Residential Energy Efficiency Certificate

ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Window U-Value	U- 0.34	Duct Tightness (in CFM25)	140
Window SHGC	0.23	Cooling Efficiency	SEER 16
Wall Cavity Insulation	R - 19	Heating Efficiency	0.8 AFUE
Roof/Ceiling Insulation	R - 38	Water Heater Efficiency	Natural Gas EF 0.93
Floor/Foundation Insulation	R - 19	Builder Email	trent.norris@alcon.com
Supply Duct Insulation	R - 8	Builder Phone	(281) 798-8900
Return Duct Insulation	R - 8	Date Issued	5/15/2025
Blower Door (in ACH50)	5	Certificate Number	1,358,676

IC3 International CODE COMPLIANCE CALCULATOR

Builder or Registered Design Professional _____

This certificate was generated by IC3 in compliance with 2018 IECC

Single Family House Energy Report

Project Details

Project Name:	1506 Victoria Way
Builder Name:	Trent Davis
Builder Phone:	(281) 798-8900
Builder Email:	trent.norris@alcon.com
Address:	1506 Victoria Way
City:	FRIENDSWOOD
County:	HARRIS
Zip:	77546
Certificate #:	1358676
Date Issued:	5/15/2025

Notes:

SUBFLOOR R19

Emissions Reduction

NOx:	3	lbs.
SOx:	8	lbs.
CO2:	5,244	lbs.

17%

Above Code

This single family residential project was found to be in compliance with the performance measures described in the 2018 IECC as calculated by the Energy Systems Laboratory, a division of the Texas A&M Engineering Experiment Station using IC3 version 4.6.1

TEES | **ENERGY SYSTEMS LABORATORY**
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The values produced are generated by the DOE-2 building energy analysis program. These values do not constitute a guarantee of actual energy usage by ESL or TEES.

IC3 performs the hourly annual energy calculation in accordance with the International Energy Conservation Code Section R405, Simulated Performance Alternative. IC3 does not address the adequacy of the sizing of the heating/ cooling system.

Authorized Signature: Noah Ray Sanders

ICC -Energy Code Specialist #8163580

Project Information

General

Number of Bedrooms: 4

Wall Cavity Insulation: R- 19

Wall Continuous Insulation: R- 0

Orientation: West

Windows

SHGC: 0.23

U-Factor: 0.34

Roof

Cladding Type: Composite Shingle

Radiant Barrier: Yes

Sealed Attic: No

Roof Insulation: R - 38

Attic Area: 2663 sq. ft.

Cathedral Ceiling Area: 0 sq. ft.

Flat Roof Area: 0 sq. ft.

Wall Area Next to Attic: 0 sq. ft.

Foundation

Foundation Type: Raised Floor

Foundation Insulation: R- 19

A/C

SEER: 16

Tonnage: 7

Structural

Exterior Finish: Fibrous Cement Boa

Stud Type: 2 x 6

Stud Spacing: 16 in.

Mechanical

Blower Door Test: 5 @ACH50

Ventilation Type: Supply Only

Ventilation Rate: 146 CFM

Ventilation Operation: 12 hrs.

Fan Power: 3 Watts

Fraction Outside: 0.5

Duct Tightness Test: 140 @CFM25

Supply Duct Insulation: R - 8

Return Duct Insulation: R - 8

Heating

Heating Type: Natural Gas

Heating Efficiency: 0.8 AFUE

Water Heater

Water Heater Type: Natural Gas

Energy Factor: 0.93

Size: N/A

Burner Capacity: N/A

Floor 1

Floor Area: 2663 sq. ft.

Floor Wall Height: 11 ft.

Front Side Length: 68 ft

Front Side Window Area: 298 sq. ft.

Front Side Shading: 108 in

Back Side Length: 68 ft

Back Side Window Area: 188 sq. ft.

Back Side Shading: 60 in

Right Side Length: 50 ft

Right Side Window Area: 69 sq. ft.

Right Side Shading: 0 in

Left Side Length: 50 ft

Left Side Window Area: 34 sq. ft.

Left Side Shading: 0 in

Floor 2

Floor Area: 839 sq. ft.

Floor Wall Height: 9 ft.

Front Side Length: 25 ft

Front Side Window Area: 40 sq. ft.

Front Side Shading: 0 in

Back Side Length: 25 ft

Back Side Window Area: 24 sq. ft.

Back Side Shading: 0 in

Area over Unconditioned: 0 sq. ft.

Right Side Length: 39 ft

Right Side Window Area: 24 sq. ft.

Right Side Shading: 0 in

Left Side Length: 39 ft

Left Side Window Area: 0 sq. ft.

Left Side Shading: 0 in

Estimated Annual Energy Usage

Proposed Peak Electric Demand: 4.8 kW

Proposed Total Area Lights: 1,583 kWh

Energy Usage Category	Proposed Design		Standard Reference	
	Gas (therms)	Electric (kWh)	Gas (therms)	Electric (kWh)
Pumps and Miscellaneous	0	59	0	59
Ventilation Fans	0	1,503	0	1,854
Mechanical Ventilation	0	12	0	226
Space Cooling	0	4,397	0	4,895
Space Heating	276	0	367	0
Domestic Hot Water	105	0	105	0
Site Energy	380	5,970	470	7,035
Source Energy (MMBtu) *	106.2		127.7	

* Conversion factors:
Site to source factor: 3.16 for electric or 1.1 for natural gas (IECC 2015 R405.3)
Unit: 1 MMBtu = 10 therms or 1 MMBtu = 293.1 kWh