






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 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 SIGN 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:

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/STANDARDSPECCS.HTM](http://www.th.gov.bc.ca/publications/const_maint/contract_serv/standardspeccs.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 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.

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 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 APPLIED 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.



Office of the Executive Director, Waterways
Parks Canada Agency
Government of Canada

Graphics Designs and Materials and
Fabrication Specifications for
Public Safety Signs around Dams

TYPICAL 36"(914mm) DAM ADDRESS SIGN DIMS
MATERIALS AND FABRICATION SPECIFICATIONS

Drawn: August 25, 2014
Checked: August 25, 2014
Approved: August 25, 2014

Drawn by: S.Gauthier
Checked by: M.McLay
Approved by: M.McLay

