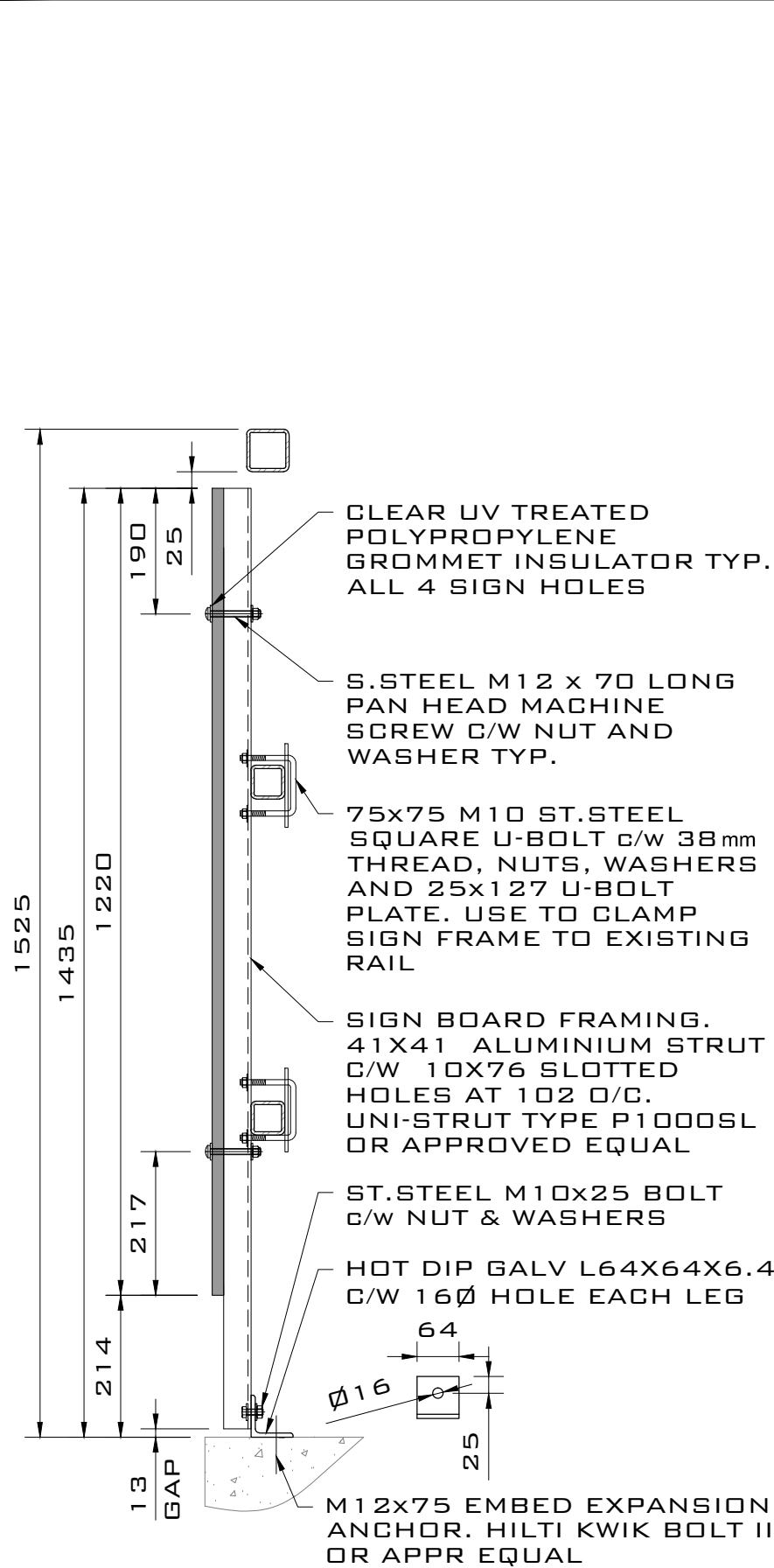
**SIDE VIEW**



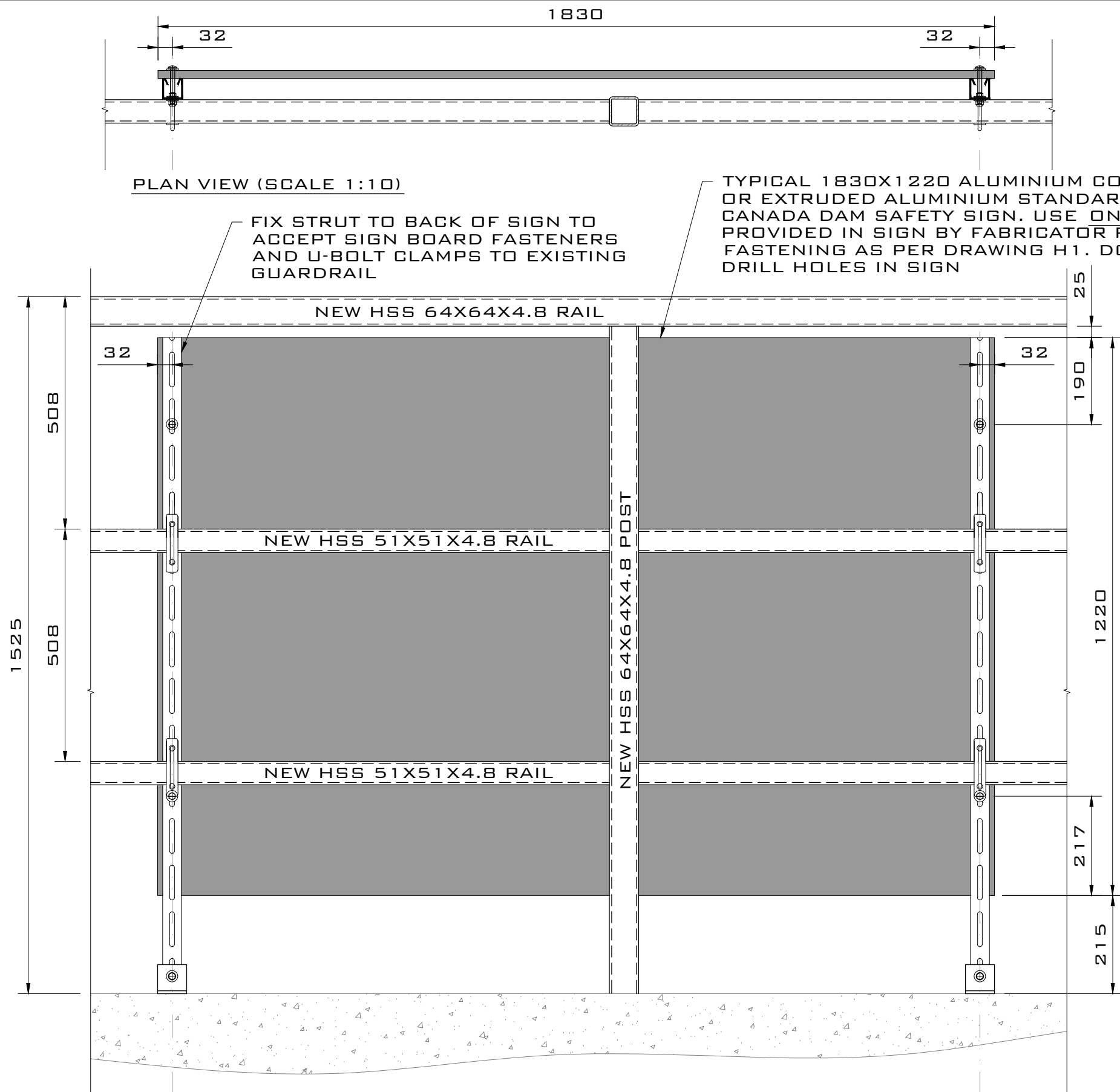
SIDE FACE VIEW (SCALE 1:10)



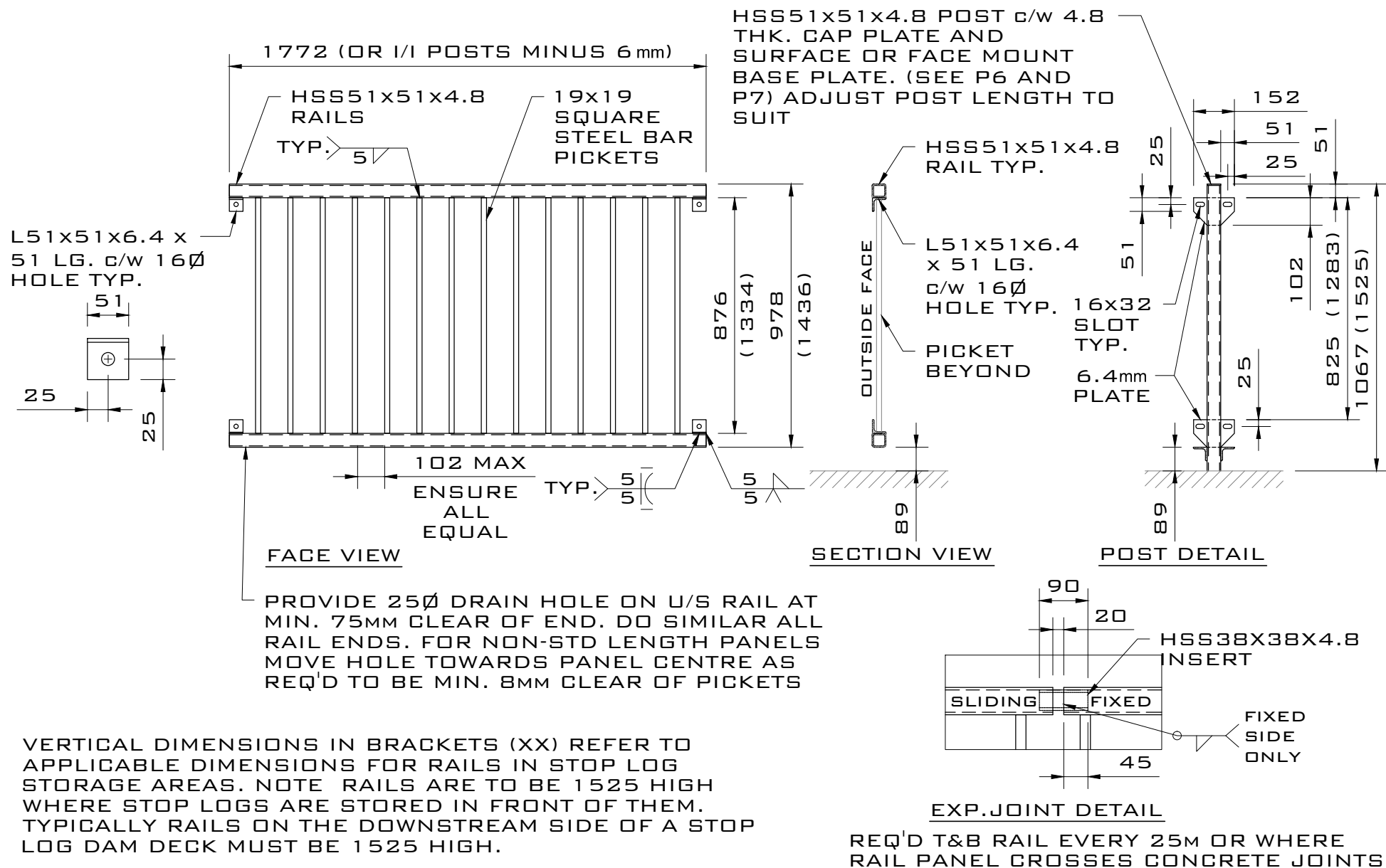




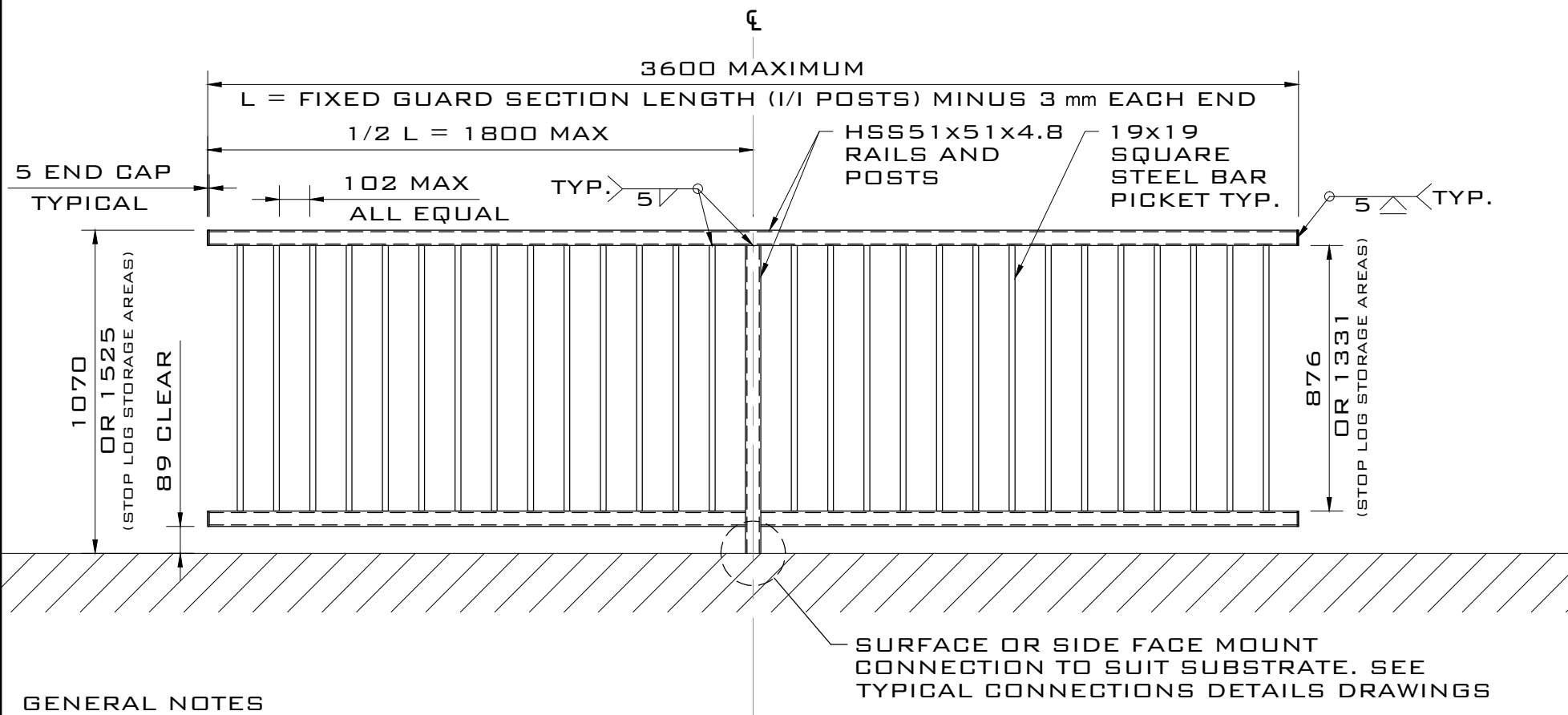
SIDE FACE VIEW (SCALE 1:10)



BACK FACE VIEW (SCALE 1:10)





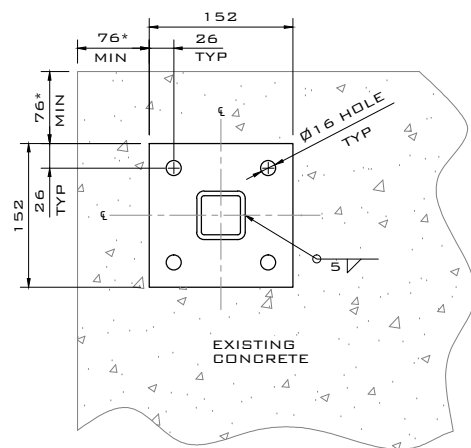


#### GENERAL NOTES

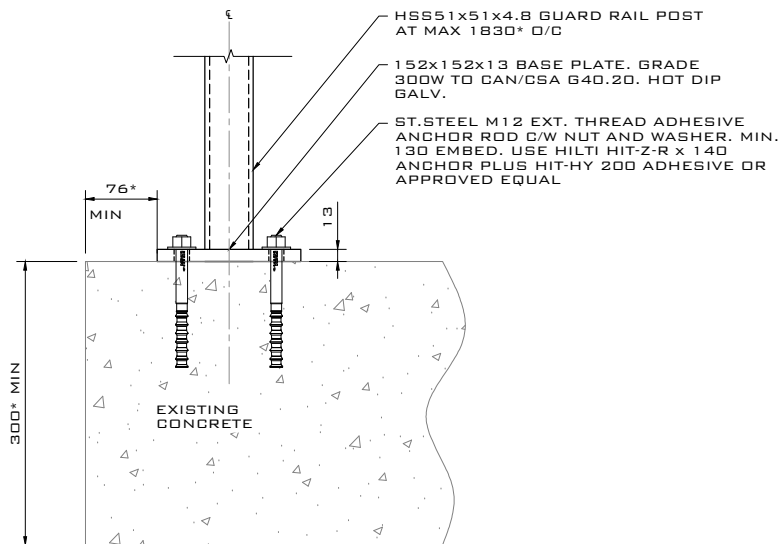
1. THIS DETAIL TYPICALLY APPLIES TO AREAS ACCESSIBLE TO PUBLIC WHERE A FALL GREATER THAN 600mm OR WHERE A FALL INTO A HAZARD SUCH AS A DAM INTAKE OR SPILLWAY EXISTS. GUARD RAILS ARE TYPICALLY INTENDED TO BE INSTALLED AT THE EDGE OF AN IDENTIFIED FALL HAZARD.
2. TYPICALLY A RUN OF GUARD RAIL SHALL CONSIST OF ALTERNATING FIXED AND REMOVABLE SECTIONS.
3. COMPLETE ASSEMBLED SECTION IS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION
4. ALL DIMENSIONS IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE







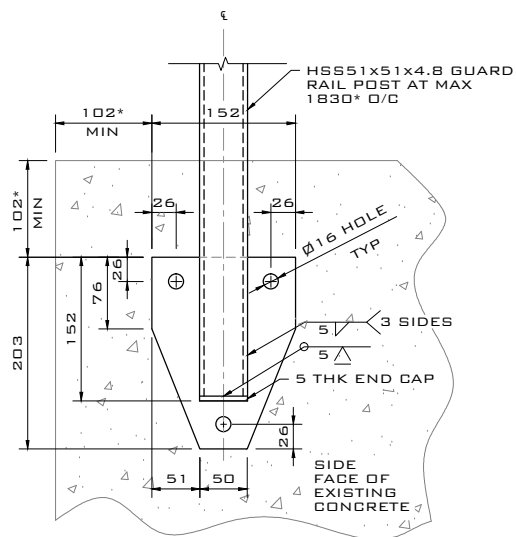
PLAN VIEW



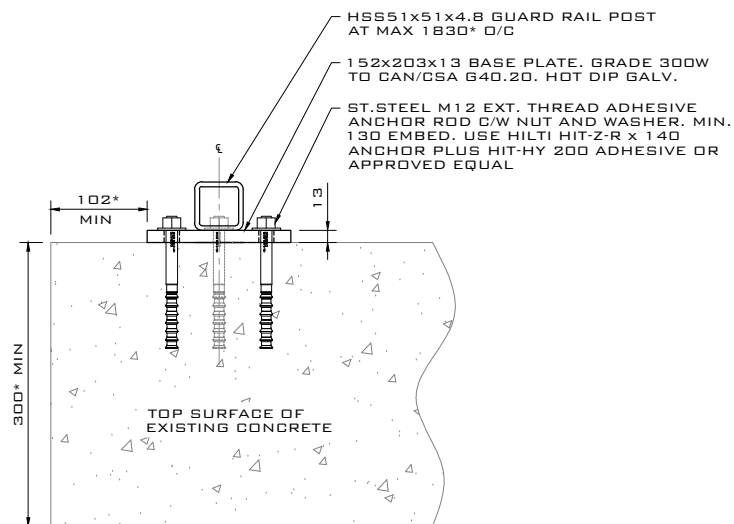
ELEVATION VIEW

**GENERAL NOTES:**

- 1) ALL DIMENSIONS GIVEN ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE
- 2) BASE PLATES SHALL BE LEVELED TO PLUMB GUARD RAIL POSTS AS REQUIRED. WHERE SHIM AMOUNT EXCEEDS 13 mm, USE OF LEVELING NUT AND A BED OF NON-SHRINKABLE GROUT OF THICKNESS MIN 25 mm TO MAX 32mm SHALL BE USED AT UNDERSIDE OF PLATE. SLOPE SIDES OF GROUT BED AT 1:1 DOWN TO SURFACE. REFER TO SLOPED SURFACE MOUNT CONNECTION DETAIL FOR SLOPED SURFACE INSTALLATIONS SUCH AS STAIR RAILS, ETC.
- 3) DIMENSIONS ATTACHED TO AN ASTERISK (\*) ARE CONSIDERED MINIMUM DESIGN CONSTRAINTS. SHOULD THESE DIMENSIONS NOT BE SATISFIED CONTACT AN ENGINEER TO CONFIRM FEASIBILITY OF CONNECTION.
- 4) INSPECT SURFACE PRIOR TO INSTALLATION. WHERE SURFACE CONCRETE IS CRACKED OR SCALED IN EXCESS OF 6 mm DEPTH THE SURFACE MUST BE REPAIRED PRIOR TO BASE PLATE INSTALLATION. REFER TO TYPICAL LOCAL CONCRETE REPAIR DETAILS AND/OR CONTACT AN ENGINEER



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES:

- 1) ALL DIMENSIONS GIVEN ARE IN MILLIMETERS ( mm) UNLESS NOTED OTHERWISE
- 2) BASE PLATES SHALL BE SHIMMED TO PLUMB GUARD RAIL POSTS AS REQUIRED.
- 3) DIMENSIONS ATTACHED TO AN ASTERISK (\*) ARE CONSIDERED MINIMUM DESIGN CONSTRAINTS. SHOULD THESE DIMENSIONS NOT BE SATISFIED CONTACT AN ENGINEER TO CONFIRM FEASIBILITY OF CONNECTION.
- 4) INSPECT SURFACE PRIOR TO INSTALLATION. WHERE SURFACE CONCRETE IS CRACKED OR SCALED IN EXCESS OF 6 mm DEPTH THE SURFACE MUST BE REPAIRED PRIOR TO BASE PLATE INSTALLATION. REFER TO TYPICAL LOCAL CONCRETE REPAIR DETAILS AND/OR CONTACT AN ENGINEER



Parks Canada  
Parcs Canada



Project Name:

STANDARD DETAILS FOR PUBLIC AND OPERATOR  
SAFETY INSTALLATIONS ON DAMS

Drawing Name:

STANDARD PUBLIC STYLE GUARD RAIL  
TYPICAL FACE MOUNT CONNECTION DETAIL

Drawn by: S.Gauthier

Drawing date: August 22, 2014

Checked by:

Check date:

Approve date:

Approved:

Drawing Scale:

1:8

Plot Scale:

1:1

Plot Size:

Letter

Drawing No:

**P7**

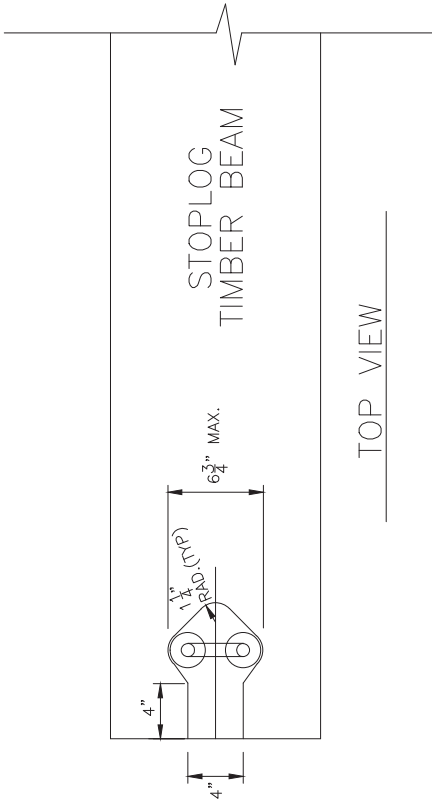
REV.A

**Canada**

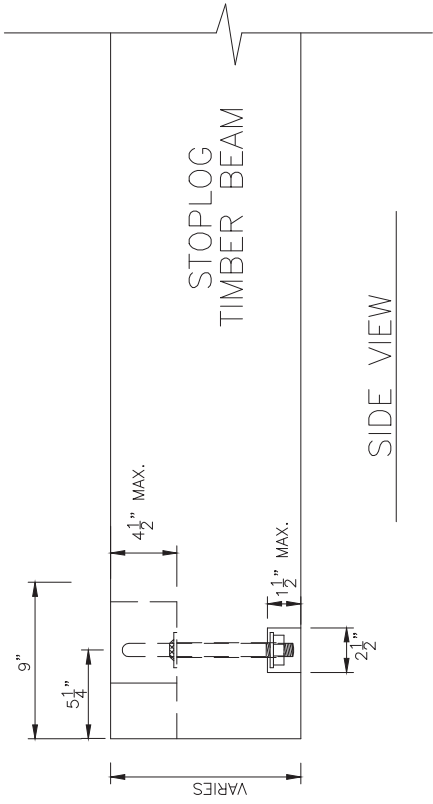
Office of the Executive Director, Waterways

Parks Canada Agency

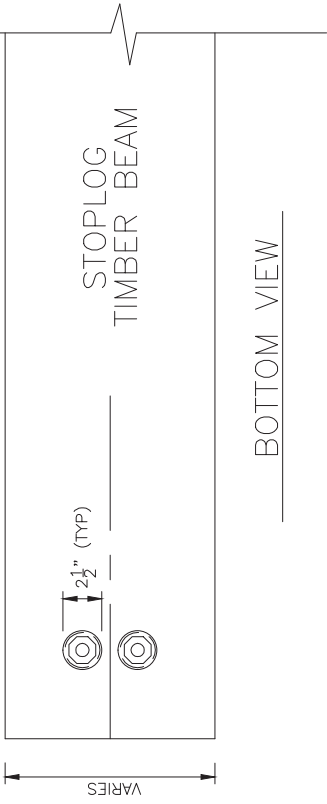
Government of Canada



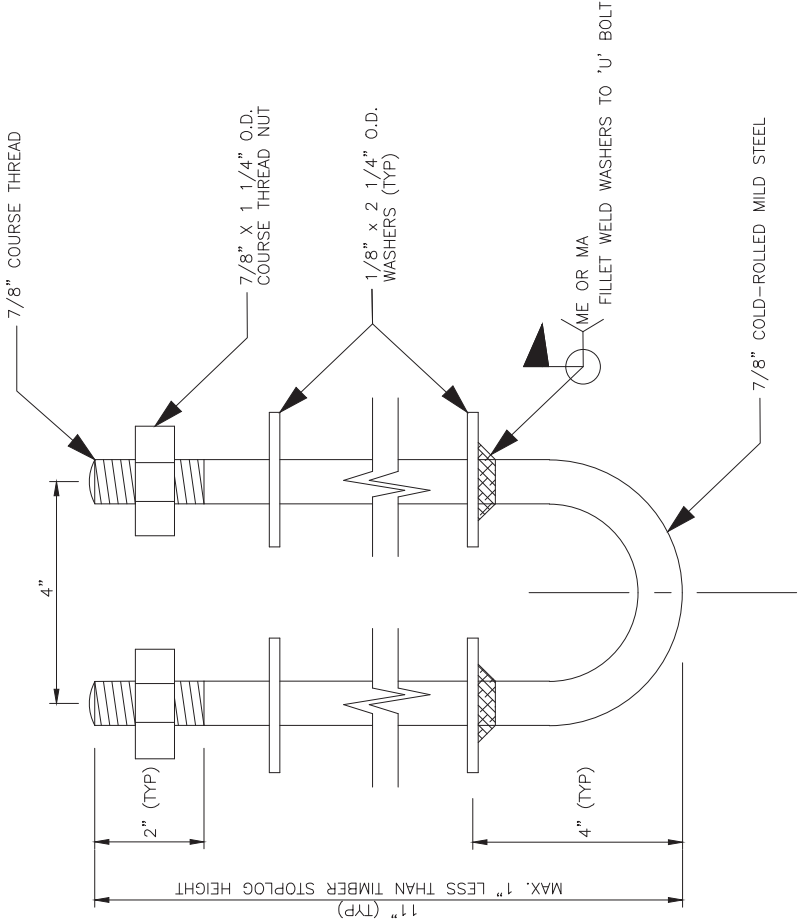
TOP VIEW



SIDE VIEW



BOTTOM VIEW



LIFTING BOLT

GENERAL NOTES:

- 1) DRAWING TO BE READ IN CONJUNCTION WITH PARKS CANADA GENERAL SPECIFICATION FOR THE MANUFACTURING OF STOPLOGS.
- 2) STEEL TO BE COLD-ROLLED STEEL STRUCTURAL MEMBERS AND CONFORM TO CSA G40.20-04 OR ASTM A36.
- 3) WOOD TO CONFORM TO STANDARD GRADING RULES FOR CANADIAN LUMBER (N.L.G.A. 2003) OR U.S. LUMBER GRADING W.C.L.I.B. 2004 /OR W.W.P.A. 2005.
- 4) WELDING TO BE PERFORMED BY A CERTIFIED WELDER AND CONFORM TO CSA W59 OR AWS D1.1.
- 5) LIFTING BOLT TO BE INSTALLED CENTERED AND SQUARE TO TIMBER END TO THE SPECIFIED DIMENSIONS AND SAME ORIENTATION ON EACH END OF STOPLOG.
- 6) TIMBER DIMENSIONS AS SPECIFIED ELSEWHERE.
- 7) LIFTING BOLT MUST BE INSTALLED BELOW THE PLANE OF THE TOP AND BOTTOM OF TIMBER BEAM STOPLOG.

No.	Date	Description	Drawn by T. MITCHELL	Approved T. MITCHELL
Revision / Relatif		Revision / Relatif		

Canada  
Parks Canada  
Parcs Canada

HALBURTON SECTOR  
TYPICAL STOPLOG AND  
LIFTING BOLT DETAIL  
IMPERIAL DIMENSIONS

Drawn by / Dessiné par	Date
T. MITCHELL	17 AUG 2009
Designed by / Conçu par	Date
T. MITCHELL	17 AUG 2009
Approved by / Approuvé par	Date
P. WOOD	17 AUG 2009
Scale / Échelle	
Project Reference No. / Numéro de Référence du Dessin	
PCA-1596-1-37-101.M	