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Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 120
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:
4784 SE 17th Avenue
Portland, Oregon 97202

Owner/Agent:
Stephen Wong
SKB
222 SW Columbia St, Suite 700
Portland, Oregon 97201

Designer/Contractor:
Paul Kurth
LRS Architects
720 NW Davis, Suite 300
Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **27%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	10535

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 1% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	2955	28.5	0.0	0.036	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	2167	22.5	0.0	0.045	0.027
Exterior Wall - West: Other Mass Wall, Heat capacity 0.0, [Bldg. Use 1 - Tenant Suite] (b)	846	---	---	0.039	0.064
Glass OH Doors: Other (U-Factor option), Perf. Specs.: Product ID -, SHGC 0.40, [Bldg. Use 1 - Tenant Suite] (c)	694	---	---	0.460	0.550
Man Door: Insulated Metal, Swinging, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.700	0.700
Demising Wall - North: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	1877	21.0	0.0	0.106	0.064
Man Door: Insulated Metal, Swinging, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.700	0.700
Corridor Wall - East: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	846	21.0	0.0	0.106	0.064
Wood Glazed Entry Door: , Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.550	0.350
Wood Relite: Wood Frame, Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	49	---	---	0.550	0.350
Demising Wall - South: Concrete Block, 8in., Solid Grouted,Light Density , Furring: Metal, [Bldg. Use 1 - Tenant Suite]	1877	21.0	0.0	0.117	0.150
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	300	13.0	0.0	0.089	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	1658	13.0	0.0	0.089	0.064
Roof Monitor Windows: Vinyl Frame, Perf. Specs.: Product ID Jeld Wen V-4500, SHGC 0.33, [Bldg. Use 1 - Tenant Suite] (c)	1240	---	---	0.270	0.350
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	307	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) 'Other' components require supporting documentation for proposed U-factors.

(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

In the following requirements, blank checkboxes identify requirements that the applicant has not acknowledged as being met. Checkmarks identify requirements that the applicant acknowledges are met or excepted from compliance. 'Plans reference page/section' identifies where in the plans/specs the requirement can be verified as being satisfied.

Fenestration Product Rating:

❑ 1. U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.4 and shall include the effects of the window frame. The temporary label afixed to the fenestration products must not be removed prior to inspection.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Plans reference page/section: _____

❑ 4. Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception(s):

❑ Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

Plans reference page/section: _____

❑ 5. Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft2 of door area.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

Exception(s):

- ❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.
- ❑ Doors opening directly from a sleeping unit or dwelling unit.
- ❑ Doors that open directly from a space less than 3000 sq. ft. in area.
- ❑ Revolving doors.
- ❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

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Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 120 Baseline
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:
4784 SE 17th Avenue
Portland, Oregon 97202

Owner/Agent:
Stephen Wong
SKB
222 SW Columbia St. Suite 700
Portland, Oregon 97201

Designer/Contractor:
Paul Kurth
LRS Architects
720 NW Davis, Suite 300
Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **22%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	10535

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 119% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	2955	0.0	0.0	0.613	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	2167	0.0	0.0	0.613	0.027
Exterior Wall - West: Other Mass Wall, Heat capacity 0.0, [Bldg. Use 1 - Tenant Suite] (b)	846	---	---	0.360	0.064
Existing Glass OH Doors: Other (U-Factor option), Non-Swinging, [Bldg. Use 1 - Tenant Suite]	694	---	---	0.460	0.500
Man Door: Insulated Metal, Swinging, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.700	0.700
Corridor Wall - East: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	846	0.0	0.0	0.352	0.064
Demising Wall - South: Concrete Block, 8in., Solid Grouted,Light Density , Furring: None, [Bldg. Use 1 - Tenant Suite]	1877	---	0.0	0.530	0.150
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	300	0.0	0.0	0.292	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	1658	0.0	0.0	0.292	0.064
Roof Monitor Windows: Metal Frame, Perf. Type: Energy code default, Single Pane, Clear , SHGC 0.80, [Bldg. Use 1 - Tenant Suite]	1240	---	---	1.200	0.460
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	307	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) 'Other' components require supporting documentation for proposed U-factors.

In the following requirements, blank checkboxes identify requirements that the applicant has not acknowledged as being met. Checkmarks identify requirements that the applicant acknowledges are met or excepted from compliance. 'Plans reference page/section' identifies where in the plans/specs the requirement can be verified as being satisfied.

Fenestration Product Rating:

❑ 1. U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.4 and shall include the effects of the window frame. The temporary label afixed to the fenestration products must not be removed prior to inspection.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Plans reference page/section: _____

❑ 4. Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception(s):

❑ Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

Plans reference page/section: _____

❑ 5. Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft2 of door area.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

Exception(s):

- ❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.
- ❑ Doors opening directly from a sleeping unit or dwelling unit.
- ❑ Doors that open directly from a space less than 3000 sq. ft. in area.
- ❑ Revolving doors.
- ❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

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Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 122
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:
4784 SE 17th Avenue
Portland, Oregon 97202

Owner/Agent:
Stephen Wong
SKB
222 SW Columbia St, Suite 700
Portland, Oregon 97201

Designer/Contractor:
Paul Kurth
LRS Architects
720 NW Davis, Suite 300
Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **20%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	1992

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 6% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	1346	28.5	0.0	0.036	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	646	22.5	0.0	0.045	0.027
Exterior Wall - West: Other Mass Wall, Heat capacity 0.0, [Bldg. Use 1 - Tenant Suite] (b)	636	---	---	0.039	0.064
Glass OH Doors: Other (U-Factor option), Perf. Specs.: Product ID -, SHGC 0.40, [Bldg. Use 1 - Tenant Suite] (c)	163	---	---	0.460	0.550
Existing Window: Metal Frame, Perf. Type: Energy code default, Single Pane, Clear , SHGC 0.80, [Bldg. Use 1 - Tenant Suite]	118	---	---	1.200	0.460
Corridor Wall - West: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	124	21.0	0.0	0.106	0.064
Man Door: Insulated Metal, Swinging, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.700	0.700
Demising Wall - North: Concrete Block, 8in., Solid Grouted,Light Density , Furring: Metal, [Bldg. Use 1 - Tenant Suite]	834	21.0	0.0	0.117	0.150
Corridor Wall - East: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	763	21.0	0.0	0.106	0.064
Glass OH Door: Insulated Metal, Perf. Specs.: Product ID -, SHGC 0.40, [Bldg. Use 1 - Tenant Suite] (c)	98	---	---	0.460	0.550
Wood Glazed Entry Door: , Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.550	0.350
Wood Relite Window: Wood Frame, Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	49	---	---	0.550	0.350
Demising Wall - South: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	846	21.0	0.0	0.106	0.064
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	282	13.0	0.0	0.089	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	554	13.0	0.0	0.089	0.064

Roof Monitor Windows: Vinyl Frame, Perf. Specs.: Product ID Jeld Wen V-4500, SHGC 0.33, [Bldg. Use 1 - Tenant Suite] (c)	354	---	---	0.270	0.350
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	183	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

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(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

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Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

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Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

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Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

Exception(s):

❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.

❑ Doors opening directly from a sleeping unit or dwelling unit.

❑ Doors that open directly from a space less than 3000 sq. ft. in area.

❑ Revolving doors.

❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

Generated by COM*check-Web* Software

Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 122 Baseline
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:	Owner/Agent:	Designer/Contractor:
4784 SE 17th Avenue Portland, Oregon 97202	Stephen Wong SKB 222 SW Columbia St, Suite 700 Portland, Oregon 97201	Paul Kurth LRS Architects 720 NW Davis, Suite 300 Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **20%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	1992

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 179% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	1346	0.0	0.0	0.613	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	646	0.0	0.0	0.613	0.027
Exterior Wall - West: Other Mass Wall, Heat capacity 0.0, [Bldg. Use 1 - Tenant Suite] (b)	636	---	---	0.360	0.064
Existing Glass OH Doors: Other (U-Factor option), Non-Swinging, [Bldg. Use 1 - Tenant Suite]	163	---	---	0.460	0.500
Existing Window: Metal Frame, Perf. Type: Energy code default, Single Pane, Clear , SHGC 0.80, [Bldg. Use 1 - Tenant Suite]	118	---	---	1.200	0.460
Demising Wall - North: Concrete Block, 8in., Solid Grouted,Light Density , Furring: None, [Bldg. Use 1 - Tenant Suite]	834	---	0.0	0.530	0.150
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	282	0.0	0.0	0.292	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	554	0.0	0.0	0.292	0.064
Roof Monitor Windows: Metal Frame, Perf. Type: Energy code default, Single Pane, Clear , SHGC 0.80, [Bldg. Use 1 - Tenant Suite]	354	---	---	1.200	0.460
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	183	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) 'Other' components require supporting documentation for proposed U-factors.

In the following requirements, blank checkboxes identify requirements that the applicant has not acknowledged as being met. Checkmarks identify requirements that the applicant acknowledges are met or excepted from compliance. 'Plans reference page/section' identifies where in the plans/specs the requirement can be verified as being satisfied.

Fenestration Product Rating:

❑ 1. U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values

listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.4 and shall include the effects of the window frame. The temporary label afixed to the fenestration products must not be removed prior to inspection.

Exception(s):

- ❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

Exception(s):

- ❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Plans reference page/section: _____

❑ 4. Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception(s):

- ❑ Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

Plans reference page/section: _____

❑ 5. Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft2 of door area.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

Exception(s):

❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.

❑ Doors opening directly from a sleeping unit or dwelling unit.

❑ Doors that open directly from a space less than 3000 sq. ft. in area.

❑ Revolving doors.

❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

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Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 124
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:
4784 SE 17th Avenue
Portland, Oregon 97202

Owner/Agent:
Stephen Wong
SKB
222 SW Columbia St, Suite 700
Portland, Oregon 97201

Designer/Contractor:
Paul Kurth
LRS Architects
720 NW Davis, Suite 300
Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **21%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	1896

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 5% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	862	28.5	0.0	0.036	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	1034	22.5	0.0	0.045	0.027
Corridor Wall - West: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	630	21.0	0.0	0.106	0.064
Glass OH Doors: Other (U-Factor option), Perf. Specs.: Product ID -, SHGC 0.40, [Bldg. Use 1 - Tenant Suite] (b)	98	---	---	0.460	0.550
Wood Glazed Entry Door: , Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.550	0.350
Wood Relite Window: Wood Frame, Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	49	---	---	0.550	0.350
Corridor Wall - North: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	856	21.0	0.0	0.106	0.064
Corridor Wall - East: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	737	21.0	0.0	0.106	0.064
Glass OH Door: Other (U-Factor option), Perf. Specs.: Product ID -, SHGC 0.40, [Bldg. Use 1 - Tenant Suite] (b)	98	---	---	0.460	0.550
Door: , Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, [Bldg. Use 1 - Tenant Suite]	21	---	---	0.550	0.350
Demising Wall - South: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	856	21.0	0.0	0.106	0.064
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	296	13.0	0.0	0.089	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	803	13.0	0.0	0.089	0.064
Roof Monitor Windows: Vinyl Frame, Perf. Specs.: Product ID Jeld Wen V-4500, SHGC 0.33, [Bldg. Use 1 - Tenant Suite] (b)	576	---	---	0.270	0.350
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	177	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

In the following requirements, blank checkboxes identify requirements that the applicant has not acknowledged as being met. Checkmarks identify requirements that the applicant acknowledges are met or excepted from compliance. 'Plans reference page/section' identifies where in the plans/specs the requirement can be verified as being satisfied.

Fenestration Product Rating:

❑ 1. U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.4 and shall include the effects of the window frame. The temporary label afixed to the fenestration products must not be removed prior to inspection.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Plans reference page/section: _____

❑ 4. Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception(s):

❑ Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

Plans reference page/section: _____

❑ 5. Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft2 of door area.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be

capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

Exception(s):

❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.

❑ Doors opening directly from a sleeping unit or dwelling unit.

❑ Doors that open directly from a space less than 3000 sq. ft. in area.

❑ Revolving doors.

❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

Generated by COM*check-Web* Software

Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2014 Oregon Energy Efficiency Specialty Code**
Project Title: 218304 IFC - Suite 124 Baseline
Project Type: New Construction
Envelope Compliance Method: Simplified Trade-Off

Construction Site:
4784 SE 17th Avenue
Portland, Oregon 97202

Owner/Agent:
Stephen Wong
SKB
222 SW Columbia St, Suite 700
Portland, Oregon 97201

Designer/Contractor:
Paul Kurth
LRS Architects
720 NW Davis, Suite 300
Portland, Oregon 97209

Building Location (for weather data): Portland, Oregon
Climate Zone: 4c
Vertical Glazing / Wall Area Pct.: **31%**

Building Use: Area Type	Floor Area
1-Tenant Suite (Manufacturing Facility/Data Center) : Nonresidential	1896

Section 2: Envelope Assemblies and Requirements Checklist

Envelope FAILS: Design 186% worse than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof -Typical: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	862	0.0	0.0	0.613	0.027
Roof - Monitor: Attic Roof, Wood Joists, [Bldg. Use 1 - Tenant Suite]	1034	0.0	0.0	0.613	0.027
Corridor Wall - East: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	737	0.0	0.0	0.352	0.064
Roof Monitor Side Wall Ends: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	296	0.0	0.0	0.292	0.064
Roof Monitor Side Wall North: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Tenant Suite]	803	0.0	0.0	0.292	0.064
Roof Monitor Windows: Metal Frame, Perf. Type: Energy code default, Single Pane, Clear , SHGC 0.80, [Bldg. Use 1 - Tenant Suite]	576	---	---	1.200	0.460
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Tenant Suite]	177	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

In the following requirements, blank checkboxes identify requirements that the applicant has not acknowledged as being met. Checkmarks identify requirements that the applicant acknowledges are met or excepted from compliance. 'Plans reference page/section' identifies where in the plans/specs the requirement can be verified as being satisfied.

Fenestration Product Rating:

❑ 1. U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.4 and shall include the effects of the window frame. The temporary label afixed to the fenestration products must not be removed prior to inspection.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

❑ 2. Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the Solar Heat Gain Coefficients (SHGC) in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No.10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

Exception(s):

❑ Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.

Plans reference page/section: _____

Air Leakage, Insulation, and Component Certification:

❑ 3. Sealing of the building envelope. Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Plans reference page/section: _____

❑ 4. Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

Exception(s):

❑ Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

Plans reference page/section: _____

❑ 5. Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft2 of door area.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 6. Building thermal envelope insulation. An R-value identification mark is applied (by manufacturer) to each piece of insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated and posted certification listing the type, manufacturer and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/settling depths and marker requirements.

❑ 7. Insulation mark installation. Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.

❑ 8. Insulation product rating. The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.

❑ 9. Installation. All material, systems and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.

❑ 10. Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 11. Loading dock weatherseals. Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Exception(s):

❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 12. Recessed lighting. Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 13. Vestibules. Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.
Exception(s):

- ❑ Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.
- ❑ Doors opening directly from a sleeping unit or dwelling unit.
- ❑ Doors that open directly from a space less than 3000 sq. ft. in area.
- ❑ Revolving doors.
- ❑ Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
- ❑ Requirement is not applicable.

Plans reference page/section: _____

❑ 14. 'Other' components have supporting documentation for proposed U-Factors.
Exception(s):

- ❑ Requirement is not applicable.

Plans reference page/section: _____