

PARKING STANDARDS

603.202 BUILDING COMPONENTS, BUILDING SHELL, EXTERIOR ENCLOSURE

This document contains requirements for building shell elements for a parking structure and is in alignment with the UniFormat II, Level 2 classification – B20. The document is subdivided into the following parts per the UniFormat II, Level 3 classifications.

UNIFORMAT II classification						MoP Document Number
Level 1 Major Elements		Level 2 Group Elements		Level 3 Individual Elements		
B	Shell	B20	Exterior Enclosure	B2010	Exterior Walls	603.202
				B2020	Exterior Windows	
				B2030	Exterior Doors	

[ELEMENT B2010, EXTERIOR WALLS.](#) Includes general design requirements for exterior wall construction with facing materials, vapor retarders, insulation, etc. Specific items of note include:

1. Design requirements
2. Parapet walls
3. Veneer conditions
4. Sealants
5. Contract Document requirements

[ELEMENT B2020, EXTERIOR WINDOWS.](#) Includes general design requirements for windows, storefronts, curtain wall assemblies, etc. Specific items of note include:

1. Frame requirements
2. Design requirements
3. Glazing requirements
4. Testing requirements

[ELEMENT B2030, EXTERIOR DOORS.](#) Includes general design requirements exterior man doors, aluminum entrance systems, etc. Specific items of note include:

1. Hollow metal doors and frames
2. Aluminum entrance systems

ELEMENT B2010, EXTERIOR WALLS

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PART 1 - GENERAL**1.01 OVERVIEW**

- A. Includes exterior wall construction with facing materials for parking structures.

PART 2 - DESIGN CRITERIA**2.01 GENERAL**

- A. All exterior materials must be approved for use by BJC Director of Design. Samples and mock-ups for initial selection may be required and Exterior mock-ups for final selection and approval will be required.**
- B. Aesthetic Requirements.
 - 1. When located on a hospital campus, the design of parking structures should respond to the existing context and hospital brand. Along with massing and form, selection of exterior materials and systems determine the character of the building. As such, the design of the exterior walls must follow the BJC approval process as directed by the BJC Director of Design.
- C. Minimize horizontal projections in exterior wall systems. Carefully detail projections so as to reduce staining of building exterior and to prevent water infiltration.
- D. Crash walls and/or up-turned beams. Perimeter crash walls and/or up-turned beams along parking structure perimeter shall be a minimum of 42” above the adjacent finished surface of the parking structure. This dimension shall include any concrete wash designed to direct water away for the slab/wall condition.
- E. All bug holes, worm holes, and voids in exposed concrete surfaces larger than the size of a dime shall be sack rub finished.

2.02 SEALANTS

- A. Provide double row of sealant at exterior joints.
- B. Sealant color shall match adjacent surfaces and shall be approved by the BJC Director of Design and Design Project Manager. The following chart indicates general design intent for selecting sealant colors.

Adjoining exterior surfaces		Sealant color
Surface 1	Surface 2	
Masonry unit	Masonry unit	Match predominant mortar color
Masonry unit	Anodized aluminum frame	Match mortar color
Masonry unit	Painted metal frame	Match mortar color
Masonry unit	Metal panel	Match mortar color
Metal panel	Metal panel	Match metal panel color

2.03 PARAPET WALLS

- A. Parapet walls shall extend a minimum of 42 inches high above the adjacent finished roof surface, unless approved in writing by BJC Corporate Architect and BJC Risk Management. If maintained across the entire roof area, tie-offs and fall arrest systems may not be required for anyone accessing that roof area according to OSHA requirements.

PART 2 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

2.01 GENERAL

- A. An exterior mock-up is required for all projects with new exterior walls. Mock-up will be reviewed for aesthetic purposes as well as for workmanship and craftsmanship. An elevation, plan, and section(s) shall be shown in the contract documents. Minimum mock up size shall be 4’-0” wide x 8’-0” high. Coordinate with Project requirements, including testing requirements, if necessary. Coordinate size, configuration of materials, and location of mock-up with BJC Corporate Architect and BJC Project Manager.
- B. A mock up for sack rubbed finish of new concrete shall be required for both precast pieces and cast-in-place pieces.

PART 3 - PRODUCTS

3.01 GENERAL

- A. Not applicable.

End of B2010 – Exterior Walls

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ELEMENT B2020, EXTERIOR WINDOWS

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PART 1 - GENERAL**1.01 OVERVIEW**

- A. Includes curtainwall and storefront systems in parking structures.

PART 2 - DESIGN CRITERIA**2.01 GENERAL**

- A. Typical locations for storefront and curtainwall systems with glazed panels include stair towers.

2.02 GLAZING

- A. Glazing to match existing buildings when conditions exist and unless otherwise indicated.
- B. Glazing panels shall be insulated, low E, and shall meet or exceed u-value, solar heat gain coefficient, and gross wall area requirements per ANSI/ASHRAE/IESNA 90.1 and in accordance with all governing codes and regulations. Coordinate color options with Director of Design. Coordinate thermal performance with Mechanical Engineer and BJC Corporate Engineer.
- B. Provide safety glazing as required and indicate on drawings.

2.03 ALUMINUM FRAME

- A. General Frame Requirements
 1. Aluminum frame finish shall match existing buildings when conditions exist, unless otherwise indicated. When no existing conditions occur, frames shall be anodic coating.
 2. Frames identified as painted finish shall be fluoropolymer coatings and shall comply with the requirements of AAMA 2604 and 2605. Coating warranty shall be manufacturer's standard to meet or exceed AAMA 2605 (10 years).
 3. Window systems shall include four-sided glass capture in aluminum frames using conventional mechanical attachment methods.
 4. If wall construction requires a sill extension at windows, provide aluminum sill extensions to match window frame. Extensions shall be sharp corner extruded aluminum, in lieu of brake metal type.
- B. Curtainwall and storefront systems

1. Stick-system curtainwall fabrication is acceptable.
2. Engage a qualified building enclosure consultant to assist with developing the design, detailing, and testing parameters for curtainwall systems.
3. Frames for curtain wall systems shall thermally-broken.
4. Coordinate structural requirements including imposed loading on structural system with Structural Engineer and BJC Project Manager.

2.04 SEALANTS AND FLASHINGS

- A. Sealant joints shall be installed so as to not block weeping systems.
- B. Windows and curtainwall systems shall have sill pans with end dams that extend from the exterior face of the frame and turn up two (2) inches on the interior side.

PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

3.01 GENERAL

- B. A mock-up shall be required for all projects with new exterior walls. Mock-up will be reviewed for aesthetic purposes and for craftsmanship.
- C. Preconstruction testing may be required including but not limited to water penetration, air infiltration, and structural performance.
- D. Curtainwall manufacturer shall prepare and seal all submittals including shop drawings and calculations, unless otherwise directed.
- E. Include requirements in the contract documents for the following tests to be performed for all curtain wall and storefront assemblies. Perform tests on a minimum 10% (ten percent) of the total number of installed openings. For any one test that does not pass, the contractor shall be responsible to retest after correcting the deficiency and shall be responsible to provide testing for all other openings as directed by the Owner and Architect.
 1. Prior to glazed panel/panel installation, perform AAMA 502 “*Voluntary Specification for Field Testing of Newly Installed Fenestration Products*” tests for end dam and sub-sill fastener installation.
 2. After installation of glazed panel/panel, perform AAMA 501.2 “*Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems*” tests prior to installation of interior drywall.

PART 4 - PRODUCTS

4.01 GENERAL

- A. Not applicable.

End of B2020 – Exterior Windows

ELEMENT B2030 – EXTERIOR DOORS

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PART 1 - GENERAL**1.01 OVERVIEW**

- A. Includes pedestrian door types.

PART 2 - DESIGN CRITERIA**2.01 GENERAL**

- A. All door openings in veneer walls shall have proper thru wall flashing and weep system.
- B. Design team shall coordinate door function and door hardware requirements no later than during the design development phase.
- C. All exterior doors with patient access shall require a minimum clear opening dimension of 42". All other doors shall be no less than 3'-0" wide.

2.02 ALUMINUM ENTRANCE SYSTEMS

- A. Aluminum frame finish shall match existing building(s) when conditions exist, unless otherwise indicated. When no existing conditions occur, frames shall be anodic coating.
- B. Glazing panels in doors to match glazing of existing building(s) unless otherwise directed.

2.03 EXTERIOR HOLLOW METAL DOORS AND FRAMES

- A. Fabricate doors and frames from cold-rolled steel sheet, hot-rolled steel sheet is not permitted.
- B. Doors shall be constructed of 0.053 inch (16 gauge) steel sheet minimum unless otherwise directed.
- C. Doors and frames shall factory primed and field painted.
- D. For exterior doors and frames located in areas exposed to public view, requiring a more durable finish or enhanced protection, steel shall be hot-dipped with a zinc-alloy-iron coating (galvannealed). For all other conditions, steel sheet shall be hot dipped with a zinc coating (galvanized).

- E. All frames will be manufactured with mitered corners and a full profile weld. Knock-down type frames are not permitted.
- F. Do not grout or spot grout internal cavity of door frames unless otherwise directed. Grouting will only be permitted when frames are required to meet high level security requirements and then all interior surfaces of the frame must be coated with cold-applied asphaltic mastic.
- G. Factory prepared doors and frames to receive hardware, security, and fire alarm devices.

PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

3.01 GENERAL

- A. Not applicable.

PART 4 - PRODUCTS

4.01 GENERAL

- A. Not applicable.

End of B2030 – Exterior Doors

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RESPONSIBILITY MATRIX

The following matrix identifies those individuals, roles or departments responsible for maintaining the accuracy of the information and those responsible for providing input. Refer to Preface for detailed explanation.

	BJC HealthCare													Hospital/Entity				
	PD&C						Clinical Asset Management (CAM)	Risk Management	Real Estate	Ergonomics	Infection Prevention (IP)	Info Systems, Data, Telecom (IS)	Other:	Standards Review Committee	Facilities Engineering	Housekeeping	Security	Other:
	Corporate Architect	Corporate Engineer	Director of Planning	Director of Design	Director of Construction	Other:												
Primary Authorship	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secondary Authorship	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOCUMENT REVISION HISTORY

The following table indicates the date the document originated and any subsequent revisions.

603.202 – Building Shell, Exterior Enclosure		
Issue	Description of Issue	Prepared by
2016 v1	Original Issue	G. Zipfel
2018 v1	Renumbered, combined documents and misc. updates	G. Zipfel