Addendum: Technical Guidelines for Minor Works related to Window Works in Domestic Unit

3.23.1 Minor Works Related to Window Works in domestic unit

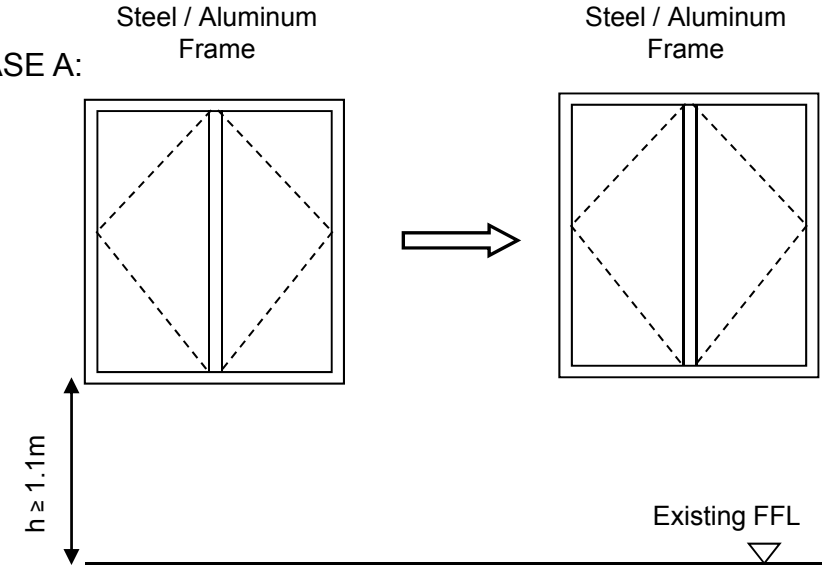
(i.e. Minor Works Items 1.6, 2.5 and 2.8)

Case	A	B	C	D
The height (h) between the lowest frame of window or window wall and the existing finished floor level.	h ≥ 1.1 m	h < 1.1 m	0.8m ≤ h < 1.1m	h < 0.8 m
Basic Design	All the design and installation of aluminum window should follow strictly the requirement as stipulated in "PNAP APP-116 & PNRC-47" – Guidelines on design & installation of aluminum window & fixing of hinges. The distance between the highest point of the window or window wall and the ground is not more than 100m.			
Existing Opening	Wall opening should not be altered.			-
Original Design	-	Available	Not available	
Width of Wall Opening (W)	-	-	W ≤ 2.5 m (If W >2.5 m, then Case D)	-
Related Minor Works Items	2.8	2.5 and 2.8	2.8 and Enhancement Works	1.6 and 2.8
Other considerations	• Minor works item 1.6, 2.5, 2.8 and 3.6 as stipulated in Schedule 1 of the B(MW)R. • B(C)R 90 & FS Code subsection C5 & clause C11.1 – Requirements of fire resisting construction. • B(P)R 29-33 & 36 – Natural lighting & ventilation. • PNAP APP-24 para. 10 & PNRC 14 – No window opening within 5 m of the MTR vent shaft. • PNAP APP-37 – Curtain wall, window & window wall systems, in particular the guidelines on design, standards & installation of window system, quality & heat soak process of tempered glass, and submission of compliance certificate of test report. • PNAP APP- 110 – Protective Barriers • Requirements stipulated in B(C)R 8, Code of Practice for Dead and Imposed Loads section 3.8 and B(P)R 3A complied with, if applicable.			

"Original design" is the design shown on the approved plans and details or prescribed plans and details submitted under the "simplified requirements". The "prescribed building professionals" or "prescribed registered contractors" should check the building records kept by the Buildings Department to verify the original design.

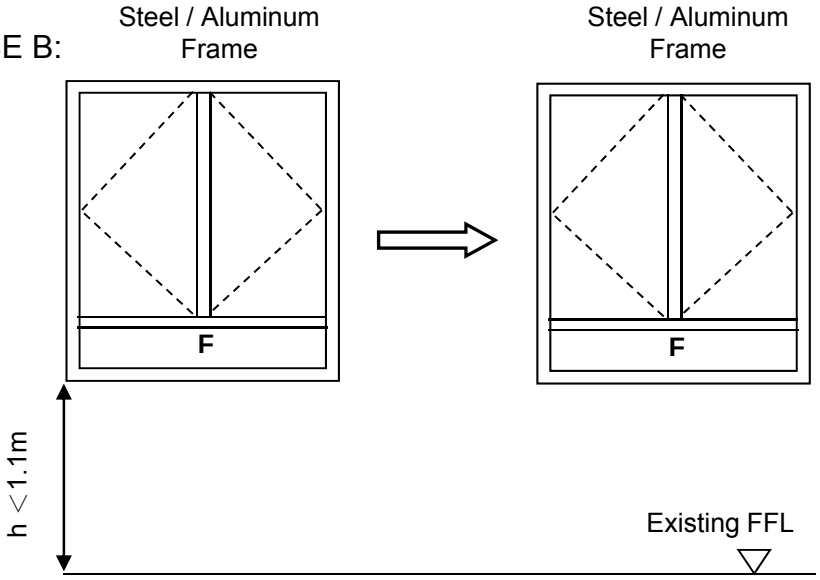
B(C)R represents Building (Construction) Regulations; B(MW)R represents Building (Minor Works) Regulations; B(P)R represents Building (Planning) Regulations; FS Code represents Code of Practice for Fire Safety in Buildings 2011; PNAP represents Practice Notes for Authorized Persons, Registered Structural Engineers & Registered Geotechnical Engineers; & PNRC represents Practice Notes for Registered Contractors.

CASE A:



- Construction, alteration or repair of the window main frame in accordance with item 2.8 and all its requirement.

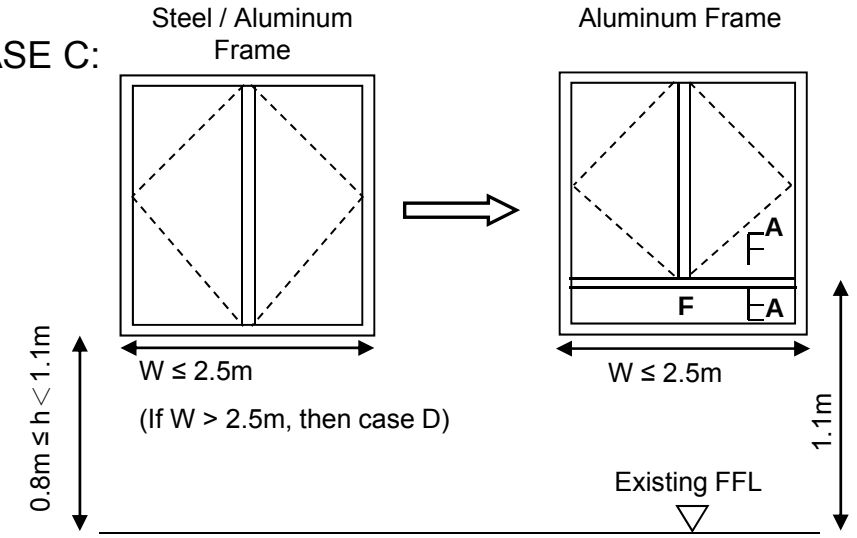
CASE B:



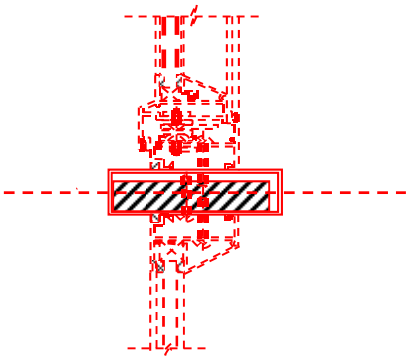
- MW items 2.5 and 2.8 for replacement of window main frame according to original design.

MINOR WORKS ITEM RELATED TO WINDOW	**CONSTRUCTION, ALTERATION OR REPAIR OF ANY WINDOW IN DOMESTIC UNIT ABOVE GROUND FLOOR (For window replacement works according to original design)**	**SHEET 1 OF 3**

CASE C:

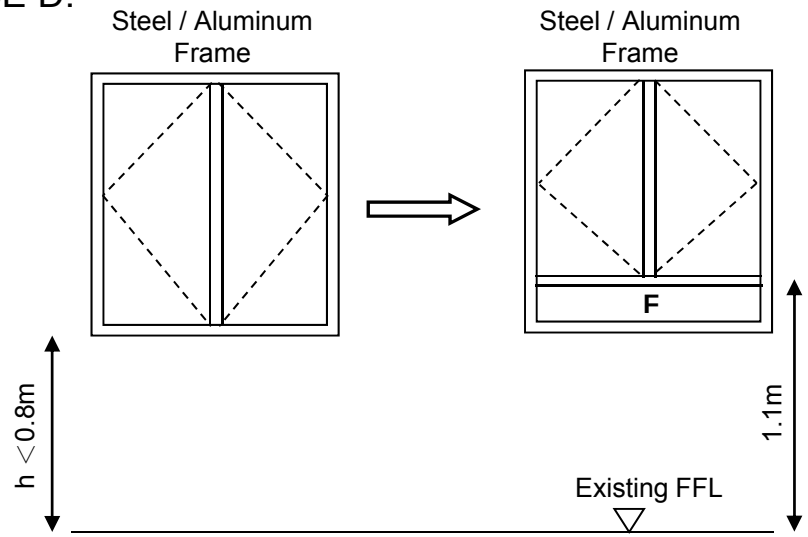


- MW Item 2.8 for replacement of window main frame and enhancement works (Refer to sheet 3 of 3 for details)



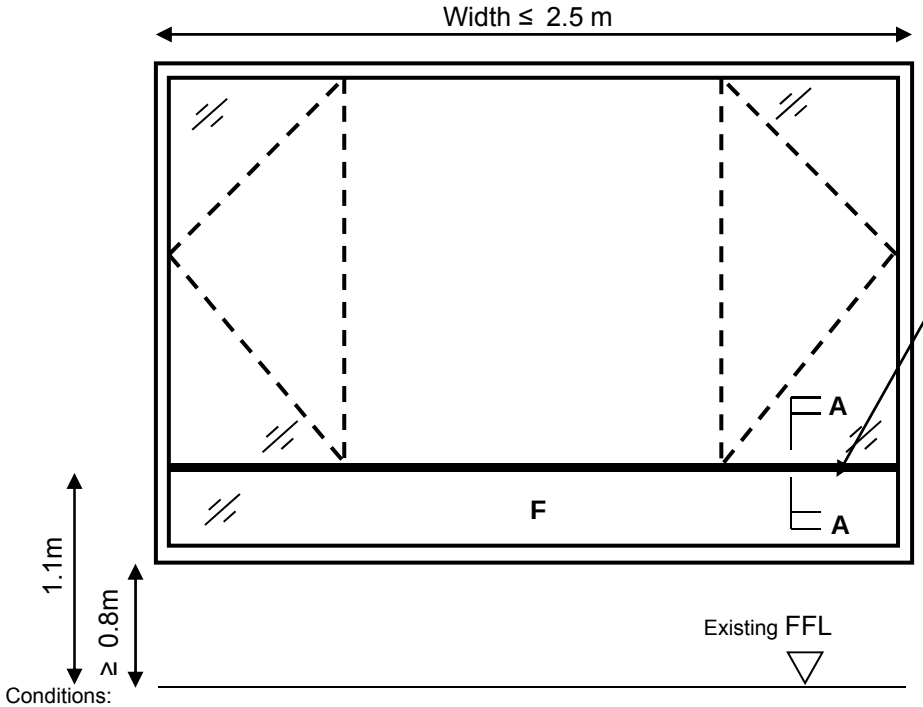
SECTION A-A

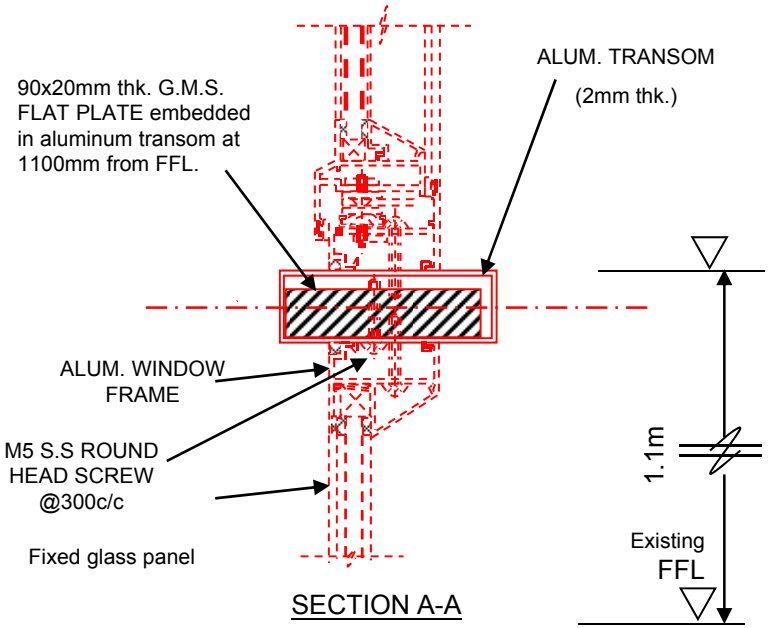
CASE D:



- MW Items 1.6 and 2.8

MINOR WORKS ITEM RELATED TO WINDOW	CONSTRUCTION, ALTERATION OR REPAIR OF ANY WINDOW IN DOMESTIC UNIT ABOVE GROUND FLOOR (For window replacement works in which the original design is not available)	SHEET 2 OF 3





SECTION A-A

Conditions:

1. The distance between the highest point of the window or window wall and the ground is not more than 100m.
2. Wall opening should not be altered, and width of original wall opening should not be greater than 2500mm;
3. A 90x20mm thick G.M.S flat plate to be fixed inside the transom located at 1100mm from FFL by round head screws at spacing 300mm centre to centre, and extent to full length of opening width with both ends of flat plate rigidly fixed in place to main frame of window. Structural steel plates to be grade S275 to BS EN 10029 and shall be hot dip galvanized to BS EN ISO1461. (Record photos showing the embedded G.M.S. flat plate should be submitted together with Form MW04.)
4. Height of fixed glass panel below transom should not be greater than 300mm;&
5. Fixed glass panel to be safety tempered glass of minimum 6mm thick in accordance with APP-110.

The following requirement as stated in APP-116 should be followed strictly:

1. All fixing lugs shall be of stainless steel or hot dip galvanized steel having a minimum material thickness of 1.5mm and be placed at 300mm centres maximum.
2. All structural members of a window section shall have a minimum aluminum thickness of 2mm and the depth of the mullion section shall not be less than 38mm.
3. 4-bar hinges shall be manufactured from stainless steel with adjustable friction shoe, and all stainless steel bars of the hinge shall have a minimum thickness of 2.5mm.
4. Stainless steel rivets/screws shall be used for the fixing of hinges.
5. At least 3 Nos. of 4.8mm diameter stainless steel rivets or 5mm diameter stainless steel screws shall be used to fix each bottom and top bars of the hinge to the window frame and the openable sash.
6. Due consideration and measures should be taken to prevent contact between dissimilar metals.
7. A secure mechanical fixing, for example by inserting a stainless steel or hot dip galvanized steel plate or bar/angle of not less than 3mm thick inside the section to provide sufficient threads for the screw(s) shall be adopted. As an alternative, the window sections for fixing the hinge may be thickened locally to not less than 5mm.
8. The length of the 4-bar hinge should be at least 60% of the width of the side hung casement window.

MINOR WORKS ITEM RELATED TO WINDOW	CONSTRUCTION, ALTERATION OR REPAIR OF ANY WINDOW IN DOMESTIC UNIT ABOVE GROUND FLOOR (Window enhancement work detail)	SHEET 3 OF 3