

COMcheck Software Version COMcheck-Web
Envelope Compliance Certificate

Project Information
Energy Code: 2012 IECC
Project Title: Shops on Gosling - Building A
Location: Spring, Texas
Climate Zone: 2a
Project Type: New Construction
Vertical Glazing / Wall Area: 28%

Construction Site: 24309 Gosling Road, Spring, Texas 77389
Owner/Agent: Patrick Magliaro, Shops on Gosling, LLC, Houston, Texas 77068, 713-547-5100, patrick.magliaro@triadre.com
Designer/Contractor: Mark Goulas, Goulas & Associates, Inc., 1505 Whispering Pines Drive, HOUSTON, Texas 77055, 2813845397, MARK@GAARCHITECTS.COM

Additional Efficiency Package(s)
High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Building Area	Floor Area
1-Retail - Nonresidential	16375

Envelope Assemblies	Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor _{req}
Roof: Insulation Entirely Above Deck, 3-Year-Aged Solar Reflectance Index = 0.55 (d), [Bldg. Use 1 - Retail]		16375	---	24.0	0.040	0.048
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Retail] (c)		16315	---	---	0.730	0.730
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		5698	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		2846	---	---	0.290	0.500
Door: Perf. Type: Energy code default, Double Pane with Low-E, Tinted, SHGC 0.60, [Bldg. Use 1 - Retail]		120	---	---	0.800	0.830
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		4755	---	3.1	0.209	0.142
Door: Insulated Metal, Swinging, [Bldg. Use 1 - Retail]		120	---	---	0.175	0.610
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		1578	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		214	---	---	0.290	0.500
Window: Metal Frame with Thermal Break: Fixed, Perf. Type: Energy code default, Double Pane with Low-E, Tinted, SHGC 0.60, [Bldg. Use 1 - Retail]		99	---	---	0.850	0.500
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		1595	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		469	---	---	0.290	0.500

Project Title: Shops on Gosling - Building A
Data filename: Shops on Gosling - Building A
Report date: 03/10/19
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(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.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.
(d) High albedo roof requirement options: 1) 3-year aged solar reflectance >= 0.55 thermal emittance >= 0.75, 2) 3-year aged solar reflectance index >= 0.54, 3) Initial year aged solar reflectance >= 0.70 thermal emittance >= 0.75, 4) Initial year aged solar reflectance index >= 0.70.

Envelope PASSES: Design 3% better than code

Envelope Compliance Statement
Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2012 IECC requirements in COMcheck Version COMcheck-Web and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

ARCHITECT: [Signature]
Name - Title: [Signature]
Signature: [Signature]
Date: 3.10.19



Project Title: Shops on Gosling - Building A
Data filename: Shops on Gosling - Building A
Report date: 03/10/19
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COMcheck Software Version COMcheck-Web
Envelope Compliance Certificate

Project Information
Energy Code: 2012 IECC
Project Title: Shops on Gosling - Building B
Location: Spring, Texas
Climate Zone: 2a
Project Type: New Construction
Vertical Glazing / Wall Area: 28%

Construction Site: 24309 Gosling Road, Spring, Texas 77389
Owner/Agent: Patrick Magliaro, Shops on Gosling, LLC, Houston, Texas 77068, 713-547-5100, patrick.magliaro@triadre.com
Designer/Contractor: Mark Goulas, Goulas & Associates, Inc., 1505 Whispering Pines Drive, HOUSTON, Texas 77055, 2813845397, MARK@GAARCHITECTS.COM

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Building Area	Floor Area
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Roof: Insulation Entirely Above Deck, 3-Year-Aged Solar Reflectance Index = 0.55 (d), [Bldg. Use 1 - Retail]		16375	---	24.0	0.040	0.048
Floor: Unheated Slab-On-Grade, [Bldg. Use 1 - Retail] (c)		16315	---	---	0.730	0.730
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		5698	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		2846	---	---	0.290	0.500
Door: Perf. Type: Energy code default, Double Pane with Low-E, Tinted, SHGC 0.60, [Bldg. Use 1 - Retail]		120	---	---	0.800	0.830
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		4755	---	3.1	0.209	0.142
Door: Insulated Metal, Swinging, [Bldg. Use 1 - Retail]		100	---	---	0.175	0.610
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		1578	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		214	---	---	0.290	0.500
Window: Metal Frame with Thermal Break: Fixed, Perf. Type: Energy code default, Double Pane with Low-E, Tinted, SHGC 0.60, [Bldg. Use 1 - Retail]		99	---	---	0.850	0.500
Ext. Wall: Solid Concrete, 6in. Thickness, Normal Density, Furring: None, [Bldg. Use 1 - Retail]		1595	---	3.1	0.209	0.142
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID en-410/673, SHGC 0.18, [Bldg. Use 1 - Retail] (b)		469	---	---	0.290	0.500

Project Title: Shops on Gosling - Building B
Data filename: Shops on Gosling - Building B
Report date: 03/10/19
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(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
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ARCHITECT: [Signature]
Name - Title: [Signature]
Signature: [Signature]
Date: 3.10.19



Project Title: Shops on Gosling - Building B
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APPLICABLE CODES REQUIRED IN THE CITY MCKINNEY
2012 International Building Code with Harris County Amendments
2012 International Plumbing Code
2012 International Mechanical Code
2015 International Energy Conservation Code or ASHRAE 90.1-2013
2012 International Fire Code
2017 National Electrical Code
1990 Americans with Disabilities Act (ADA)

PHYSICAL PROPERTIES OF THE BUILDING
A) Approximate area of each group -
SHELL RETAIL BUILDING - A 16,375 SF.
(Initial permit for Shell space-Separate Interior permits shall be required with final area calculations)
Office Group (B) - TBD anticipated 30% area 5,000 SF.
Restaurant Group (A2) - TBD anticipated 22% area 3,600 SF.
Mercantile Group (M) - TBD anticipated 48% area 7,775 SF.
TOTAL GROSS AREA 16,375 SF.
SHELL RETAIL BUILDING - B 16,375 SF.
(Initial permit for Shell space-Separate Interior permits shall be required with final area calculations)
Office Group (B) - TBD anticipated 30% area 5,000 SF.
Restaurant Group (A2) - TBD anticipated 22% area 3,600 SF.
Mercantile Group (M) - TBD anticipated 48% area 7,775 SF.
TOTAL GROSS AREA 16,375 SF.
B) Approximate grade level: 2.0 Feet
C) Approximate building height: 29'-0" Parapet
D) Number of stories: 1 Story
E) Occupancy area (TBD-INTERIOR LEASE PERMIT)
•• (Initial permit for Shell space-Separate Interior permits shall be required with final area calculations)

EGRESS REQUIREMENTS
A) Area per occupancy (load factor)
Business Areas 100 SF
Restaurant Areas - Concentrated/Standing/Unconcentrated 7/5/5 SF.
Mercantile Areas - Areas on floor/Storage-stock 60/300 SF.
B) Exiting requirements: (Table 1004.12 Maximum Floor Area Allowances per Occupant)
•• (Initial permit for Shell space-Separate Interior permits shall be required with final area calculations)
SHELL RETAIL BUILDING - A
Business area - TBD 5,000 SF/100 SF.(d, fctr.) = 50 OCCUPANTS
Restaurant area - TBD 3,600 SF/15 SF.(d, fctr.) = 240 OCCUPANTS
Mercantile area - TBD 7,775 SF./60 SF.(d, fctr.) = 129 OCCUPANTS
TOTAL OCCUPANTS 419 OCCUPANTS
SHELL RETAIL BUILDING - B
Business area - TBD 5,000 SF/100 SF.(d, fctr.) = 50 OCCUPANTS
Restaurant area - TBD 3,600 SF/15 SF.(d, fctr.) = 240 OCCUPANTS
Mercantile area - TBD 7,775 SF./60 SF.(d, fctr.) = 129 OCCUPANTS
TOTAL OCCUPANTS 419 OCCUPANTS
•• Access to, and egress from building for persons with disabilities shall be provided as specified in Chapter 11.
C) Exit width: (Section 1005.3.2 Egress Width Per Occupant Served - with Sprinkler System)
Business areas 50 OCCUPANTS X .15 = 7.5 IN. REQ'D (PER BLDG.)
Restaurant areas 240 OCCUPANTS X .15 = 36.0 IN. REQ'D (PER BLDG.)
Office/Warehouse areas 129 OCCUPANTS X .15 = 19.35 IN. REQ'D (PER BLDG.)
•• Sec. 1005.1 Minimum Required Egress Width. The total width of means of egress in inches(mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Section 1005.3.2 and not less than specified elsewhere in the code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

CITY OF HOUSTON PARKING REQUIREMENTS
CITY OF HOUSTON, TEXAS
Office (Business/Professional or Research)
2.5 SPACES FOR EVERY 1000 SF OF GFA OFFICE SPACE(B-occupancy)
10,000 s.f. / 1000 x 2.5 = 25 spaces required
Restaurant (including Outdoor Seating Area)
8 SPACES FOR EVERY 1000 SF OF GFA RESTAURANT SPACE(A2-occupancy)
7,200 s.f. / 1000 x 8 = 58 spaces required
Mercantile (Neighborhood Shopping Center)
4 SPACES FOR EVERY 1000 SF OF GFA RETAIL SPACE (M-occupancy)
15,550 s.f. / 1000 x 4 = 62 spaces required
Total spaces required for each building = 140 spaces + 5 handicap spaces
Total spaces indicated = 205 + 7 handicap spaces = 212 total spaces provided

2 PARKING CODE ANALYSIS
SCALE: N.T.S.

INDUSTRIAL SERVICE BUILDING
USE CLASSIFICATION
BUSINESS GROUP, 1 STORY B - OCCUPANCY
RESTAURANT GROUP, 1 STORY A2 - OCCUPANCY
MERCANTILE GROUP, 1 STORY M - OCCUPANCY
CONSTRUCTION TYPE
TYPE I-B FULLY SPRINKLERED
ALLOWABLE BUILDING AREA
TYPE I-B CONSTRUCTION 23,000 (B OCCUPANCY)
9,500 (A2 OCCUPANCY)
TYPE I-B CONSTRUCTION 12,500 (M OCCUPANCY)
ALLOWABLE BUILDING AREA INCREASE
Chapter 5/Section 503 - Table 503 - Allowable Height and Building Areas
Group B Type I-B 3 Stories 23,000 SF. per floor
Group A-2 Type I-B 2 Stories 9,500 SF. per floor
Group M Type I-B 2 Stories 12,500 SF. per floor
Chapter 5/Section 506 Area Modifications
506.1 General. The areas limited by Table 503 shall be permitted to be increased due to frontage and automatic sprinkler systems protection in accordance with the following:
A_g = A_t + [A_t x l_f / 100] + [A_t x l_g / 100]
A_g = 9,500 + [9,500 x 75 / 100] + [9,500 x 300 / 100]
A_g = 9,500 + 7,125 + 28,500
A_g = 45,125 SF. Allowable (A-2 OCCUPANCY)
A_g = A_t + [A_t x l_f / 100] + [A_t x l_g / 100]
A_g = 12,500 + [12,500 x 75 / 100] + [12,500 x 300 / 100]
A_g = 12,500 + 9,375 + 37,500
A_g = 59,375 SF. Allowable (M OCCUPANCY)
Chapter 5/Section 506.2 Frontage increase
l_f = 100 [1212 / 1212 - 0.25] [30 / 90]
l_f = 75%
Chapter 5/Section 506.3 Automatic Sprinkler Systems Increase
Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.11, the area limitation in Table 503 is permitted to be increased by an additional 200 percent for multistory buildings and an additional 300 percent for single-story buildings.
l_g = 300 (single story building)
l_g = 200 (more than single story building)

D) Exit or exit access doorway arrangement: (Section 1015.2)
Building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.11 or 903.3.12, the separation distance of at least two of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.
E) Exits distance required: (Table 1016.2 - Exit Access Travel Distance w/ Sprinkler System)
B - Office Occupancy 300 feet with sprinkler system
A2 - Restaurant Occupancy 250 feet with sprinkler system
M - Mercantile Occupancy 250 feet with sprinkler system
F) Exits required: (Table 1015.1 Minimum number of exits for occupancy load)
B - Business Occupancy 1-50 OCCUPANTS per STORY = 2 EXITS REQ'D
50 OCCUPANTS = 2 EXITS REQ'D
A2 - Restaurant Occupancy 1-50 OCCUPANTS per STORY = 2 EXITS REQ'D
240 OCCUPANTS = 2 EXITS REQ'D
M - Mercantile Occupancy 1-50 OCCUPANTS per STORY = 2 EXITS REQ'D
129 OCCUPANTS = 2 EXITS REQ'D

AREA SEPARATION REQUIREMENTS (Table 508.4) - Building with Automatic Sprinkler System
B Occupancy/A2 Occupancy 1-HR Area Separation required
B Occupancy/M Occupancy 0-HR Area Separation required
A2 Occupancy/M Occupancy 1-HR Area Separation required

1 BUILDING CODE ANALYSIS
SCALE: N.T.S.

Project Information:

Consultants:

SHOPS ON GOSLING
RETAIL CENTER
SHELL BUILDING DEVELOPMENT
24309 GOSLING ROAD
SPRING, TEXAS 77389

Sheet Title:
CODE ANALYSIS
COMCHECK

Issue:
REVIEW/PRICING-SCHEMATIC DESIGN
Issue Date:
10 DECEMBER 2018

Revision Date:

Sheet:

A0.0