

ENGINEERING REPORT

PRODUCT:

Bezdan Stainless Steel Adjustable Standoffs

CODES MET:

NBC 2015, BCBC 2018 & OBC 2017

DATE:

February 3, 2022

Corbally Consulting Ltd. has prepared an engineering report
for the Bezdan Stainless Steel Adjustable Standoffs.
See pages 2 - 5 to view the condensed report.



To view the complete report please contact our Customer Service department:

info@geobezdan.com 1 800 663 6356

THE BEZDAN ADJUSTABLE ADAPTERS INSTALLED IN THE CONFIGURATIONS SHOWN MEET THE REQUIREMENTS OF THE RELEVANT NBC 2015, BCBC 2018 & OBC 2017 CLAUSES BELOW.

GUARD RAIL ANALYSIS WAS CARRIED OUT AS PER THE REQUIREMENTS OF THE NBC (NATIONAL BUILDING CODE) 2015, BCBC (BRITISH COLUMBIA BUILDING CODE) 2018 AND OBC (ONTARIO BUILDING CODE) 2017.

WIND LOAD: NBC 2015 - SECTION 4.1.7.1 - CLAUSE 5, WITH NBC 2015 STRUCTURAL COMMENTARY - FIG. I-24 FOR FREESTANDING WALLS.

GUARD LOADS: NBC 2015 - SECTION 4.1.5.1.4. # TABLE 9.8.8.2.

GUARD HEIGHT REQUIREMENTS: NBC 2015 - SECTION 9.8.8.3. - CLAUSE 1.

LOAD COMBINATIONS: NBC 2015 - TABLE 4.1.3.2-A.

ALL TABLES REFERENCED WITHIN THESE DRAWINGS ARE CONTAINED WITHIN CORBALLY CONSULTING REPORT: "ENGINEERING REPORT FOR STAINLESS STEEL ADJUSTABLE ADAPTERS (STANDOFFS)," WHICH SHOULD BE READ IN CONJUNCTION WITH THESE DRAWINGS.

ANALYSIS WAS CARRIED OUT USING THE FOLLOWING APPROPRIATE STANDARDS:

GLASS DESIGN

DESIGN BASIS FOR GLASS: NBC 2015 - SECTION 4.3.6.1.(1).

STRUCTURAL SUFFICIENCY OF GLASS: NBC 2015 - SECTION 9.6.1.3.(1).

GLASS DESIGN: CAN CGSB 12.20-M89, "STRUCTURAL DESIGN OF GLASS FOR BUILDING," WHICH IS REFERENCED WITHIN NBC 2015 SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

STAINLESS STEEL DESIGN

STAINLESS STEEL MATERIAL PROPERTIES: ASCE 8-02, "DESIGN OF COLD FORMED STAINLESS STEEL STRUCTURAL MEMBERS," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

STEEL DESIGN: CSA S16-19, "DESIGN OF STEEL STRUCTURES," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

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CONCRETE CONNECTIONS: CSA A23.3-14, "DESIGN OF CONCRETE STRUCTURES," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

WOOD CONNECTIONS: CSA O86-14, "ENGINEERING DESIGN IN WOOD," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

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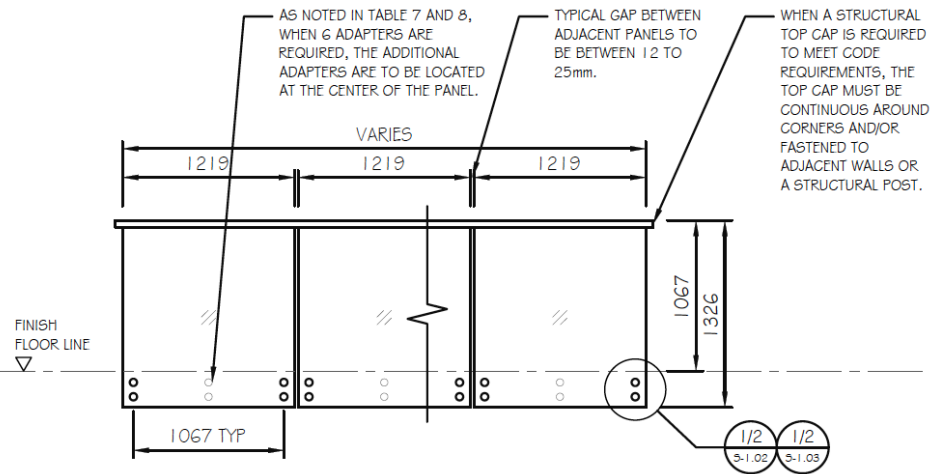
BEZDAN METAL & GLASS REVIEW

4050 GRAVELEY ST, BURNABY, BC V5C 4A5

METAL & GLASS REVIEW

GUARD RAIL ELEVATIONS

DATE:	FEBRUARY 2021	DRAWING No:
SCALE:	AS SHOWN	S-1.01
DESIGNED:	DOH	
DRAWN:	M	PROJECT No:
REVIEWED:	DOH	CC21-042

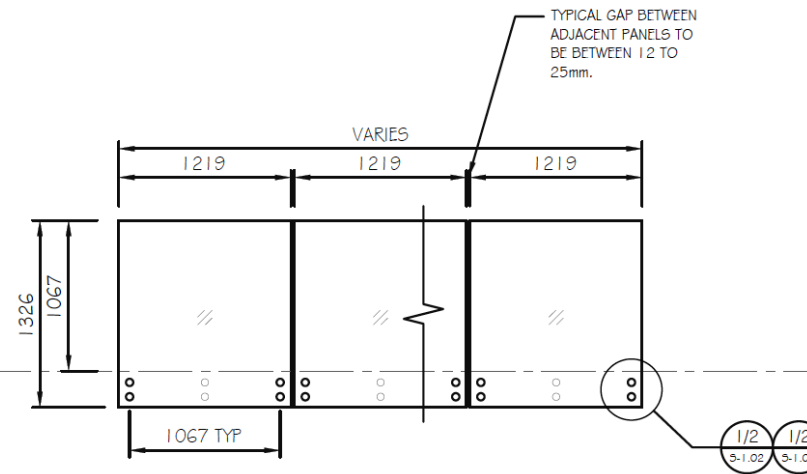


NOTE:

- FOR APPROPRIATE GLASS AND ADAPTER REQUIREMENTS, REFER TO TABLE 1 ON PAGE S-1.04 OF THIS CONDENSED REPORT.

ADAPTER - TEMPERED / MONOLITHIC GLASS w/
STRUCTURAL TOP CAP - 1219mm WIDE PANEL

SCALE: 1:40 MTS

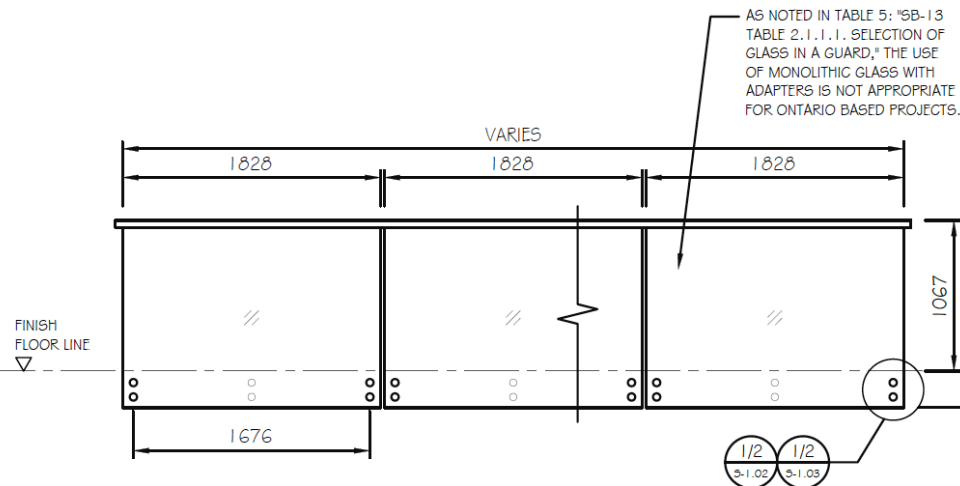


NOTE:

- FOR APPROPRIATE GLASS AND ADAPTER REQUIREMENTS, REFER TO TABLE 2 ON PAGE S-1.04 OF THIS CONDENSED REPORT.
- FOR APPROPRIATE GLASS AND ADAPTER REQUIREMENTS FOR ONTARIO BASED PROJECTS, REFER TO TABLE 3 ON PAGE S-1.04 OF THIS CONDENSED REPORT.

ADAPTER - TEMPERED OR HEAT-STRENGTHENED / LAMINATED
(0.060" SGP) GLASS w/o STRUCTURAL TOP CAP - 1219mm WIDE PANEL

SCALE: 1:40 MTS

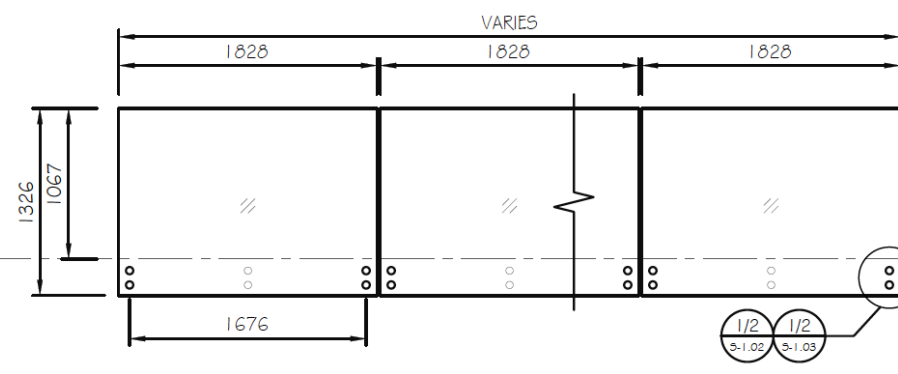


NOTE:

- FOR APPROPRIATE GLASS AND ADAPTER REQUIREMENTS, REFER TO TABLE 1 ON PAGE S-1.04 OF THIS CONDENSED REPORT.

ADAPTER - TEMPERED / MONOLITHIC GLASS w/
STRUCTURAL TOP CAP - 1828mm WIDE PANEL

SCALE: 1:40 MTS



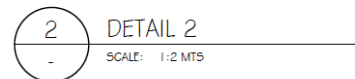
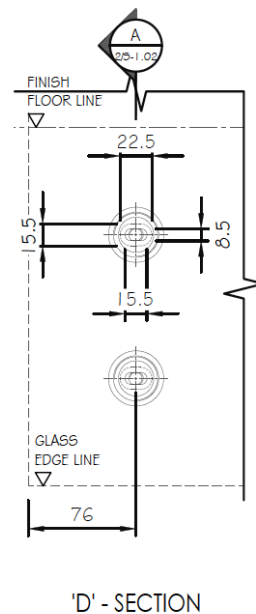
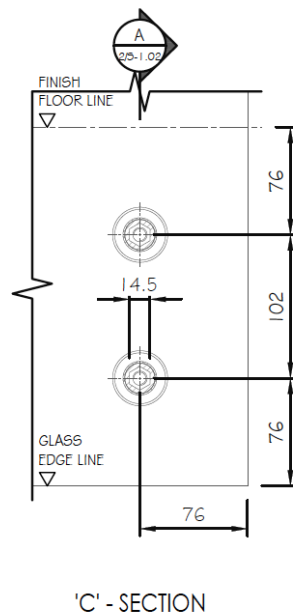
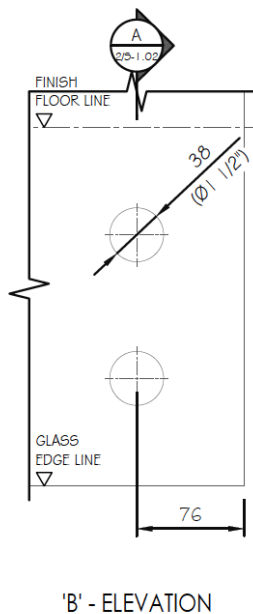
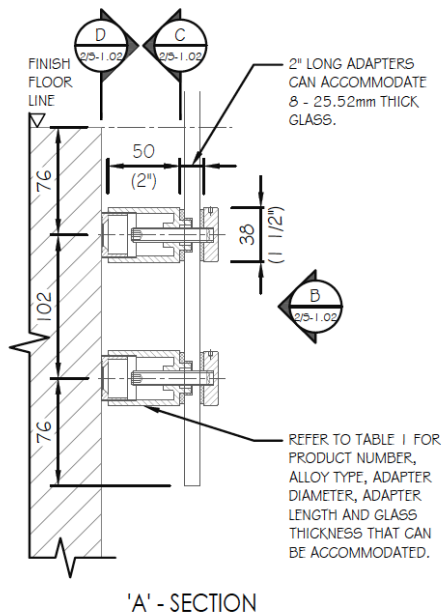
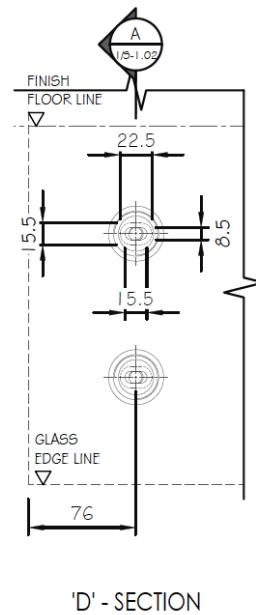
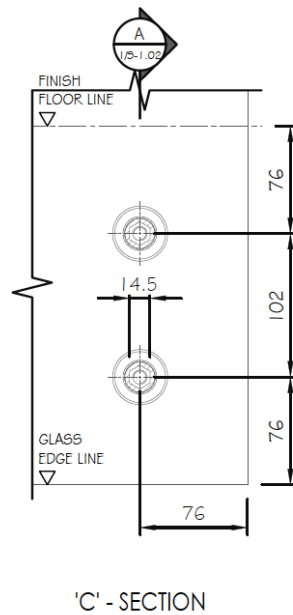
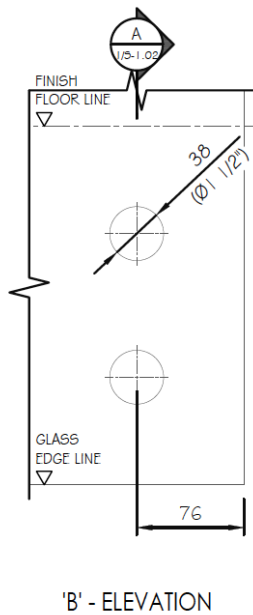
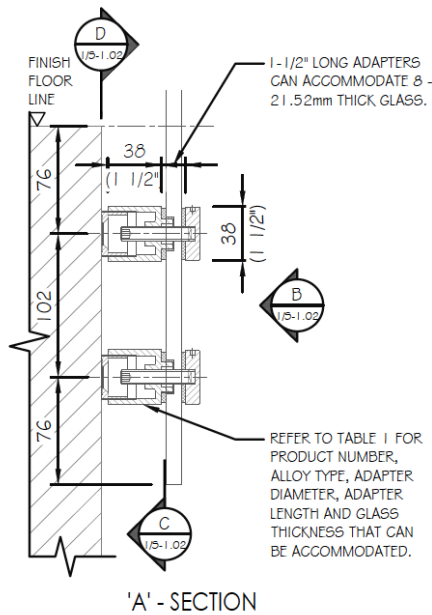
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- FOR APPROPRIATE GLASS AND ADAPTER REQUIREMENTS FOR ONTARIO BASED PROJECTS, REFER TO TABLE 3 ON PAGE S-1.04 OF THIS CONDENSED REPORT.

ADAPTER - TEMPERED OR HEAT-STRENGTHENED / LAMINATED
(0.060" SGP) GLASS w/o STRUCTURAL TOP CAP - 1219mm WIDE PANEL

SCALE: 1:40 MTS

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS IN MILLIMETERS.



FASTENING NOTES:

REFER TO THE FOLLOWING TABLES FOR WOOD FASTENING REQUIREMENTS:

TABLE 1 2: "EMBEDMENT REQUIRED FOR WOOD FASTENING WITH ADAPTERS AND TEMPERED/MONOLITHIC GLASS WITH STRUCTURAL TOP CAP."

TABLE 1 3: "EMBEDMENT REQUIRED FOR WOOD FASTENING WITH ADAPTER AND TEMPERED/LAMINATED (0.060" SGP) ASSEMBLY."

TABLE 1 4: "EMBEDMENT REQUIRED FOR SINGLE ADAPTER FASTENING TO SPF/D-FIR WITH HEAT STRENGTHENED / LAMINATED (0.060" SGP) ASSEMBLY IN ONTARIO."

REFER TO SECTION 3.4.3 FOR CONCRETE FASTENING REQUIREMENTS.

REFER TO SECTION 3.4.4 FOR STEEL FASTENING REQUIREMENTS.

GLASS HOLE SIZE TO ACCEPT ADAPTER:

DRILL HOLE CAN'T EXCEED 1.02" AS IT WILL AFFECT THE INTEGRITY OF THE GLASS PANEL.



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GUARD RAIL ANALYSIS WAS CARRIED OUT AS PER THE REQUIREMENTS OF THE NBC (NATIONAL BUILDING CODE) 2015, BCBC (BRITISH COLUMBIA BUILDING CODE) 2018 AND OBC (ONTARIO BUILDING CODE) 2017.

WIND LOAD: NBC 2015 - SECTION 4.1.7.1. - CLAUSE 5, WITH NBC 2015 STRUCTURAL COMMENTARY - FIG. 1-24 FOR FREESTANDING WALLS.

GUARD LOADS: NBC 2015 - SECTION 4.1.5.14. # TABLE 9.8.8.2.

GUARD HEIGHT REQUIREMENTS: NBC 2015 - SECTION 9.8.8.3. - CLAUSE 1.

LOAD COMBINATIONS: NBC 2015 - TABLE 4.1.3.2.-A.

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ANALYSIS WAS CARRIED OUT USING THE FOLLOWING APPROPRIATE STANDARDS:

GLASS DESIGN

DESIGN BASIS FOR GLASS: NBC 2015 - SECTION 4.3.6.1.(1).

STRUCTURAL SUFFICIENCY OF GLASS: NBC 2015 - SECTION 9.6.1.3.(1).

GLASS DESIGN: CAN CGSB 12.20-M89, "STRUCTURAL DESIGN OF GLASS FOR BUILDING," WHICH IS REFERENCED WITHIN NBC 2015 SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

STAINLESS STEEL DESIGN

STAINLESS STEEL MATERIAL PROPERTIES: ASCE 8-02, "DESIGN OF COLD FORMED STAINLESS STEEL STRUCTURAL MEMBERS," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

STEEL DESIGN: CSA S16-19, "DESIGN OF STEEL STRUCTURES," WHICH IS REFERENCED WITHIN NBC 2015 - SECTION 1.3 (ACCEPTABLE EDITIONS) - TABLE 1.3.1.2.

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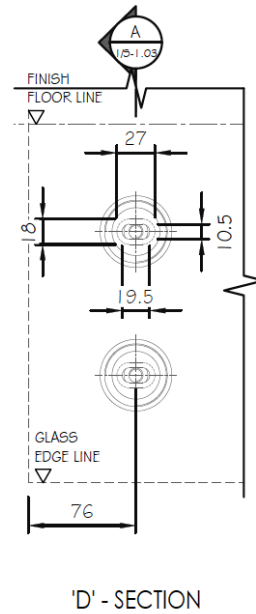
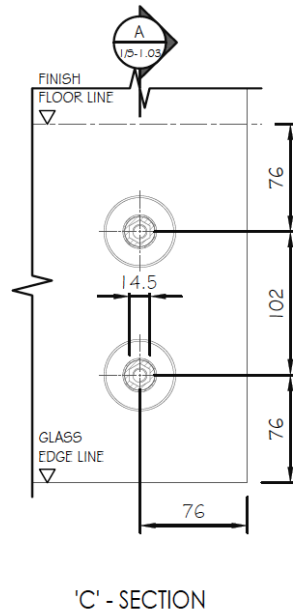
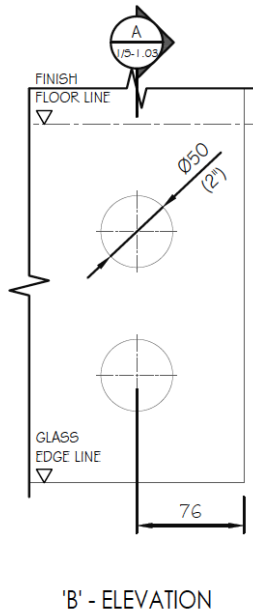
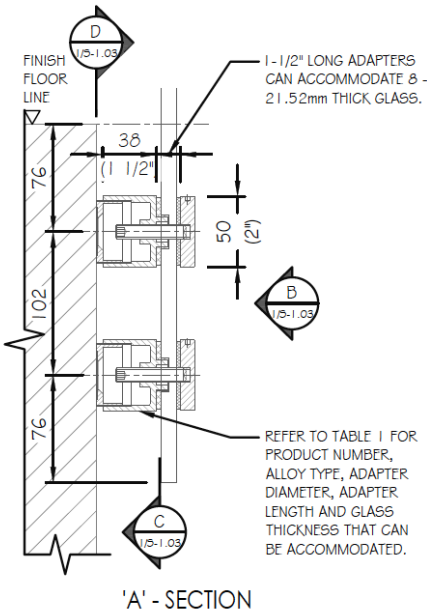
4050 GRAVELEY ST, BURNABY, BC V5C 4A5

METAL & GLASS REVIEW

38mm Ø
ADAPTER DETAILS

DATE:	FEBRUARY 2021	DRAWING No:
SCALE:	AS SHOWN	S-1.02
DESIGNED:	DOH	
DRAWN:	MC	PROJECT No:
REVIEWED:	DOH	CC21-042

NOTE: UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS IN MILLIMETERS.



FASTENING NOTES:

REFER TO THE FOLLOWING TABLES FOR WOOD FASTENING REQUIREMENTS:

TABLE 1.2: "EMBEDMENT REQUIRED FOR WOOD FASTENING WITH ADAPTERS AND TEMPERED/MONOLITHIC GLASS WITH STRUCTURAL TOP CAP."

TABLE 1.3: "EMBEDMENT REQUIRED FOR WOOD FASTENING WITH ADAPTER AND TEMPERED/LAMINATED (0.060" SGP) ASSEMBLY."

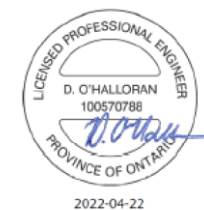
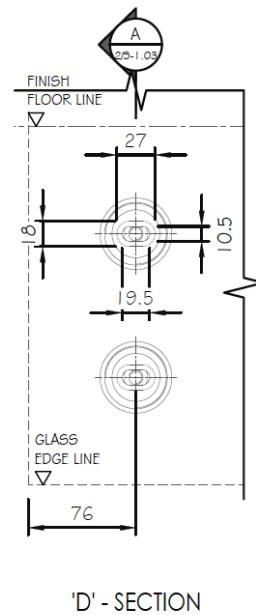
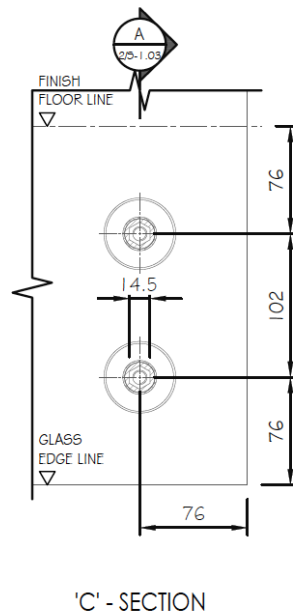
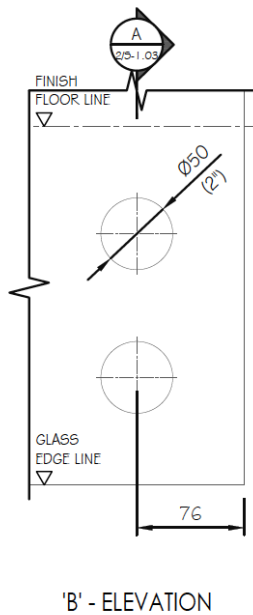
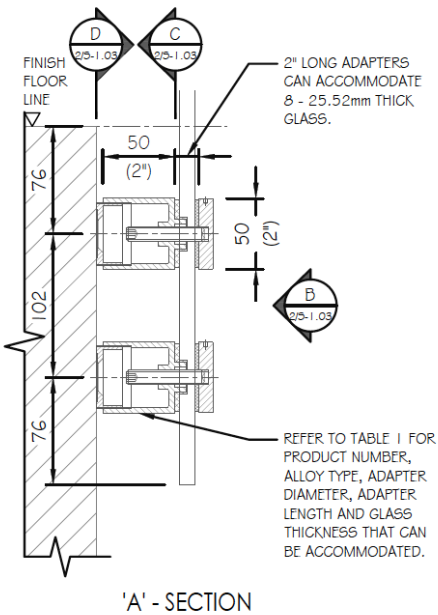
TABLE 1.4: "EMBEDMENT REQUIRED FOR SINGLE ADAPTER FASTENING TO SPF/D-FIR WITH HEAT STRENGTHENED / LAMINATED (0.060" SGP) ASSEMBLY IN ONTARIO."

REFER TO SECTION 3.4.3 FOR CONCRETE FASTENING REQUIREMENTS.

REFER TO SECTION 3.4.4 FOR STEEL FASTENING REQUIREMENTS.

GLASS HOLE SIZE TO ACCEPT ADAPTER:

DRILL HOLE CAN'T EXCEED 1.02" AS IT WILL AFFECT THE INTEGRITY OF THE GLASS PANEL.



NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS IN MILLIMETERS.



DETAIL 3

SCALE: 1:2 MTS



DETAIL 4

SCALE: 1:2 MTS



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GUARD LOADS: NBC 2015 - SECTION 4.1.5.14 - TABLE 9.8.8.2.

GUARD HEIGHT REQUIREMENTS: NBC 2015 - SECTION 9.8.8.3 - CLAUSE 1.

LOAD COMBINATIONS: NBC 2015 - TABLE 4.1.3.2-A.

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ANALYSIS WAS CARRIED OUT USING THE FOLLOWING APPROPRIATE STANDARDS:

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BEZDAN METAL & GLASS REVIEW

4050 GRAVELEY ST, BURNABY, BC V5C 4A5

METAL & GLASS REVIEW

50mm Ø
ADAPTER DETAILS

DATE:	FEBRUARY 2021	DRAWING No:
SCALE:	AS SHOWN	S-1.03
DESIGNED:	DOH	
DRAWN:	MC	PROJECT No:
REVIEWED:	DOH	CC21-042

PANEL WIDTH	ADAPTERS REQUIRED		GLASS THICKNESS REQUIRED
	INTERIOR	EXTERIOR	
1219mm	4	6	12mm
1828mm	4	6	16mm

1

-

ADAPTER REQUIREMENTS FOR TEMPERED/MONOLITHIC GLASS W/
STRUCTURAL TOP CAP FOR INTERIOR & EXTERIOR APPLICATIONS

PANEL WIDTH	ADAPTERS REQUIRED		GLASS THICKNESS REQUIRED
	INTERIOR	EXTERIOR	
1219mm	6	6	10/10mm
1828mm	8	8	10/10mm

3

-

ADAPTER REQUIREMENTS FOR HEAT-STRENGTHENED/LAMINATED (0.060" SGP) GLASS
WITHOUT STRUCTURAL TOP CAP FOR INTERIOR & EXTERIOR APPLICATIONS

NOTE:
-TABLES 1, 2 & 3 MIRROR TABLES 7, 8 & 9, RESPECTIVELY, FROM CORBALLY CONSULTING REPORT: "ENGINEERING REPORT FOR STAINLESS STEEL ADJUSTABLE ADAPTERS."
-FURTHER INFORMATION RELATED TO ADAPTER REQUIREMENTS, INCLUDING TABLE NOTES, CAN BE FOUND IN THAT REPORT.

PANEL WIDTH	ADAPTERS REQUIRED		GLASS THICKNESS REQUIRED
	INTERIOR	EXTERIOR	
1219mm	4	4	10/10mm
1219mm	6	6	8/8mm
1828mm	4	4	10/10mm
1828mm	6	6	8/8mm

2

-

ADAPTER REQUIREMENTS FOR TEMPERED/LAMINATED (0.060" SGP) GLASS
WITHOUT STRUCTURAL TOP CAP FOR INTERIOR & EXTERIOR APPLICATIONS



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GUARD LOADS: NBC 2015 – SECTION 4.1.5.14. & TABLE 9.8.8.2.

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LOAD COMBINATIONS: NBC 2015 – TABLE 4.1.3.2.-A.

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GLASS DESIGN: CAN CGSB 12.20-M89, "STRUCTURAL DESIGN OF GLASS FOR BUILDING," WHICH IS REFERENCED WITHIN NBC 2015 SECTION 1.3 (ACCEPTABLE EDITIONS) – TABLE 1.3.1.2.

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