TAB 4: STATION \& TERMINAL BUILDING INFRASTRUCTURE
CI-0404 Stairs \& Stair Enclosures

| FEATURE | DESCRIPTION |
| :---: | :---: |
|  | - Extend the full width of the stair; <br> - Have a depth of $920 \mathrm{~mm}(36 \mathrm{in})$, commencing one tread depth from the edge of the stair; and <br> - The cane-detectable warnings on this surface shall be colour and texture contrasted with the adjacent surfaces. Raised ridges shall be placed perpendicular to the direction of travel. |
| Edge Drain | > Tunnel stairs shall have concrete drainage side-gutters 40 mm deep by 80 mm wide, continuous with the tunnel floor gutters. <br> > Gutter drains shall not be located at the bottom of tunnel stairs or in front of service doors or elevator doors. |
| Handrails | $>$ Handrails shall be provided on both sides of all stairs. <br> > Exterior stair and ramp handrails shall be smooth galvanized steel pipe, minimum 30 mm , and maximum 43 mm diameter, 915 mm above nosings or ramps. <br> > All anchorage and fittings shall also be galvanized. <br> > Tunnel stair or bridge stair handrails to be stainless steel 38 mm diameter, be mounted not less than 865 mm and not more than 965 mm high, measured vertically from a line drawn through the outside edges of the stair nosings. <br> > All anchorage and fittings shall also be stainless steel. Handrail ends shall extend in accordance with the OBC and the OBC Illustrated Guide, also for exterior stairs. <br> > Handrails shall be continuous around landings less than 2100 mm in length and placed on the inside edge of stairs; and <br> - Have the rail extension return to the post, floor or wall; <br> - At the top of stairs, extend at least 300 mm (12 in) parallel to the floor surface; <br> - At the bottom of the stairs, continue to slope for a distance equal to the depth of one tread and then extend at least 300 |

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| :---: | :---: |
|  | mm (12 in) parallel to the floor surface; <br> - Have a circular cross-section with an outside diameter not less than $30 \mathrm{~mm}(1.2 \mathrm{in})$ and not more than $40 \mathrm{~mm}(1.7 \mathrm{in})$, or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm ( 4 in ) and not more than 125 mm ( 4.9 in ) and whose cross-sectional dimension is not more than 45 mm (1.8 in); <br> - Where guards are required, handrails required on landings shall be not more than 1070 mm (42.12 in) in height. <br> - Have a clearance of at least 50 mm (2 in) between the handrail and any wall to which it is attached or immediately adjacent to; <br> - Be terminated in a manner that will not obstruct pedestrian travel or create a hazard; <br> - Be designed and constructed such that handrails and their supports: <br> - Will withstand the loading values obtained from the nonconcurrent application of a concentrated load not less than 0.9 $\mathrm{kN}(202 \mathrm{lb}$.$) applied at any point and in any direction; and$ <br> - A uniform load not less than $0.7 \mathrm{kN} / \mathrm{m}$ ( $46.6 \mathrm{lb} . / \mathrm{ft}$. ) applied in any direction to the handrail; <br> - Be tonal contrasted with their surroundings and provided with a colour contrasted strip at the leading edges of the handrail at the top and bottom of the stair system; <br> - Be installed with a photoluminescnet strip installed on an extruded aluminium base along the stair rise; and <br> - Where stairs are wider than 2400 mm , one or more intermediate continuous handrails between landings shall be provided |
| Photoluminescnet Strips | Tunnel walls (both sides) shall have surface mounted photoluminescnet strips at 0.3 m above finished tunnel floor. Strips to be installed continuously along entire length of tunnel transitioning in a continuous |

