

HISTORIC PRESERVATION BOARD

BOARD AGENDA

Historic Preservation Board Regular Meeting - Monday, March 23, 2026 - 2:00 p.m.
City Hall - City Commission Chambers, 100 North U.S. #1, Fort Pierce, Florida

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

4. **APPROVAL OF MINUTES**
 - a. Minutes from the September 22, 2025 meeting

5. **PUBLIC HEARINGS**
 - a. **PZCOA2026-00014**
Certificate of Appropriateness
Demolition
1121 Avenue E

 - b. **PZCOA2026-00017**
Certificate of Appropriateness
Duplex
1102 Avenue E

 - d. **PZCOA2026-00025**
Certificate of Appropriateness
Facade Renovation
207-209 Orange Avenue

6. **NEW BUSINESS**

- a. Administrative Certificate of Appropriateness Approvals
- b. Updated City of Fort Pierce Condemnation and Demolition of Structures Procedures

7. **COMMENTS FROM THE PUBLIC**

8. **CONSIDERATION OF ABSENCES**

9. **ADJOURNMENT**

Any person seeking to appeal any decision by the Historic Preservation Board with respect to any matter considered at this meeting is advised that a record of proceedings is required in any such appeal and that such person may need to insure that a verbatim record of the proceedings is made including the testimony and evidence upon which the appeal is to be based.

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons with disabilities needing special accommodation to participate in this meeting should contact the City Clerk's Office at (772) 467-3052 at least 48 hours prior to the meeting.

Historic Preservation Board - 2:00 PM

4. a.

Meeting Date: 03/23/2026

Re: Historic Preservation Board Minutes 9/22/25

Submitted For: Kev Freeman, Planning Director, Planning Department

Information

SUBJECT:

Minutes from the September 22, 2025 meeting

Attachments

Historic Preservation Board Minutes 9/22/25

Form Review

Form Started By: Alicia Rosenthal

Started On: 10/01/2025 02:00 PM

Final Approval Date: 02/09/2026

DRAFT



CITY OF FORT PIERCE
**HISTORIC PRESERVATION
BOARD**

Minutes

OF THE REGULAR MEETING OF THE FORT PIERCE HISTORIC PRESERVATION BOARD HELD ON MONDAY, SEPTEMBER 22, 2025, IN FORT PIERCE CITY HALL, COMMISSION CHAMBERS, 100 NORTH US HIGHWAY 1, FORT PIERCE, FLORIDA.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

Present: Minnie Spivey; Charlie Hayek; Betty Jo Starke; Anthony Westbury; Jacob Vinson;
KeAndrea Davis, Chair

Absent: Susan Garrett

Staff Present: Felicia Holloman, Assistant City Attorney
Vennis Gilmore, Historic Preservation Board Planner/Senior Planner
Alicia Rosenthal, Planning and Development Organizer

4. **APPROVAL OF MINUTES**

- a. Minutes from the August 25, 2025 meeting

to approve the minutes from the August 25, 2025 meeting.

AYE: Charlie Hayek, Betty Jo Starke, Anthony Westbury, Susan Garrett, Jacob Vinson,
Minnie Spivey, Chair KeAndrea Davis

Passed

5. **PUBLIC HEARINGS**

a. **Certificate of Appropriateness
PZCOA2025-00030
Addition of Support Structures
239 S. Indian River Drive**

The clerk introduced Certificate of Appropriateness PZCOA2025-00030 for the addition of support structures located at 239 S. Indian River Drive.

The chair called the proceeding to order.

The Board Attorney explained the Quasi-Judicial Hearing procedures.

When acting as a quasi-judicial body, the Board is held to certain procedural requirements. Quasi-judicial proceedings are less formal than proceedings before a circuit court, but are more formal than the other aspects of today's meeting. Quasi-judicial proceedings must follow basic standards of notice and due process, and decisions must be made based on competent substantial evidence. Therefore, board members have a duty to conduct quasi-judicial proceedings more like judges than legislators. This afternoon, the Board will follow the same uniform procedure in all quasi-judicial hearings.

The clerk confirmed the City complied with the advertisement and notice requirements.

The chair inquired with the Board regarding ex-parte communications and asked the Clerk to call the roll:

Ms. Starke - No
Mr. Westbury - no
Mr. Vinson - no
Ms. Garrett - no
Ms. Spivey - no
Mr. Hayek - no
Chair Davis no

The chair opened the public hearing.

The clerk was asked to swear in those wanting to speak during this Quasi-Judicial hearing. Individuals in the audience intending to speak on the item were asked to stand, raise their right hand, and administered an oath to tell the truth, the whole truth, and nothing but the truth.

Staff Presentation: Mr. Gilmore stated on June 26, 2023, the Historic Preservation Board approved the addition of an open-air bar, outdoor seating, and ADA restrooms to the existing historic structure and on April 22, 2024, the Historic Preservation Board approved the demolition of a non-contributing accessory building and the construction of a small kitchen facility in lieu of using the previously existing structure. Mr. Gilmore said the applicant is requesting approval to add additional support to the existing balcony. He said this would include the addition of two (2) columns located on both corners of the existing balcony. The additional support to the existing balcony is to provide the strength needed, per the structural engineer's recommendation, for the proper functioning of the historic structure and proposed restaurant and bar. Mr. concluded that the overall proposal and design are consistent with the Secretary of Interior Standard 9 and 10.

Board questions for staff:

Applicant Presentation: property owner, sworn,

Board questions for applicant:

Staff final comments: none

Applicant final comments:

The Chair, seeing no one else, closed the public hearing.

Comments by the Board:

to approve Certificate of Appropriateness PZCOA2025-00030 to add additional support to the existing balcony and provide the strength needed per the structural engineer's recommendation. This will include the addition of two (2) columns located on both corners of the existing balcony.

AYE: Betty Jo Starke, Anthony Westbury, Susan Garrett, Jacob Vinson, Minnie Spivey,
Charlie Hayek, Chair KeAndrea Davis

Passed

b. **Certificate of Appropriateness
PZCOA2025-00032
Awnings Change of Color and Logo
116 Avenue A, Unit A**

The clerk introduced Certificate of Appropriateness PZCOA2025-00032 for the awning color and logo change at 116 Avenue A, Unit A.

The chair called the proceeding to order.

The clerk confirmed the City complied with the advertisement and notice requirements.

The chair inquired with the Board regarding ex-parte communications and asked the Clerk to call the roll:

Mr. Westbury - no

Mr. Vinson - no

Ms. Garrett - no

Ms. Spivey - no

Mr. Hayek - no

Ms. Starke - No

Chair Davis no

The chair opened the public hearing.

The clerk was asked to swear in those wanting to speak during this Quasi-Judicial hearing. Individuals in the audience intending to speak on the item were asked to stand, raise their right hand, and administered an oath to tell the truth, the whole truth, and nothing but the truth.

Staff Presentation: Mr. Gilmore stated the subject structure is a single-story brick and mortar building with a flat commercial roof and awnings surrounding it. The structure was built in 1926. The applicant is requesting approval to change the color, materials, and logo of awnings on the main façade of the contributing historic structure.

The overall proposal and design are consistent with the Secretary of Interior Standard 9 and 10

and will align with the proposed use of a cocktail lounge.

Board questions for staff:

Applicant Presentation: property owner, sworn,

Board questions for applicant:

Staff final comments: none

Applicant final comments:

The Chair, seeing no one else, closed the public hearing.

Comments by the Board:

6. NEW BUSINESS

7. COMMENTS FROM THE PUBLIC

There were no comments from the public.

8. CONSIDERATION OF ABSENCES

Ms. Garrett was excused.

9. ADJOURNMENT

Meeting Date: 03/23/2026

Information

REQUESTED ACTION

PZCOA2026-00014

Certificate of Appropriateness

Demolition

1121 Avenue E

SUMMARY

Background

The subject structure is a one-story wood-frame building with a gable roof built in 1946.

Request

The applicant is requesting COA approval for the demolition of the termite-damaged, deteriorated structure. After the demolition, the owner intends to develop a new one-story single-family residence.

LOCATION

1121 Avenue E

RESPONSIBLE STAFF

Vennis Gilmore, Historic Preservation Officer/Senior Planner

RECOMMENDATION

The building proposed for demolition is in very poor condition. It has been heavily damaged by termites and left to deteriorate for an extended period of time. The Property Maintenance Inspection Report (attached) find the building to be unsafe.

While rehab of the structure is permitted and possible, it would be at considerable expense.

Given that the application meets A, B, C, D, and E of the criteria for demolition of a structure within a designated historic district, staff recommends that the Historic Preservation Board approve the demolition.

Attachments

Staff Report

Application Supporting Documents

Form Review

Form Started By: Vennis Gilmore
Final Approval Date: 03/17/2026

Started On: 03/16/2026 05:52 PM

CITY OF FORT PIERCE

PLANNING DEPARTMENT

PROJECT: DEMOLITION – CERTIFICATE OF APPROPRIATENESS
Project #: PZCOA2026-00014

REVIEWER: VENNIS GILMORE, HISTORIC PRESERVATION OFFICER/SENIOR PLANNER

DATE: MARCH 16, 2026

STAFF REPORT

Applicant: Fernandez Andre

Owner: Fernandez Andre of Sidconomics LLC

Requested Action: Certificate of Appropriateness

Location: Generally located at 1121 Avenue E

Parcel ID(s): 2409-501-0087-000-2

Historic District: Lincoln Park District

Historic Designation: Contributing

Current Zoning: R-4, Medium Density Residential Zoning District

Future Land Use: RM, Medium Density Residential

Aerial



Streetview



Future Land Use



Zoning



Surrounding FLU/Zoning:

| North | East | South | West |
|--------|--------|--------|--------|
| RM/R-4 | RM/R-4 | RM/R-4 | RM/R-4 |

Site Area:

+/- 0.11 Acres

Utilities:

Located within the FPUA Service Area

Staff Analysis:

Background

The subject structure is a one-story wood-frame building with a gable roof built in 1946.

Request

The applicant is requesting COA approval for the demolition of the termite-damaged, deteriorated structure. After the demolition, the owner intends to develop a new one-story single-family residence.

Elevations





Interior Conditions

Window frame broken.
Holes in walls.
Cracks in ceiling.



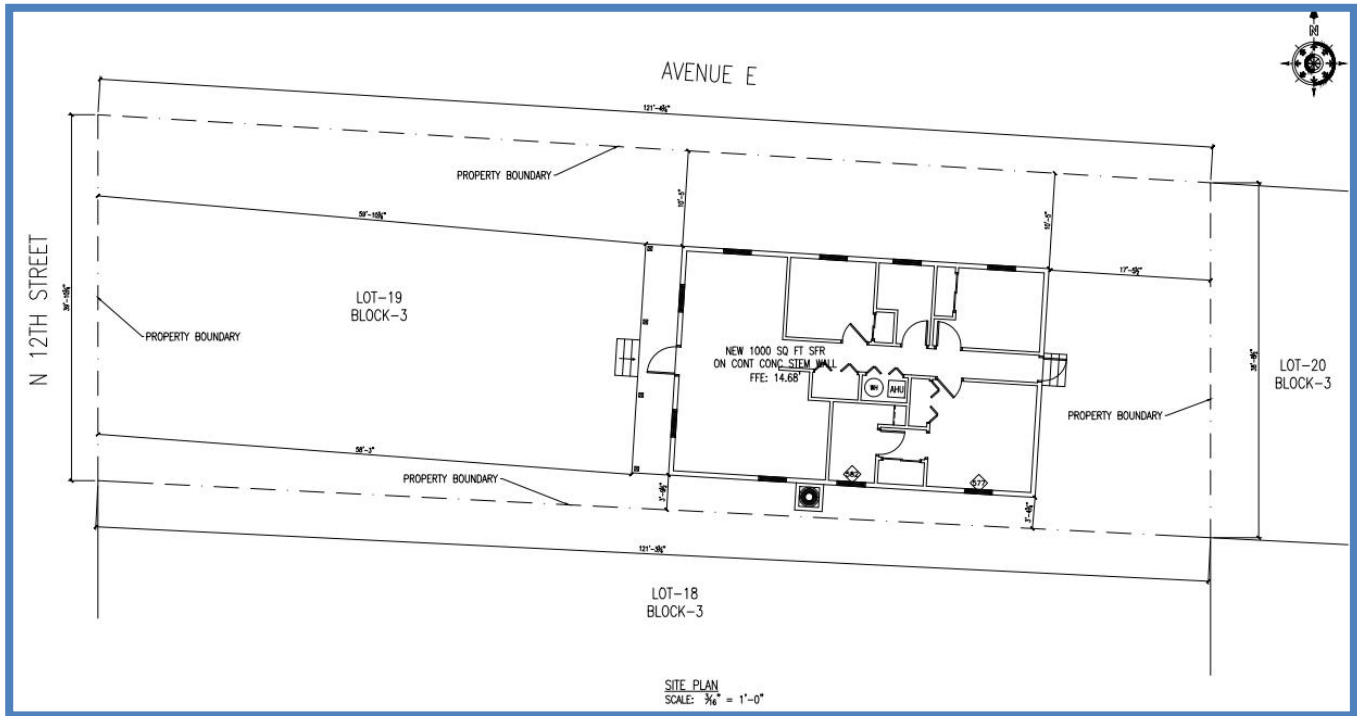
Kitchen cover in rugs.
Dips in flooring



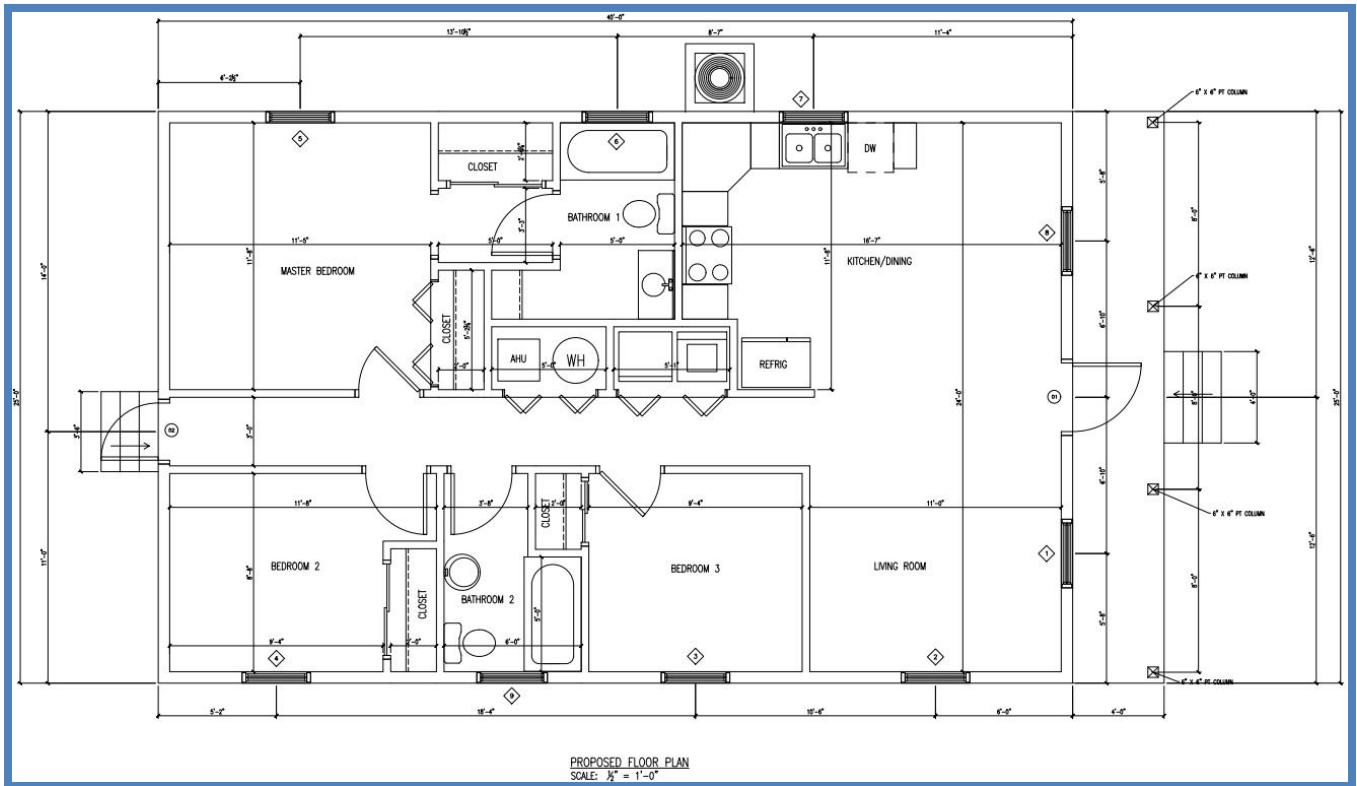




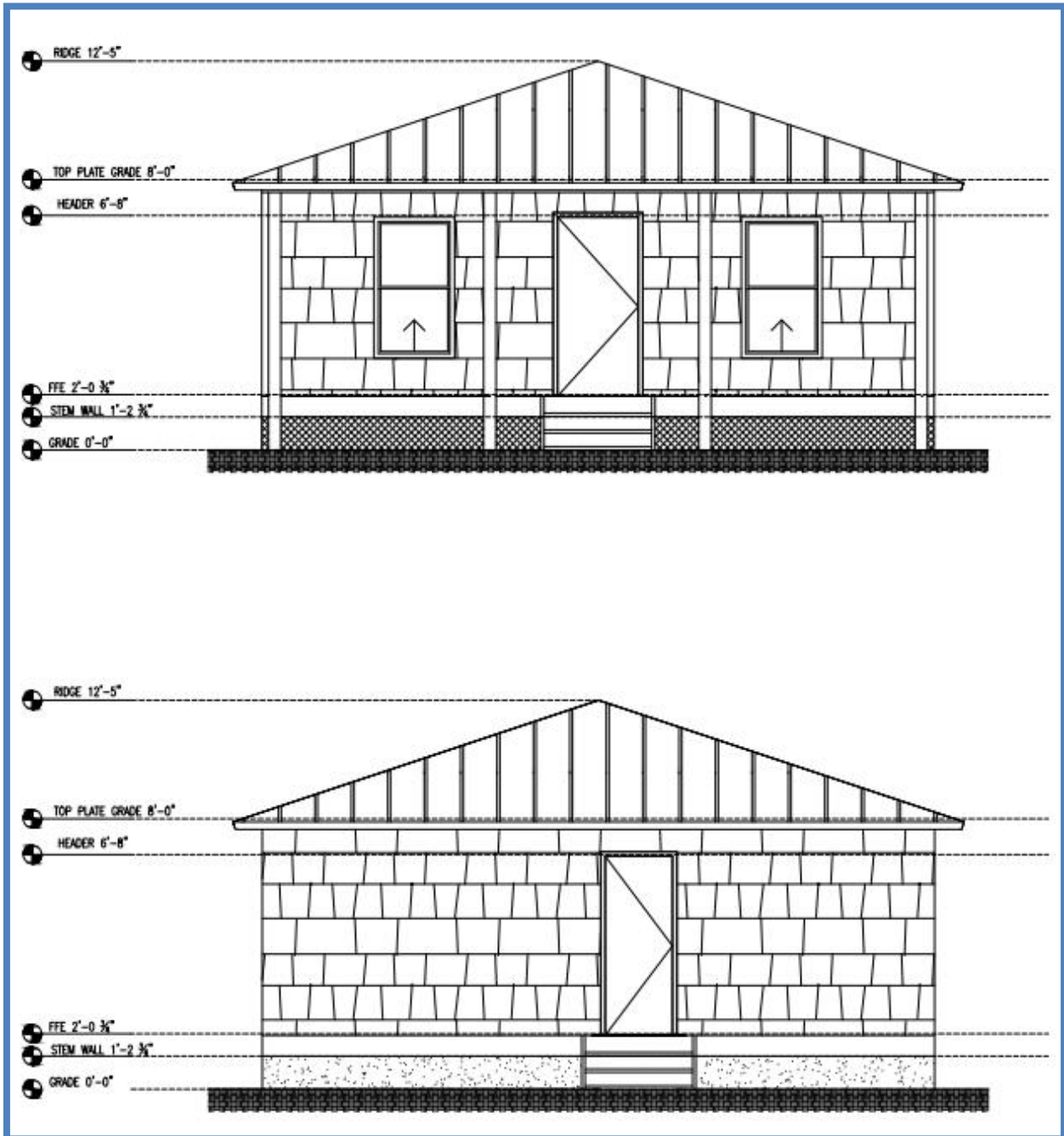
Proposed Replacement Site Plan

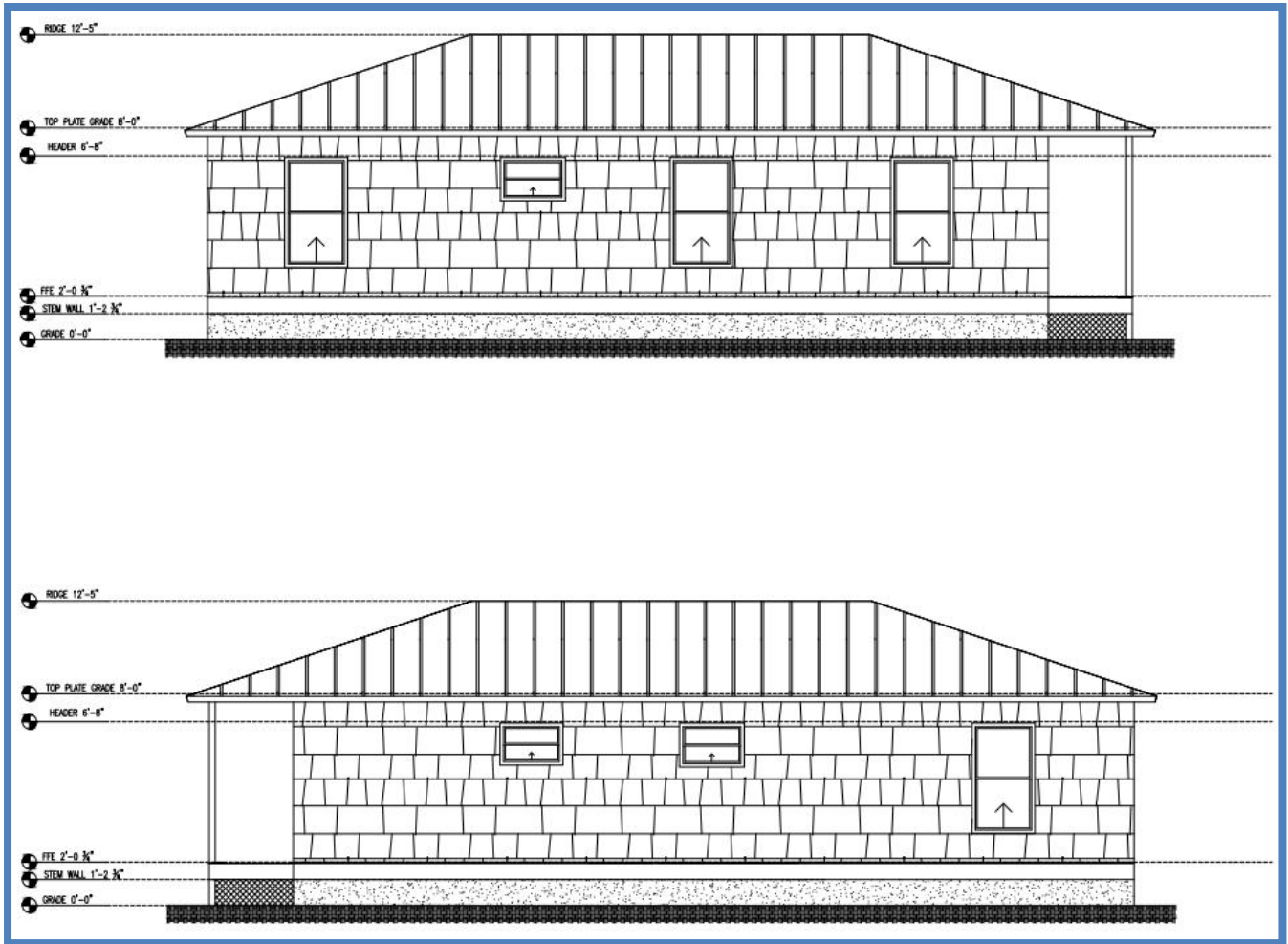


Proposed Replacement Floor Plan



Proposed Replacement Elevations





Criteria for Demolition (City Code Section 111-157):

| Criteria for Demolition (Sec. 111-157): 109 Avenue D | Applicant Responses | Staff Responses |
|---|---|---|
| A. Is the structure of such interest or quality that it would reasonably meet national, state, or local criteria for designation as a significant historic or architectural site or structure? | <p style="text-align: center;">No</p> | <p style="text-align: center;">No</p> |
| B. Is the structure of such design, craftsmanship, or material that it could be reproduced only with great difficulty or expense? | <p style="text-align: center;">Yes</p> | <p style="text-align: center;">Yes</p> |
| C. Is the structure one of the last remaining examples of its kind in the City, County, or Region? | <p style="text-align: center;">No</p> | <p style="text-align: center;">No</p> |

| | | |
|---|---|--|
| <p>D. Does the structure contribute significantly to the historic character of a designated historic district?</p> | <p>No</p> | <p>Yes</p> |
| <p>E. Would retention of the structure promote the general welfare of the City by providing an opportunity for study of local history, architecture, and design, or by developing an understanding of the importance and value of a particular culture and heritage?</p> | <p>No</p> | <p>No</p> |
| <p>F. Are there definite plans for the reuse of the property if the proposed demolition is carried out, and what will be the effect of those plans on the character of the surrounding area?</p> | <p>Yes. We have concluded that it would be safer from a legal and safety perspective to build a new structure almost the exact square footage.</p> | <p>Yes. Redevelopment and Beautification of the subject site.</p> |

Staff Recommendation:

The building proposed for demolition is in very poor condition. It has been heavily damaged by termites and left to deteriorate for an extended period of time. The Property Maintenance Inspection Report (attached) find the building to be unsafe.

While rehab of the structure is permitted and possible, it would be at considerable expense.

Given that the application meets A, B, C, D, and E of the criteria for demolition of a structure within a designated historic district, staff recommends that the Historic Preservation Board approve the demolition.

A



B

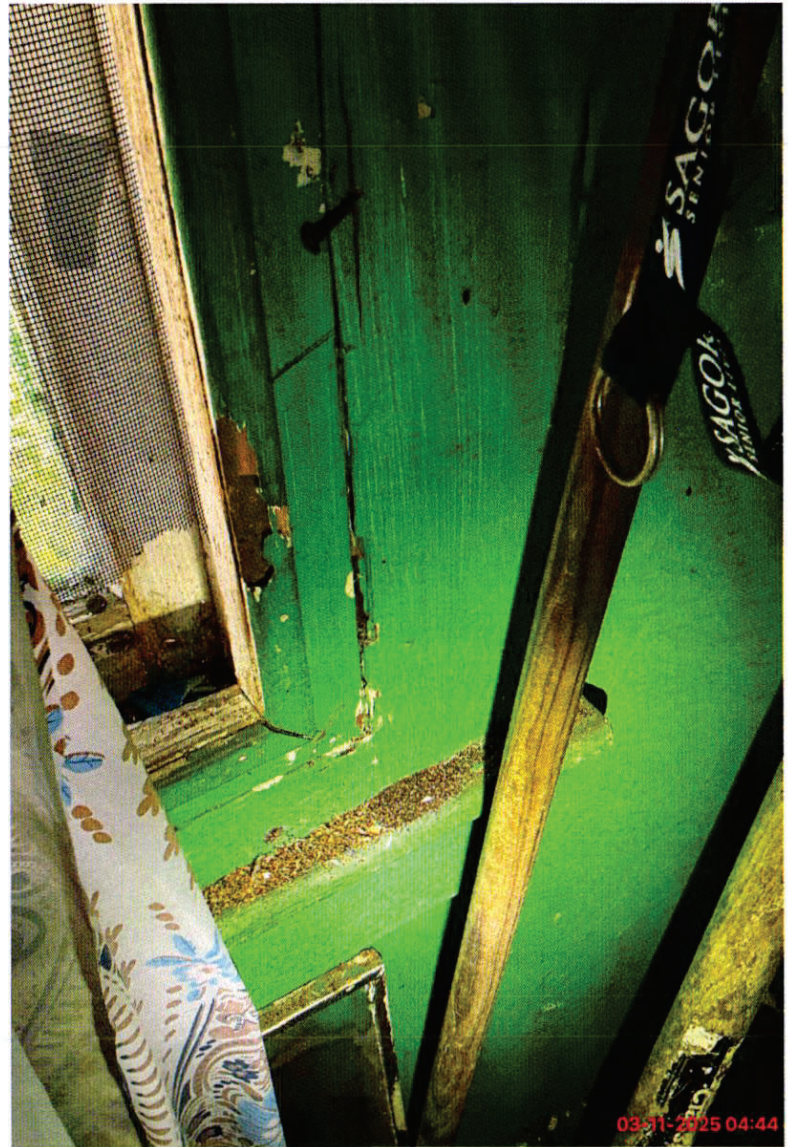


1121 Avenue E

C



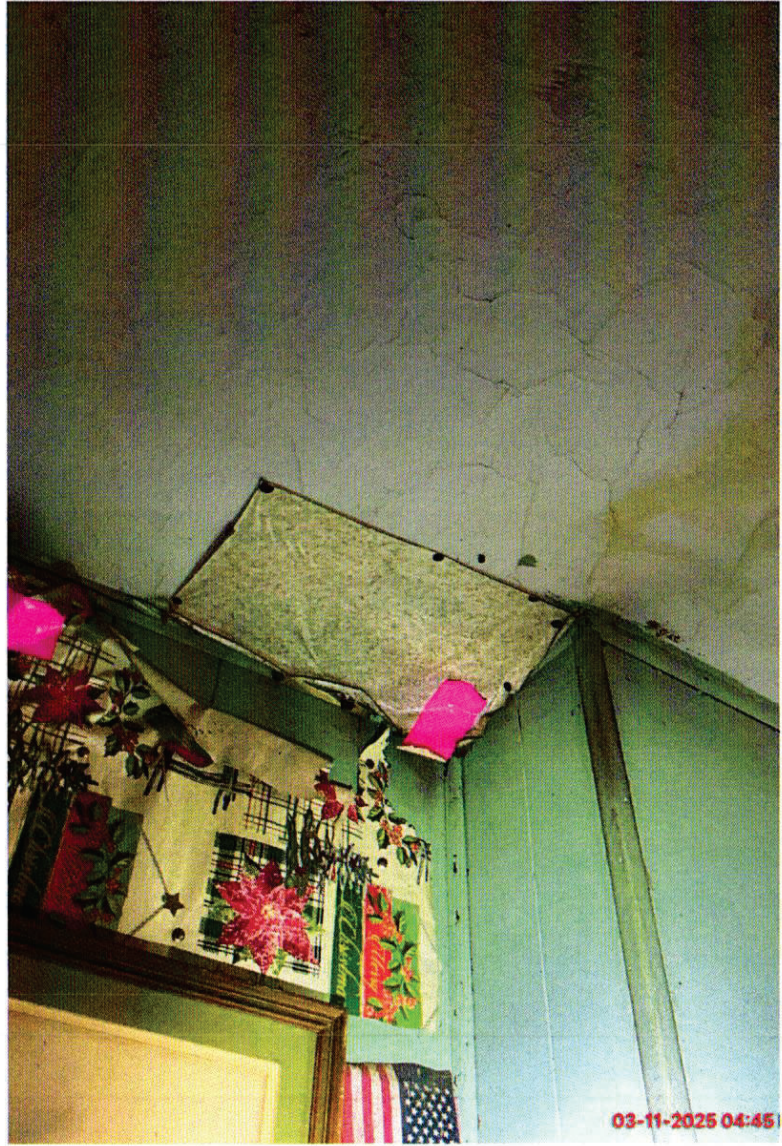
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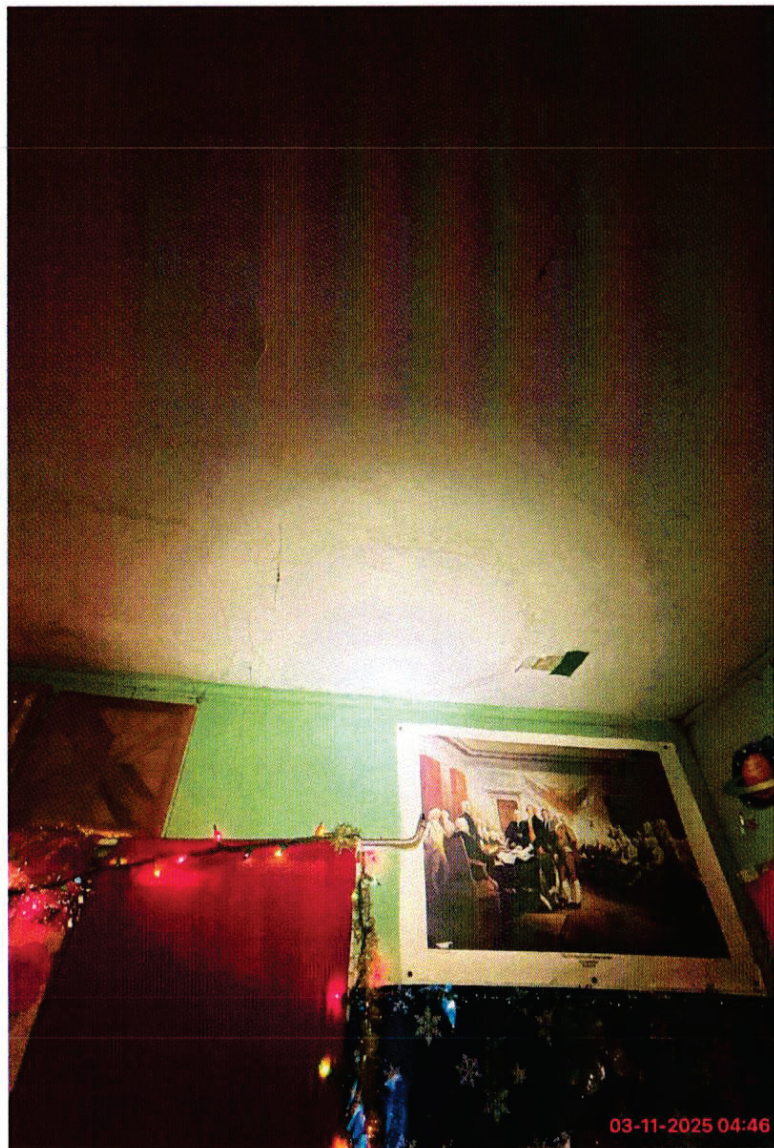
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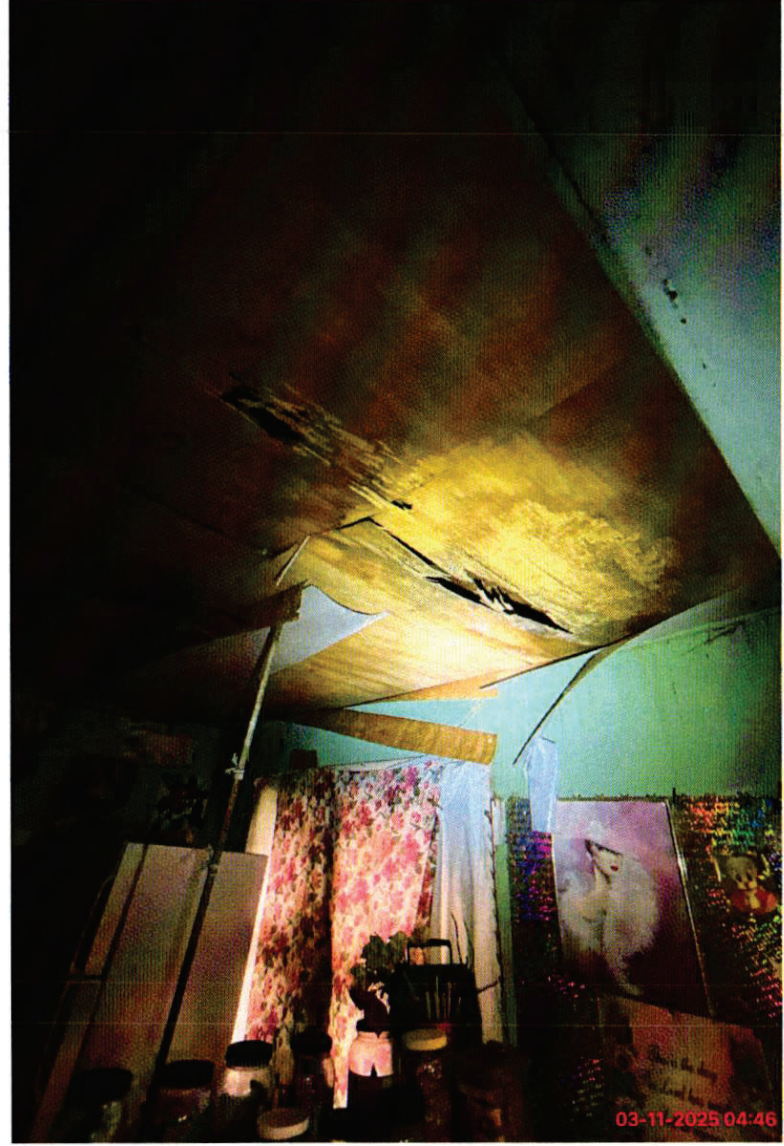
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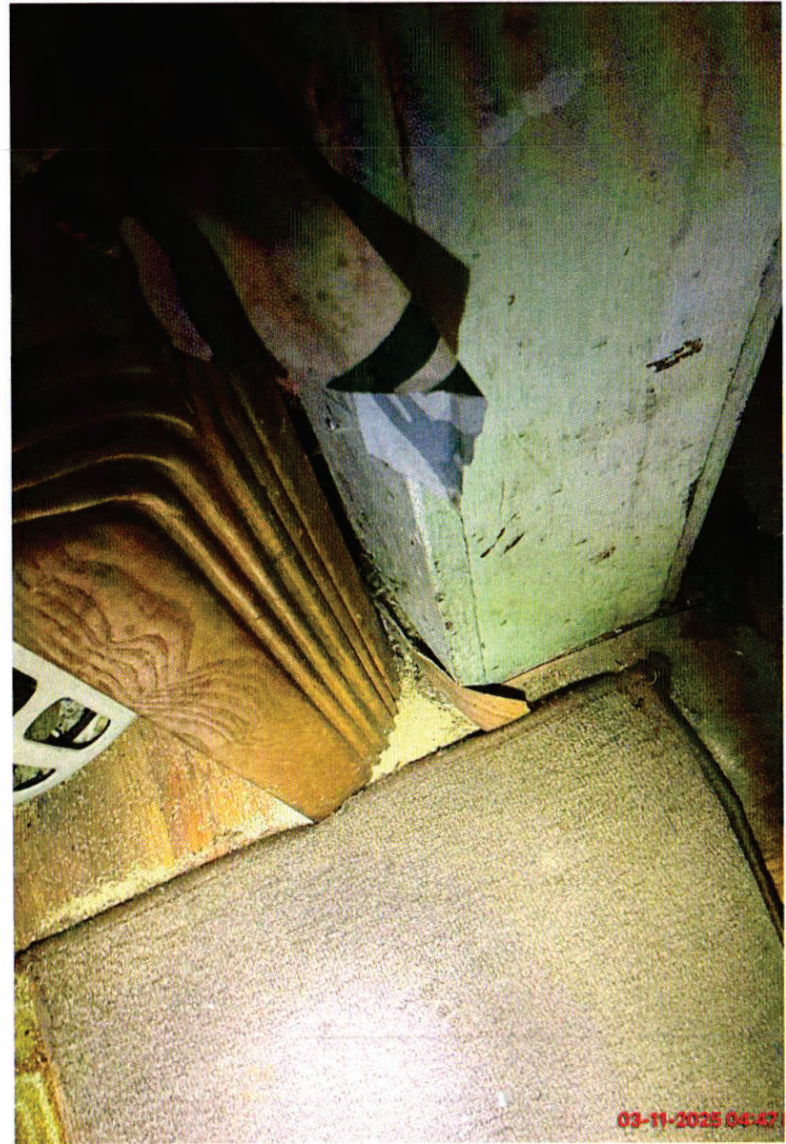
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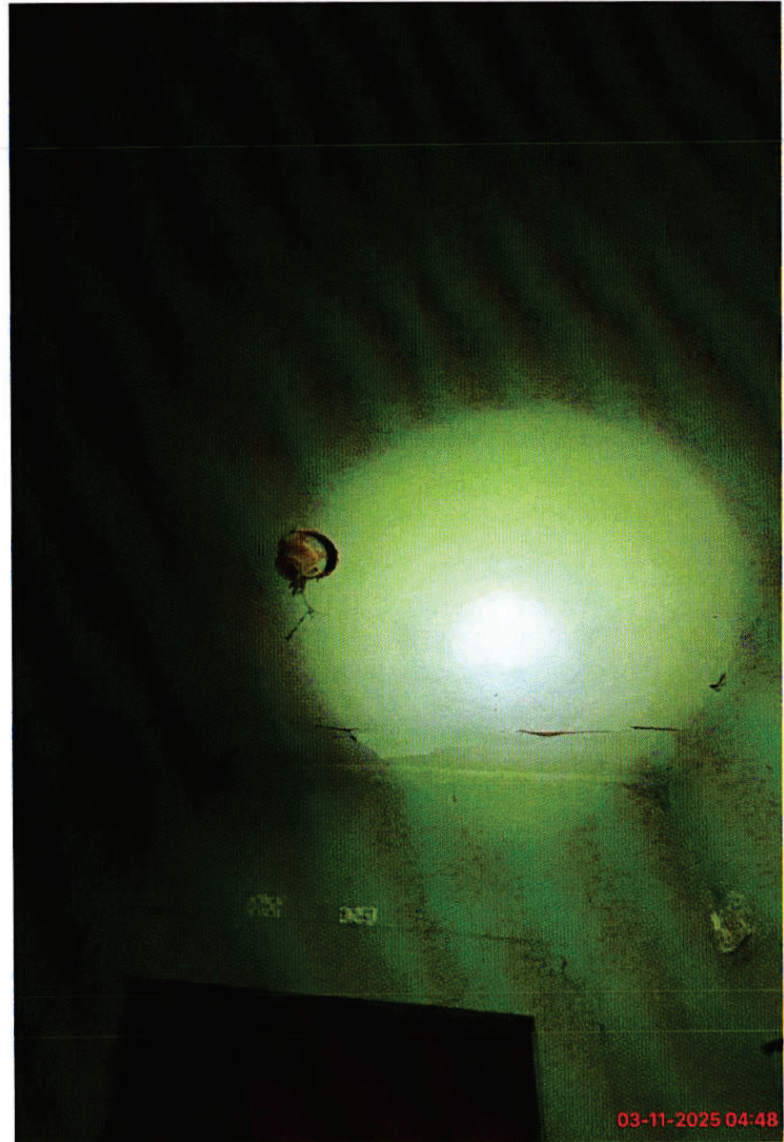
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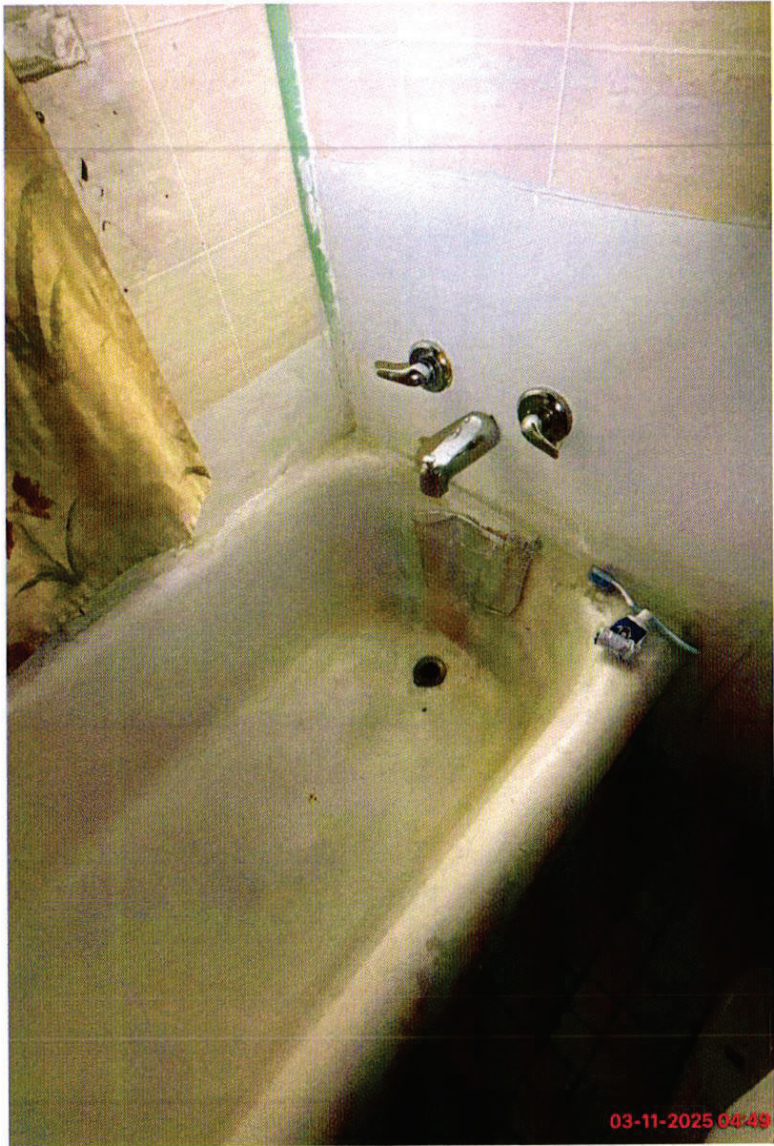
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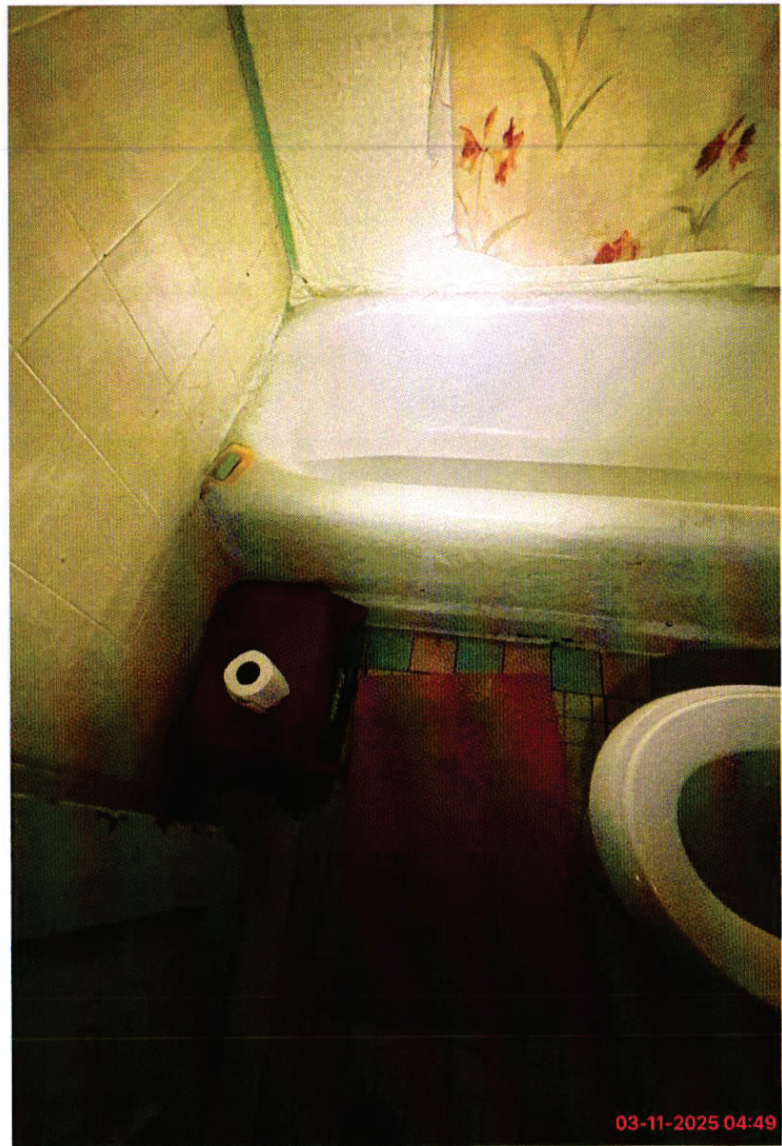
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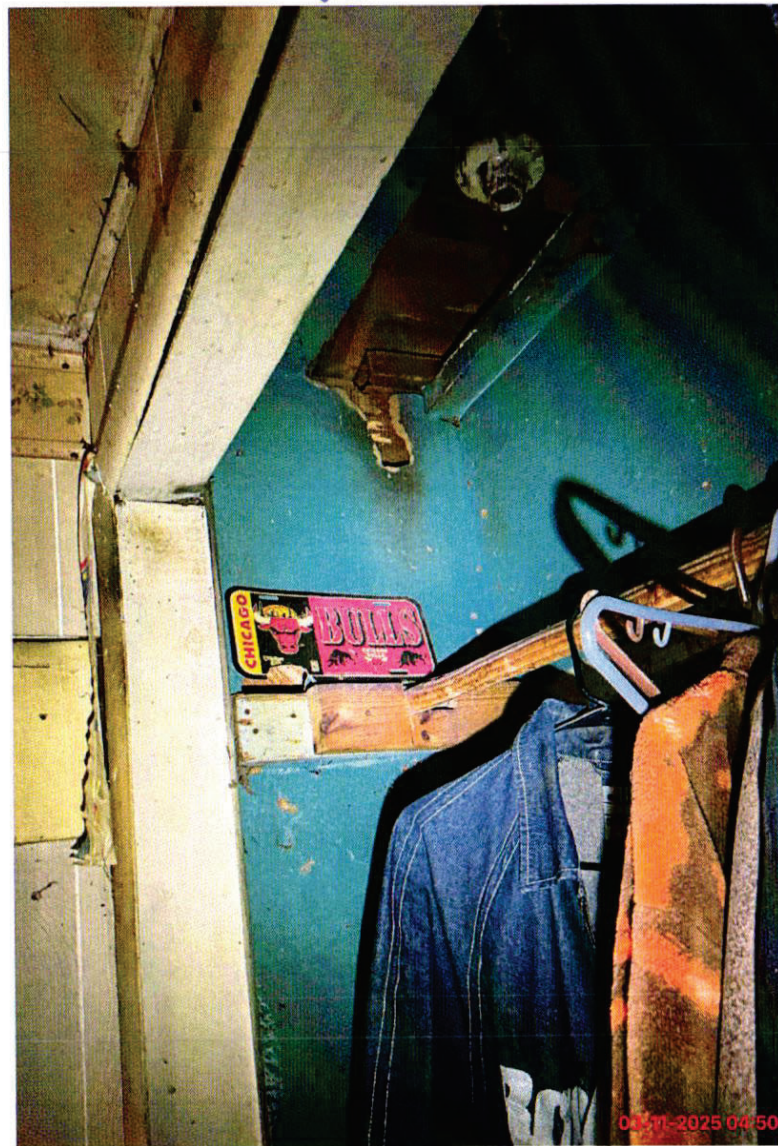
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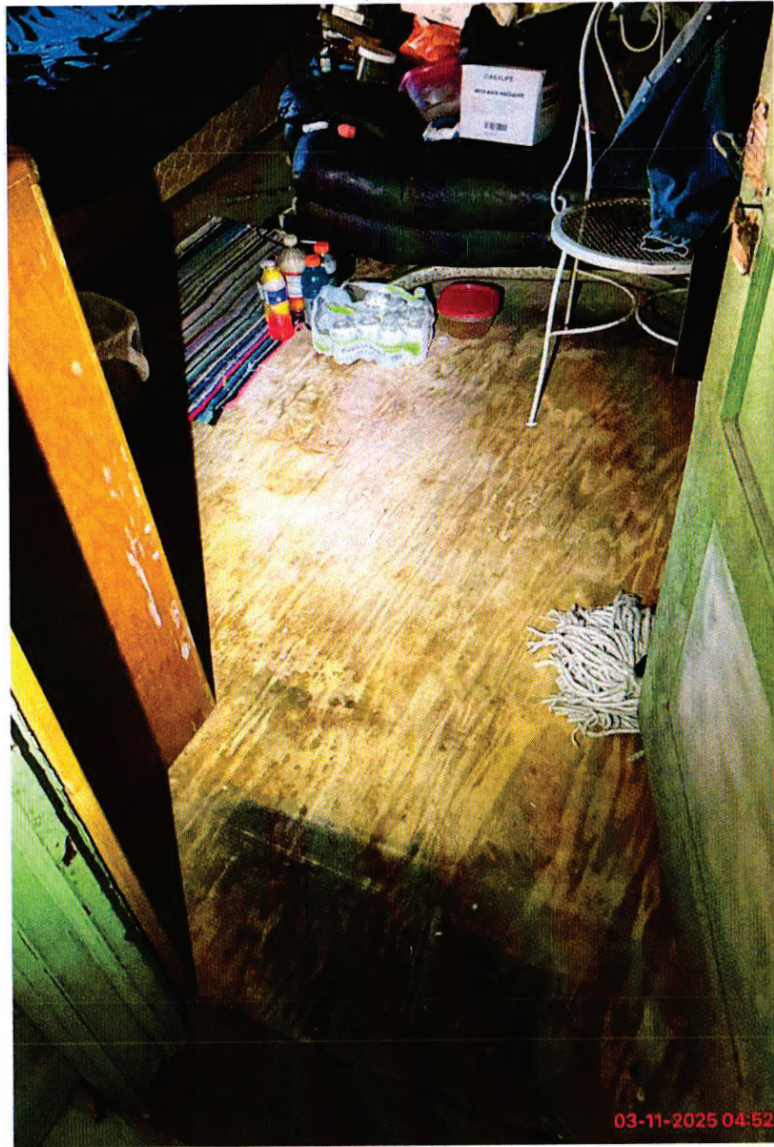
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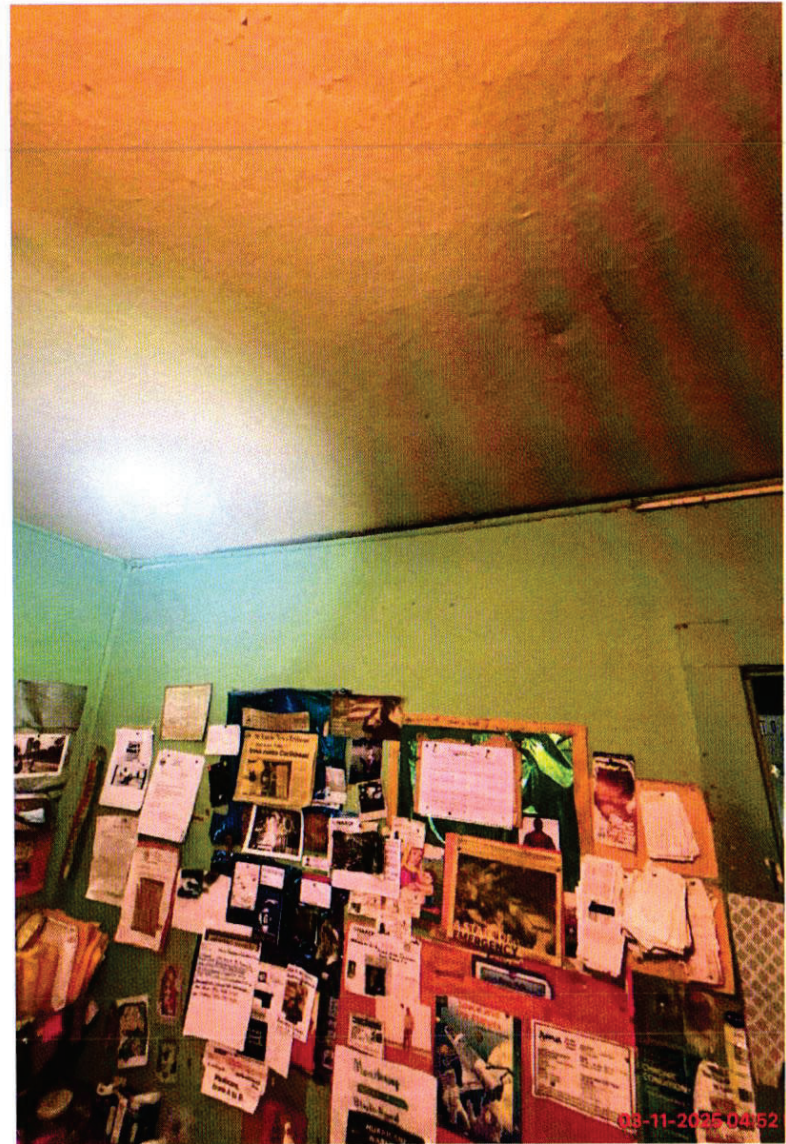
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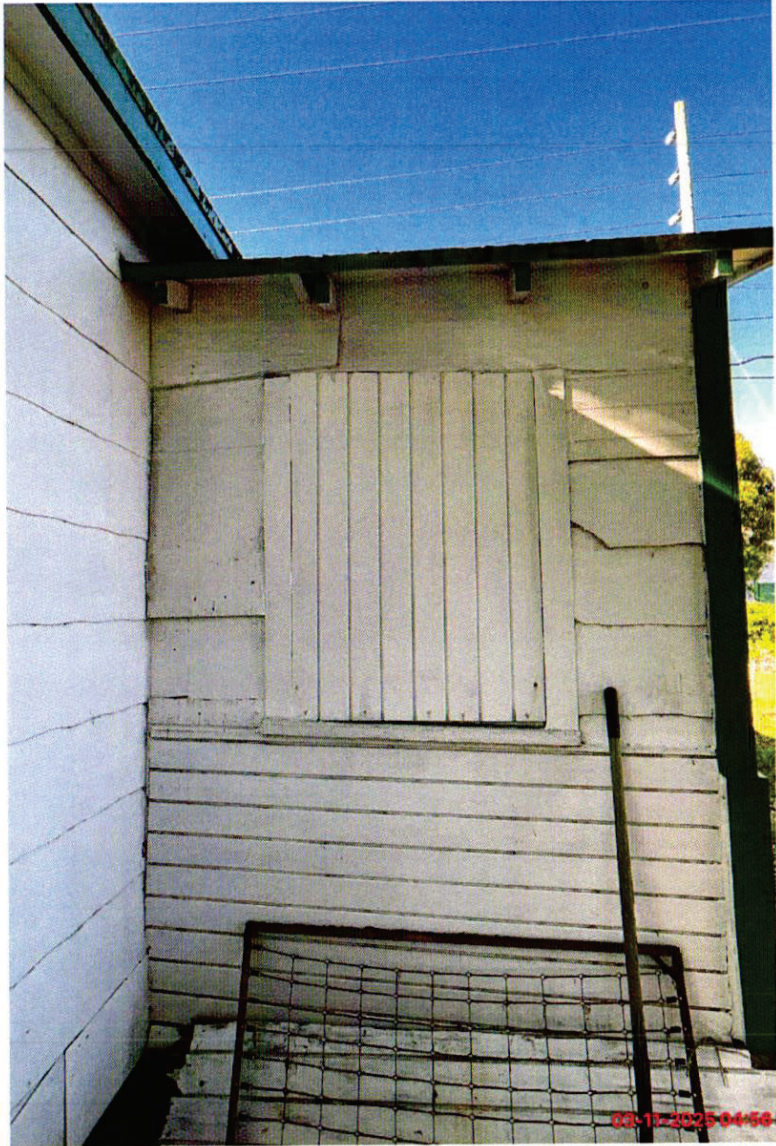
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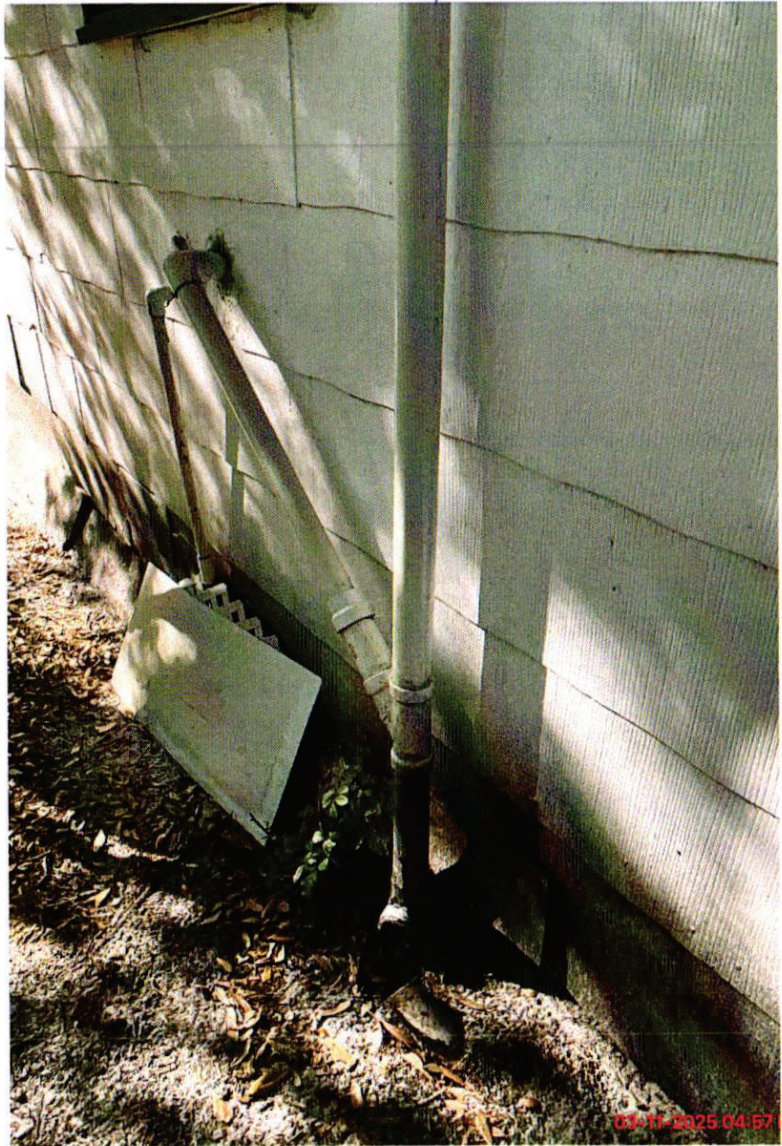
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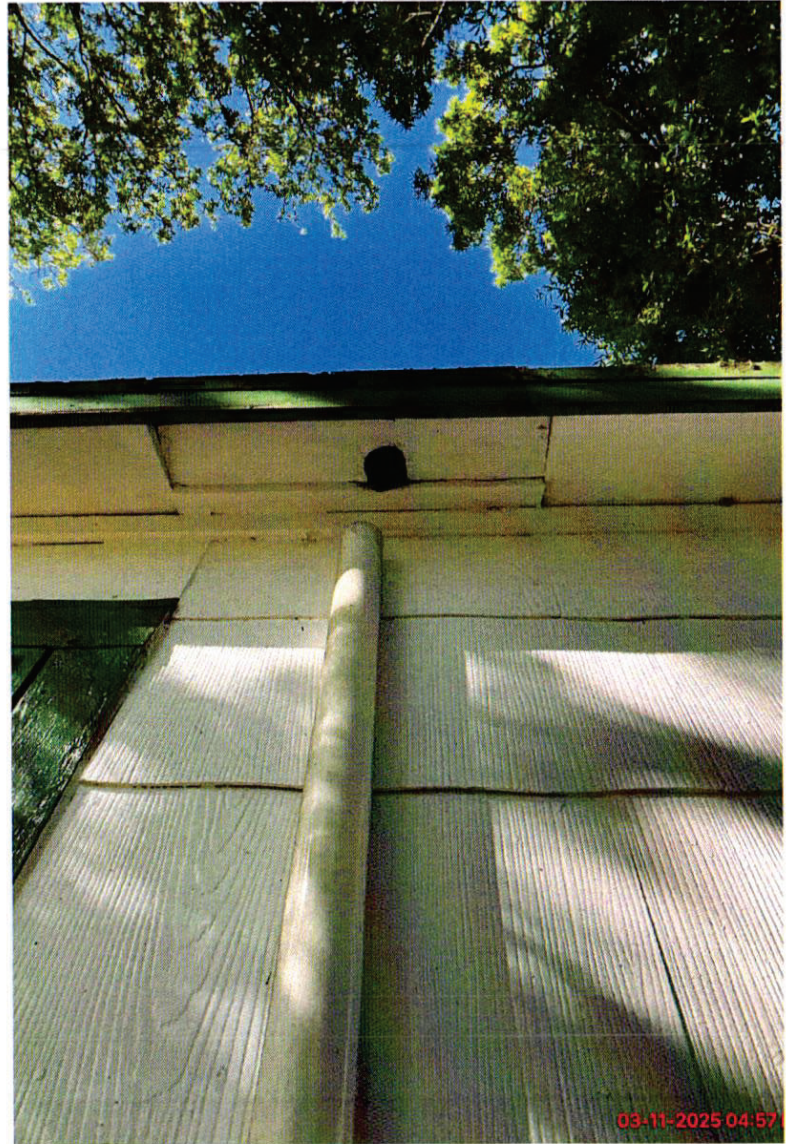
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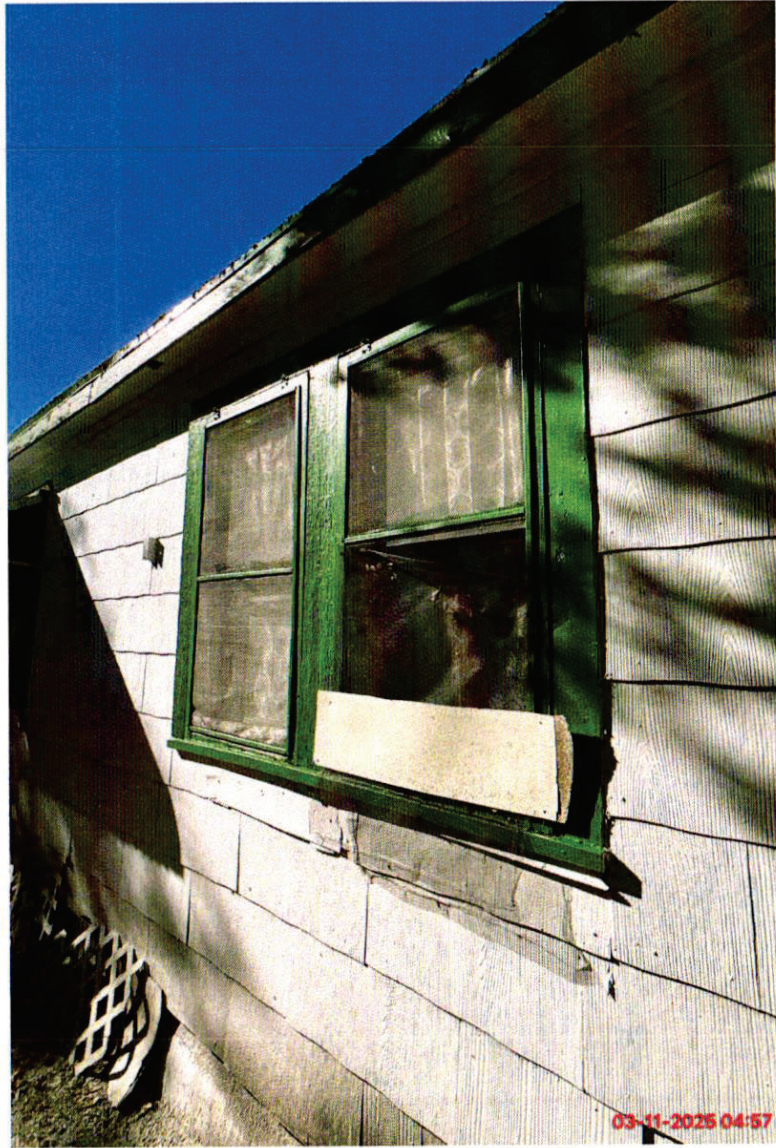
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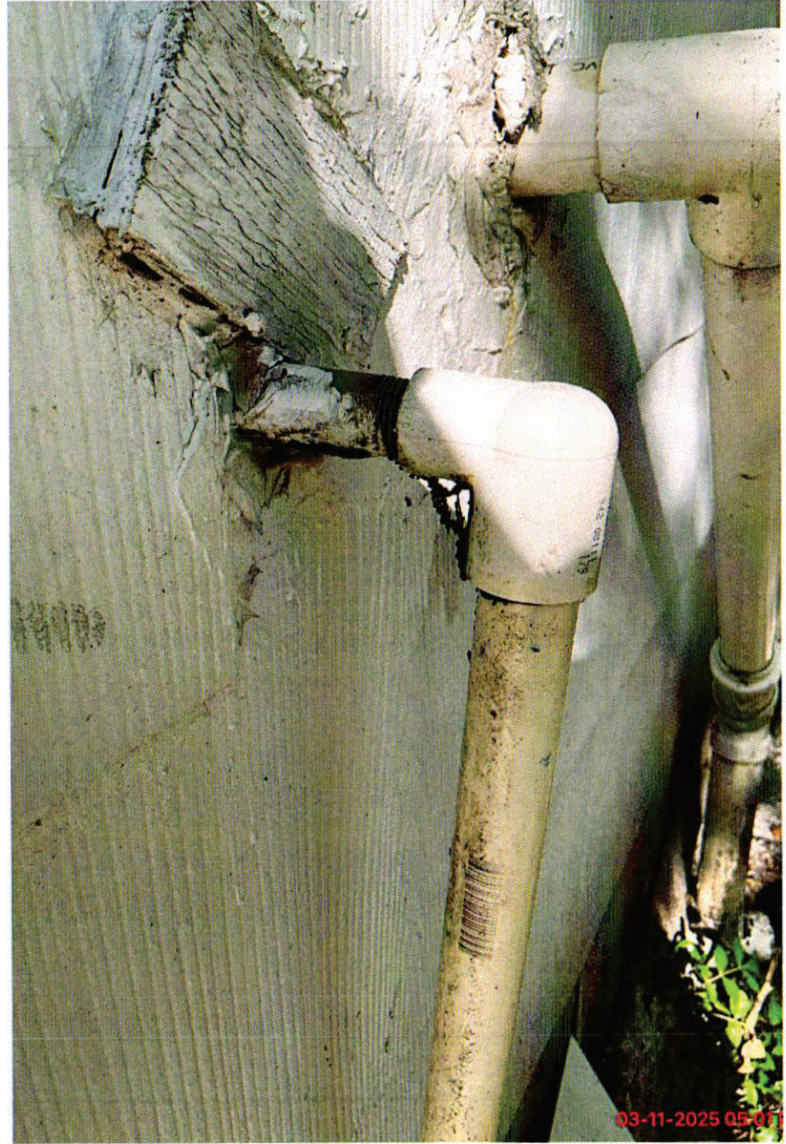
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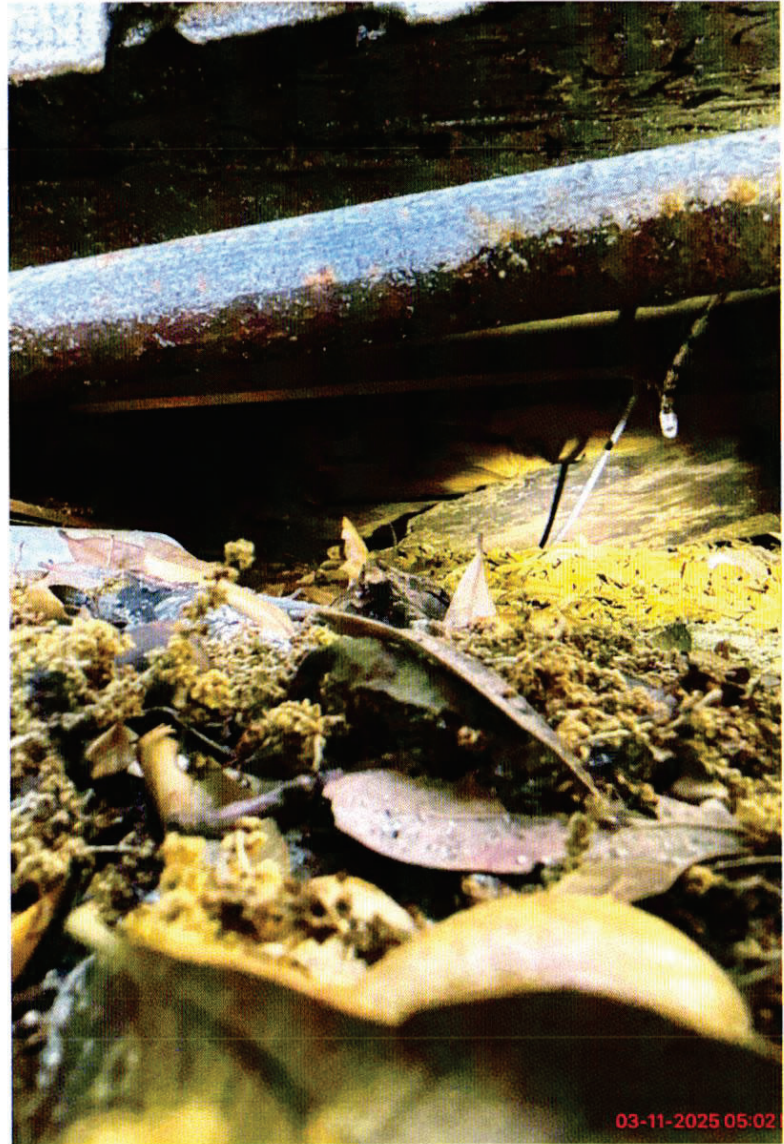
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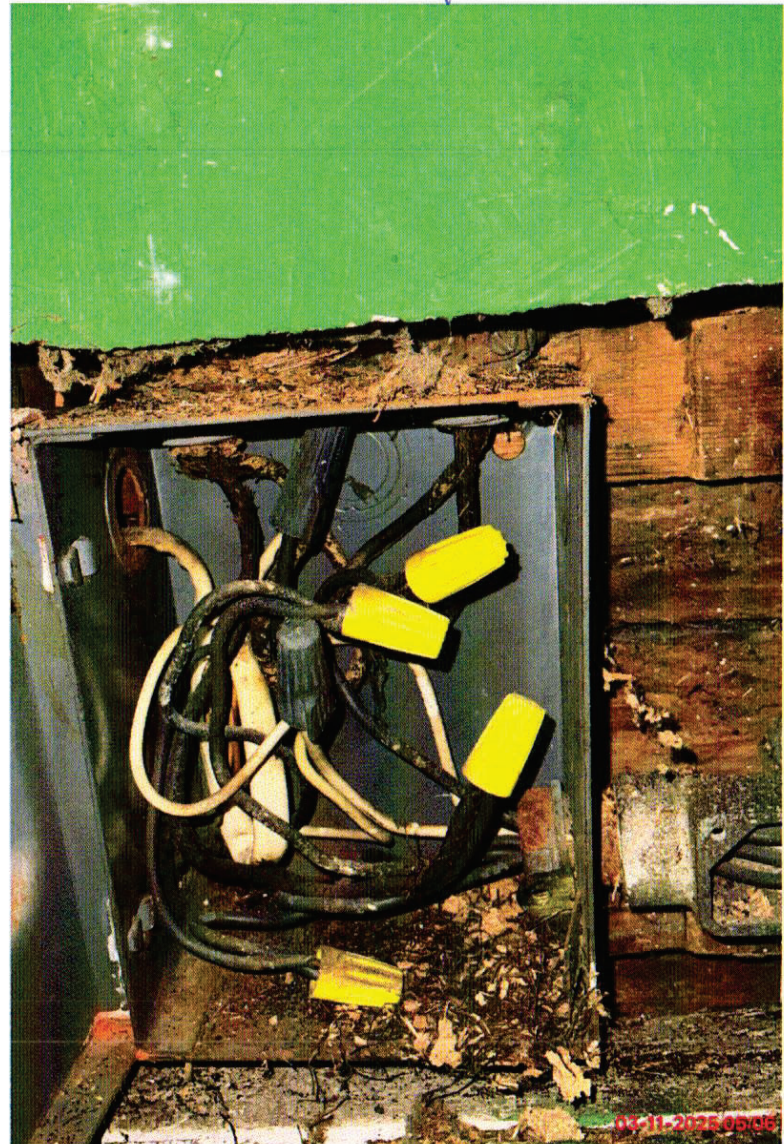
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ZZ



AAA



BBB



CCC



Inspection Report

Provided by:



Sherlock Home Inspections LLC

Inspector: Dale Mattice Jr.

833-474-3756

www.sherlock-inspections.com

Property Address

1121 Avenue E
Ft. Pierce, FL 34950



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Client Information

Client Palladium Investments, Inc.
Phone Number 850-566-0575
Phone Number 2 561-409-8598
Phone Number 3 954-378-8071
Email Address chris@palladiuminvestments.com
Email Address 2 joshua@palladiuminvestments.com
Contact Person Christopher Guillini
Contact Person 2 Joshua Bloom

Property Information

Building Type Single Family Residence
Mobile / Manufactured Home
Year Built 1946
Approximate Square Feet 864
Bedroom(s) 2.
Bath(s) 1.

Inspection Information

Inspection Date 06/24/2025
Inspection Time 2:00 pm
Weather Conditions Sunny

Report Summary Page

For the Purposes of this report:

Good = Well maintained &/or updated - working properly with no apparent issues.

Fair = Worn, weathered, aesthetic issues - working, but not completely or properly.

Poor = In need of correction, repair, or replacement.

N/A = Not applicable - not present / does not apply to this property.

THIS REPORT DOES NOT INCLUDE A SUMMARY - See comments and photos for details

Exterior

3.2 COMMENTS

Soil slopes will erode without grass to anchor it in place.

Perimeter fences old and falling apart.

3.4 COMMENTS

Exterior walls dirty.

3.5 COMMENTS

Windows old and falling apart.

3.6 COMMENTS

No garage or carport.

No laundry room on property.

3.7 COMMENTS

Paint peeling on back deck steps.

Interior

4.2 COMMENTS

Cabinet doors dont all match.

Shelves are dirty.

4.3 COMMENTS

Small counter top.

Old and worn.

4.4 COMMENTS

Appliances missing.

4.5 COMMENTS

A bunch of rugs cover floor.

Holes in walls and ceiling.

4.6 COMMENTS

A bunch of rugs covering floor.
Holes in walls and windows.
Big bubble in ceiling.

4.7 COMMENTS

Window frame broken.
Holes in walls.
Cracks in ceiling.

4.8 COMMENTS

No flooring in room just exposed wood.
Cracks and holes on walls and ceiling.

4.9 COMMENTS

Dirty carpet.
Holes in walls.

4.10 COMMENTS

Uneven floor

4.11 COMMENTS

No vanity cabinet.
Exposed plumbing
Missing medicine cabinet and mirror.

4.12 COMMENTS

Crack in ceiling above tub area.
Tub stained and tiles cracked around tub.
No shower function for tub.

Roofing Components

5.1 ROOF COMMENTS

Roof overview photos to show general condition.
Roof missing shingles.
Exposed nails found on roof.
Repairs do not appear to have been completed by a licensed professional.

Electrical Systems & Components

6.1 ELECTRICAL SYSTEM COMMENTS

Unable in fully inspect electric system as power is cut off to house at time of inspection.

Plumbing Systems

7.1 PLUMBING SYSTEM COMMENTS

Water meter located on right side of house at beginning of driveway.

Open drain line in back of house behind kitchen.

Exposed rubber fitting in front of house connecting cast iron pipe coming from house to PVC pipe going to street.

Water heater appears to be from 2017.

Unable to inspect plumbing fixtures due to water being shut off to house.

Galvanized gas line found in kitchen.

Heating & Cooling System

8.1 HEATING AND COOLING SYSTEM COMMENTS

No HVAC system in house just a bunch of windows open to let breeze through.

1 Invoice & Agreement**INVOICE**

Amount Due \$150

Paid or Still Due Amount above is **STILL DUE**

Payment Method .

AGREEMENT

Delivery & receipt of report & payment indicate that INSPECTOR and the "CLIENT" understand and voluntarily agree as follows:

1. SHERLOCK HOME INSPECTIONS sends a licensed Home Inspector to the subject property on the date of inspection, at or about the time agreed.
2. INSPECTOR agrees to perform an inspection of the home/building and to provide CLIENT with a written report in accordance with industry standards of practice, and the Scope of Inspection (below).
3. CLIENT has reviewed online &/or received copies of license(s) and scope of inspection including exceptions, exclusions, and limitations & agrees to pay the **Total Amount Due For Services Rendered** in the Invoice above. Payment is due at the time of inspection. Late fees & collection fees apply after 30 days. Results of the inspection do not change the amount due in any way.

2 Intellectual Prop. Scope of Insp. What Really Matters

IP + SOI + WRM

Intellectual Property

This report is exclusive intellectual property of Sherlock Home Inspections. It is given to the client(s) for his/her/their use, and released to 3rd parties as necessary for the purpose of purchasing &/or insuring the property. The report is confidential and proprietary in nature, and covered by electronic communication privacy laws. Any 3rd party (all persons other than the client and Sherlock Home Inspections) are legally prohibited from distributing, or otherwise disclosing the information in any manner without the expressed consent of the client or Sherlock Home Inspections.

Scope of Inspection

All reports are delivered via email (PDF) ~ Hard Copies = \$0.85 per page + shipping.

The client, his/her representatives, and any other person or party designated by the client to receive information in this report shall be subject to the TERMS AND CONDITIONS contained herein. This inspection is not technically exhaustive; it is a limited visual inspection of the major systems and components of the home. Minor issues, cosmetic / aesthetic concerns, excluded areas specifically noted as outside the scope of this inspection, etc. may be noted in this report (if identified during the inspection process) as an added benefit to the client, but they are not part of our standard inspection. The only purpose for the inspection is to alert the client of major faults in the property. This report is solely for the benefit of the client. Sherlock Home Inspections will deliver this report to the client &/or his/her representative (Realtor), but also reserves the right to provide the property owner with a copy of the report at our discretion, especially if we uncover issues that could cause personal injury &/or property damage. The inspector will only inspect visible and accessible areas and components of the property. The report only reflects the visual observations of the inspector and apparent condition of the property at the time the inspection was performed. Conditions may not be apparent, and some issues may be undetectable at the time the inspection occurs due to inoperable systems, weather, etc. The inspector is not liable for the failure to find hidden or concealed defects, deficiencies, or problems that occur or become obvious after the inspection has been performed. Some defects may elude even the most vigilant inspector; the risk of unexpected problems is not eliminated, only reduced. The inspector WILL NOT perform invasive or destructive testing, or dismantle any systems, appliances or equipment. The report will identify only those defects that the inspector both observed and deemed material. The inspection fee is for a single visit to the property, additional fees may arise if the Customer requires additional visits. If the inspector is called upon for litigation or testimony as a result of this inspection, such services are not included in this scope of this inspection. Any previous repairs are assumed to be done by a professional, to industry standard & building code at time of repair, and will not be noted unless they are obviously incomplete or sub-standard. This inspection or Report DOES NOT constitute (and is not intended, either expressed or implied to be) a compliance inspection with respect to any code, standard or regulation, a guarantee, warranty or policy of insurance, a survey, value appraisal or flood plain certification, a wood-destroying organism report, an opinion regarding the condition of title, zoning or compliance with restrictive covenants, an environmental or engineering analysis, an evaluation of geological stability, soil condition, sink holes, hurricane resistance, or structural stability, an energy efficiency evaluation, or a substitute for real estate disclosures. This inspection or Report does not include a repair cost estimate. The inspector may offer a hypothesis as to a diagnosis or cause of an issue, but this is merely an educated guess based on experience and the evidence at hand, without conducting a technically exhaustive inspection, disassembling or dismantling any system components, invasive or destructive procedures, etc. Client agrees to obtain quotes for repairs of any and all issues or concerns before the end of the inspection period (or before it is too late to request repairs / concessions from the seller). Proper operation, maintenance, servicing, recommended repairs, and other topics may be discussed, and even included in this report, but they are not part of our inspection; they must be done properly and several should be completed by a professional. The inspection and report do not address and are not intended to address the possible presence of, or danger from any potentially harmful substances and environmental hazards including but not limited to radon gas, asbestos, formaldehyde, mold, mildew, fungi, or toxic / flammable materials / chemicals. Also excluded are inspections of and report on plumbing shut off valves, electrical timers, thermostatic or time clock controls, security systems, central vacuums, intercom systems, radio / remote controlled devices, adequacy or efficiency of any system or component, and prediction of life expectancy of any item. Periodic, intermittent, or sporadic issues are not likely to be detected during the course of this inspection. Any and all areas not included in this inspection (including, but not

limited to fireplaces, elevators, environmental hazards, etc.) should be inspected by a professional licensed in that specific field.

Late Fees & Collection Fees – Bounced checks will incur a \$25 late fee + Invoices not paid within 30 days will incur a \$50 late fee, which will be added to and collected with the amount due for services rendered. In the event that collection services &/or litigation is required to collect payment of the amount due for services rendered, the \$50 late fee, all collection service fees, and / or all reasonable attorney &/or court fees will be surrendered by the client as damages.

Dispute Resolution:

Should any disagreement or dispute arise as a result of this agreement, inspection, or report, it shall be decided by binding arbitration. Such arbitration shall be conducted in a venue located within Lee County, Florida, and all arbitrators shall be familiar with the home inspection industry. Client will not disturb, repair or have repaired anything which may constitute evidence relating to a complaint, without first allowing the inspector or another representative from Sherlock Home Inspections to inspect the area of disagreement or dispute, as doing so will waive the right to make a claim.

LIMITATION OF LIABILITY

SHERLOCK HOME INSPECTIONS, ITS PRINCIPLES, EMPLOYEES, AGENTS, OR OTHER REPRESENTATIVES ASSUME NO LIABILITY OR RESPONSIBILITY FOR THE INSPECTION OR REPORT. INSPECTOR ASSUMES NO LIABILITY OR RESPONSIBILITY FOR THE COST OF REPAIRING OR REPLACING ANY UNREPORTED DEFECTS OR DEFICIENCIES, EITHER CURRENT OR ARISING IN THE FUTURE, OR FOR ANY PROPERTY DAMAGE, CONSEQUENTIAL DAMAGE OR BODILY INJURY OF ANY NATURE. INSPECTOR'S LIABILITY FOR ERRORS OR OMISSIONS IN THE CONDUCT OF THIS INSPECTION AND ITS REPORT IS LIMITED TO A REFUND OF THE FEE PAID FOR THE INSPECTION. THIS LIMITATION OF LIABILITY IS BINDING UPON CLIENT, HEIRS, SUCCESSORS AND ASSIGNS, AND ALL OTHER PARTIES CLAIMING BY OR THROUGH THE CLIENT. CLIENT ASSUMES THE RISK OF ANY AND ALL LOSSES GREATER THAN THE FEE PAID FOR THE INSPECTION. CLIENT AGREES TO ACCEPT A REFUND OF THE INSPECTION FEE AS FULL SETTLEMENT OF ANY AND ALL CLAIMS WHICH MAY EVER ARISE FROM THIS INSPECTION.

AN INSPECTION WITHOUT LIABILITY LIMITED TO A REFUND OF THE FEE PAID FOR THE INSPECTION IS OFFERED. CLIENT MAY PAY AN ADDITIONAL \$1,500.00 TO RECEIVE AN INSPECTION AND REPORT WITHOUT THE LIMITATION, OR AN ADDITIONAL \$2,500.00 TO RECEIVE OUR "HOME BUY-BACK GUARANTEE."

Due to the nature of the services provided...

Our fee includes the inspection conducted (not merely the report), which is why payment is due at the time of inspection, (when services are rendered) not after reports are delivered.

Once Inspection Reports have been delivered, the client immediately benefits from the information within. Additionally, the reports no longer have monetary value to Sherlock Home Inspections & therefore they cannot be "returned" or "refunded."

Condition of the home (good or bad) do not make a difference in the services rendered, which is why the results of the inspection do not change the amount due in any way.

Any billing / payment errors will be corrected immediately.

However, because (1) services are rendered once the inspection is conducted; (2) reports cannot be returned or refunded; and (3) the results of the inspection do not change the amount due in any way, the client agrees that once the inspection is conducted, he/she will not put a "stop payment" on checks, "dispute" credit card charges, or otherwise cancel payment in any way, but rather handle any disputes as per the "Dispute Resolution" section of the Agreement (above).

NEW CONSTRUCTION – Many possible issues with existing homes do not apply to new construction. Inspections of new construction will concentrate on quality of construction & finish work rather than wear & tear or system failures, etc.

TOWN HOMES & CONDOMINIUMS – Common areas and areas usually maintained by the Condo / Neighborhood Association are not included in the following inspection. Buyers should review ownership documents, and speak with the association to determine who is responsible for each area (roof, exterior, stairwells, irrigation, etc.) and ensure that the association can and will make repairs under its responsibility as required.

Pest Inspection &/or Wood Destroying Organism (WDO) – The inspector will visually inspect for live, dead, and evidence of insect and pests inside and outside the home / building. Inspectors observations will be recorded on report. WDO inspections must be conducted by a licensed Pest Control company.

BASIC Home Inspection – This inspection is much more BASIC than our Standard 101 Point Inspection. This inspection is a limited, visual survey of the exterior for major structural and/or foundation issues + the roof, attic, electric, plumbing, and HVAC systems. Several areas will not be inspected or noted in this report; these include, but

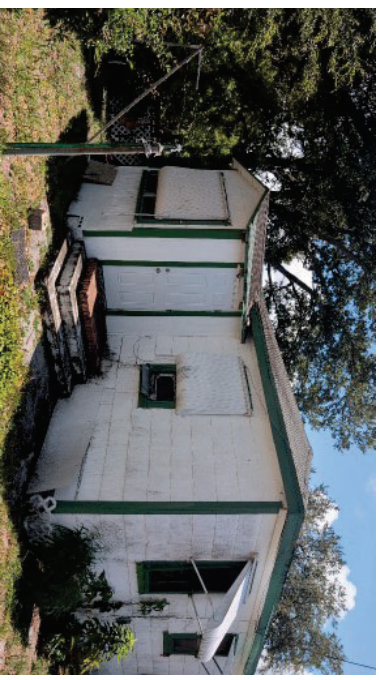
are not limited to appliances, irrigation, cabinets, countertops, interior ceilings, walls, floors, doors, windows, minor imperfections, aesthetic issues, etc. Unlike a Four-Point Insurance Inspection, research of city/county permit records, estimating age, expected service life, recording types of materials used, etc. will not be reported.

3 Exterior

ALL 4 SIDES

3.1) PHOTOS

See photos

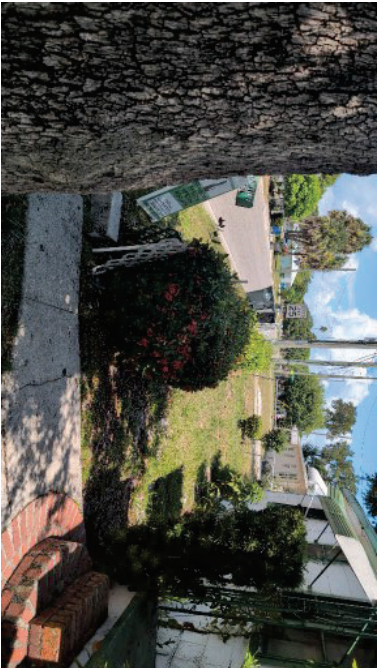
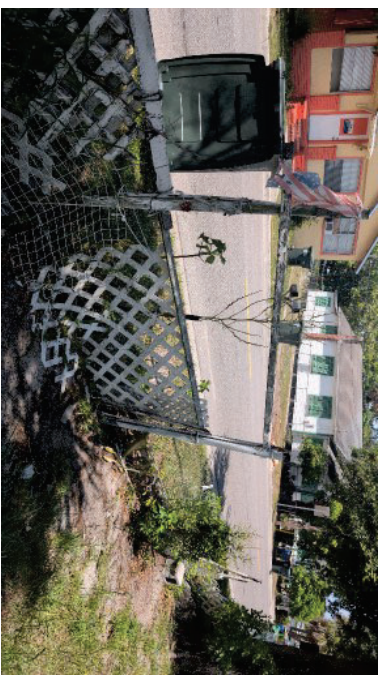


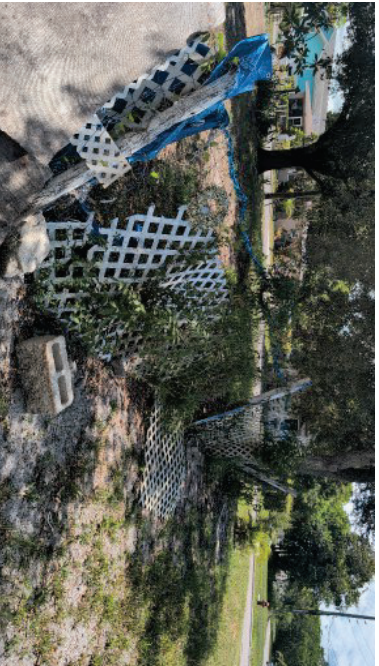
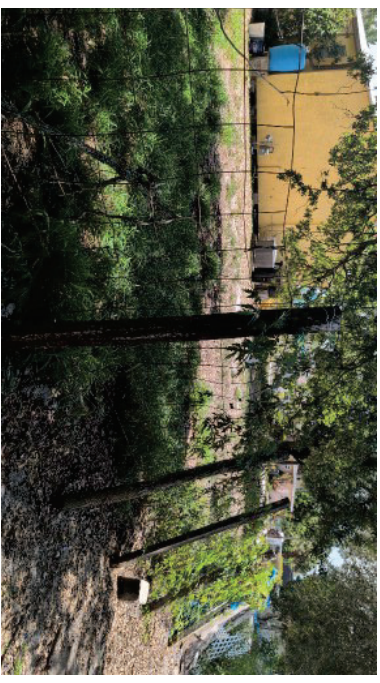
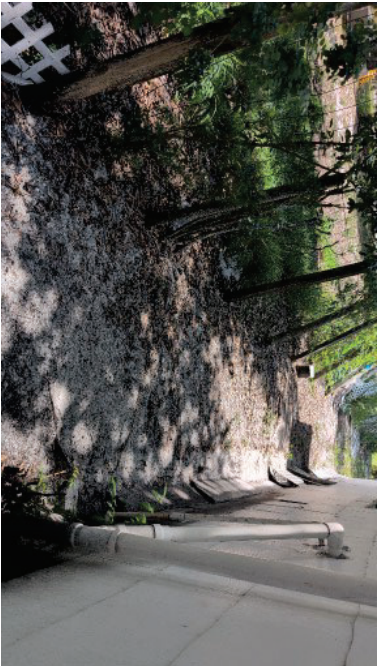
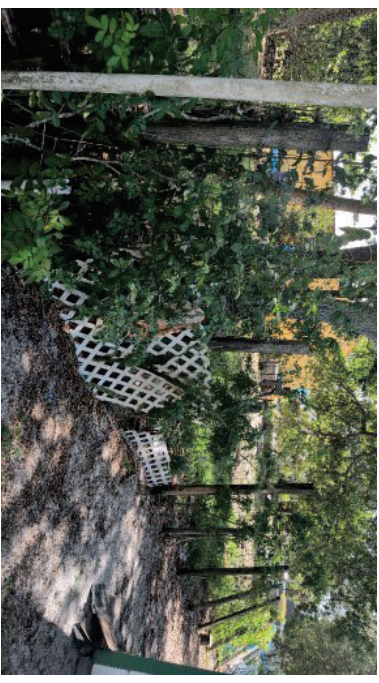
LANDSCAPING

CONDITION O GOOD / O FAIR / X POOR / O N/A

3.2) COMMENTS

Soil slopes will erode without grass to anchor it in place.
Perimeter fences old and falling apart.





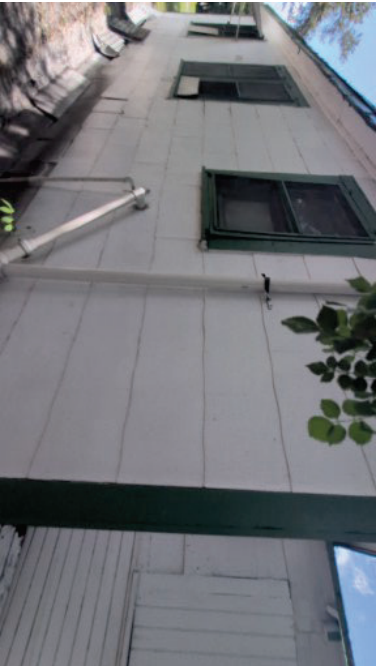
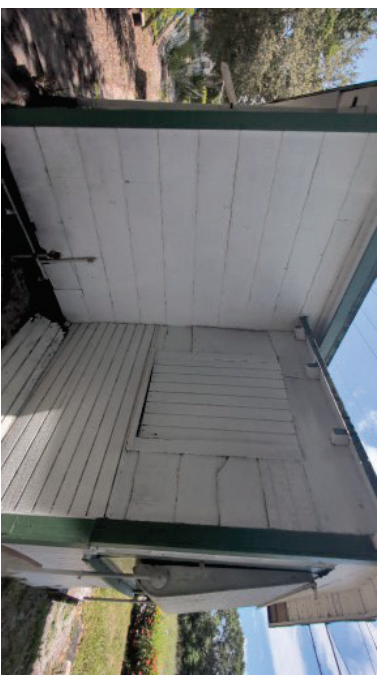
WALLS

Wall Construction Type Wood Frame

CONDITION O GOOD / X FAIR / O POOR / O N/A

3.3) COMMENTS

A couple panels in back of house popping off.





PAINT

CONDITION O GOOD / X FAIR / O POOR / O N/A

3.4) COMMENTS

Exterior walls dirty.



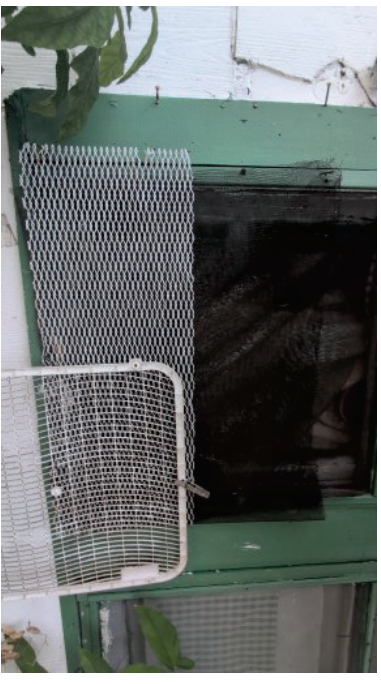
DOORS & WINDOWS

CONDITION O GOOD / O FAIR / X POOR / O N/A

3.5) COMMENTS

Windows old and falling apart.







LAUNDRY - GARAGE - CARPORT

CONDITION O GOOD / O FAIR / O POOR / X N/A

3.6) COMMENTS

No garage or carport.

No laundry room on property.

PORCHES, DECKS, PATIOS, & OTHER STRUCTURES

CONDITION O GOOD / X FAIR / O POOR / O N/A

3.7) COMMENTS

Paint peeling on back deck steps.



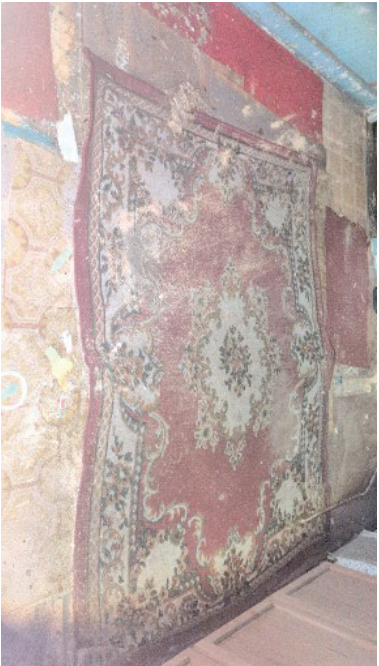
4 Interior

KITCHEN FLOOR

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.1) COMMENTS

Kitchen cover in rugs.
Dips in flooring



KITCHEN CUPBOARDS & CABINETS

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.2) COMMENTS

Cabinet doors dont all match.
Shelves are dirty.



KITCHEN COUNTERTOPS

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.3) COMMENTS

Small counter top.
Old and worn.





KITCHEN APPLIANCES

CONDITION O GOOD / O FAIR / O POOR / X N/A

4.4) COMMENTS

Appliances missing.

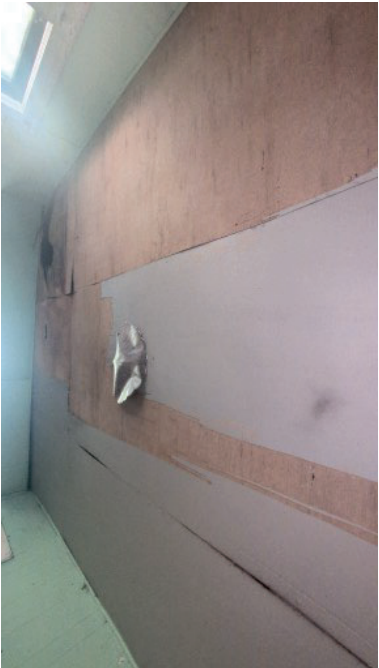


DINING ROOM

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.5) COMMENTS

A bunch of rugs cover floor.
Holes in walls and ceiling.

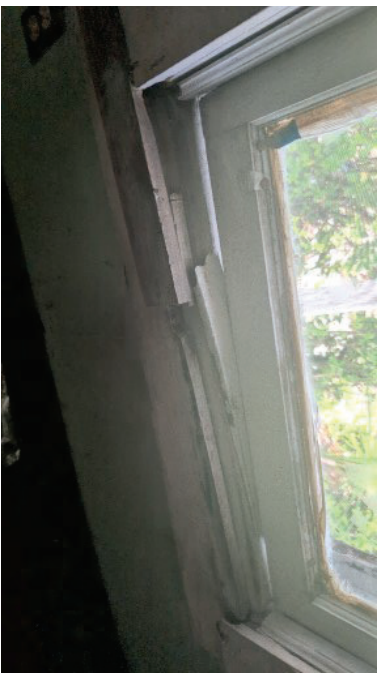


LIVING ROOM

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.6) COMMENTS

A bunch of rugs covering floor.
Holes in walls and windows.
Big bubble in ceiling.



DEN &/OR OTHER INTERIOR SPACE

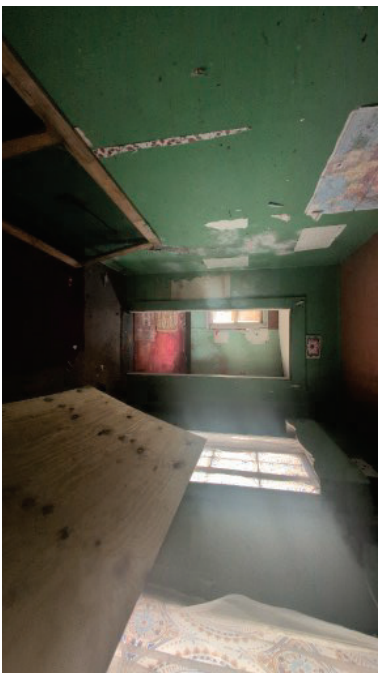
CONDITION O GOOD / O FAIR / X POOR / O N/A

4.7) COMMENTS

Window frame broken.

Holes in walls.

Cracks in ceiling.



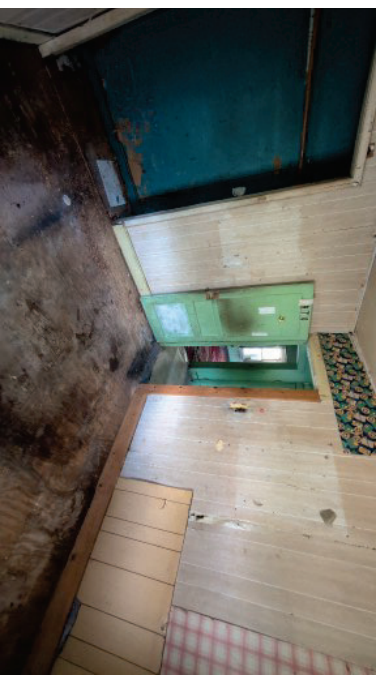


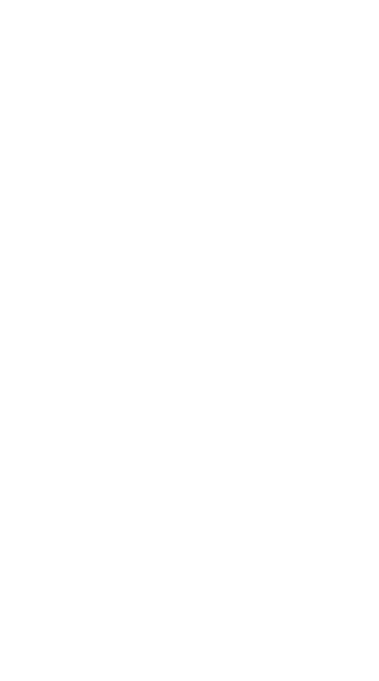
BEDROOM 1

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.8) COMMENTS

No flooring in room just exposed wood.
Cracks and holes on walls and ceiling.





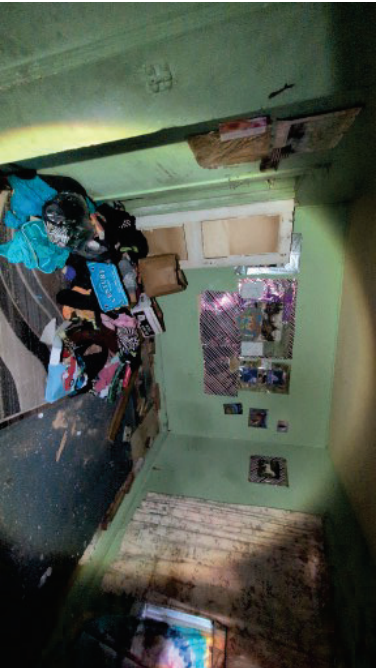
BEDROOM 2

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.9) COMMENTS

Dirty carpet.

Holes in walls.



BATH 1 FLOOR

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.10) COMMENTS

Uneven floor



BATHROOM 1 VANITY

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.11) COMMENTS

No vanity cabinet.
Exposed plumbing
Missing medicine cabinet and mirror.





BATHROOM 1 SHOWER-TUB

CONDITION O GOOD / O FAIR / X POOR / O N/A

4.12) COMMENTS

Crack in ceiling above tub area.
Tub stained and tiles cracked around tub.
No shower function for tub.





BATHROOM 1 TOILET

CONDITION O GOOD / X FAIR / O POOR / O N/A

4.13) COMMENTS

No significant issues apparent.



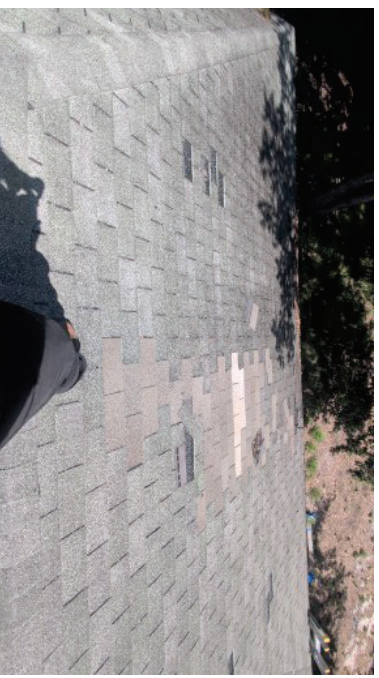
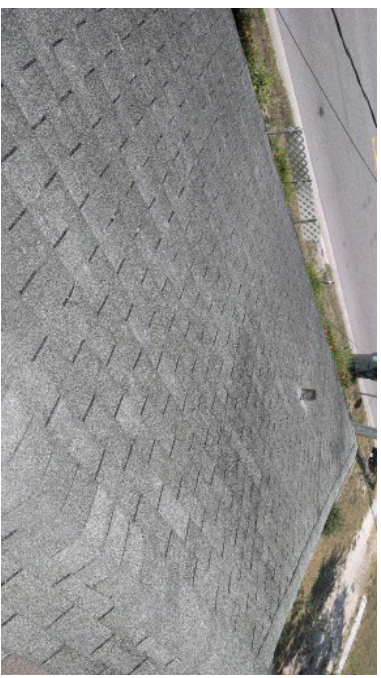
5 Roofing Components

ROOF COVERING 1

| | |
|--|---|
| Type of Roof Covering | Dimensional / Architectural Asphalt Shingles |
| Last Updated | Unknown |
| Replacement | . |
| CONDITION | <input type="radio"/> GOOD / <input type="radio"/> FAIR / <input checked="" type="radio"/> POOR / <input type="radio"/> N/A |
| Deficiencies (check all that apply) | <input checked="" type="checkbox"/> Damage or Deterioration / <input type="checkbox"/> Leaks |

5.1) ROOF COMMENTS

Roof overview photos to show general condition.
 Roof missing shingles.
 Exposed nails found on roof.
 Repairs do not appear to have been completed by a licensed professional.





Remaining Useful Life

In need of repairs

6 Electrical Systems & Components

ELECTRICAL SYSTEM

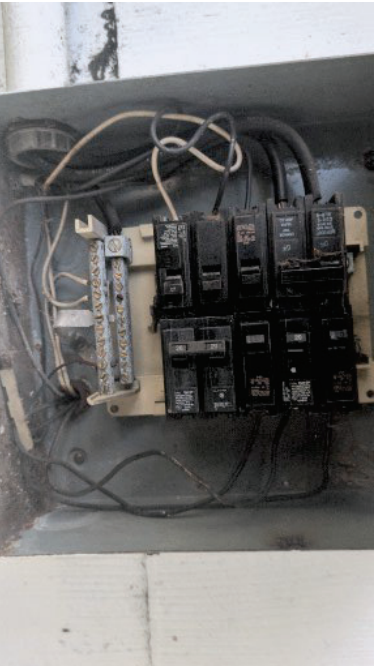
| | |
|-------------------------------------|---------|
| Fuse - Circuit Breaker Manufacturer | Unknown |
| Last Updated | Unknown |
| Total Amps | 100 |
| In good working order | No |

WIRING TYPES PRESENT

| | |
|--------------------|-----|
| Copper | Yes |
| Aluminum | No |
| Romex, BX, Conduit | No |
| Knob and Tube | No |
| Cloth | No |

6.1) ELECTRICAL SYSTEM COMMENTS

Unable in fully inspect electric system as power is cut off to house at time of inspection.





Type of Main Panel

Circuit Breakers

7 Plumbing Systems

PLUMBING SYSTEM

OVERALL PLUMBING SYSTEM

Last Updated Unknown
 In good working order No

WATER HEATER

Age 8 years

Condition of Water Heater O GOOD / O FAIR / O POOR / X N/A

Location Storage room behind kitchen.

TYPES OF PIPES PRESENT

| | |
|--------------|-----|
| Copper | Yes |
| PVC | Yes |
| CPVC | No |
| Galvanized | Yes |
| Cast Iron | Yes |
| Pex | No |
| Polybutylene | No |

7.1) PLUMBING SYSTEM COMMENTS

Water meter located on right side of house at beginning of driveway.
 Open drain line in back of house behind kitchen.
 Exposed rubber fitting in front of house connecting cast iron pipe coming from house to PVC pipe going to street.
 Water heater appears to be from 2017.
 Unable to inspect plumbing fixtures due to water being shut off to house.
 Galvanized gas line found in kitchen.







Condition of Pipes

O GOOD / O FAIR / X POOR / O N/A

8 Heating & Cooling System

HEATING AND COOLING SYSTEM 1

| | |
|--|--------------------------------------|
| Type of System | No HVAC system of any kind in house. |
| Portable | No |
| Wood-burning stove or central gas fireplace not professional | No |
| Space Heater as a primary heat source | No |
| Last Updated | Unknown |
| In good working order | No |

8.1) HEATING AND COOLING SYSTEM COMMENTS

No HVAC system in house just a bunch of windows open to let breeze through.

9 Miscellaneous

Description

This section is specifically for any observations made by the inspector that are not covered in the above sections.

REMINDER: As per our Scope of Inspection, we inspect for apparent proper working order. This inspection is a limited visual inspection; it is not technically exhaustive. We do not perform pressure tests, run diagnostics, use bore scopes (snake cameras), or other tools designed for specific systems, etc. No opinion is offered as to the adequacy or accuracy of specific systems, how they are calibrated, temperature settings, clocks, timing devices, lights, etc. We recommend contacting professionals licensed in their specific field for a more thorough, detailed, technically exhaustive inspection of specific systems of the home.

Your home is usually the single most expensive investment you will ever make. Don't neglect that investment. Many components of your home require regular scheduled maintenance. Others should be monitored regularly for uneven or irregular wear, corrosion, strain, etc. Often catching issues early can result in significant savings on repairs. We recommend that every home be inspected top to bottom AT LEAST every 3 years.

MISCELLANEOUS COMMENTS

9.1) MISCELLANEOUS COMMENTS

Electric and water cut off to house during time of inspection.

10 Before Leaving

Description

Inspector(s) have ensured that the property was left secure as follows. The property will be left as found (if possible) unless doing so poses a threat to the property.

BEFORE LEAVING COMMENTS

10.1) BEFORE LEAVING COMMENTS

Current owner on site upon departure & will secure home

THANKS

END OF REPORT

Thank you for choosing Sherlock Home Inspections. If you have any questions about items in the report, please do not hesitate to contact us. We are grateful for your business and look forward to working with you again in the future!

11 Good vs Bad

Best Features of the Property

11.1) BEST Comments

House is still standing after 79 years.

Worst Issues with the Property

11.2) WORST Comments

Whole house is in shamble and should probably be torn down and replaced with new Manufactured Home.

From: Fernandez, Andre
To: Vennis Gilmore
Subject: Re: 1121 Ave E
Date: Wednesday, March 4, 2026 10:15:51 PM
Attachments: [Image001.png](#)
[Screenshot_1121 Ave E-585.pdf](#)
[Specifications - Approval 01.pdf](#)

SECURITY WARNING: This email has been generated from external sources and is not affiliated with the City of Fort Pierce systems. Exercise caution while clicking on links or opening attachments. If you have any questions or concerns, please reach out to the IT department promptly.

Good evening Mr. Gilmore.

Thank you for your email. I just realized that it was a no reply one. I reached out to the design professional and he finally provided the actual signed and sealed drawings. I proceeded to upload it in the portal but it is not allowing me to submit. As requested, please see the attached inspection report and 4 exterior photos of the house.

1. A single family residence is proposed to be built on the lot located at 1121 Avenue E, Fort Pierce, FL 34950,we
2. Please see the attached sealed drawings.
3. Due to severe termite damage, extensive mold and extreme deteriorated wood, we have concluded that it would be safer from a legal and safety perspective, to build a new structure almost the exact square footage. Additionally, a third party inspection report is also included in this email.

Thank you kindly for all your help and please feel free to contact me if you have any questions or concerns at 954.479.7125.

Respectfully,
Fernandez, Andre

On Tue, Jan 27, 2026 at 2:07 PM Vennis Gilmore <vgilmore@cityoffortpierce.com> wrote:

Good Afternoon,

Your 1st application would need to be the Demolition with justification for the demo.

See the attachments of a previously approved demolition COA:

<https://cityoffortpierce.com/223/Agendas-Minutes>

5 a

Meeting Date: 08/25/2025

Historic Preservation Board - 2:00 PM

Information

REQUESTED ACTION
Certificate of Appropriateness - PZCOA2025-00024
Demolition -109 Avenue D

SUMMARY
The applicant is requesting COA approval for the demolition of the termite-damaged, deteriorated structure. After the demolition, the owner intends to develop two (2) single-family residences with detached accessory garages.

The subject structure is a two-story wood-frame building with a gable roof built in 1901.
The applicant is requesting COA approval for the demolition of the termite-damaged, deteriorated structure. After the demolition, the owner intends to develop two (2) single-family residences with detached accessory garages.

LOCATION
109 Avenue D

RESPONSIBLE STAFF
Vennis Gilmore, Historic Preservation Officer/Senior Planner

RECOMMENDATION
The building proposed for demolition is in very poor condition. It has been heavily damaged by termites and left to deteriorate for an extended period of time. In addition, the structure appears to have had multiple additions performed, which do not appear to be structurally sound. The Property Maintenance Inspection Report (attached) find the building to be unsafe.

While rehab of the structure is permitted and possible, it would be at considerable expense.

Given that the application meets A, B, C, D, and E of the criteria for demolition of a structure within a designated historic district, staff recommends that the Historic Preservation Board approve the demolition.

3/9/2026

Good evening,

Please see the attached answers:

(3)

In addition to all other provisions of this chapter, the board shall consider the following criteria in evaluating applications for a certificate of appropriateness for demolition of designated sites or buildings within a designated historic district:

- a. Is the structure of such interest or quality that it would reasonably meet national, state or local criteria for designation as a significant historic or architectural site or structure? **No**
- b. Is the structure of such design, craftsmanship or material that it could be reproduced only with great difficulty, expense, or undue economic hardship? **Yes**
- c. Is the structure one of the last remaining examples of its kind in the city, county or region? **No**
- d. Does the structure contribute significantly to the historic character of a designated district? **No**
- e. Would retention of the structure promote the general welfare of the city by providing an opportunity for study of local history, architecture and design or by developing an understanding of the importance and value of a particular culture and heritage? **No**
- f. Are there definite plans for re-use of the property if the proposed demolition is carried out, and what will be the effect of those plans on the character of the surrounding area? **Yes**

Respectfully,

Fernandez Andre

STANDARD ABBREVIATIONS

| | | | | | |
|----|------------------|----|-----------------|-----|--------------|
| AC | ALUMINUM CLAD | AL | ALUMINUM | AS | ASBESTOS |
| AD | ADHESIVE | AW | AWNING | BS | BEST FINISH |
| AG | AGGREGATE | BR | BRICK | CA | CALIFORNIA |
| AP | APPLY | CB | CORNER BRACKET | CC | CONCRETE |
| AR | ARCHITECTURAL | CD | CORNER DOWEL | CE | CEMENT |
| AS | ASBESTOS | CF | CORNER FLASHING | CG | CORNER GROUT |
| AT | ATTACHMENT | CH | CHANNEL | CHL | CHLORIDE |
| AV | AVENUE | CL | CLADDING | CHL | CHLORIDE |
| AW | AWNING | CM | COMMON | CHL | CHLORIDE |
| AX | AXIS | CP | CORNER PLATE | CHL | CHLORIDE |
| AY | AYER | CS | CORNER STUD | CHL | CHLORIDE |
| BA | BALCONY | CT | CORNER TIE | CHL | CHLORIDE |
| BB | BALCONY BOARD | CU | COPPER | CHL | CHLORIDE |
| BC | BALCONY CURB | CV | CORNER VEE | CHL | CHLORIDE |
| BD | BALCONY DRAIN | CA | CALIFORNIA | CHL | CHLORIDE |
| BE | BALCONY EAVE | CB | CORNER BRACKET | CHL | CHLORIDE |
| BF | BALCONY FINISH | CC | CONCRETE | CHL | CHLORIDE |
| BG | BALCONY GROUND | CD | CORNER DOWEL | CHL | CHLORIDE |
| BH | BALCONY HANDRAIL | CE | CEMENT | CHL | CHLORIDE |
| BI | BALCONY INLET | CF | CORNER FLASHING | CHL | CHLORIDE |
| BJ | BALCONY JAMB | CG | CORNER GROUT | CHL | CHLORIDE |
| BK | BALCONY KICK | CH | CHANNEL | CHL | CHLORIDE |
| BL | BALCONY LANDING | CL | CLADDING | CHL | CHLORIDE |
| BM | BALCONY MANTLE | CM | COMMON | CHL | CHLORIDE |
| BN | BALCONY NAIL | CP | CORNER PLATE | CHL | CHLORIDE |
| BO | BALCONY OUTHOUSE | CS | CORNER STUD | CHL | CHLORIDE |
| BP | BALCONY PAVEMENT | CT | CORNER TIE | CHL | CHLORIDE |
| BQ | BALCONY PAVING | CU | COPPER | CHL | CHLORIDE |
| BR | BALCONY RAIL | CV | CORNER VEE | CHL | CHLORIDE |
| BS | BALCONY SILL | CA | CALIFORNIA | CHL | CHLORIDE |
| BT | BALCONY TIE | CB | CORNER BRACKET | CHL | CHLORIDE |
| BV | BALCONY VALVE | CC | CONCRETE | CHL | CHLORIDE |
| BW | BALCONY WALL | CD | CORNER DOWEL | CHL | CHLORIDE |
| BX | BALCONY WINDOW | CE | CEMENT | CHL | CHLORIDE |
| BY | BALCONY YARD | CF | CORNER FLASHING | CHL | CHLORIDE |
| BZ | BALCONY ZONE | CG | CORNER GROUT | CHL | CHLORIDE |

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL VISIT THE JOBSITE TO REVIEW THE SCOPE OF WORK AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE UNLESS OTHERWISE NOTED.
3. FURNISH ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO AFFECT ALL INSTALLATIONS INDICATED ON THE DRAWINGS, INCLUDING DETAILS AND LABOR NECESSARY FOR SUCCESSFUL INSTALLATION OF THE WORK.
4. INSTALL ALL EQUIPMENT AND MATERIALS IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
5. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS.
6. WORK SHOWN OR REFERRED TO ON ANY DRAWINGS SHALL BE PROVIDED AS THEY ARE SHOWN ON ALL RELATED DRAWINGS.
7. EVERY EFFORT HAS BEEN MADE TO PROVIDE THE COMPLETE SCOPE OF WORK. MINOR OMISSIONS AND DISCREPANCIES IN THE DRAWINGS SHALL NOT DIMINISH THE EXPECTATION OF A COMPLETED FACILITY AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. IN THE EVENT OF DISCREPANCIES, PRICE THE MORE EXPENSIVE OR EXTENSIVE WORK UNLESS DIRECTED OTHERWISE.
8. GENERAL CONTRACTOR SHALL PROVIDE AT THE JOBSITE A FULL SET OF CONSTRUCTION DOCUMENTS ANNOTATED WITH THE LATEST REVISIONS AND CLARIFICATION FOR THE USE BY ALL PERMITS, INSPECTIONS, AND/OR CERTIFICATES FROM THE APPROPRIATE AGENCIES. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL FOR LOCAL INSPECTIONS AND OBTAIN APPROVAL FROM THE STATE FIRE MARSHALL IF REQUIRED.
9. THE CONTRACTOR SHALL VERIFY THE MINIMUM FINISH FLOOR ELEVATION WITH THE CITY/COUNTY FEMA BASE FLOOD ELEVATION AND BENCHMARK CERTIFICATE.
10. THE CONTRACTOR SHALL HAVE THE WORKSITE CLEANED ON A DAILY BASIS. THE DISPOSAL OF ANY WASTE SHALL BE OFFSITE AND IN A MANNER PRESCRIBED UNDER THE LAW.
11. COORDINATE WITH UTILITY PROVIDERS TO LOCATE, CAP, AND/OR DISCONNECT UTILITIES AS REQUIRED.

12. REMOVE EXISTIN SHRUBS, TREE ROOTS, ETC., WHERE FLATWORK, DRAINLINES, AND HOUSE SLABS WILL BE LOCATED AS REQUIRED.
13. COORDINATE TREE REMOVAL WITH MUNICIPALITY. PILOTREET TREES TO REMAIN.
14. FILL HOLES CAUSED BY REMOVAL OF EXISTING OBSTRUCTIONS WITH SOIL SIMILAR TO EXISTING ADJACENT SOILS.
15. SLOPE ALL CONCRETE PAVING AWAY FROM BUILDING AT MINIMUM 1%.
16. SLOPE ALL CONCRETE WALKS AWAY FROM BUILDING AT MINIMUM 2%.
17. SLOPE ALL FINAL GRADING AWAY FROM BUILDING TO ENSURE POSITIVE DRAINAGE TO AREA DRAINS OR COLLECTERS, NOT TO ADJACENT PROPERTIES.
18. ALL DRAINAGE AND SIDEWALKS SHALL MEET LOCAL DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS IF APPLICABLE.
19. THE CONTRACTOR SHALL COORDINATE ALL UTILITIES INSTALLATION AND CONNECTION WITH LOCAL UTILITY COMPANY. CONTRACTOR SHALL PROVIDE CLEAN OUT LOCATIONS, TIE-IN LOCATIONS, AND WATER AND SEWER LINE LOCATIONS ON SITE TO PERMIT DEPARTMENT FOR REVIEW.
20. LAY NEW SOO TO COVER ALL AREA OF YARD DISTURBED BY CONSTRUCTION ACTIVITIES. SOO TO BE BAHIA, ZOYSIA, OR BERMUDA.
21. CONTRACTOR SHALL PROVIDE ALL PLUMBING FIXTURES, ELECTRICAL FIXTURES, DOOR HARDWARE, BATHROOM HARDWARE AND BATHROOM ACCESSORIES IN A CONSISTENT MATERIAL FINISH. APPLIANCES SHALL BE ENERGY STAR CERTIFIED - CLOTHES WASHER, CLOTHES DRYER, RANGE HOOD, DISHWASHER, REFRIGERATOR. SUPPLY HOSES TO WATER USING FIXTURES AND APPLIANCES MUST BE ARMORED PEX OR METAL. (NOT COPPER).

SITE DATA

PARCEL ID: 2409-501-0087-000-2
 OWNER: SIDCONOMICS, LLC,
 OWNER ADDRESS: 624 MAYO STREET, HOLLYWOOD, FL 33023
 LEGAL DESCRIPTION: LINCOLN PARK NO 2 BLK 3 LOT 19
 PARCEL SQ FT: 4755 SQ FT
 STRUCTURE SQ FT: 1000 SQ FT
 ZONING: MEDIUM DEN

BUILDING DATA

TYPE OF WORK: NEW CONSTRUCTION
 CONSTRUCTION TYPE: SFR
 FIRE ALARM: NO
 SPRINKLERS: NO
 STANDPIPES: NO
 FIRE/SMOKE RATED WALLS: NO
 FIRE DISTRICT: X
 FLOOD HAZARD AREA: II
 RICK CATEGORY: 16'-6"
 BUILDING HEIGHT: 1000 SQ FT
 GROSS AREA NEW BUILDING: 1000 SQ FT
 HABITABLE SQ FT: N/A
 GARAGE: N/A
 LANAI: N/A

ENERGY SUMMARY

CLIMATE ZONE 2A
 IECC REQUIREMENTS TABLE R402.1.2
 THERMAL ENVELOPE
 CEILING: R-30 PROVIDED R-30
 WALLS: (FRAME) R-13 R-13
 FLOORS: (FRAME) R-30 R-30

FENESTRATION REQUIREMENTS

TABLE 402.1.2
 MAXIMUM U-FACTOR 0.4
 SHGC 0.25

BUILDING CODE SUPPORTING DATA

APPLICABLE CODES: FBC 2023 8TH EDITION RESIDENTIAL
 FBC 2023 8TH EDITION PLUMBING
 FBC 2023 8TH EDITION MECHANICAL
 NEC 2020

- R302.7 Enclosed space under stairs that is accessed by a door or access panel shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.
- R302.11 In combustible construction, fireblocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top story and the roof space.
- R303.1 Habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms.
- R304.1 Habitable rooms shall have a floor area of not less than 70 square feet (6.5 m2).
 Exception: Kitchens.
- 304.2 Habitable rooms shall be not less than 7 feet (2134 mm) in any horizontal dimension.
 Exception: Kitchens.
- R310.2.1 Emergency and escape rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m2). The minimum net clear opening for grade-floor emergency escape and rescue openings shall be 5 square feet (0.465 m2).
- R310.2.2 The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.
- R310.2.3 Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) above the floor.
- R311.2 Not less than one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily operable from inside the dwelling without the use of a key or special knowledge or effort.
- R311.3 There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Every landing shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent).
 The width of a hallway shall be not less than 3 feet (914 mm).
- R311.6 A flight of stairs shall not have a vertical rise greater than 12 feet 7 inches (3835 mm) between floor levels or landings.
- R311.7.3.1 The riser height shall be not more than 7 3/4 inches (196 mm). The riser height shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Risers shall be vertical or sloped from the underside of the nosing of the tread above. Open risers are permitted provided that the openings located more than 30 inches (762 mm), as measured vertically, to the floor or grade below do not permit the passage of a 4-inch-diameter (102 mm) sphere.
- R311.7.5.2 The tread depth shall be not less than 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the treads' leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).
- R314.3 Smoke alarms shall be installed in the following locations:
 1. In each sleeping room.
 2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
 3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
- R319.1 Buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) in height with a stroke width of not less than 0.5 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

DIGITAL SEAL:

DESIGN PROFESSIONAL:
 JAMES E. GILGENBACH
 ARCHITECT #87457
 9009 ONE PUIT PLACE
 PORT ST. LUCIE, FL 34986

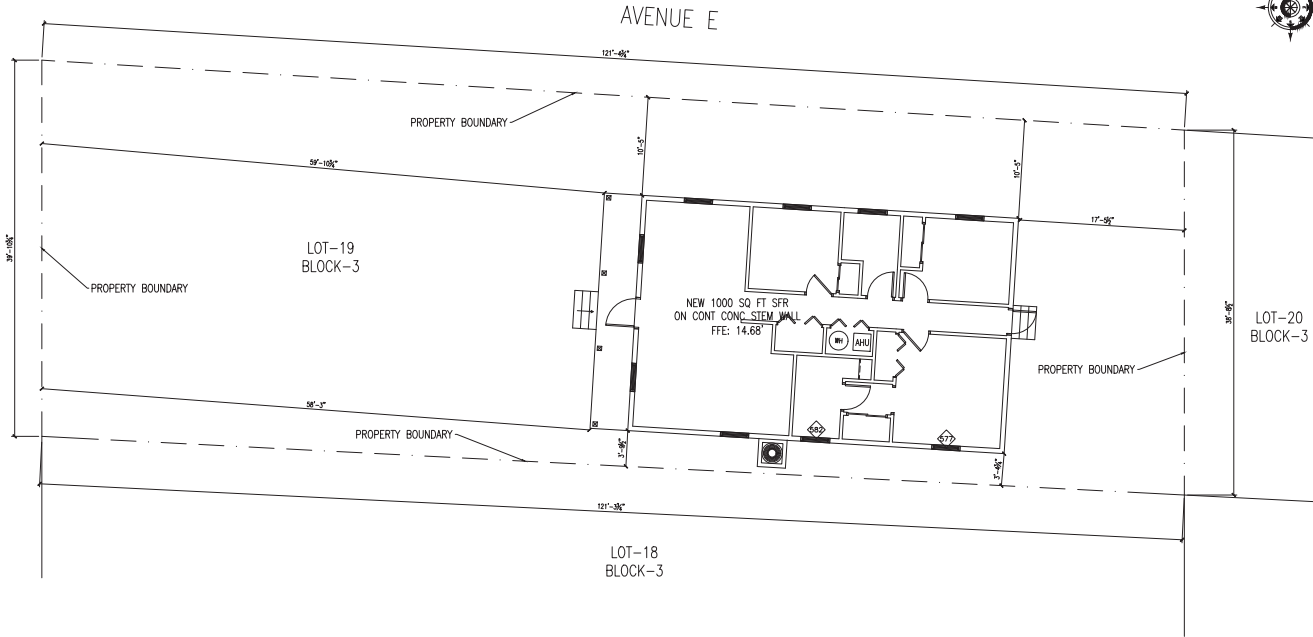
DATE: FBC 2023 W/ALL CURRENT SUPPLEMENTS

CONSTRUCTION PREPARED BY:
 SIDCONOMICS, LLC
 DESIGN / BLD / MGMT
 305-393-0992
 custom@sidcon.com

CONSTRUCTION DOCUMENTS FOR:
 SIDCONOMICS, LLC,
 1211 AVENUE E
 FT. PIERCE, FL 34950

DATE: 11-06-2025
 DRAWN BY: EGW
 SCALE: VARIES
 SHEET NUMBER: CVR

N 12TH STREET



SITE PLAN
SCALE: 3/16" = 1'-0"

SITE DATA

PARCEL ID: 2409-501-0087-000-2
 OWNER: SIDCONOMICS, LLC,
 OWNER ADDRESS: 624 MAYO STREET, HOLLYWOOD, FL 33023
 LEGAL DESCRIPTION: LINCOLN PARK NO 2 BLK 3 LOT 19
 PARCEL SQ FT: 4755 SQ FT
 STRUCTURE SQ FT: 1000 SQ FT
 ZONING: MEDIUM DEN

BUILDING DATA

TYPE OF WORK: NEW CONSTRUCTION
 CONSTRUCTION TYPE: SFR
 FIRE ALARM: NO
 SPRINKLERS: NO
 STANDPIPES: NO
 FIRE/SMOKE RATED WALLS:
 FIRE DISTRICT: II
 FLOOD HAZARD AREA: X
 RISK CATEGORY: II
 BUILDING HEIGHT: 16'-6 1/2"
 GROSS AREA NEW BUILDING: 1000 SQ FT
 HABITABLE SQ FT: 1000 SQ FT
 GARAGE: N/AT
 LANAI: N/A

DIGITAL SEAL:



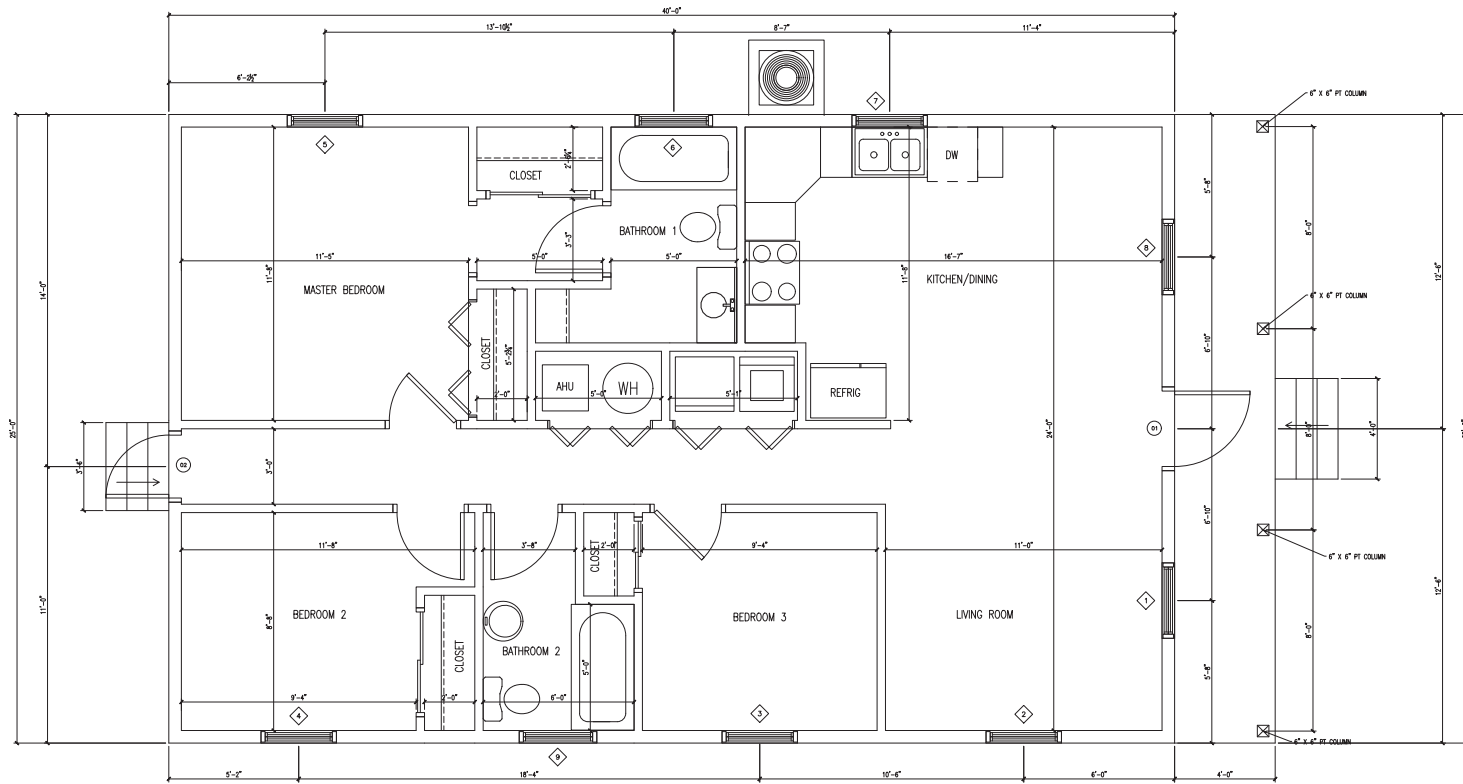
DESIGN PROFESSIONAL:
JAMES E. GILGENBACH
 ARCHITECT #27457
 9009 ONE PUTT PLACE
 PORT ST. LUCIE, FL 34986

DATE: FEB 2023
 REVISIONS: N/A
 CURRENT SUPPLEMENTS: NONE

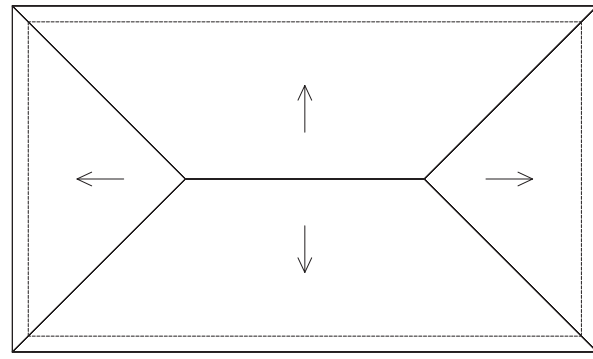
CONSTRUCTION PROVIDED BY:
 EAMON WASH CONSTRUCTION, LLC
 DESIGN / BUILD / MANAGEMENT
 305-335-0992
 custombuildrdesign@yahoo.com

CONSTRUCTION DOCUMENTS FOR:
 SIDCONOMICS, LLC.
 1211 AVENUE E
 FT. PIERCE, FL 34950

DATE: 11-06-2025
 DRAWN BY: EGW
 SCALE: VARIES
 SHEET NUMBER: SP1.0



PROPOSED FLOOR PLAN
SCALE: 1/2" = 1'-0"



ROOF LAYOUT
SCALE: 1/4" = 1'-0"

| WINDOW SCHEDULE | | | | | | | | | |
|-----------------|-------|--------|------|----------|-----------------|------|---------------|---------|------------------|
| MARK | SIZE | | TYPE | MATERIAL | FL PROD APP/NOA | ZONE | MIN. PRESSURE | GLAZING | DESIGN PRESSURES |
| | Width | HEIGHT | | | | | | | |
| 1 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 2 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 3 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 4 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 5 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 6 | 3'-1" | 7'-1" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 7 | 3'-0" | 2'-0" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 8 | 3'-0" | 5'-3" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |
| 9 | 3'-1" | 2'-1" | SH | ALUMINUM | FL14095.3 R13 | 4 | +27.6/-30.0 | IMPACT | +65.0/-75.0 |

| DOOR AND FRAME SCHEDULE | | | | | | | | | |
|-------------------------|-------|-------|--------|---------|--------|-----------------|---------------|-----------------|-------------|
| MARK | DOOR | | | GLAZING | ZONE | FL PROD APP/NOA | MIN. PRESSURE | DESIGN PRESSURE | |
| | WD | HGT | THK | | | | | | |
| 1 | 3'-0" | 6'-8" | 1 3/4" | FG | IMPACT | 4 | FL20470.6 R4 | +26.4/-28.7 | +55.0/-55.0 |
| 2 | 2'-6" | 6'-8" | 1 3/4" | FG | IMPACT | 4 | FL20470.6 R4 | +27.6/-30.0 | +55.0/-55.0 |

DIGITAL SEAL:



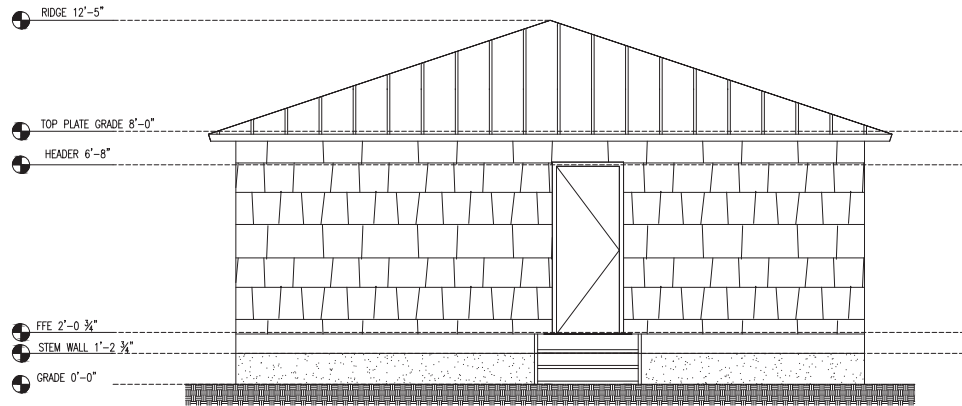
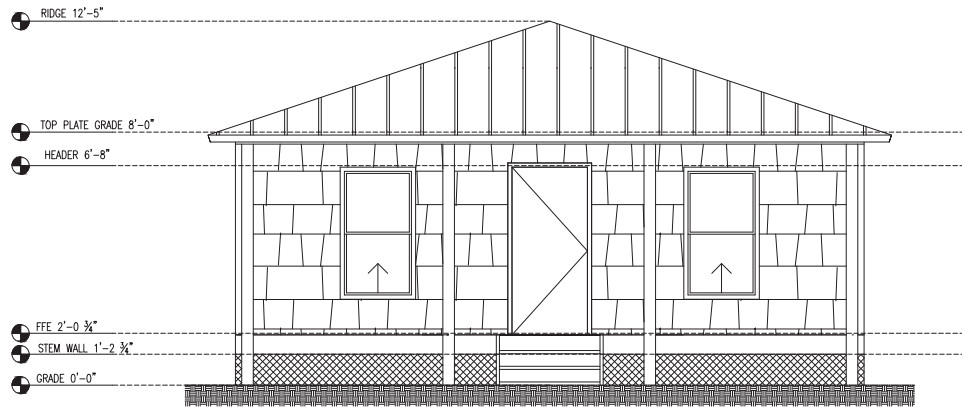
DESIGN PROFESSIONAL:
JAMES E. GILGENBACH
ARCHITECT AB7457
9009 ONE FOIT PLACE
FORT ST. LUCIE, FL 34986

DATE: FEB 2023 W/ALL CURRENT SUPPLEMENTS

CONSTRUCTION PREPARED BY:
RAMON WALSH CONSULTANTS, INC.
DESIGN / BUILD / MANAGEMENT
305-393-0992
custombuildrdesign@yahoo.com

CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
1211 AVENUE E
FT. PIERCE, FL 34950

DATE: 11-06-2025
DRAWN BY: EGW
SCALE: VARIES
SHEET NUMBER: A1.0



DIGITAL SEAL:



DESIGN PROFESSIONAL:
JAMES E. GILGENBACH
 ARCHITECT AB7457
 9009 ONE PUTT PLACE
 PORT ST. LUCIE, FL 34986

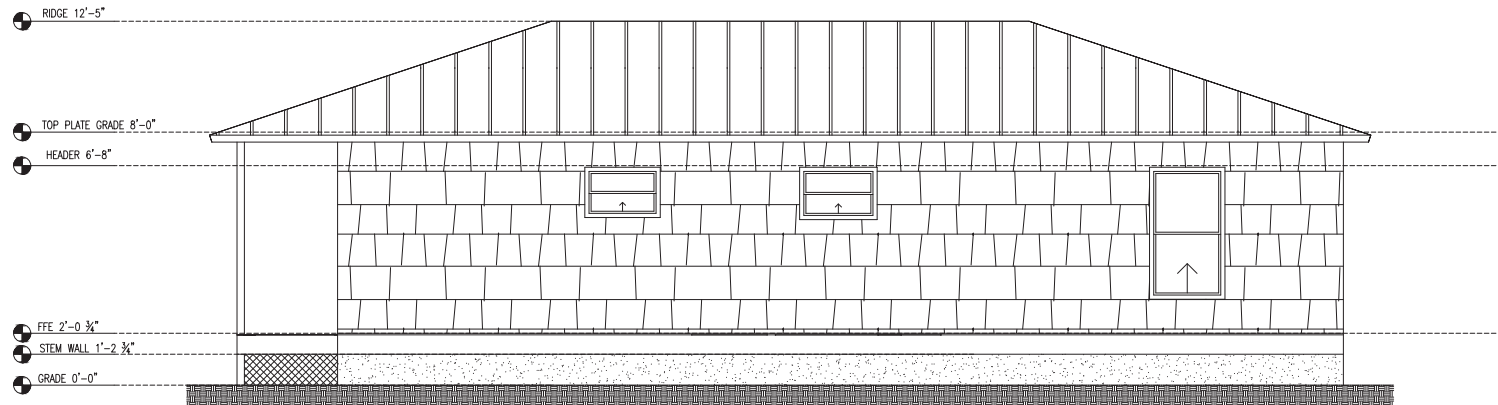
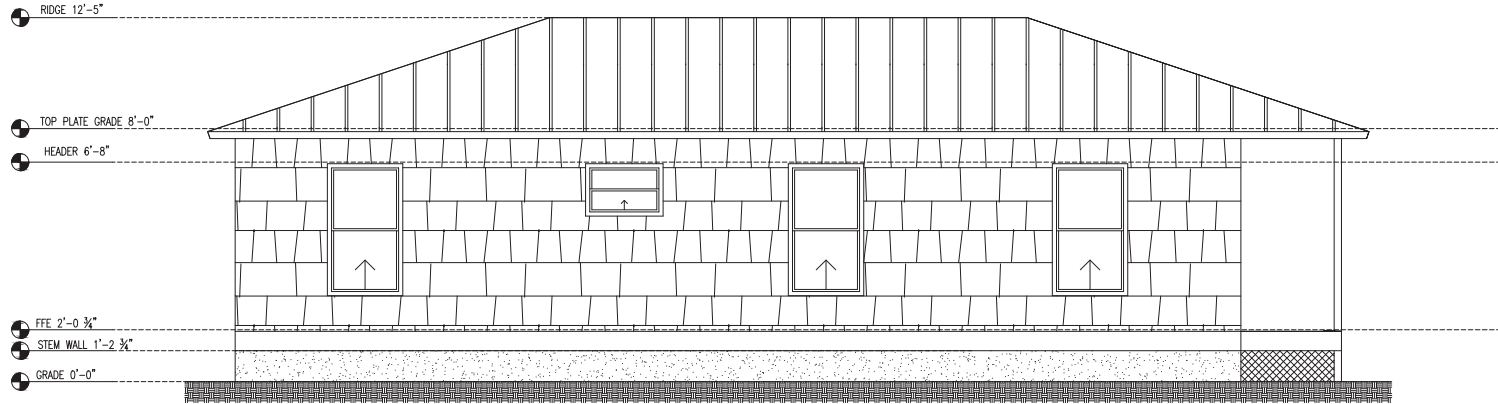
DATE: FEB 2023 W/ALL CURRENT SUPPLEMENTS

CONSTRUCTION PREPARED BY:
 RAMON WALSH CONSULTANTS, INC.
 DESIGN / BUILD / MANAGEMENT
 305-393-0992
 custombuildrdesign@yahoo.com

CONSTRUCTION DOCUMENTS FOR:
SID ECONOMICS, LLC.
 1211 AVENUE E
 FT. PIERCE, FL 34950

DATE: 11-06-2025
 DRAWN BY: EGW
 SCALE: VARIES

SHEET NUMBER:
A1.1



DESIGN PROFESSIONAL:
JAMES E. GILGENBACH
 ARCHITECT A07457
 9009 ONE PUTT PLACE
 PORT ST. LUCIE, FL 34986

DATE: 11-06-2025
 FBC 2023 W/ALL CURRENT SUPPLEMENTS

DESIGN PROFESSIONAL'S RESPONSIBILITY: The design professional is responsible for the design and construction of the project. The design professional shall ensure that the design and construction comply with all applicable codes and regulations. The design professional shall also ensure that the design and construction are safe and sound. The design professional shall not be responsible for the design and construction of the project if the design and construction are not in accordance with the design professional's design and construction documents. The design professional shall also be responsible for the design and construction of the project if the design and construction are not in accordance with the design professional's design and construction documents.

CONSTRUCTION PREPARED BY:
 FAVORABLE CONSTRUCTION, INC.
 DESIGN / BUILD / MANAGEMENT
 305-393-0992
 custombuild.design@facebook.com

CONSTRUCTION DOCUMENTS FOR:
SID ECONOMICS, LLC.
 1211 AVENUE E
 FT. PIERCE, FL 34950

DATE: 11-06-2025
 DRAWN BY: EGW
 SCALE: VARIES

SHEET NUMBER:
A1.2

GENERAL:

- 1. THE OWNER/CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL FINAL DIMENSIONS, PRIOR TO START.
2. THE CONTRACTOR SHALL COORDINATE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND GAS WORKS...
3. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS, USE THE ARCHITECTURAL PLANS...
4. THE CONTRACTOR SHALL VERIFY EXISTING SIZE CONDITIONS, DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK...
5. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS, USE THE ARCHITECTURAL PLANS...
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING THE PROGRESS OF THE CONSTRUCTION...
7. IN NO CASE SHALL STRUCTURAL ALTERNATE OR WORK ATTACHED TO STRUCTURAL MEMBER BE MADE UNLESS...
8. NO PROVISION OF ANY REFERENCED SPECIFICATION, MANUFACTURE OR CODE (WHETHER OR NOT SPECIFICALLY...
9. CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE STRUCTURAL CONDITIONS (DRAWINGS AND...
10. REFER TO STATE SPECIFICATIONS OR ANY TECHNICAL SOCIETY, ORGANIZATION OR ASSOCIATION AS TO CODES...
11. CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE CODE OF PRACTICE OR SPECIFICATIONS...
12. STRUCTURAL REQUIREMENTS SHALL GOVERN...
13. CONTRACTOR SHALL OBTAIN AND CORRECTIVE DATA OF SUB ELEMENTS, OPENING LOCATIONS AND DIMENSIONS...
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING, RECORDING, SCHEMATIC, AND PROCEDURES OF CONSTRUCTION...
15. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL OSHA REGULATIONS...
16. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED...
17. SUBMIT SHOP DRAWINGS WHICH ACCURATELY DETAIL THE STRUCTURAL ELEMENTS AND CONNECTIONS...
18. MECHANICAL ANCHORS SHALL BE TESTED BY ENGINEER LICENSED IN THE INDUSTRY STATE...
19. ALL FLASHING AND INTERFERENCE BY CONTRACTOR...
20. OWNER/CONTRACTOR SHALL PROVIDE AFFORDABLE FIRE PROTECTION DESIGN/DOCUMENTS NOT SHOWN ON THIS PLAN...
21. OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR ALL THRESHOLD INSPECTION REQUIREMENTS...
22. ATTACH SHOP DRAWINGS TO EXISTING FRAMING TO STAMPEL SIDE FRAMING...
23. INSTALL LATERAL BRACING AT GABLE END TRUSS AS SPECIFIED BY TRUSS MANUFACTURER.

CODE DESIGN
1. WIND LOADS: SEE TABLE
ESTIMATED DEFLECTIONS (IN INCHES) ARE AS FOLLOWS:
ROOF MEMBERS: L/240 OR L/1"
FLOOR MEMBERS: L/240 OR L/1"
NOTE: L = SPAN LENGTH (IN INCHES) BETWEEN CENTERS OF SUPPORTS, FOR CHANGELISTS, L IS THREE TIMES THE LENGTH OF THE CHANGELIST.

- 1. FOUNDATION DESIGN IS BASED ON AN ASSIGNED ALLOWABLE BEARING CAPACITY OF 2000 PSF. STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCLOSED IN THE FIELD DIFFERENT FROM THOSE ASSUMED FOR DESIGN.
2. ALL FOUNDATION BEARING SOIL SHALL BE COMPACTED TO MEET STANDARD PROCTOR OR NEW MOISTURE PROCTOR...
3. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED WITH 3/4" X 3/4" (MIN) REIN. KEY WITH ALL SURFACES SHALL BE CLEANED BEFORE PLACEMENT OF ADJACENT CONCRETE...
4. ALL DRILLED & EXPANDED PILES SHALL BE CONSTRUCTED WITH A MINIMUM EDGE DISTANCE OF 12" AND CLEAR SPACING OF 4" O.C. (MAX).

- 1. CONCRETE MEMORY WORK SHALL CONFORM TO ACI 308, BUILDING CODE REQUIREMENTS FOR MEMORY STRUCTURES AND ACI 308.3, SPECIFICATION FOR MEMORY STRUCTURES.
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MEMORY SHALL BE F'c = 1500 PSI.
3. MEMORY SHALL COMPLY WITH THE BUILDING CODE REQUIREMENTS FOR CONCRETE MEMORY AND SHALL BE OF THE FOLLOWING TYPE:
4. CONCRETE MEMORY LIMITS SHALL BE IDENTIFIED WITH 1500 PSI CONCRETE GROUT AS SHOWN IN THE STRUCTURAL DOCUMENTS. GROUT SHALL CONFORM TO ASTM C49.
5. FORMER HORIZONTAL JOINT REINFORCEMENT SHALL BE BY #4 GRS LONGITUDINAL WELLS AT 14" VERTICALLY, UNLESS NOTED OTHERWISE. PROVIDE SPECIAL ACCESSORIES FOR CORNERS, INTERSECTIONS, ETC.
6. MINIMUM HORIZONTAL WALL REINFORCEMENT SHALL BE BY #4 WELLS WITH OVERLAP.
7. DETAILING AREAS IN CONCRETE INCLUDING, BUT NOT LIMITED TO, FORM-CASTING, WALLS, AND CRACKS WITH WELLS EXCEEDING 60" HIGH SHALL BE REPAIRED EXCEPT AS DETECTED AND TO BE DETERMINED BY THE STRUCTURAL ENGINEER.
8. REINFORCING TENDONS MUST BE TIED IN PLACE PRIOR TO POURING FOOTING. "NET-CROWLING" IS NOT ALLOWED.

REINFORCEMENT:

- 1. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A954 AND HAVE MINIMUM SIZE AND END LAPS OF #7 FOR ALL EXPOSURE FOOTINGS. A DOUBLE LAYER OF WELDED WIRE FABRIC SHALL BE INSTALLED WITHIN 5/8" OF ALL FOOTINGS OF CLEAR OR OUTSIDE PERIMETER OF FOOTINGS.
3. REINFORCING STEEL SHALL BE WELDED OR TIED-WELDED IF IT CONFORMS TO ASTM A954 AND HAS #4 REINFORCING BARS NOT WELDED NOR TIED-WELDED UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
4. SURFACE SHOP DRAWINGS WHICH ACCURATELY DETAIL THE REINFORCING BAR SIZES AND PLACEMENT...
5. FORMER CONCRETE FROM FOUNDATIONS THE SAME SIZE AND NUMBER AS THE VERTICAL WALL OR COLUMN REINFORCING, UNLESS NOTED OTHERWISE. REINFORCING TENDONS MUST BE TIED IN PLACE PRIOR TO POURING FOOTING. "NET-CROWLING" IS NOT ALLOWED.
6. PLACE REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE:
7. ALL CASE-IN-PLACE REINFORCING SHALL BE PERMANENTLY EXPOSED TO AIR.
8. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.
9. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.
10. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.

- 1. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-TENSIONED ANCHORS IN PLACE OF WELDED OR TIED-WELDED ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-TENSIONED ANCHORS TO AVOID CONTACTS WITH EXISTING REINFORCING WELLS...
2. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE DESIGN PROFESSIONAL ENGINEER...
3. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
4. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
5. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
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2. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE DESIGN PROFESSIONAL ENGINEER...
3. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
4. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
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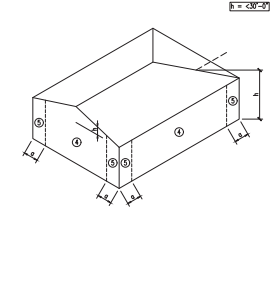
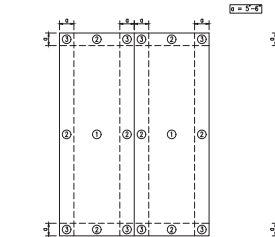
- 1.1. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-TENSIONED ANCHORS IN PLACE OF WELDED OR TIED-WELDED ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-TENSIONED ANCHORS TO AVOID CONTACTS WITH EXISTING REINFORCING WELLS...
2. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE DESIGN PROFESSIONAL ENGINEER...
3. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
4. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
5. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:
6. UNLIMITED STAIN LUMBER (ULS) SHALL HAVE THE FOLLOWING UNIFORM ALLOWABLE STRESSES AND PROPERTIES:

ROOF:

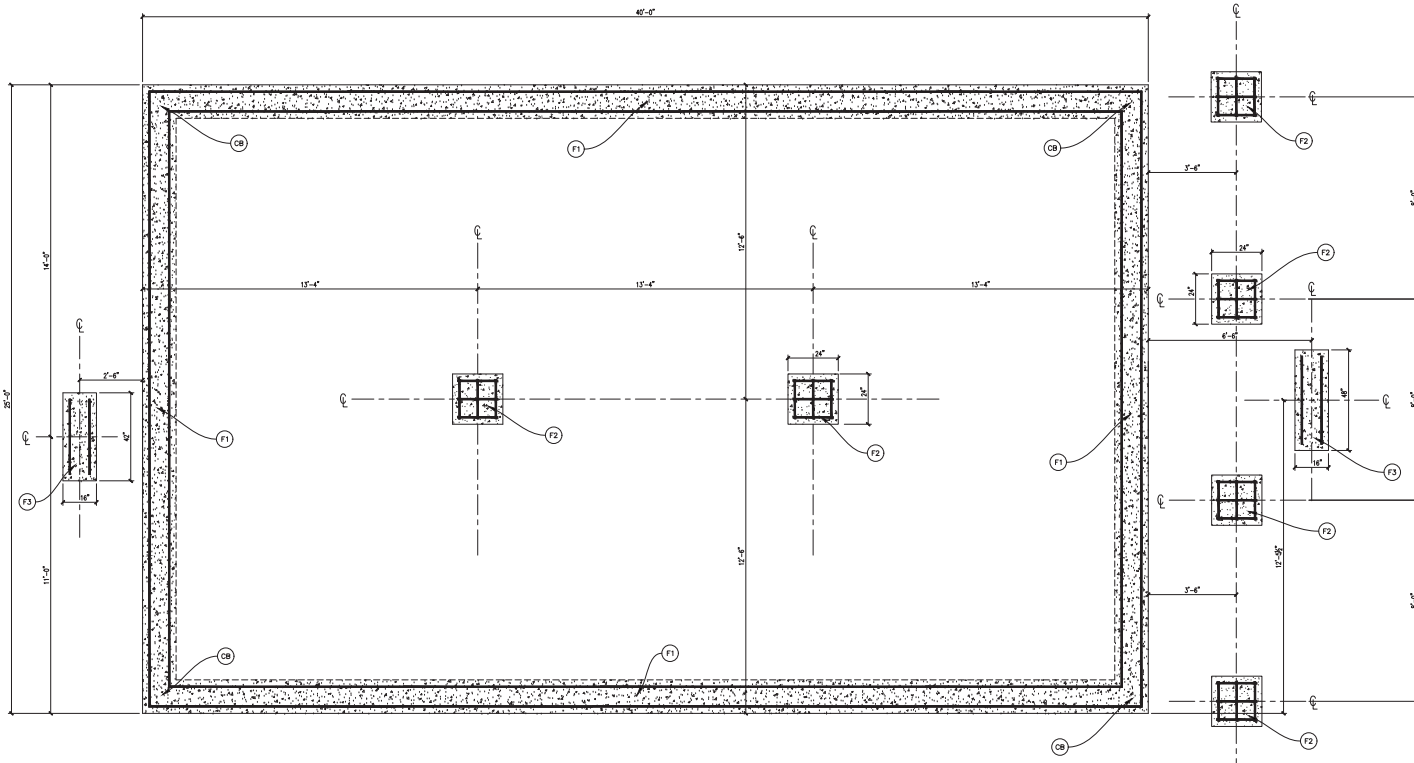
- 1. ALL HANGERS, BEAMS, POSTS, ETC. HAVE BEEN DESIGNED TO SUPPORT ROOF FRAMING MEMBERS AS SHOWN ON ROOF FRAMING PLAN. IT IS THE RESPONSIBILITY OF THE TRUSS MANUFACTURER TO PROVIDE PROFESSIONAL SUPPORT FOR TRUSS LAYOUT TO DESIGN PROFESSIONAL FOR STRUCTURAL PLAN REVIEW & LAYOUT MARKS FROM THAT SHOWN ON THE PLAN SET.
2. ALL DECK JOISTS HEREIN SHOWN AS 18" O.C. OR GREATER ARE INTENDED FOR 2 X 4 OR 2 X 6 WOOD BEAMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN CONTRACTOR'S RECORD OF TRUSS JOIST SIZES IN 12" O.C. OR AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS.
3. STRUCTURAL GLEED UNLIMITED TRUSS SHALL BE PROVIDED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF TRUSS CONSTRUCTION (AITS) MINIMUM ALLOWABLE BEARING STRESSES SHALL BE 2,400 PSI (NET CONDITIONS).
4. FORMER CONCRETE FROM FOUNDATIONS THE SAME SIZE AND NUMBER AS THE VERTICAL WALL OR COLUMN REINFORCING, UNLESS NOTED OTHERWISE. REINFORCING TENDONS MUST BE TIED IN PLACE PRIOR TO POURING FOOTING. "NET-CROWLING" IS NOT ALLOWED.
5. PLACE REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE:
6. ALL CASE-IN-PLACE REINFORCING SHALL BE PERMANENTLY EXPOSED TO AIR.
7. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.
8. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.
9. REINFORCING SHALL BE PLACED IN THE CENTER OF CHAMFERED CORNERS.

STRUCTURAL LOADS:

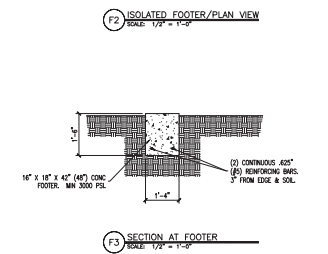
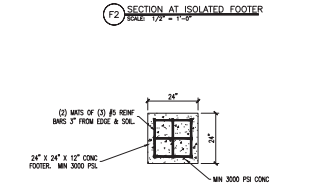
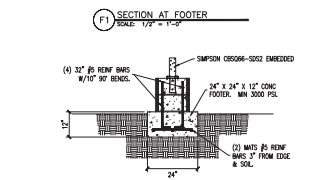
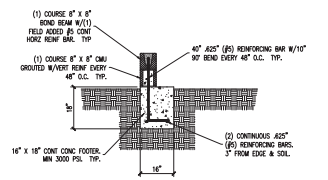
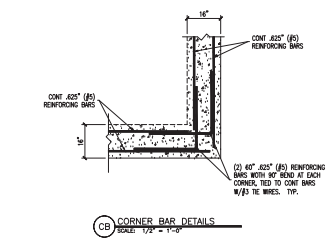
Table with 2 columns: Description and Value. Includes categories like SUPERSEDED DEAD LOAD (RESIDENTIAL CONSTRUCTION), SUPERSEDED LIVE LOAD (RESIDENTIAL CONSTRUCTION), WIND LOADS AS SPECIFIED BY ASCE 7-22 (ASCE), and COMPONENTS & CLADDING ROOF PRESSURES (PSF).



DIGITAL SEAL:
DESIGN PROFESSIONAL: JAMES E. GILGENBACH, ARCHITECT
CONSTRUCTION PREPARED BY: SIDCONOMICS, LLC.
CONTRACT NUMBER: 11-06-2025
SHEET NUMBER: S-GN



FOOTER/STEEL LAYOUT
SCALE: 1/2" = 1'-0"



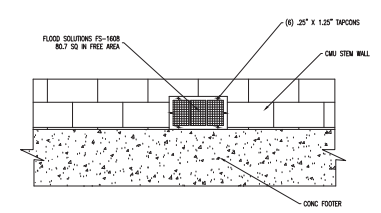
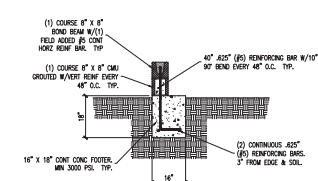
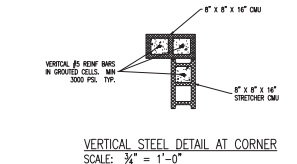
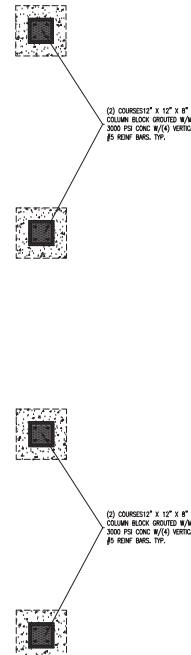
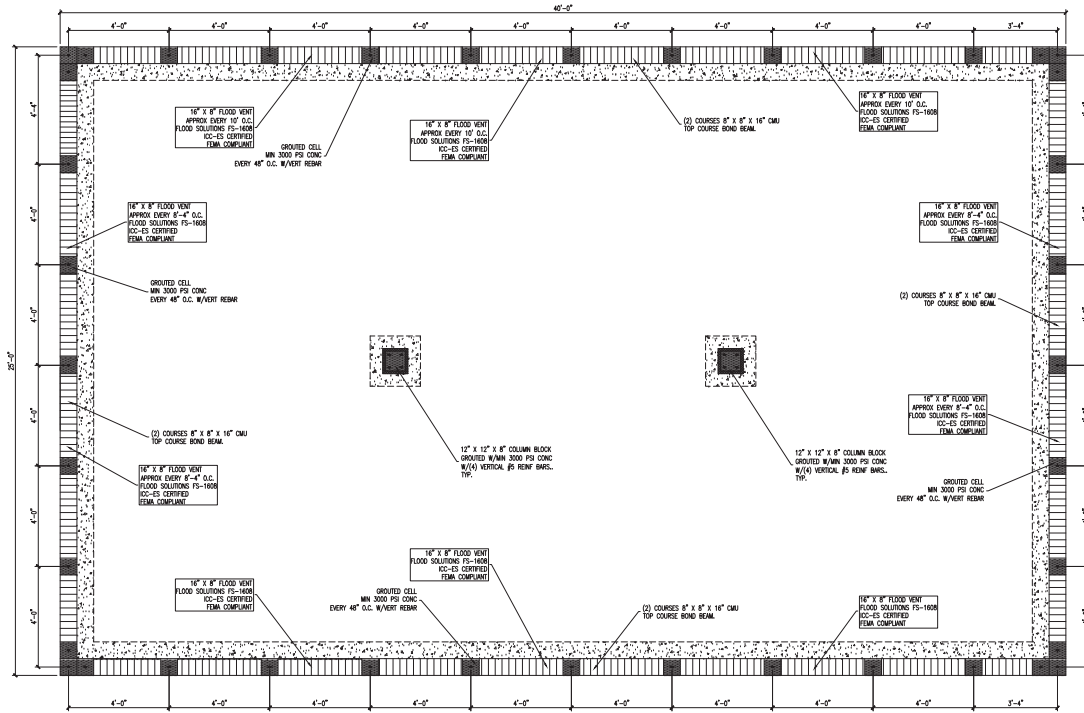
DIGITAL SEAL:

DESIGN PROFESSIONAL:
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CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
1211 AVENUE E
FT. PIERCE, FL 34950

DATE: 11-06-2025
DRAWN BY: EGW
SCALE: VARIES
SHEET NUMBER: S1.0



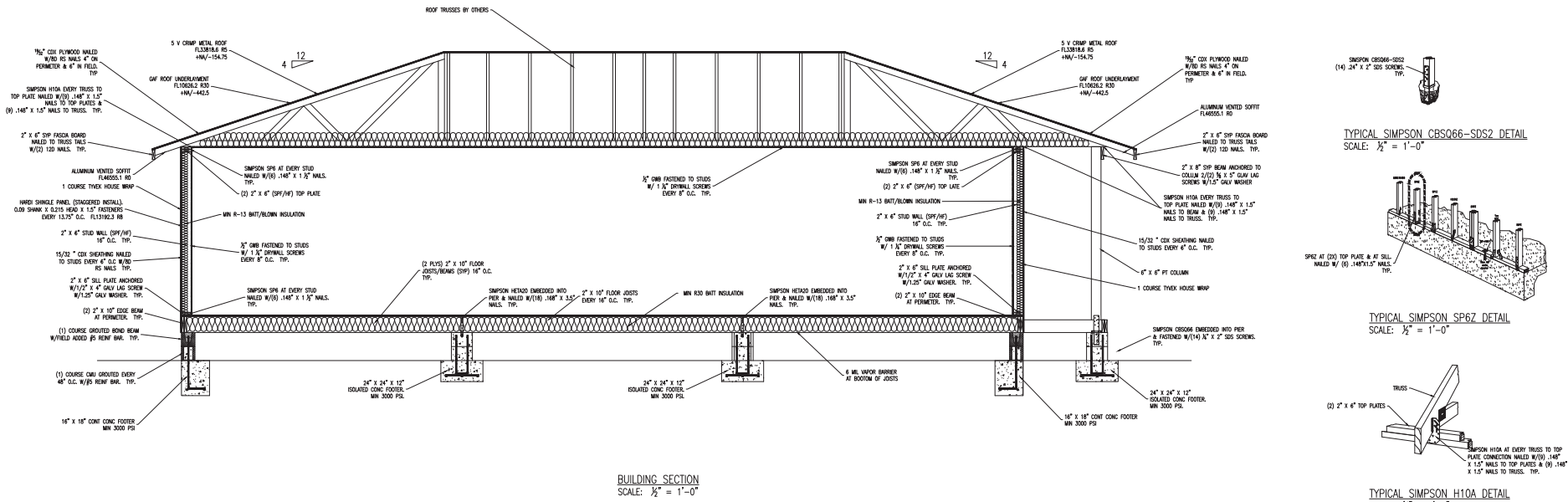
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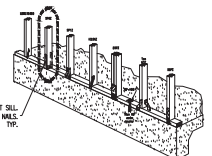
CONSTRUCTION PREPARED BY:
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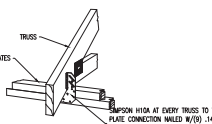
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 SHEET NUMBER: S1.1



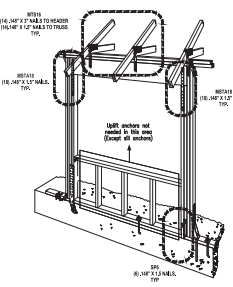
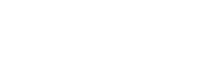
TYPICAL SIMPSON CBS066-SDS2 DETAIL
SCALE: $\frac{1}{2}'' = 1'-0''$



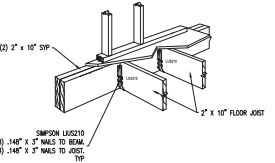
TYPICAL SIMPSON SP62 DETAIL
SCALE: $\frac{1}{2}'' = 1'-0''$



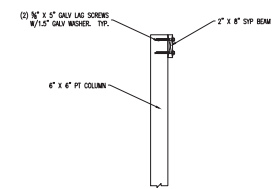
TYPICAL SIMPSON H10A DETAIL
SCALE: $\frac{1}{2}'' = 1'-0''$



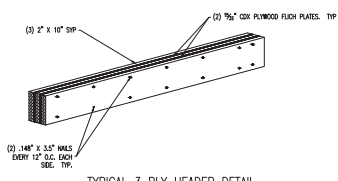
TYPICAL SIMPSON DETAILS
SCALE: $\frac{1}{2}'' = 1'-0''$



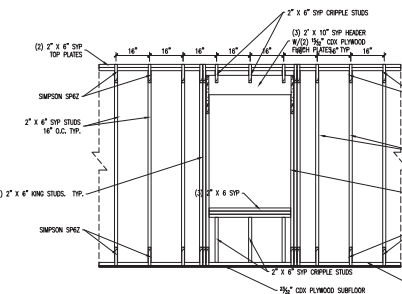
TYPICAL SIMPSON LUS210 DETAIL
SCALE: $1'' = 1'-0''$



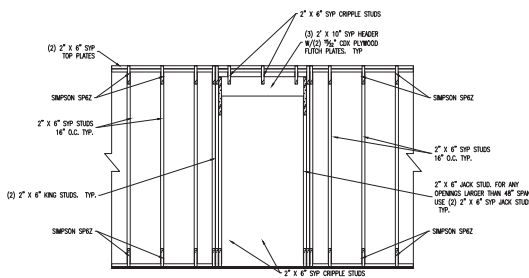
TYPICAL COLUMN/BEAM CONNECTION
SCALE: $\frac{3}{4}'' = 1'-0''$



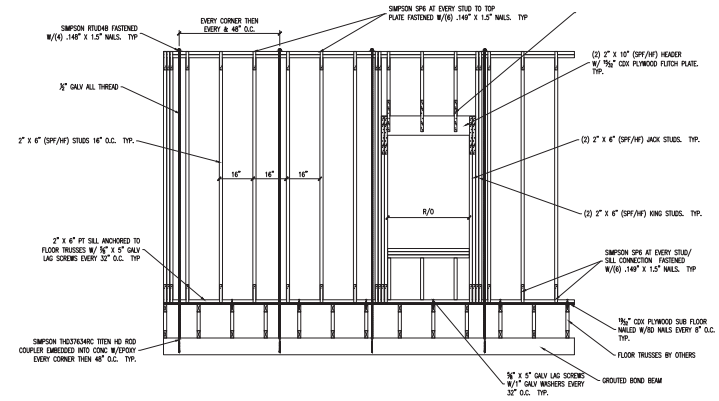
TYPICAL 3 PLY HEADER DETAIL
SCALE: $\frac{3}{4}'' = 1'-0''$



TYPICAL FRAMING DETAILS AT WINDOWS
SCALE: $\frac{3}{4}'' = 1'-0''$



TYPICAL FRAMING DETAILS AT DOORS
SCALE: $\frac{3}{4}'' = 1'-0''$



DIGITAL SEAL:

DESIGN PROFESSIONAL:
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CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
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DATE: 11-06-2025
DRAWN BY: EGW
SCALE: VARIES
SHEET NUMBER: S1.2



DESIGN PROFESSIONAL:
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 PORT ST. LUCIE, FL 34986

COMPLIES:
 FBC 2023 W/ALL
 CURRENT SUPPLEMENTS

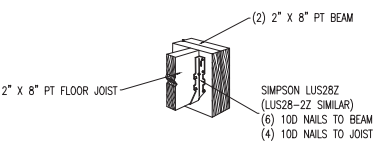
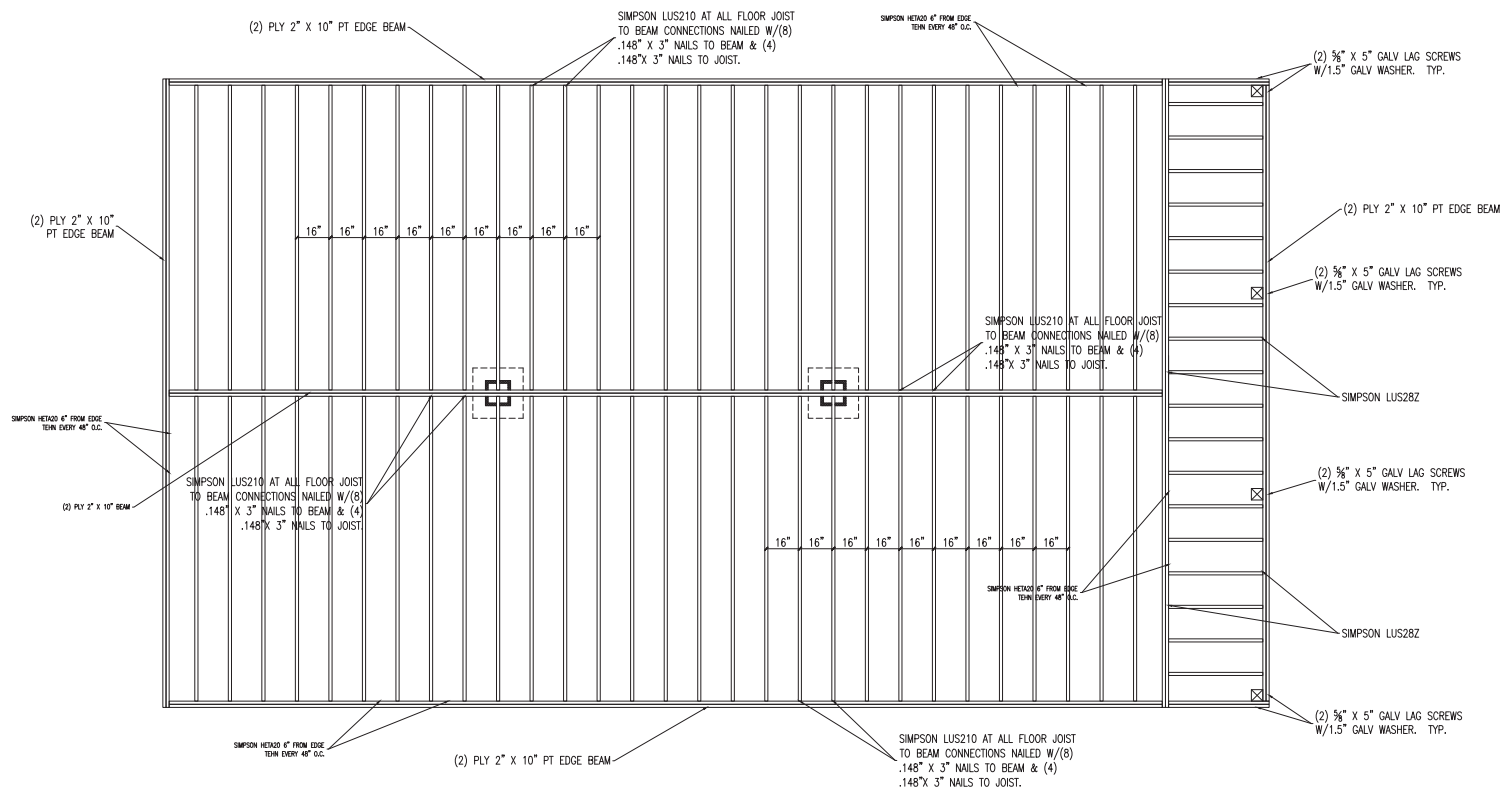
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CONSTRUCTION PREPARED BY:
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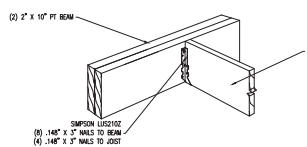
CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
 12111 AVENUE E
 FT. PIERCE, FL 34950

DATE: 11-06-2025
 DRAWN BY: EGW
 SCALE: VARIES
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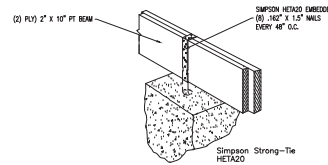
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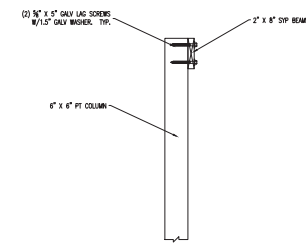
SIMPSON LUS28Z DETAIL
 SCALE: 1 1/2" = 1'-0"



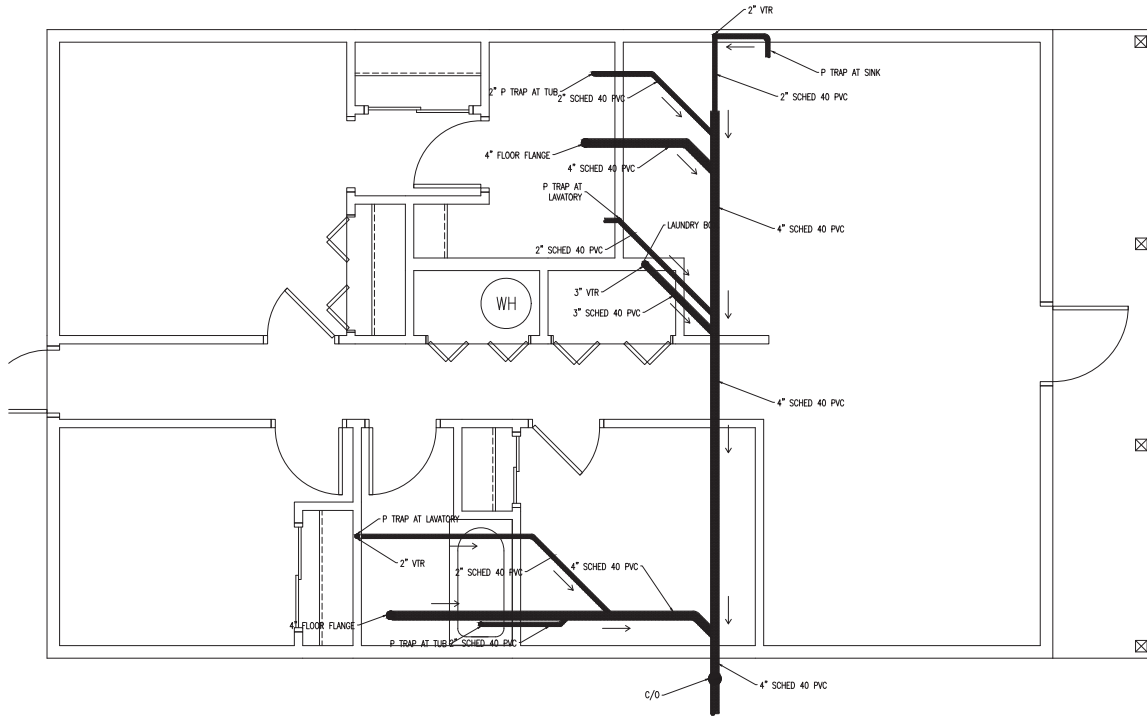
SIMPSON LUS210Z DETAIL
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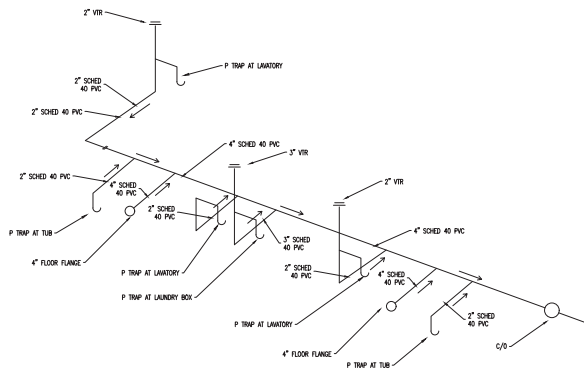
SIMPSON HETAZO DETAIL
 SCALE: 1" = 1'-0"



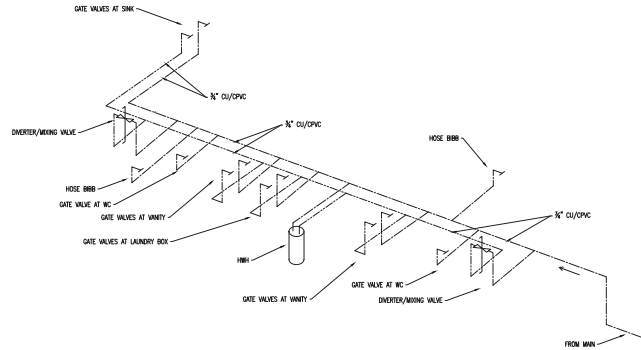
TYP BEAM TO PT COLUMN CONNECTION
 SCALE: 1" = 1'-0"



PLUMBING LAYOUT
SCALE: 1/2" = 1'-0"



PLUMBING ISOMETRIC/SANITARY
SCALE: NTS



PLUMBING ISOMETRIC/DWV SUPPLY
SCALE: NTS

PLUMBING NOTES

1. PLUMBING CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED BY THE PLUMBING SUBCONTRACTOR FOR PERMITTING TO THE AUTHORITY HAVING JURISDICTION.
2. PLUMBING CONTRACTOR SHALL BE LICENSED AND RESPONSIBLE TO MEET ALL APPLICABLE REQUIREMENTS OF THE FBC 2023 AND LOCAL REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT WILL BE LOCATED.
3. ALL PLUMBING FIXTURES AND PIPING MATERIALS AND INSTALLATION SHALL CONFORM TO THE LOCAL PLUMBING CODES.
4. INSULATE ALL PIPING AS REQUIRED BY THE FBC 2023.
5. USE WATER CONSERVING FIXTURES MEETING THE FOLLOWING WATERSENSE REQUIREMENTS:
 - a. TOILETS = 1.28 GPF
 - b. SHOWER HEADS = 2.0 GPM
 - c. KITCHEN FAUCETS = 2.0 GPM
 - d. BATHROOM FAUCETS = 1.5 GPM
 - e. WATER CLOSETS MUST HAVE A MINIMUM MAP RATING OF 600 GRAMS PER FLUSH.
6. COORDINATE FIXTURES AND LOCATIONS WITH ARCHITECTURAL PLANS & OWNER.
7. PROVIDE SERVICE CONNECTIONS TO THE LOCAL UTILITY THAT COMPLY WITH THE SERVICE AUTHORITY'S REQUIREMENTS.
8. COORDINATE HOT WATER HEATER LOCATION AND PROVIDE PLASTIC DRAIN/DRIP PAN WITH DRAIN TO THE BUILDING EXTERIOR IN A CONSPICUOUS LOCATION. WATER HEATER SHALL BE MINIMUM 50 GALLON CAPACITY AND ENERGY STAR LISTED.
9. COORDINATE HOSE BIBB LOCATIONS (MINIMUM OF 10 EXTERIOR HOSE BIBBS SHALL BE PROVIDED).
10. PROVIDE "NO DRIP" SUPPLY DRAIN AT WASHING MACHINE.
11. PROVIDE ACCESS PANELS TO TUBS/SHOWER UNITS.
12. PERFORM ALL REQUIRED TESTS PRIOR TO INSTALLING PIPE INSULATION, BACKFILLING, OR INSTALLING DRYWALL.
13. PROVIDE ALL CLEANOUTS, EXPANSION TANKS, VACUUM BREAKERS, AND OTHER MISCELLANEOUS COMPONENTS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM WHETHER SHOWN ON DRAWINGS OR NOT.
14. PROVIDE SHUT-OFF VALVES TO ALL FIXTURES.
15. ALL PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED AND SEALED USING PREFORMED RUBBER BOOTS.
16. PLUMBING SUBCONTRACTOR SHALL PROVIDE AND INSTALL DRAIN PIPING FOR ALL HVAC EQUIPMENT TO THE NEAREST PLUMBING DRAINAGE PIPING. CONNECT TO THE SANITARY DRAINAGE SYSTEM USING AN APPROVED CONNECTION.
17. ALL DRAINS SHALL HAVE WATER SEAL TRAPS AS REQUIRED BY CODE. ALL PLUMBING FIXTURES AND GROUPS SHALL BE VENTED TO THE BUILDING EXTERIOR THROUGH THE ROOF. STUODOR VENTS ARE NOT ACCEPTABLE EXCEPT AT ISLAND SINK IN KITCHEN.
18. ALL SANITARY SEWER PIPING SHALL BE SOLID-CORE, SCHEDULE 40 PVC DWV PIPE WITH APPROPRIATE FITTINGS. MINIMUM SLOPE OF THE SANITARY SEWER PIPING SHALL BE MAINTAINED PER CODE. AVOID ROUTING PIPE THROUGH BUILDING FOOTINGS. WHERE CONFLICTS ARE UNAVOIDABLE, ROUTE PIPING A MINIMUM OF 12" BELOW FOOTING.
19. HOT AND COLD WATER SUPPLY PIPING SHALL BE CPVC OR TYPE L COPPER WITH APPROVED FITTINGS. PLUMBING CONSTRUCTION DRAWINGS SHALL INDICATE THE LOCATION OF CLEAN-OUTS AND CONNECTIONS TO EXISTING UTILITIES INCLUDING WATER AND SANITARY SEWER FOR REVIEW BY THE AUTHORITY HAVING JURISDICTION.

DIGITAL SEAL:



DESIGN PROFESSIONAL:
JAMES E. GLOENBACH
ARCHITECT AR7457
9009 ONE PUITT PLACE
PORT ST. LUCIE, FL 34986

COMPLY: FBC 2023 M/ALL CURRENT SUPPLEMENTS

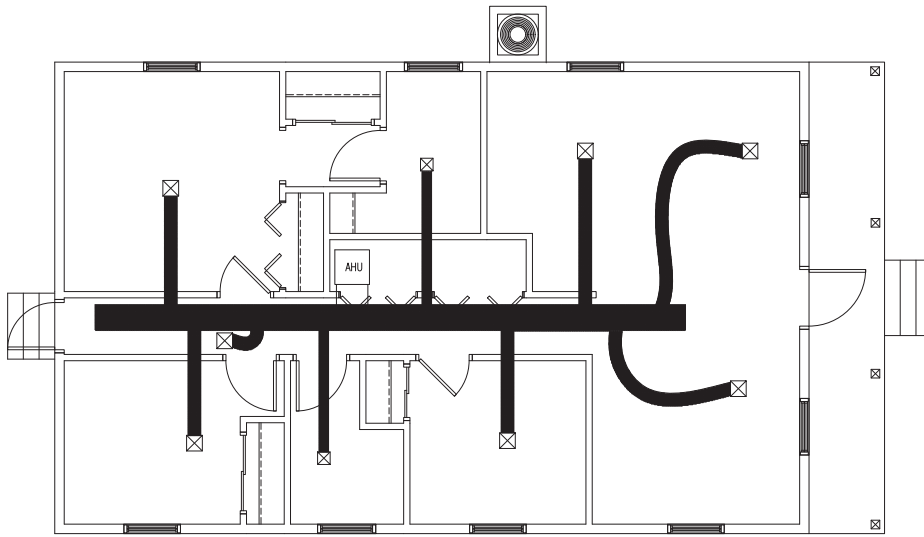
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1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
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20. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

CONSTRUCTION PREPARED BY:
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CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
1211 AVENUE E
FT. PIERCE, FL 34950

PUB DATE: 11-06-2025
DRAWN BY: EGW
SCALE: VARIES
SHEET NUMBER:

P1.0



MECHANICAL LAYOUT
SCALE: 3/8" = 1'-0"

HEATING EQUIPMENT
Make OXBOX
Trade OXBOX
Model J4HP5048E1000AA
AHRI REF 209832973

COOLING EQUIPMENT
Make OXBOX
Trade OXBOX
Cond J4HP5048E1000AA
Coil J4AH5E60E1000AA++TXV
AHRI REF 209832973

HVAC NOTES

GENERAL NOTES

- HVAC CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED BY THE HVAC SUBCONTRACTOR FOR PERMITTING TO THE AUTHORITY HAVING JURISDICTION.
- HVAC CONTRACTOR SHALL BE LICENSED AND RESPONSIBLE TO MEET ALL APPLICABLE REQUIREMENTS OF THE CURRENT FBC AND THE LOCAL CODE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT WILL BE LOCATED.
- THE HVAC DRAWINGS ARE SCHEMATIC IN NATURE. THE HVAC CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND COMPONENTS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM WHENEVER SHOWN ON THE DRINGS OR NOT. THESE COMPONENTS MAY INCLUDE, BUT SHALL NOT BE LIMITED TO:
 - ALL AIR CONDITIONING EQUIPMENT
 - EXHAUST FANS
 - DUCTWORK INCLUDING:
 - SUPPLY
 - RETURN
 - EXHAUST
 - VENTILATION
 - AIR DISTRIBUTION DEVICES INCLUDING:
 - SUPPLY DIFFUSERS AND REGISTERS
 - RETURN GRILLES
 - DAMPERS
 - LOUVERS
 - ROOF AND WALL CAPS
 - AIR FILTRATION
 - THERMOSTATS, OCCUPANCY SENSORS, TIMERS, AND WIRING
 - EQUIPMENT SUPPORTS, HANGERS, AND BRACING
 - CONDENSATE DRAIN PANS, OVERFLOW SWITCHES, AND PIPING
- CONSTRUCTION DRAWINGS SHALL BE BASED ON THE LOCATION AND ORIENTATION OF THE PROPOSED SITE. HVAC SYSTEM SHALL BE SIZED BASED ON ACCA MANUAL J AND S, LATEST EDITION. HVAC UNITS SHALL BE MINIMUM OF 16 SEER.

DUCTWORK

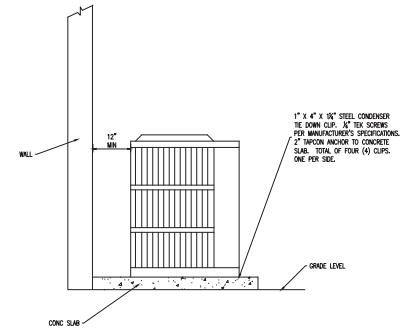
- ALL DUCTS AND PLENUMS SHALL BE MADE AIR TIGHT. SEAL ALL DUCT SEAMS USING TAPE AND MASTIC OVER JOINTS. CONSTRUCT AND INSTALL DUCTWORK IN COMPLIANCE WITH THE CURRENT FBC. MAXIMUM DUCT LEAKAGE SHALL NOT EXCEED 5% OF RATED AIRFLOW, OR AS REQUIRED BY LOCAL CODES.
- PROTECT OPEN DUCTS DURING CONSTRUCTION TO MINIMIZE DUST AND DEBRIS USING BLUE MAX OR EQUAL DUCT PROTECTOR.
- CONSTRUCT DUCTWORK FROM G90 GALVANIZED STEEL TO THE LATEST SMACNA REQUIREMENTS FOR THE PRESSURE CLASS REQUIRED.
- THE HVAC CONTRACTOR SHALL DESIGN THE DUCT SYSTEM BASED ON ACCA MANUAL D, LATEST EDITION. INSULATE DUCTWORK TO THE REQUIRED LEVEL AS REQUIRED BY THE FBC, LATEST EDITION, OR MINIMUM OF R-6.
- FLEXIBLE DUCTS SHALL BE EXTENDED FULLY. EXCESS DUCT MATERIAL SHALL BE LIMITED TO LESS THAN 5%.
- INSTALL FLEXIBLE DUCT PER MANUFACTURER'S RECOMMENDATIONS INCLUDING JOINING, SEALING, LIMITATIONS OF SAG AND SUPPORTING.
- INSTALL BALANCING DAMPERS AT EACH DUCT TAKE-OFF.
- INSTALL FIRE AND SMOKE DAMPERS WHERE REQUIRED BY LOCAL CODES.
- INSTALL SMOKE DETECTORS WHERE REQUIRED BY LOCAL CODES.

CONDENSATE DISPOSAL

- A MEANS OF CONDENSATE DISPOSAL SHALL BE PROVIDED FOR EACH PIECE OF HVAC EQUIPMENT CONTAINING AN EVAPORATOR COIL.
- CONDENSATE DISPOSAL SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CURRENT FBC AND LOCAL CODES.
- PRIMARY AND SECONDARY CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC.
- PRIMARY CONDENSATE PIPING LOCATED WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED USING 3/4" CLOSED CELL INSULATION.
- AIR HANDLING UNITS SHALL BE INSTALLED OVER A SECONDARY DRAIN PAN. THE DRAIN PAN SHALL BE INSTALLED WITH AN OVERFLOW SAFETY SWITCH INTERLOCKED WITH THE UNIT COMPRESSOR, OR WITH A DRAIN CONNECTION THAT IS PIPED TO A CONSPICUOUS LOCATION AT THE BUILDING EXTERIOR.
- ALL CONDENSATE DISPOSAL PIPING SHALL BE TESTED DURING HVAC STARTUP.
- SECONDARY DRAIN PAN CONTROLS AND INTERLOCK SHALL BE TESTED DURING HVAC EQUIPMENT STARTUP.

SPLIT-SYSTEM HEAT PUMP EQUIPMENT

- HEAT PUMP AND AIR HANDLING UNIT SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT FBC AND LOCAL CODES.
- HEAT PUMP SHALL BE LOCATED ON GRADE AND SHALL BE SUPPORTED AND TIED DOWN AS REQUIRED BY THE CURRENT FBC USING APPROVED HURRICANE STRAPS.
- THE MANUFACTURER'S RECOMMENDED CLEARANCES SHALL BE MAINTAINED ON ALL SIDES OF HEAT PUMP AND AIR-HANDLING UNITS.
- DRYER EXHAUST DUCT SHALL BE ROUTED TO THE BUILDING EXTERIOR PER THE CURRENT FBC AND MANUFACTURER'S RECOMMENDATIONS. INSTALL BOOSTER FAN AS REQUIRED AND ALLOWED BY CODE.
- VENTILATION AIR DUCT SHALL BE CONNECTED TO THE RETURN AIR FLENUM.
- VENTILATION AIR DUCT SHALL INCLUDE A MANUAL VOLUME DAMPER AND A NORMALLY CLOSED ISOLATION DAMPER (24VAC CONTROL).
- THE VENTILATION ISOLATION DAMPER SHALL BE WIRED TO OPEN BASED ON A WALL MOUNTED OCCUPANCY SENSOR. VENTILATION AIR INTAKE SHALL BE LOCATED IN ACCORDANCE WITH THE CURRENT FBC, AND SHALL BE A MINIMUM OF 3 FEET FROM OPERABLE WINDOWS AND DOORS, AND A MINIMUM OF 3 FEET FROM PROPERTY LINES.



CONDENSING UNIT MOUNTING DETAIL
SCALE: 3/4" = 1'-0"

DIGITAL SEAL:



DESIGN PROFESSIONAL:
JAMES E. GILGENBACH
ARCHITECT APT457
9009 ONE PUTT PLACE
PORT ST. LUCIE, FL 34986

COMPLY: FBC 2023 M/ALL
CURRENT SUPPLEMENTS

CONSTRUCTION PREPARED BY:
PAVON WALKER CONSTRUCTION, LLC.
DESIGN / BUILD / MANAGEMENT
305-354-0992
customerservice@pavonwalk.com

CONSTRUCTION DOCUMENTS FOR:
SIDCONOMICS, LLC.
1211 AVENUE E
FT. PIERCE, FL 34950

DATE: 11-06-2025
DRAWN BY: EGW
SCALE: VARIES
SHEET NUMBER:

M1.0

R W Building Consultants, Inc.

Consulting and Engineering Services for the Building Industry

P. O. Box 230 Valrico, FL 33595 Phone 813.659.9197

Florida Board of Professional Engineers Registry License No. 9813

Plastics Testing Summary

Report No.: **TT-PLASTICS.5**

Date: **July 17, 2023**

| Manufacturer | Plastic Materials Testing |
|--|--|
| Therma-Tru Corporation 118 Industrial Drive Edgerton, OH 43517 Phone 419.298.1740 | Polyurethane Foam Core Composite Door Jamb Fiberglass Door Skin (SMC) Lite Frames (SMC, BTS, PVC) |

Scope: Plastics testing performed for Therma-Tru Corporation:

| Material | Test Report No. | Test Standard | Testing Laboratory | Signed by |
|-------------------------------------|--|---|--|--|
| Polyurethane Foam Core | ATI 67508 01-106-18 | ASTM D 1929-96 | Architectural Testing Lab. | Joseph A. Reed, P.E. |
| Polyurethane Foam Core | 15427-107362 | ASTM E 84-00a | Omega Point Lab. | John W. Dougherty, P.E. |
| Composite Door Jamb | TEL 11021840-A TEL 11021840-B TEL 11021840-C TEL 11002186 | ASTM D 635-06 ASTM D 2843-99 ASTM D 1929-96 ASTM G 155-05a, D 638-03 | Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. | William B. Shelton, P.E. William B. Shelton, P.E. William B. Shelton, P.E. William B. Shelton, P.E. |
| Fiberglass Door Skin (SMC) | TEL 01460336-A TEL 01460336-B TEL 01460336-C | ASTM D 635-03 ASTM D 1929-96 ASTM D 2843-99 | Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. | Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. |
| BTS Lite Frame | TEL 01460337-A TEL 01460337-B TEL 01460337-C | ASTM D 635-03 ASTM D 1929-96 ASTM D 2843-99 | Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. | Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. |
| SMC Lite Frame | TEL 01460338-A TEL 01460338-B TEL 01460338-C | ASTM D 635-03 ASTM D 1929-96 ASTM D 2843-99 | Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. | Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. |
| PVC Lite Frame | TEL 01460339-A TEL 01460339-B TEL 01460339-C | ASTM D 635-03 ASTM D 1929-96 ASTM D 2843-99 | Testing Evaluation Lab. Testing Evaluation Lab. Testing Evaluation Lab. | Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. |
| Exposed Plastics (BTS, SMC, PVC) | ETC-01-741-11075.0 ETC-01-741-11076.2 ETC-01-741-10921.0 STTS00001 STTS 99-0513.01 | ASTM D 638-96 ASTM D 638-96 ASTM D 638-96 ASTM G 26-95 ASTM G 7-97 (5 yr. exposure) | ETC Laboratories, Inc. ETC Laboratories, Inc. ETC Laboratories, Inc. Sub-Tropical Testing Sub-Tropical Testing | Joseph L. Doldon, P.E. Joseph L. Doldon, P.E. Joseph L. Doldon, P.E. Lon Hicks, V.P. Lon Hicks, V.P. |

Equivalency of Standards

| Test Standards Used | 8th Edition (2023) FBC Referenced Standards |
|-------------------------|---|
| ASTM D 635-03, 06 | ASTM D 635-14 |
| ASTM D 638-96 | ASTM D 638-03 |
| ASTM D 1929-96 | ASTM D 1929-16 |
| ASTM D 2843-99 | ASTM D 2843-16 |
| ASTM E 84-00a | ASTM E 84-18b |
| ASTM G 26-95, G 155-05a | ASTM G 155-13 |

The products referenced above have been tested to the standards listed. It has been determined by Lyndon F. Schmidt, P.E. and RW Building Consultants, Inc. that, for the purpose of this evaluation, the tested standards are equivalent to the referenced test standards as adopted by the 8th Edition (2023) Florida Building Code.

LYNDON F. SCHMIDT, State of Florida, Professional Engineer, License No. 43409

This item has been digitally signed and sealed by L. F. Schmidt on 7-18-23.

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THERMA-TRU[®] DOORS

Fiber-Classic[®] & Smooth-Star.

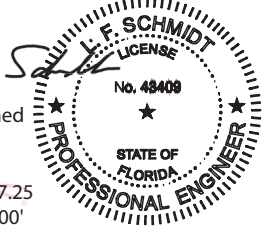
COMPOSITE EDGE OPAQUE FIBERGLASS DOUBLE DOOR w/ or w/out SIDELITES INSWING/OUTSWING "IMPACT"

GENERAL NOTES

- This product evaluation drawing has been developed in compliance with the 8th Edition (2023) Florida Building Code (FBC) including the "High Velocity Hurricane Zone" (HVHZ).
- Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
- When used in the "HVHZ" this product complies with Section 1626 of the FBC and does not require an impact resistant covering.
- When used in areas outside of the "HVHZ" requiring wind borne debris protection, this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.
- For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
- Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
- This product meets the water infiltration requirements for the "HVHZ".
- Outswing configurations using Coastal Sill (item #19) & Composite Sill (item #14) under active doors meet water infiltration requirements for "HVHZ". All other configurations do not meet the water infiltration requirements for the "HVHZ" and shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.

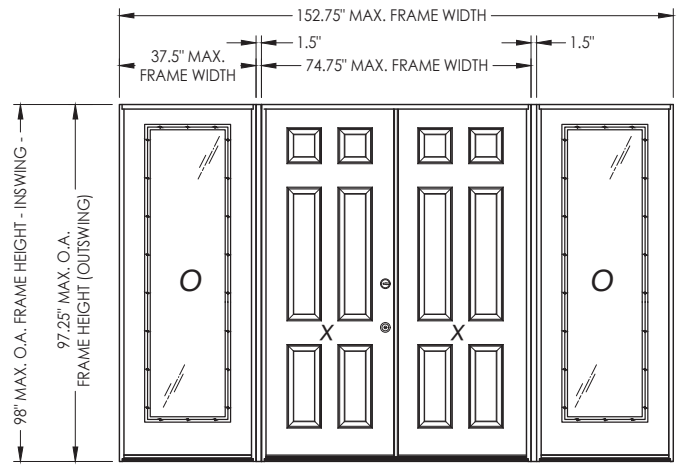
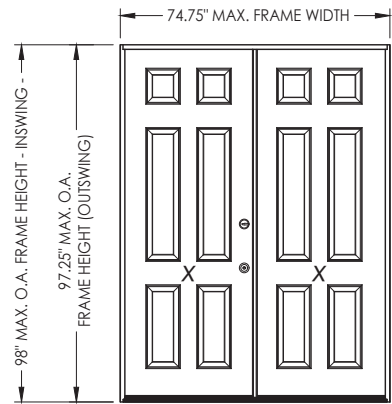
| TABLE OF CONTENTS | | | |
|-------------------|--|--------|--------------------------------------|
| SHEET# | DESCRIPTION | SHEET# | |
| 1 | Typical Elevations, Design Pressures & General Notes | 8 | Vertical Cross Sections (Thresholds) |
| 2 | Door Panel Details | 9 | Buck Anchoring |
| 3 | Sidelite Panel Details | 10 | Frame Anchoring |
| 4 | Elevations | 11 | Hardware Details |
| 5 | Horizontal & Vertical Cross Sections (2X Buck) | 12 | Glazing Details |
| 6 | Horizontal & Vertical Cross Sections (1X Buck) | 13 | Components |
| 7 | Horizontal & Vertical Cross Sections (Direct to Masonry) | 14 | Bill of Materials |

Digitally signed
by Lyndon F
Schmidt
Date: 2023.07.25
10:08:48 -04'00'



This item has been digitally signed and sealed by L. F. Schmidt, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA



| CONFIGURATION | LOCK HARDWARE | LOCK & DEADBOLT SPACING | DESIGN PRESSURE (PSF) INSWING | | DESIGN PRESSURE (PSF) OUTSWING | |
|---------------|------------------|-------------------------|-------------------------------|----------|--------------------------------|----------|
| | | | POSITIVE | NEGATIVE | POSITIVE | NEGATIVE |
| XX | Latch & Deadbolt | 5-1/2" | +50.0 | -55.0 | +55.0 | -55.0 |
| OXXO | Latch & Deadbolt | 5-1/2" | +50.0 | -55.0 | +50.0 | -50.0 |
| XX | Latch & Deadbolt | 12" | +60.0 | -60.0 | +65.0 | -65.0 |
| OXXO | Latch & Deadbolt | 12" | +55.0 | -55.0 | +55.0 | -55.0 |
| XX, OXXO | Multipoint | N/A | +55.0 | -55.0 | +55.0 | -55.0 |

See Sheet 4 for Hardware Specifications

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

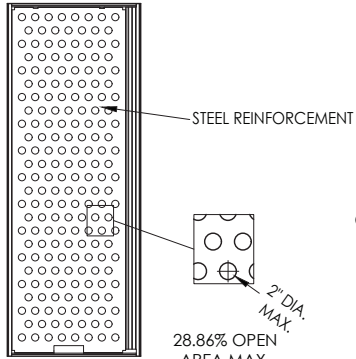
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

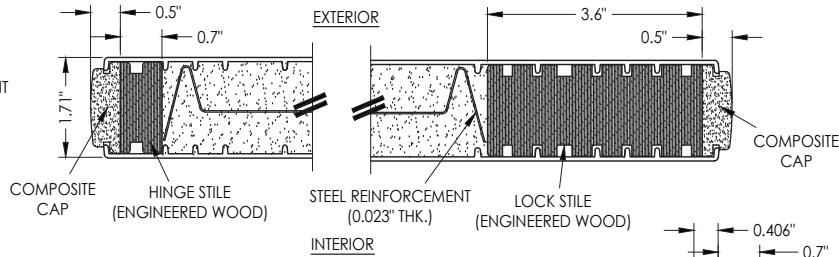
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| 3 | 7/22/20 | LFS | UPDATE TO 7TH ED (2020) FBC |
| 2 | 4/06/19 | LFS | ADD 5-1/2" LATCH/DB SPACING |
| 1 | 7/14/17 | JK | UPDATE TO 6TH ED. (2017) FBC |

DATE: 8/02/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-20470.6
SHEET 1 OF 14

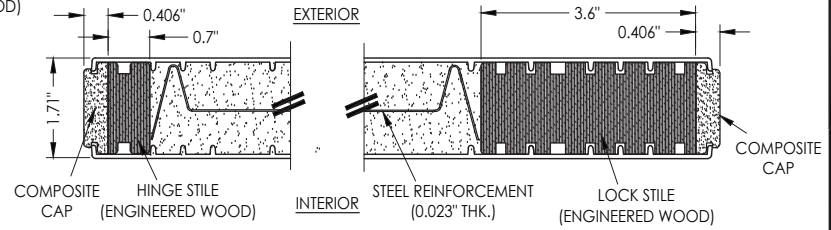


DETAIL A-A
PANEL REINFORCEMENT
(0.023\"/>

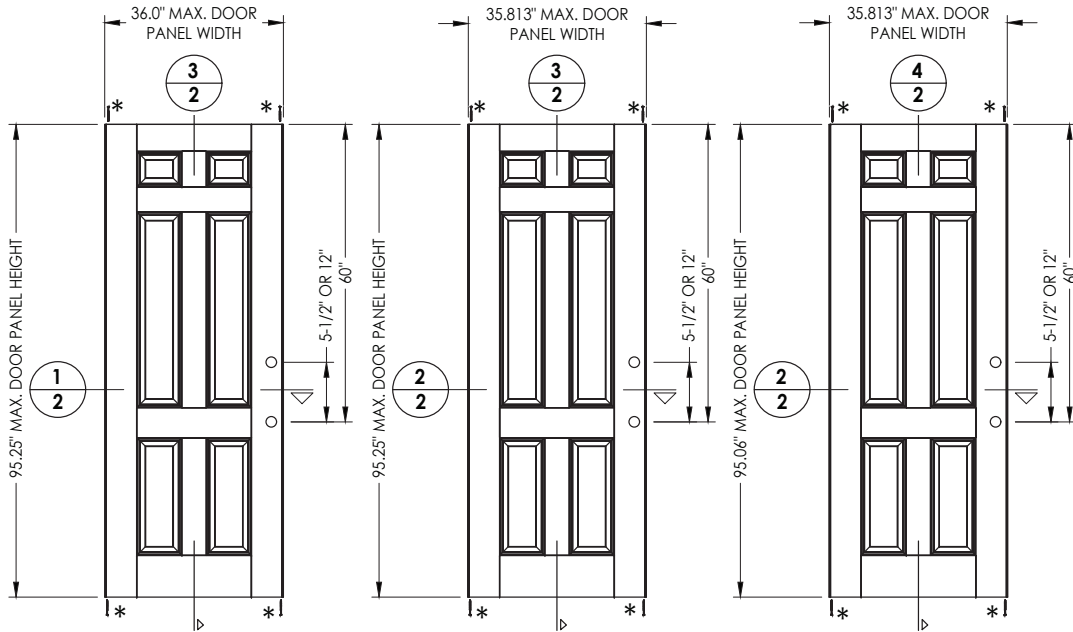
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1
2 **HORIZONTAL CROSS SECTION**



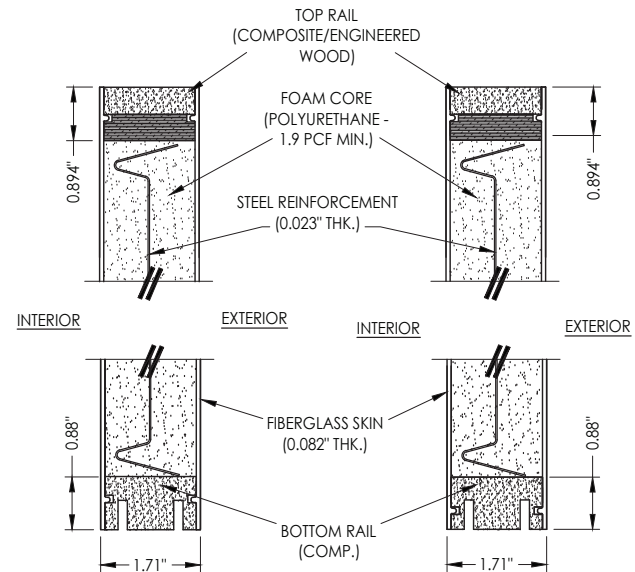
2
2 **HORIZONTAL CROSS SECTION**



40 **DOOR PANEL**
BOOK

41 **DOOR PANEL**
Hybrid Door

42 **DOOR PANEL**
U1 Door



3
2 **VERTICAL CROSS SECTION**

4
2 **VERTICAL CROSS SECTION**

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Velrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

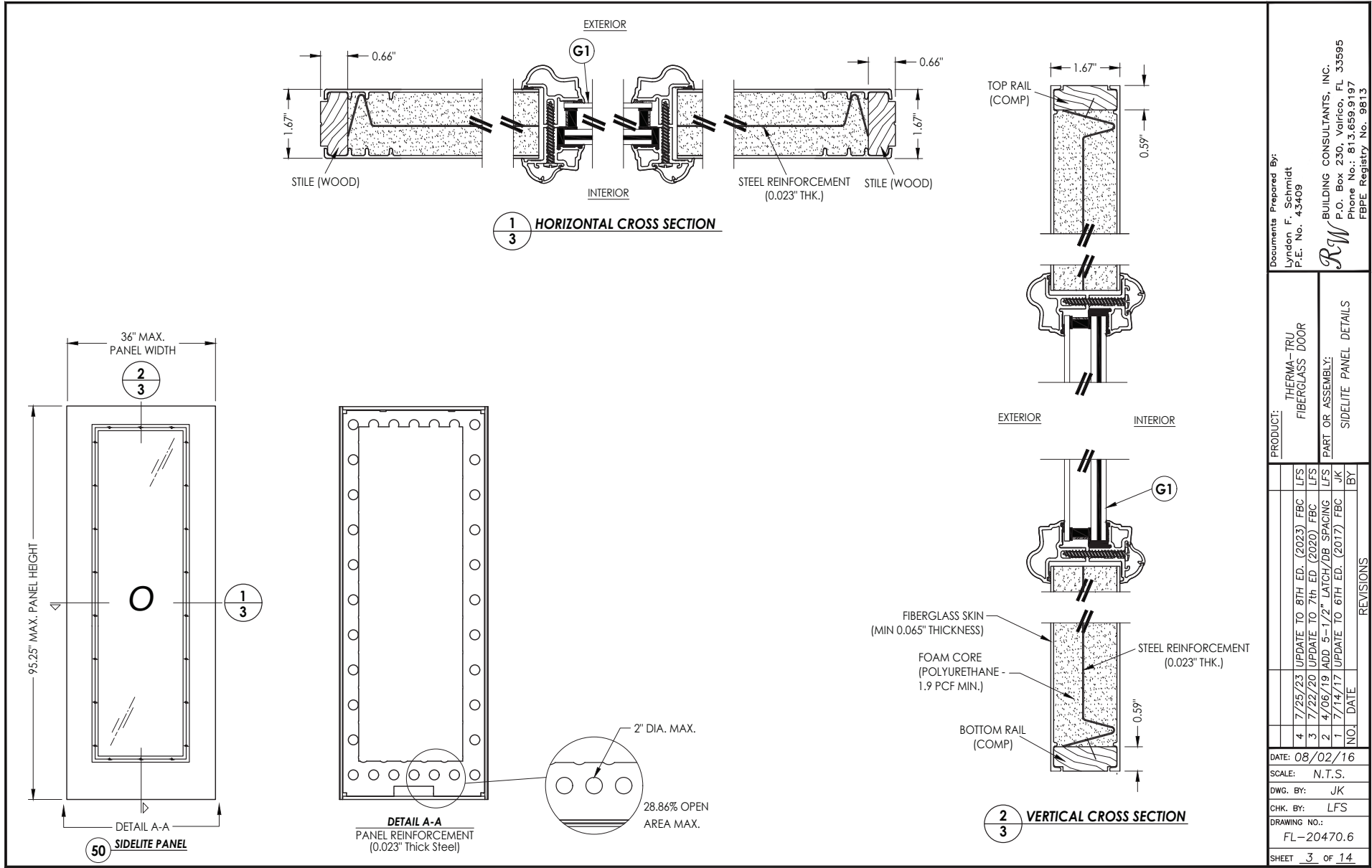
PRODUCT: THERMA-TRU FIBERGLASS DOOR

PART OR ASSEMBLY: DOOR PANEL DETAILS

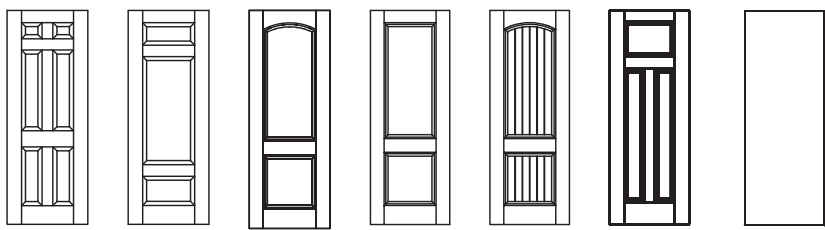
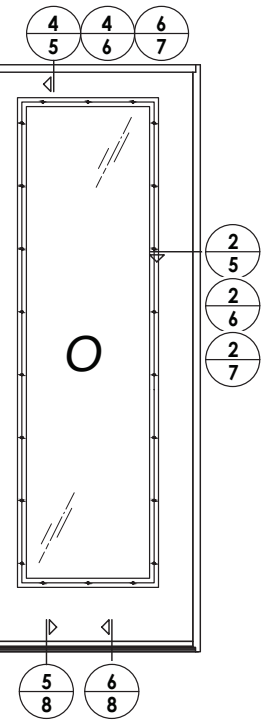
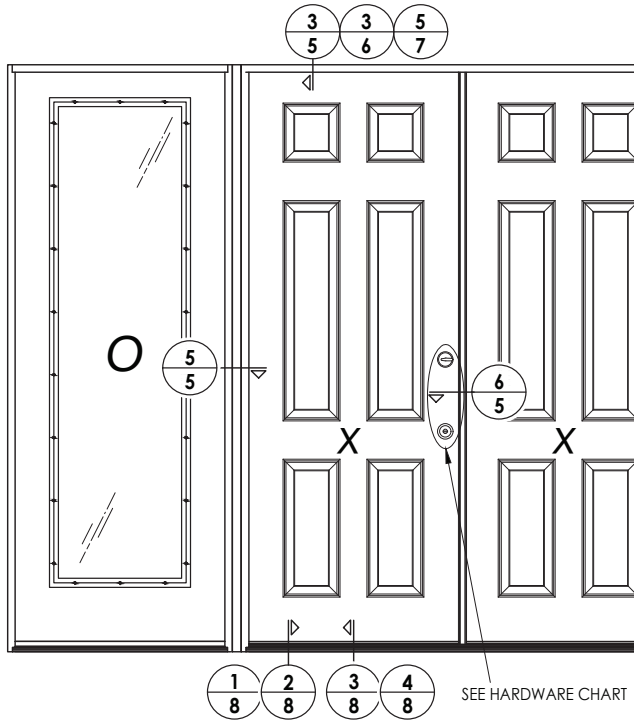
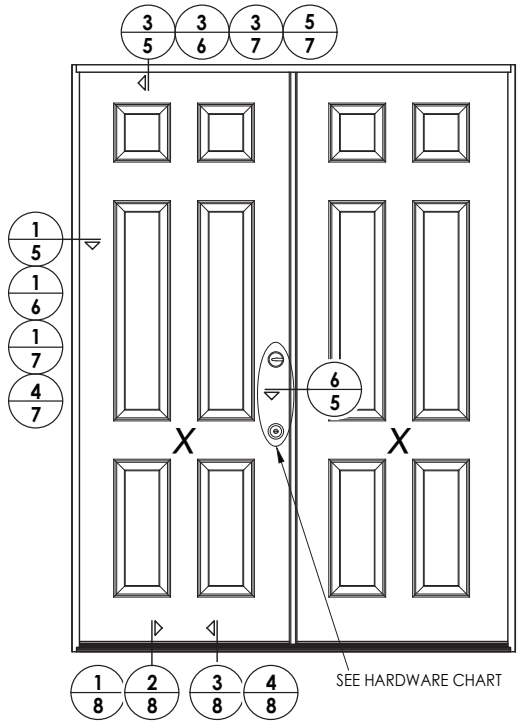
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| 3 | 7/22/20 | LFS | UPDATE TO 7TH ED. (2020) FBC |
| 2 | 4/06/19 | LFS | ADD 5-1/2\"/> |
| 1 | 7/14/17 | JK | UPDATE TO 6TH ED. (2017) FBC |

DATE: 08/02/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-20470.6
SHEET 2 OF 14

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| | | | |
|---|---------|--|---------|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: SIDELITE PANEL DETAILS | |
| | | | |
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7th ED (2020) | FBC LFS |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | LFS |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC JK |
| | NO. | DATE | BY |
| | | | |
| REVISIONS | | | |
| DATE: 08/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 3 OF 14 | | | |



Fiber-Classic/Smooth-Star Door Panel Options
 Panel options shown are for illustration and are representative only
 (similar opaque panel configurations are allowed)

| HARDWARE TABLE | |
|--------------------|--|
| MANUFACTURER | MODEL |
| SCHLAGE | KNOB: F51 DEADBOLT: B60 |
| KWIKSET | KNOB: SIGNATURE SERIES DEADBOLT: SIGNATURE SERIES (980) |
| HOPPE (THERMA-TRU) | MULTIPOINT : MPDGSB (3 pt. Manual Shootbolt) |

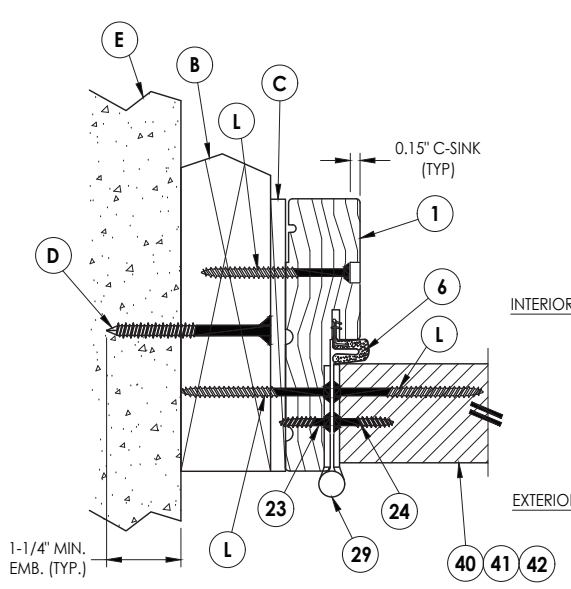
Documents Prepared By:
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RW BUILDING CONSULTANTS, INC.
 P.O. Box 230, Valrico, FL 33595
 Phone No.: 813.659.9197
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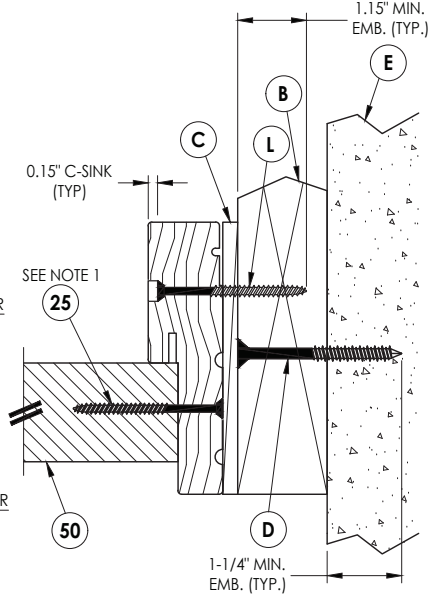
PRODUCT: THERMA-TRU FIBERGLASS DOOR
 PART OR ASSEMBLY: ELEVATIONS

| NO. | DATE | REVISIONS |
|-----|---------|-----------------------------------|
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7th ED. (2020) FBC LFS |
| 2 | 4/06/19 | ADD. 5-1/2" LATCH/DB SPACING. LFS |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) FBC JK |

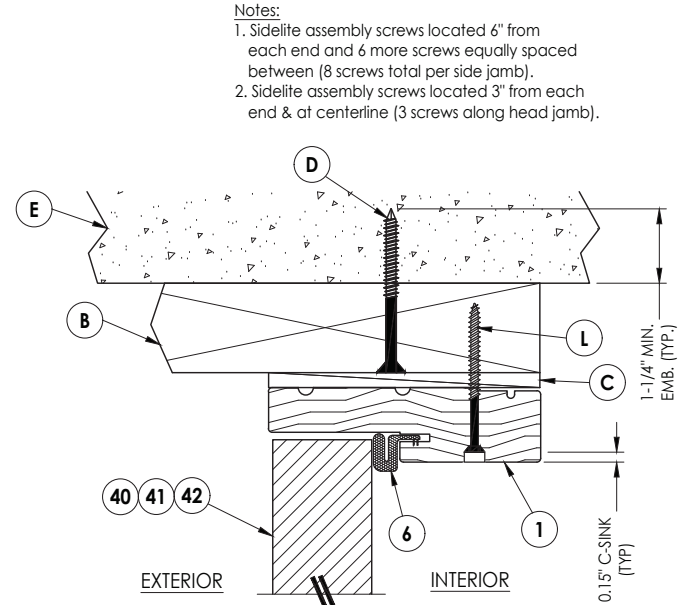
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 DWG. BY: JK
 CHK. BY: LFS
 DRAWING NO.: FL-20470.6
 SHEET 4 OF 14



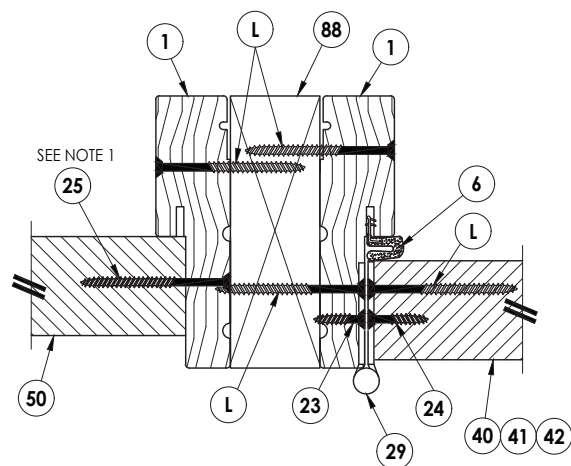
1 HORIZONTAL CROSS SECTION
5 Outswing shown (Inswing similar)



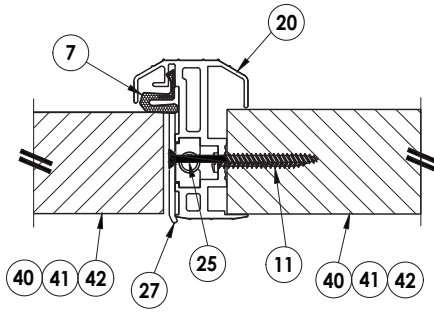
2 HORIZONTAL CROSS SECTION
5 Outswing shown (Inswing similar)



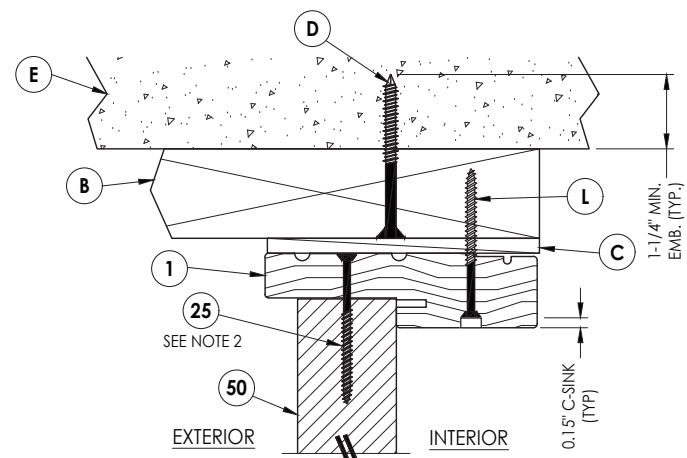
3 VERTICAL CROSS SECTION
5 Outswing shown (Inswing similar)



5 HORIZONTAL CROSS SECTION
5 Outswing shown (Inswing similar)



6 HORIZONTAL CROSS SECTION
5 Outswing shown (Inswing similar)



4 VERTICAL CROSS SECTION
5 Outswing shown (Inswing similar)

Notes:
1. Sidelite assembly screws located 6" from each end and 6 more screws equally spaced between (8 screws total per side jamb).
2. Sidelite assembly screws located 3" from each end & at centerline (3 screws along head jamb).

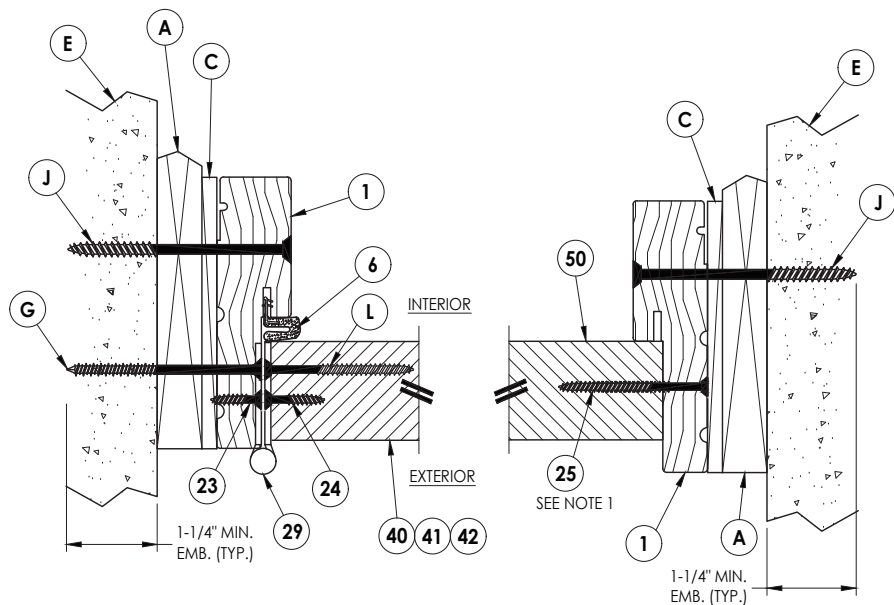
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| | | | |
|---|-----------------------------|--|-----|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS (2X BUCK) | |
| 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC | LFS |
| 7/22/20 | UPDATE TO 7th ED. (2020) | FBC | LFS |
| 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | FBC | LFS |
| 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC | JK |
| NO. | DATE | BY | BY |
| | | | |
| REVISIONS | | | |
| DATE: 08/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 5 OF 14 | | | |

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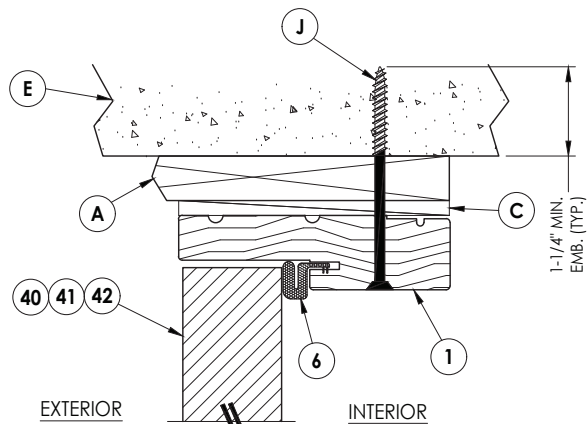
Notes:

- Sidelite assembly screws located 6" from each end and 6 more screws equally spaced between (8 screws total per side jamb).
- Sidelite assembly screws located 3" from each end & at centerline (3 screws along head jamb).

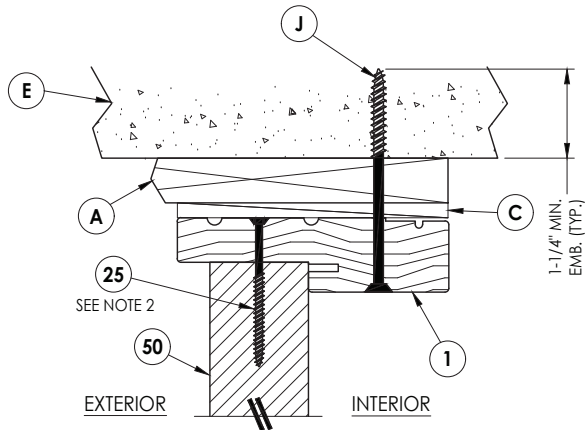


1
6 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)

2
6 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



3
6 **VERTICAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



4
6 **VERTICAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: THERMA-TRU
FIBERGLASS DOOR

PART OR ASSEMBLY:
HORIZONTAL & VERTICAL
CROSS SECTIONS (1X BUCK)

| NO. | DATE | BY | REVISIONS |
|-----|---------|-----|------------------------------|
| 4 | 7/25/23 | LFS | UPDATE TO 8TH ED. (2023) FBC |
| 3 | 7/22/20 | LFS | UPDATE TO 7th ED. (2020) FBC |
| 2 | 4/06/19 | LFS | ADD 5-1/2" LATCH/DB SPACING |
| 1 | 7/14/17 | JK | UPDATE TO 6TH ED. (2017) FBC |

DATE: 08/02/16

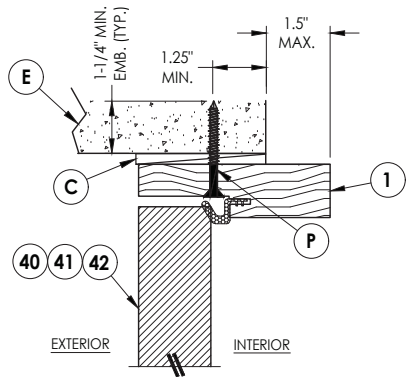
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DWG. BY: JK

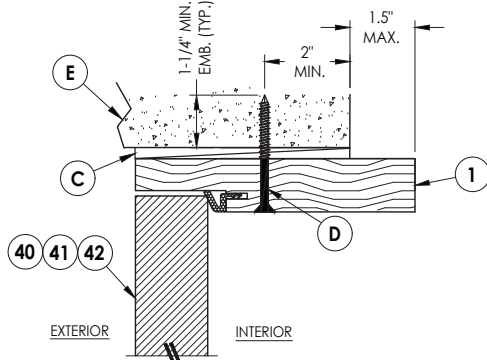
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DRAWING NO.:
FL-20470.6

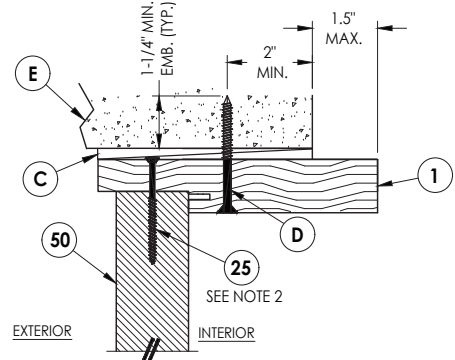
SHEET 6 OF 14



3
7 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 4-9/16" jamb
Double Door Only (N/A w/ Sidelites)



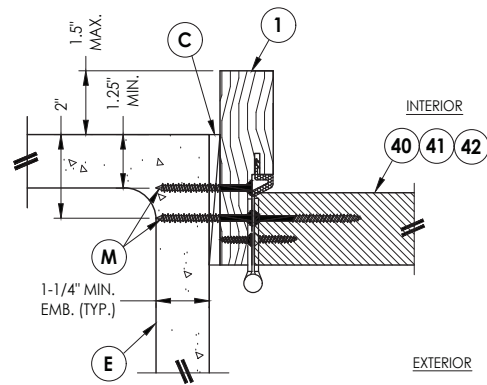
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7 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb



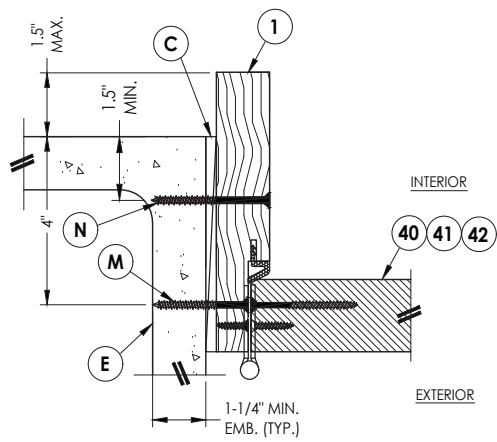
6
7 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

DIRECT TO MASONRY MAX. DESIGN PRESSURE:
± 47 PSF

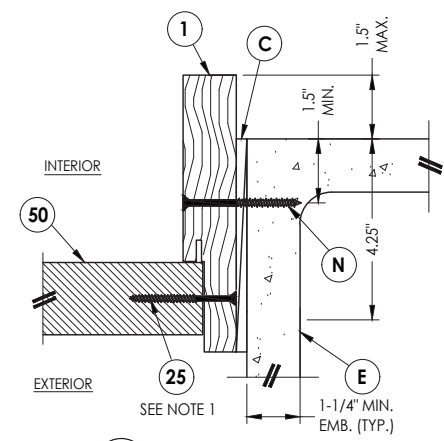
- Notes:
- Sidelite assembly screws located 6" from each end plus 6 more equally spaced between (8 screws total per side jamb).
 - Sidelite assembly screws located 3" from each end & at centerline (3 screws along head jamb).



1
7 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 4-9/16" jamb
Double Door Only (N/A w/ Sidelites)



4
7 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

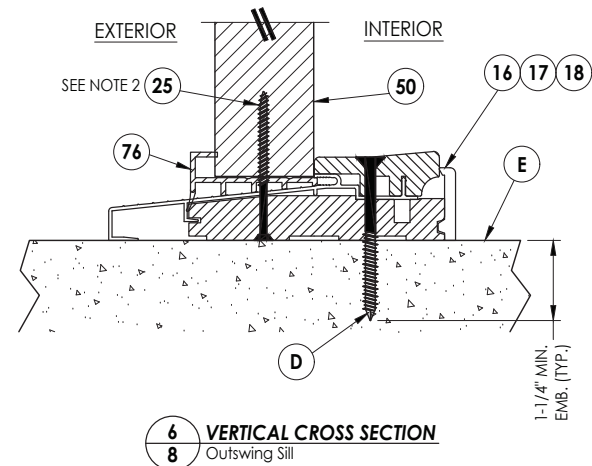
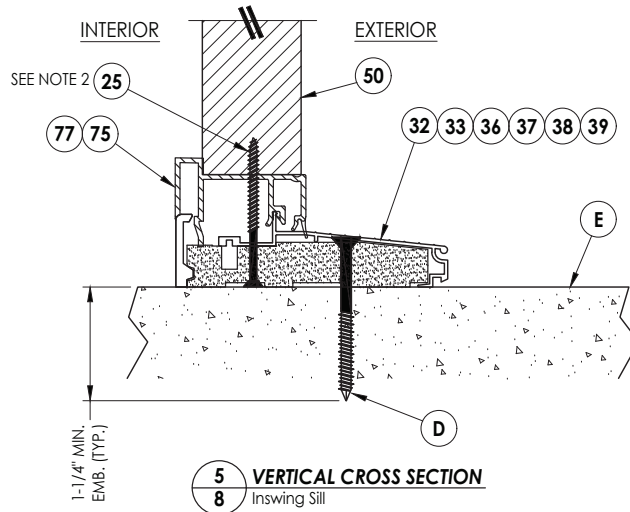
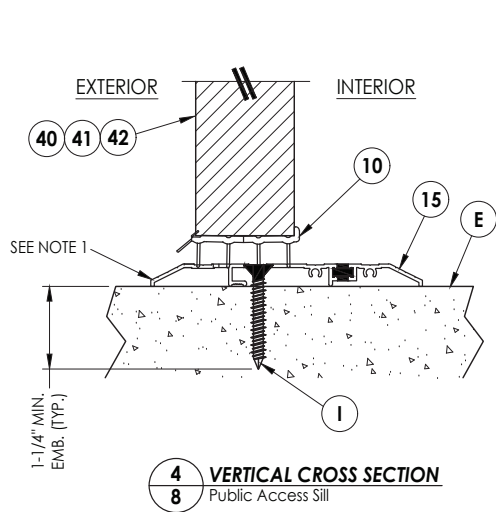
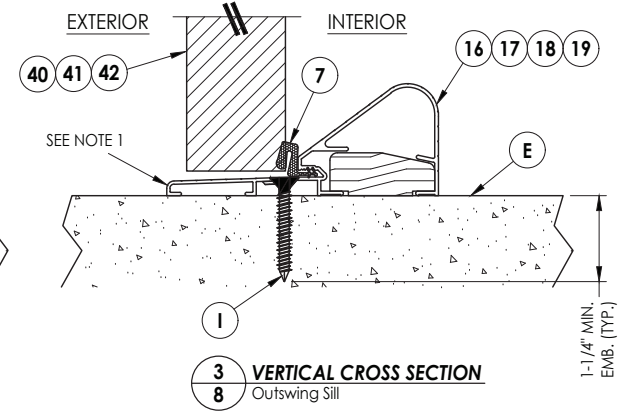
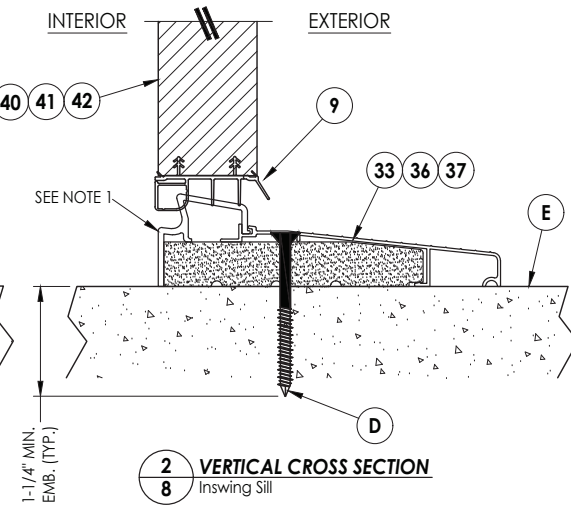
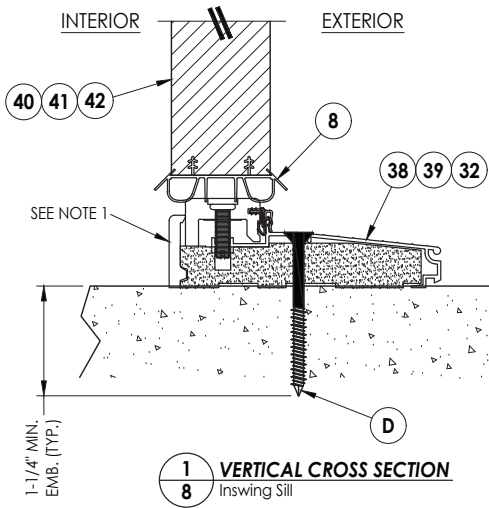


2
7 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

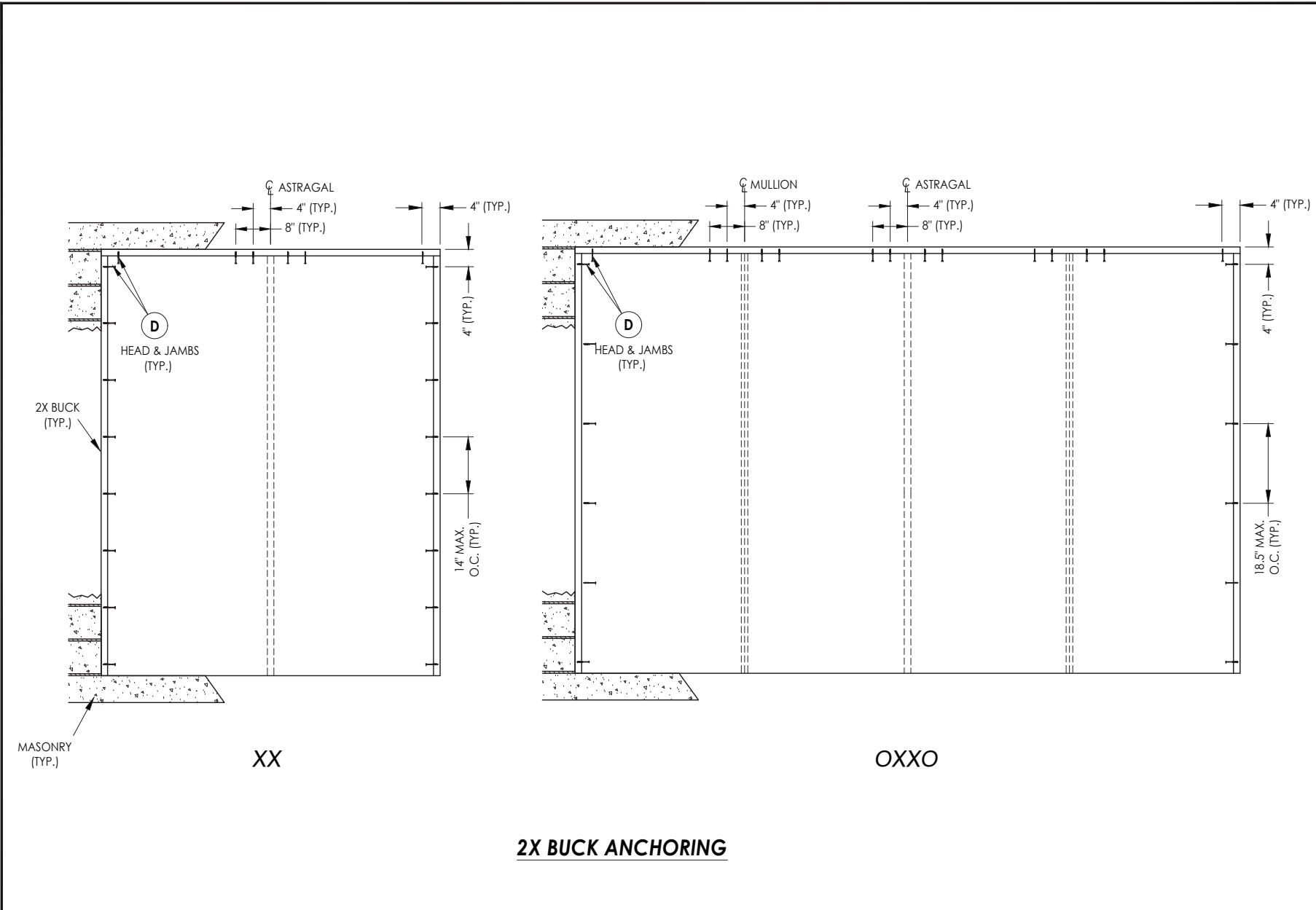
| | | | |
|---|---------|--|---------|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: HORIZONTAL & VERTICAL SECTIONS (DIRECT TO MASONRY) | |
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7th ED. (2020) | FBC LFS |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | LFS JK |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC JK |
| NO. | DATE | | BY |
| REVISIONS | | | |
| DATE: 8/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 7 OF 14 | | | |

Notes:

- Sill Item #'s 16, 32, 33, 34, 35, 36, 37, 38 & 39 are attached to jambs w/ (3) #8 X 2-1/2" pph screws at each end.
Sill Item #'s 17, 18 & 19 are attached to jambs w/ (2) #8 X 2-1/2" pph screws at each end.
Sill Item #15 is attached to jambs utilizing (2) #10 X 2" pph SMS at each end.
- Sidelite assembly screws located 3" from each end & at centerline (3 screws along sill).

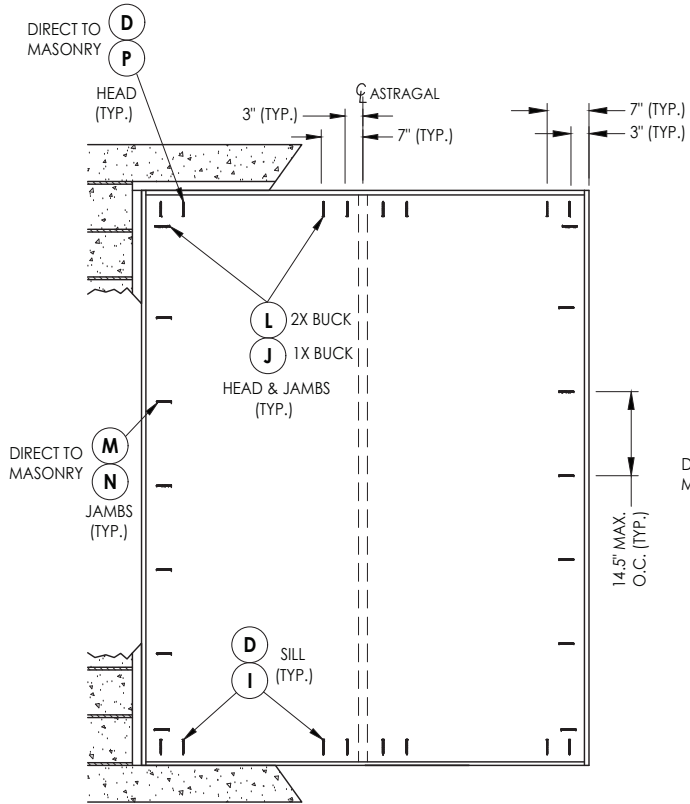
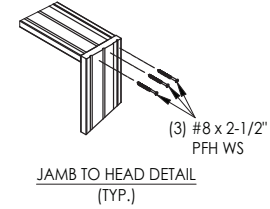


| | | | |
|---|---------|--|-----------|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: VERTICAL CROSS SECTIONS (THRESHOLDS) | |
| NO. | DATE | BY | REVISIONS |
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7th ED (2020) | FBC LFS |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | FBC LFS |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC JK |
| DATE: 08/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 8 OF 14 | | | |

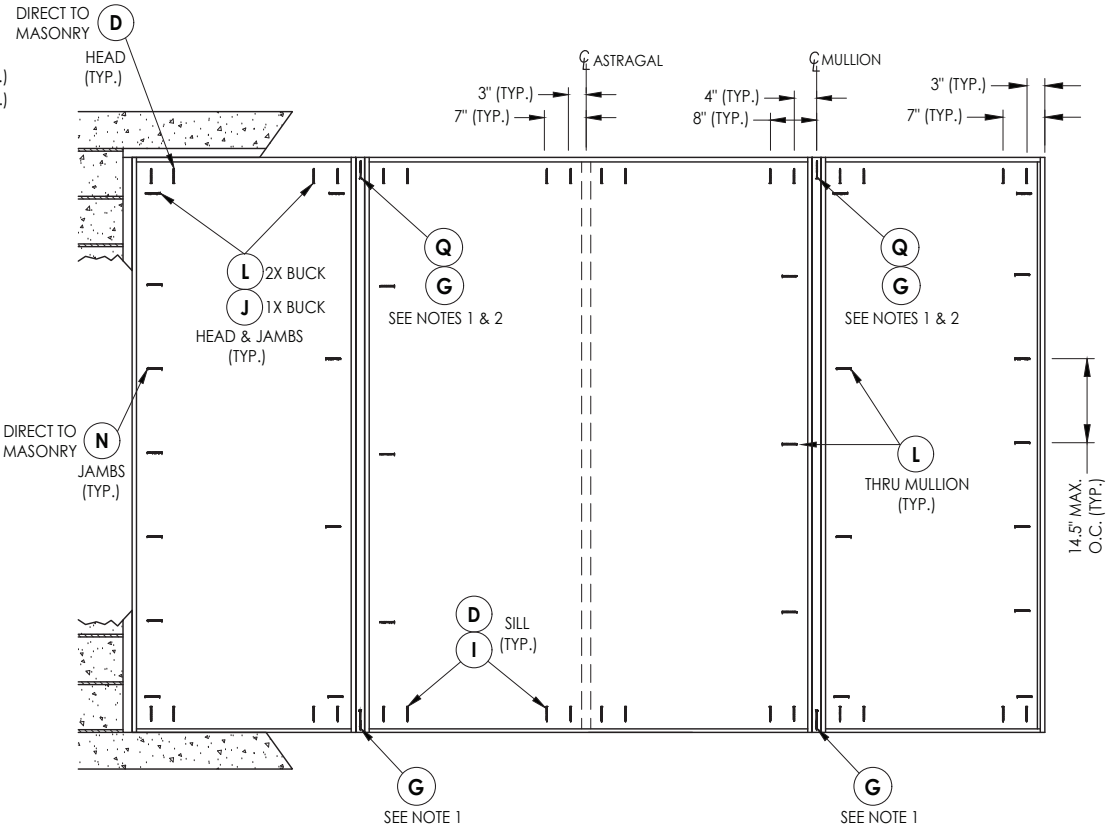


2X BUCK ANCHORING

| | | | |
|---|---------|--|---------|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: BUCK ANCHORING | |
| | | | |
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7TH ED (2020) | FBC LFS |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | FBC JK |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC JK |
| | NO. | DATE | BY |
| REVISIONS | | | |
| DATE: 08/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 9 OF 14 | | | |



XX



OXXO

NOTES:

1. 3/16" x 3-1/4" ITW concrete screw toe-nailed through mullion into masonry (each face).
2. #10 X 3" wood screw toe-nailed through mullion into 2X Buck (each face).

FRAME ANCHORING

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Velrico, FL 33595
Phone No.: 813.689.9197
FBPE Registry No. 9813

PRODUCT: THERMA-TRU
FIBERGLASS DOOR

PART OR ASSEMBLY:
FRAME ANCHORING

| NO. | DATE | REVISIONS | BY |
|-----|---------|----------------------------------|-----|
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) FBC LFS | LFS |
| 3 | 7/22/20 | UPDATE TO 7TH ED (2020) FBC LFS | LFS |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING | JK |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) FBC | JK |

DATE: 08/02/16

SCALE: N.T.S.

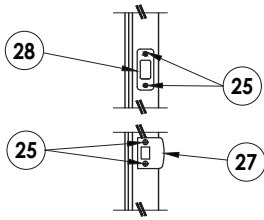
DWG. BY: JK

CHK. BY: LFS

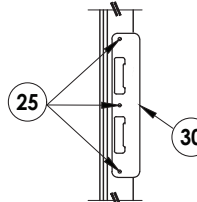
DRAWING NO.:

FL-20470.6

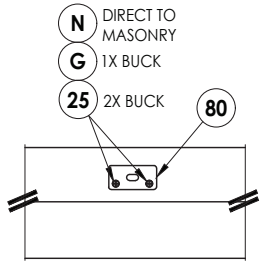
SHEET 10 of 14



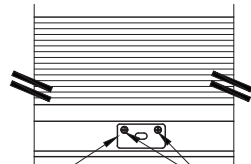
LATCH & DEADBOLT DETAIL
Schlage / Kwikset



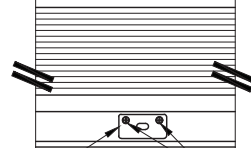
LATCH & DEADBOLT DETAIL
Multipoint Lock



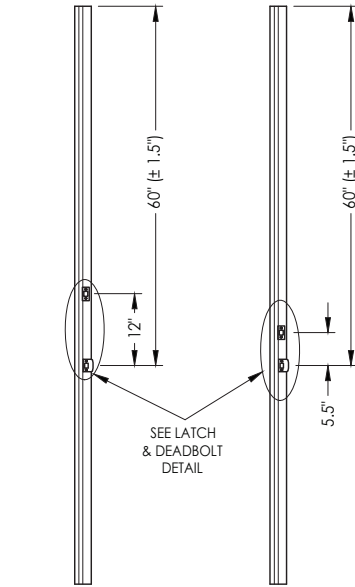
DETAIL 1
Astragal Strike Plate @ Head



DETAIL 2
Inswing
Coastal Astragal Strike Plate @ Sill

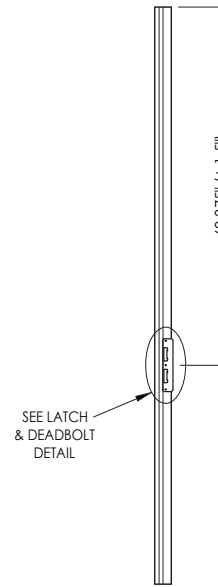


DETAIL 2
Inswing
Coastal Astragal Strike Plate @ Sill

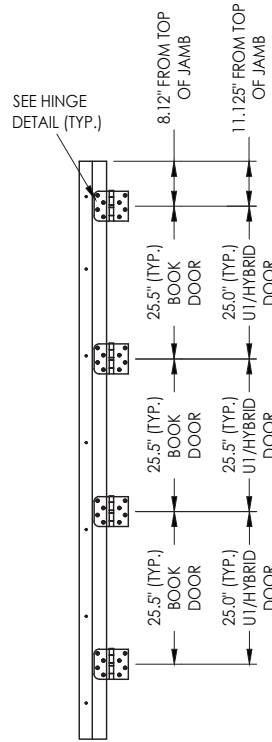


ASTRAGAL
Latch & Deadbolt
(12" o.c. spacing)

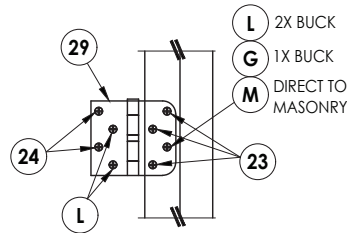
ASTRAGAL
Latch & Deadbolt
(5-1/2" o.c. spacing)



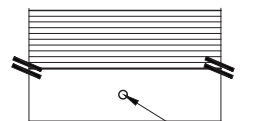
ASTRAGAL
Multipoint Lock



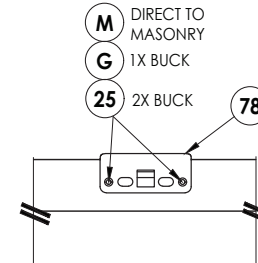
HINGE JAMB



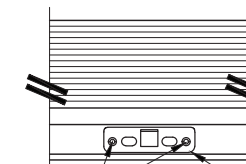
HINGE DETAIL



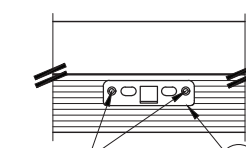
DETAIL 2
Outswing
Astragal Bolt Hole @ Sill



DETAIL 1
Multipoint Lock Strike Plate @ Head



DETAIL 2
Inswing
Multipoint Lock Strike Plate @ Sill

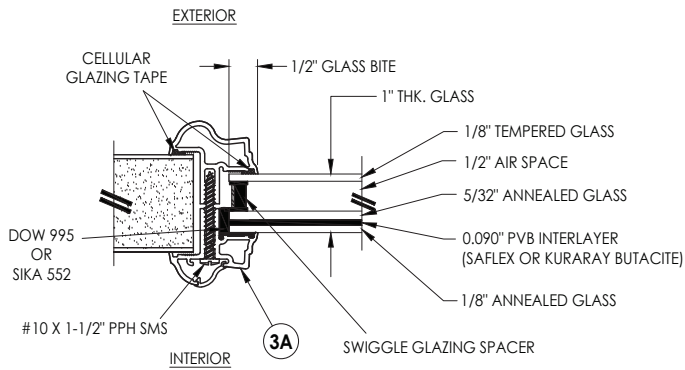


DETAIL 2
Outswing
Multipoint Lock Strike Plate @ Sill

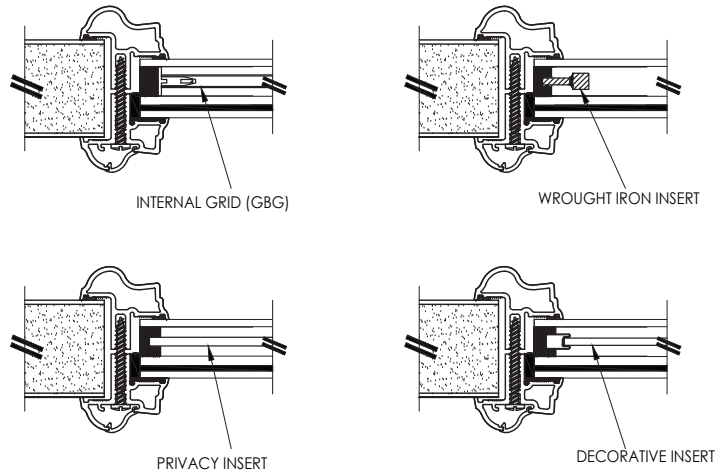
LATCH & DEADBOLT STRIKE DETAILS

MULTIPOINT LOCK STRIKE DETAILS

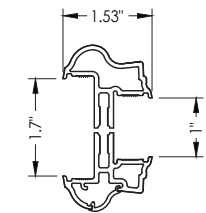
| | | | | | |
|---|--|--|--|--|--|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: HARDWARE DETAILS | |
| DATE: 08/02/16 | | SCALE: N.T.S. | | DWG. BY: JK | |
| CHK. BY: LFS | | DRAWING NO.: FL-20470.6 | | SHEET 11 OF 14 | |
| 4 7/25/23 UPDATE TO 8TH ED. (2023) FBC LFS | | 3 7/22/20 UPDATE TO 7th ED. (2020) FBC LFS | | 2 4/06/19 ADD. 5-1/2" LATCH/DB SPACING LFS | |
| 1 7/14/17 UPDATE TO 6TH ED. (2017) FBC JK | | NO. DATE | | REVISIONS | |
| © 2016 R.W. BUILDING CONSULTANTS INC. | | RWBUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9813 | | | |



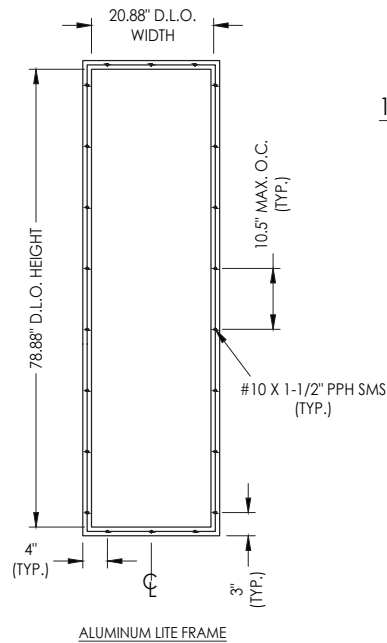
G1 GLAZING DETAIL
Aluminum Impact Lite Frame
Door Panels & Sidelites



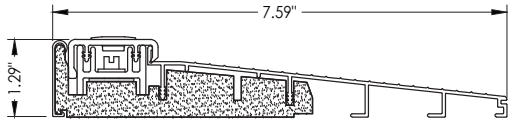
1\"/>



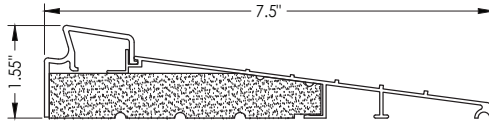
3A ALUMINUM FRAME
Aluminum Impact Lite Frame
Door Panels & Sidelites



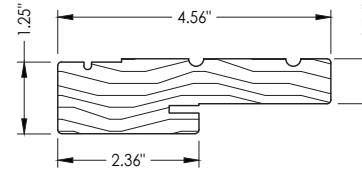
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|---|---------|---|---------|
| Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409 | | BUILDING CONSULTANTS, INC. P.O. Box 230, Vero, FL 33595 Phone No.: 813.659.9197 FBPE Registry No. 9613 | |
| PRODUCT: THERMA-TRU FIBERGLASS DOOR | | PART OR ASSEMBLY: GLAZING DETAILS | |
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) | FBC LFS |
| 3 | 7/22/20 | UPDATE TO 7th ED (2020) | FBC LFS |
| 2 | 4/06/19 | ADD 5-1/2\"/> | |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) | FBC JK |
| | NO. | DATE | BY |
| REVISIONS | | | |
| DATE: 8/02/16 | | | |
| SCALE: N.T.S. | | | |
| DWG. BY: JK | | | |
| CHK. BY: LFS | | | |
| DRAWING NO.: FL-20470.6 | | | |
| SHEET 12 of 14 | | | |



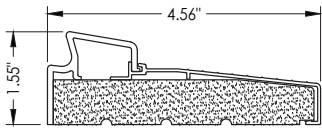
32 INSWING THRESHOLD
Inswing Basic Composite Adjustable Sill 7-1/2"



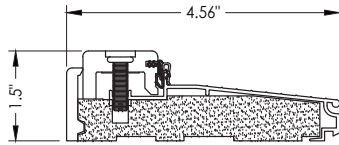
37 INSWING THRESHOLD
Inswing Basic Fixed 7-1/2" Sill



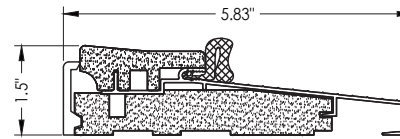
1 WOOD JAMB



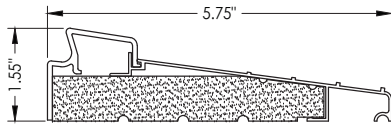
33 INSWING THRESHOLD
Inswing Basic Fixed Sill



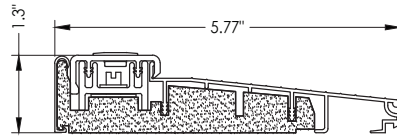
38 INSWING THRESHOLD
Inswing Composite Adjustable Sill



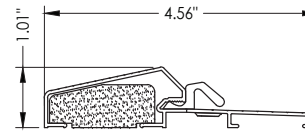
16 OUTSWING THRESHOLD
Composite Sill



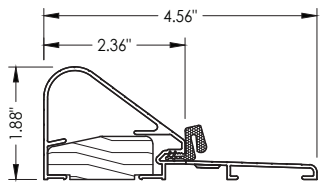
36 INSWING THRESHOLD
Inswing Basic Fixed 5-3/4" Sill



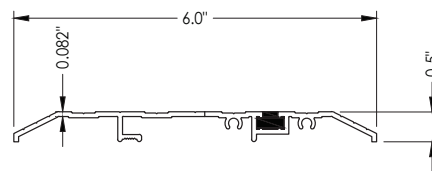
39 INSWING THRESHOLD
Inswing Basic Composite Adjustable Sill



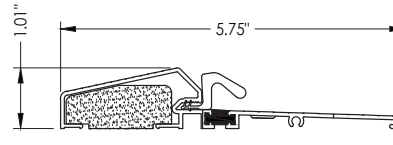
17 OUTSWING THRESHOLD
Composite / Aluminum Sill



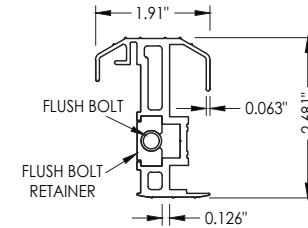
19 COASTAL OUTSWING THRESHOLD
Wood / Aluminum Sill



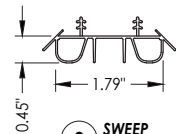
15 PUBLIC ACCESS THRESHOLD



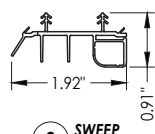
18 OUTSWING THRESHOLD
Composite / Aluminum Sill
(Thermal Break)



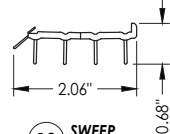
20 COASTAL ALUMINUM ASTRAGAL



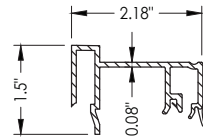
8 SWEEP



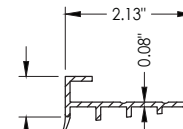
9 SWEEP



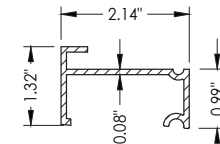
10 SWEEP



75 SIDELITE SPACER
Inswing



76 SIDELITE SPACER
Outswing



77 SIDELITE SPACER
Inswing
Moderate Climate Threshold

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: THERMA-TRU FIBERGLASS DOOR
PART OR ASSEMBLY: COMPONENTS

| NO. | DATE | REVISIONS | BY |
|-----|---------|------------------------------|-----|
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) FBC | LFS |
| 3 | 7/02/20 | UPDATE TO 7th ED. (2020) FBC | LFS |
| 2 | 4/06/19 | ADD: 5-1/2" LATCH/DB SPACING | JK |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) FBC | JK |

DATE: 08/02/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-20470.6
SHEET 13 OF 14

| BILL OF MATERIALS | | | BILL OF MATERIALS | | |
|-------------------|--|-----------|-------------------|---|-----------|
| ITEM # | DESCRIPTION | MATERIAL | ITEM # | DESCRIPTION | MATERIAL |
| A | 1X BUCK (SG >= 0.42) | WOOD | 25 | #8 x 2-1/2" PFH WOOD SCREW | STEEL |
| B | 2X BUCK (SG >= 0.42) | WOOD | 26 | #8 x 5/8" PFH WOOD SCREW | STEEL |
| C | 1/4" MAX. SHIM SPACE | - | 27 | LATCH STRIKE PLATE | STEEL |
| D | 1/4" X 2-3/4" PFH DeWALT OR ITW CONCRETE SCREW | STEEL | 28 | DEADBOLT STRIKE PLATE | STEEL |
| E | MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90 | CONCRETE | 29 | 4" X 4" HINGE | STEEL |
| | | | 32 | INSWING THRESHOLD | ALUM/COMP |
| F | #10 X 2" PFH WOOD SCREW | STEEL | 33 | INSWING THRESHOLD | ALUM/COMP |
| G | 3/16" X 3-1/4" ITW CONCRETE SCREW | STEEL | 36 | INSWING THRESHOLD | ALUM/COMP |
| I | 1/4" X 1-3/4" PFH DeWALT OR ITW CONCRETE SCREW | STEEL | 37 | INSWING THRESHOLD | ALUM/COMP |
| J | 1/4" X 3-3/4" PFH DeWALT OR ITW CONCRETE SCREW | STEEL | 38 | INSWING THRESHOLD | ALUM/COMP |
| L | #10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT) | STEEL | 39 | INSWING THRESHOLD | ALUM/COMP |
| M | 3/16" X 2-1/4" ITW CONCRETE SCREW | STEEL | 40 | DOOR PANEL (BOOK) | - |
| N | 3/16" X 2-3/4" ITW CONCRETE SCREW | STEEL | 41 | DOOR PANEL (HYBRID) | - |
| P | 1/4" X 2-3/4" PFH DeWALT CONCRETE SCREW | STEEL | 42 | DOOR PANEL (U1) | - |
| Q | #10 x 3" PFH WOOD SCREW | STEEL | 50 | SIDELITE (FULL LITE) | - |
| 1 | JAMB (FINGER JOINT PINE) | WOOD | 75 | SIDELITE SPACER (INSWING) | PVC |
| 6 | WEATHERSTRIP (MEDIUM REACH) | FOAM | 76 | SIDELITE SPACER (OUTSWING) | PVC |
| 7 | WEATHERSTRIP (LONG REACH) | FOAM | 77 | SIDELITE SPACER (INSWING) - MODERATE CLIMATE SILL | PVC |
| 8 | SWEEP | VINYL | 78 | MULTIPOINT LOCK STRIKE PLATE @ HEAD | STEEL |
| 9 | SWEEP (USE W/ MODERATE CLIMATE THRESHOLD) | VINYL | 79 | MULTIPOINT LOCK STRIKE PLATE @ SILL | STEEL |
| 10 | SWEEP (USE W/ PUBLIC ACCESS THRESHOLD) | VINYL | 80 | ASTRAGAL STRIKE PLATE | STEEL |
| 11 | #10 X 1-3/4" PFH WOOD SCREW | STEEL | 88 | 2X MULLION (SG >= 0.55) | WOOD |
| 15 | PUBLIC ACCESS THRESHOLD | ALUM | | | |
| 16 | OUTSWING THRESHOLD | ALUM/COMP | | | |
| 17 | OUTSWING THRESHOLD | ALUM/COMP | | | |
| 18 | OUTSWING THRESHOLD | ALUM/COMP | | | |
| 19 | COASTAL OUTSWING THRESHOLD | ALUM/WOOD | | | |
| 20 | COASTAL ALUMINUM ASTRAGAL | ALUM | | | |
| 23 | #10 x 3/4" PFH WOOD SCREW | STEEL | | | |
| 24 | #10 x 1" PFH WOOD SCREW | STEEL | | | |

CONCRETE ANCHOR NOTES:

- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

| ANCHOR TYPE | ANCHOR SIZE | MIN. EMBEDMENT | MIN. CLEARANCE TO MASONRY EDGE | MIN. CLEARANCE TO ADJACENT ANCHOR |
|------------------|-------------|----------------|--------------------------------|-----------------------------------|
| ITW TAPCON® | 1/4" | 1-1/4" | 2" | 4" |
| DeWALT ULTRACON® | 1/4" | 1-1/4" | 1" | 4" |
| ITW TAPCON® | 3/16" | 1-1/4" | AS SHOWN | 1-1/2" |

WOOD SCREW INSTALLATION NOTES:

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

Documents Prepared By:
 Lyndon F. Schmidt
 P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
 P.O. Box 230, Valrico, FL 33595
 Phone No.: 813.659.9197
 FBPE Registry No. 9813

THERMA-TRU
 FIBERGLASS DOOR

PART OR ASSEMBLY:
 BILL OF MATERIALS

| NO. | DATE | REVISIONS |
|-----|---------|------------------------------|
| 4 | 7/25/23 | UPDATE TO 8TH ED. (2023) FBC |
| 3 | 7/22/20 | UPDATE TO 7th ED (2020) FBC |
| 2 | 4/06/19 | ADD 5-1/2" LATCH/DB SPACING |
| 1 | 7/14/17 | UPDATE TO 6TH ED. (2017) FBC |

DATE: 08/02/16
 SCALE: N.T.S.
 DWG. BY: JK
 CHK. BY: LFS
 DRAWING NO.: FL-20470.6
 SHEET 14 OF 14

Product Evaluation Report**Report No.:** FL-20470.6
Date: July 25, 2023

| Product Category | Sub Category | Manufacturer | Product Name |
|------------------|-----------------------------------|---|--|
| Exterior Doors | Swinging Exterior Door Assemblies | Therma-Tru Corporation 118 Industrial Dr Edgerton, OH 43517 Phone 419-298-1740 | Fiber Classic and Smooth-Star Composite Edge Opaque Fiberglass Double Door w/ or w/out Sidelites Inswing/Outswing "Impact" |

Scope: This is a Product Evaluation report issued by R W Building Consultants, Inc. and Lyndon F. Schmidt, P.E. (System ID # 1998) for Therma Tru Corporation based on Rule Chapter No. 61G20-3, Method 1D of the State of Florida Product Approval, Department of Business & Professional Regulation.

RW Building Consultants and Lyndon F. Schmidt, P.E. do not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

Limitations:

1. This product evaluation drawing has been developed in compliance with the 8th Edition (2023) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product complies with Section 1626 of the Florida Building Code and does not require an impact resistant covering.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.
5. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
6. Site conditions that deviate from the details of drawing FL-20470.6 require further engineering analysis by a licensed engineer or registered architect.
7. This product meets the water infiltration requirements for the "HVHZ".
8. Outswing configurations using Coastal Sill (Item #19) and Composite Sill (Item #16) under active doors and all sills used under sidelites meet water infiltration requirements for "HVHZ". All other configurations do not meet the water infiltration requirements for the "HVHZ" and shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.
9. See drawing FL-20470.6 for size and design pressure limitations.

Supporting Documents:

1. **Test Report No.**

| | | | | | |
|---------------|----------------------|-------------------------|---------------------------|------------------|-------------------------|
| TEL 01461571 | Test Standard | TAS 201, 202 & 203 (94) | Testing Laboratory | Signed by | William Shelton, P.E. |
| TEL 06-1031-3 | | TAS 201, 202 & 203 (94) | | | Wendell W. Harney, P.E. |
| TEL 01460144 | | TAS 201, 202 & 203 (94) | | | Lyndon F. Schmidt, P.E. |
| TEL 01682264 | | TAS 201, 202 & 203 (94) | | | Lyndon F. Schmidt, P.E. |
2. **Miami -Dade NOA**

| | | | | | |
|------------|------------------|---|--|--|--|
| 20-0915.22 | Materials | Trosifol PVB® Interlayer (Kuraray America) | | | |
| 21-0216.01 | | Saflex PVB® Interlayer (Eastman Chemical Company) | | | |
3. **Drawing No.**

| | | | | |
|----------------|--------------------|---------------------------------------|-------------------------------|-------------------------|
| No. FL-20470.6 | Prepared by | RW Building Consultants, Inc. (#9813) | Signed & Sealed by | Lyndon F. Schmidt, P.E. |
|----------------|--------------------|---------------------------------------|-------------------------------|-------------------------|
4. **Calculations**

| | | | | |
|------------------------|--------------------|---------------------------------------|-------------------------------|-------------------------|
| Anchoring | Prepared by | RW Building Consultants, Inc. (#9813) | Signed & Sealed by | Lyndon F. Schmidt, P.E. |
| ASTM E 1300 Glass Load | | Lyndon F. Schmidt, P.E. | | |
5. Certificate of Participation issued by National Accreditation and Management Institute, certifying that Therma Tru Corporation is manufacturing products within a quality assurance program that complies with ISO/IEC 17020 and Guide 53.

Digitally signed by

Lyndon F Schmidt

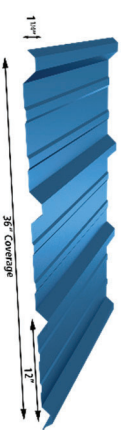
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LYNDON F. SCHMIDT, State of Florida, Professional Engineer, License No. 43409
 This item has been digitally signed and sealed by L. F. Schmidt on 7-25-23
 Printed copies of this document are not considered signed and sealed and the
 signature must be verified on any electronic copies.

THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA

FL33818.06-R5



GulfPBR™

Gulf Coast Supply & Manufacturing 14229 SW 2nd Pl G30, Newberry FL 32669

Product Description: PBR exposed fastener panel with nominal 36" max coverage and nominal rib height of 1-1/4".

Product Material: 24ga (min) or 26ga (min) steel (corrosion resistant per FBC 1507.4.3 where required)

Fastener: #9 or #10 fastener *Compliant with FBC 1506.6 where required.*

Maximum Allowable Loads & Installation Requirements:

| System No | Deck/Substrate | Roof Panel | Panel Attachment | Allowable Pressure (psf) |
|-----------|---|----------------------|---|--------------------------|
| GP-1 | 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 12"-12" pattern (1 per rib), fastener rows at 24" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. | -60.5 |
| GP-2 | 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 7"-5"-7"-5" pattern (1 per rib), fastener rows at 12" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. | -154.75 |
| GP-3 | 1x4 SYP (nom, or better) on 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 12"-12" pattern (1 per rib), fastener rows at 24" o.c and with continuous bead of sealant or butyl tape in side lap. 1x4s attached to plywood with 8DX2.5" ring shank nails at 4" o.c. | -100.5 |
| GP-4 | 1x4 SYP (nom, or better) on 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 7"-5"-7"-5" pattern (1 per rib), fastener rows at 12" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. 1x4s attached to plywood with 8DX2.5" ring shank nails at 4" o.c. | -151.75 |

A factor of safety of 2 has been applied.

Evaluated by:

David Eng, PE
Timberlake Cove, LLC
1317 Edgewater Dr, Ste 2339
Orlando FL
FL PE 81377 | FL CA 37675
www.TimberlakeCove.com



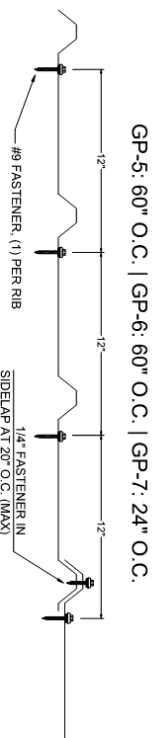
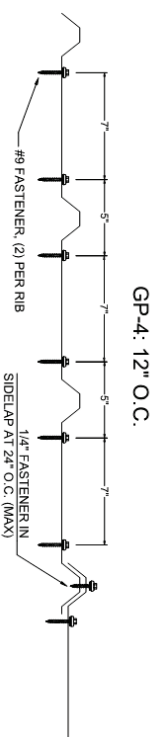
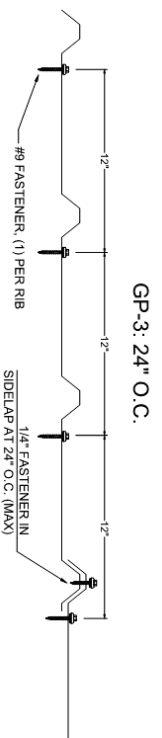
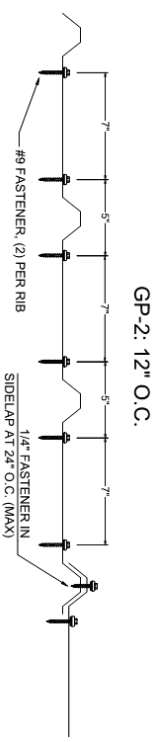
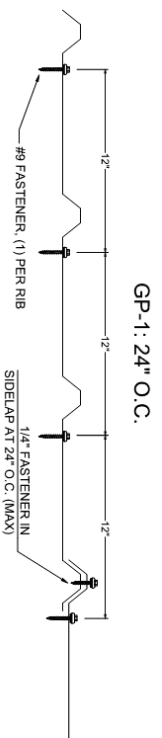
Digitally signed by
David E Eng
Date: 2024.05.01
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David Eng

Maximum Allowable Loads & Installation Requirements:

| System No | Deck/Substrate | Roof Panel | Panel Attachment | Allowable Pressure (psf) |
|-----------|--------------------------------------|----------------------|--|--------------------------|
| GP-5 | 16ga (min) steel purlins at 60" o.c. | 26ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 60" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -40 |
| GP-6 | 16ga (min) steel purlins at 60" o.c. | 24ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 60" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -60 |
| GP-7 | 16ga (min) steel purlins at 24" o.c. | 24ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 24" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -150 |

A factor of safety of 2 has been applied.



Underlayment: Comply with local building code or FBC 1507.1.1 where required.

Slope: Comply with local building code or FBC 1507.4.2 where required.

Re-Roofing: This panel may be installed over a single layer of existing shingles as permitted by local building code or FBC 1511, provided the existing roof meets the conditions required by the applicable code.

Fire Barrier: Comply with FBC 1516.1 and 1516.2 where required. Optional where not required by code.

Insulation (optional): ISO board or other insulation is permitted between steel deck and panels. Increase fastener length to penetrate 1/4" beyond underside of substrate. Comply with FBC 1508 and 1519.11 where required.

Compliance Statement: This product as described has demonstrated compliance with Florida Building Code 2023, 1504.3.2 (non-HVHZ), as required by FL Rule 61G20-3, method 1D.

This product as described has been tested and demonstrated compliance with:

- UL580 – Test for Uplift Resistance of Roof Assemblies
- UL 1897 – Uplift test for roof covering systems

Technical Documentation:

- Force Engineering (TST-5328), TAS 125/UL 580/ASTM E1592, reports 117-0062T-07G-1, 117-0331T-08C, 84-0320T-06A-D

Design Process: Compare the maximum allowable loads to the ASD uplift pressures for the project to determine sufficiency and installation requirements. Alternatively, as an option, the load tables in this report may be used to identify the pressure required for roofs within the parameters described.

For roofs outside of the listed parameters, design wind loads shall be determined as required by FBC 1609, ASCE 7, or other design code in force, using allowable stress. These load tables are based on ASCE 7-22. Use of these tables assumes that the structure is: Enclosed, partially enclosed, or partially open and conforms to wind-borne debris provisions and is a regular shaped building and is not subject to across-wind loading, vortex shedding, or instability; nor does it have a site location for which channeling or buffeting warrant consideration

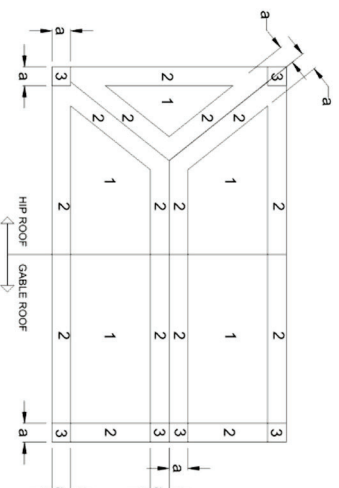
Engineering analysis may be completed by other licensed engineers for project specific approval by local authorities having jurisdiction.

Certification of Independence: David Eng, PE and Timberlake Cove, LLC do not have, nor will acquire a financial interest in any company manufacturing or distributing products under this evaluation. The same entities do not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

Exclusions and Limitations: Design of deck and roof structure (to include attachment of substrate) shall be completed by others. Fire classification and shear diaphragm design are outside the scope of this evaluation. Accelerated weathering/salt spray is outside the scope of this evaluation.

This report is limited to compliance with structural wind load requirements of FBC 1504.3.2, as required by Rule 61G20-3. Neither Timberlake Cove nor the manufacturer shall be responsible for any conclusions, interpretations, or designs made by others based on this evaluation report. This report is limited solely to documenting compliance with Rule 61G20-3, and makes no express or implied warranty regarding performance of this product. Installation shall be subject to the local building code and authority having jurisdiction; this report shall not be construed to supersede local codes in force.

| Allowable Design Pressures required for Gable and Hip Roofs in Exposure B with roof slope between 2:12 and 12:12 | | | | | | | | | | | |
|--|------|-----------------------|--------------------------|-------|-------|--------|--------|--------|--------|--------|--------|
| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | |
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| Enclosed or Partially Open | 1 | 20 | -25.4 | -29.8 | -34.6 | -39.7 | -45.2 | -51.0 | -57.2 | -63.7 | -70.6 |
| | | 25 | -27.1 | -31.7 | -36.8 | -42.3 | -48.1 | -54.3 | -60.9 | -67.8 | -75.1 |
| | | 30 | -28.7 | -33.7 | -39.0 | -44.8 | -51.0 | -57.6 | -64.6 | -71.9 | -79.7 |
| | | 40 | -30.3 | -35.6 | -41.3 | -47.4 | -53.9 | -60.9 | -68.2 | -76.0 | -84.2 |
| | | 50 | -32.4 | -38.0 | -44.1 | -50.6 | -57.6 | -65.0 | -72.9 | -81.2 | -89.9 |
| | | 60 | -34.0 | -39.9 | -46.3 | -53.2 | -60.5 | -68.3 | -76.5 | -85.3 | -94.5 |
| | 2 | 20 | -33.6 | -39.4 | -45.7 | -52.5 | -59.7 | -67.4 | -75.5 | -84.2 | -93.3 |
| | | 25 | -35.7 | -41.9 | -48.6 | -55.8 | -63.5 | -71.7 | -80.4 | -89.6 | -99.3 |
| | | 30 | -37.9 | -44.5 | -51.6 | -59.2 | -67.4 | -76.1 | -85.3 | -95.0 | -105.3 |
| | | 40 | -40.1 | -47.0 | -54.5 | -62.6 | -71.2 | -80.4 | -90.2 | -100.4 | -111.3 |
| | | 50 | -42.8 | -50.2 | -58.2 | -66.8 | -76.0 | -85.8 | -96.2 | -107.2 | -118.8 |
| | | 60 | -44.9 | -52.7 | -61.2 | -70.2 | -79.9 | -90.2 | -101.1 | -112.7 | -124.8 |
| | 3 | 20 | -44.1 | -51.7 | -60.0 | -68.8 | -78.3 | -88.4 | -99.1 | -110.5 | -122.4 |
| | | 25 | -46.9 | -55.0 | -63.8 | -73.3 | -83.4 | -94.1 | -105.5 | -117.6 | -130.3 |
| | | 30 | -49.7 | -58.4 | -67.7 | -77.7 | -88.4 | -99.8 | -111.9 | -124.7 | -138.2 |
| | | 40 | -52.6 | -61.7 | -71.6 | -82.2 | -93.5 | -105.5 | -118.3 | -131.8 | -146.1 |
| | | 50 | -56.1 | -65.9 | -76.4 | -87.7 | -99.8 | -112.7 | -126.3 | -140.7 | -156.0 |
| | | 60 | -59.0 | -69.2 | -80.3 | -92.2 | -104.9 | -118.4 | -132.7 | -147.9 | -163.8 |
| Partially Enclosed | 1 | 20 | -29.7 | -34.9 | -40.5 | -46.4 | -52.8 | -59.7 | -66.9 | -74.5 | -82.6 |
| | | 25 | -31.6 | -37.1 | -43.1 | -49.4 | -56.3 | -63.5 | -71.2 | -79.3 | -87.9 |
| | | 30 | -33.6 | -39.4 | -45.7 | -52.4 | -59.7 | -67.4 | -75.5 | -84.1 | -93.2 |
| | | 40 | -35.5 | -41.6 | -48.3 | -55.4 | -63.1 | -71.2 | -79.8 | -88.9 | -98.5 |
| | | 50 | -37.9 | -44.4 | -51.6 | -59.2 | -67.3 | -76.0 | -85.2 | -94.9 | -105.2 |
| | | 60 | -39.8 | -46.7 | -54.2 | -62.2 | -70.7 | -79.9 | -89.5 | -99.8 | -110.5 |
| | 2 | 20 | -37.9 | -44.5 | -51.6 | -59.2 | -67.3 | -76.0 | -85.2 | -95.0 | -105.2 |
| | | 25 | -40.3 | -47.3 | -54.9 | -63.0 | -71.7 | -80.9 | -90.7 | -101.1 | -112.0 |
| | | 30 | -42.8 | -50.2 | -58.2 | -66.8 | -76.0 | -85.8 | -96.2 | -107.2 | -118.8 |
| | | 40 | -45.2 | -53.1 | -61.5 | -70.6 | -80.4 | -90.7 | -101.7 | -113.4 | -125.6 |
| | | 50 | -48.3 | -56.7 | -65.7 | -75.4 | -85.8 | -96.9 | -108.6 | -121.0 | -134.1 |
| | | 60 | -50.7 | -59.5 | -69.0 | -79.2 | -90.2 | -101.8 | -114.1 | -127.1 | -140.9 |
| | 3 | 20 | -48.4 | -56.8 | -65.8 | -75.6 | -86.0 | -97.1 | -108.8 | -121.3 | -134.4 |
| | | 25 | -51.5 | -60.4 | -70.1 | -80.5 | -91.5 | -103.3 | -115.9 | -129.1 | -143.0 |
| | | 30 | -54.6 | -64.1 | -74.3 | -85.3 | -97.1 | -109.6 | -122.9 | -136.9 | -151.7 |
| | | 40 | -57.7 | -67.8 | -78.6 | -90.2 | -102.6 | -115.9 | -129.9 | -144.7 | -160.4 |
| | | 50 | -61.6 | -72.3 | -83.9 | -96.3 | -109.6 | -123.7 | -138.7 | -154.5 | -171.2 |
| | | 60 | -64.8 | -76.0 | -88.1 | -101.2 | -115.1 | -130.0 | -145.7 | -162.3 | -179.9 |

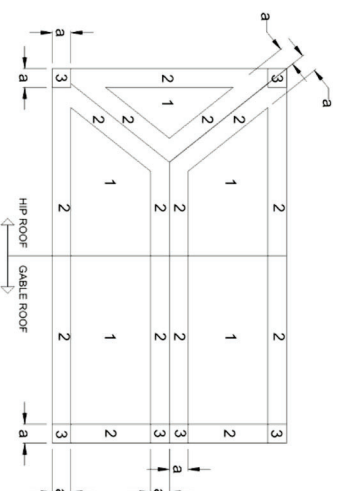


* 1/8" OF LEAST HORIZONTAL DIMENSION OR 6 IN. WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4" OF LEAST HORIZONTAL DIMENSION OR 8 FT (2.4M), OR AS DETERMINED BY DESIGN ON OTHER PARTICULAR CODE.

ROOF ZONES FOR GENERIC BUILDING

Allowable Design Pressures required for Gable and Hip Roofs in Exposure C with roof slope between 2:12 and 12:12

| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | | |
|----------------------------|------|-----------------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | |
| Enclosed or Partially Open | 1 | 20 | -36.9 | -43.3 | -50.2 | -57.6 | -65.6 | -74.0 | -83.0 | -92.5 | -102.5 | |
| | | 25 | -38.5 | -45.2 | -52.4 | -60.2 | -68.5 | -77.3 | -86.7 | -96.6 | -107.0 | |
| | | 30 | -40.2 | -47.1 | -54.7 | -62.8 | -71.4 | -80.6 | -90.4 | -100.7 | -111.6 | |
| | | 40 | -42.6 | -50.0 | -58.0 | -66.6 | -75.8 | -85.5 | -95.9 | -106.9 | -118.4 | |
| | | 50 | -44.7 | -52.4 | -60.8 | -69.8 | -79.4 | -89.7 | -100.5 | -112.0 | -124.1 | |
| | | 60 | -46.3 | -54.4 | -63.0 | -72.4 | -82.3 | -92.9 | -104.2 | -116.1 | -128.6 | |
| | 2 | 20 | -48.7 | -57.2 | -66.3 | -76.1 | -86.6 | -97.8 | -109.6 | -122.2 | -135.4 | |
| | | 25 | -50.9 | -59.7 | -69.3 | -79.5 | -90.5 | -102.1 | -114.5 | -127.6 | -141.4 | |
| | | 30 | -53.1 | -62.3 | -72.2 | -82.9 | -94.3 | -106.5 | -119.4 | -133.0 | -147.4 | |
| | | 40 | -56.3 | -66.1 | -76.6 | -88.0 | -100.1 | -113.0 | -126.7 | -141.2 | -156.4 | |
| | | 50 | -59.0 | -69.3 | -80.3 | -92.2 | -104.9 | -118.4 | -132.8 | -148.0 | -163.9 | |
| | | 60 | -61.2 | -71.8 | -83.3 | -95.6 | -108.8 | -122.8 | -137.7 | -153.4 | -170.0 | |
| | 3 | 20 | -64.0 | -75.1 | -87.1 | -99.9 | -113.7 | -128.4 | -143.9 | -160.3 | -177.7 | |
| | | 25 | -66.8 | -78.4 | -90.9 | -104.4 | -118.8 | -134.1 | -150.3 | -167.5 | -185.6 | |
| | | 30 | -69.6 | -81.7 | -94.8 | -108.8 | -123.8 | -139.8 | -156.7 | -174.6 | -193.5 | |
| | | 40 | -73.9 | -86.7 | -100.6 | -115.5 | -131.4 | -148.3 | -166.3 | -185.3 | -205.3 | |
| | | 50 | -77.5 | -90.9 | -105.4 | -121.0 | -137.7 | -155.5 | -174.3 | -194.2 | -215.2 | |
| | | 60 | -80.3 | -94.2 | -109.3 | -125.5 | -142.8 | -161.2 | -180.7 | -201.3 | -223.2 | |
| Partially Enclosed | 1 | 20 | -43.1 | -50.6 | -58.7 | -67.4 | -76.7 | -86.6 | -97.1 | -108.2 | -119.9 | |
| | | 25 | -45.1 | -52.9 | -61.3 | -70.4 | -80.1 | -90.4 | -101.4 | -113.0 | -125.2 | |
| | | 30 | -47.0 | -55.1 | -63.9 | -73.4 | -83.5 | -94.3 | -105.7 | -117.8 | -130.5 | |
| | | 40 | -49.9 | -58.5 | -67.9 | -77.9 | -88.6 | -100.1 | -112.2 | -125.0 | -138.5 | |
| | | 50 | -52.3 | -61.3 | -71.1 | -81.7 | -92.9 | -104.9 | -117.6 | -131.0 | -145.2 | |
| | | 60 | -54.2 | -63.6 | -73.7 | -84.6 | -96.3 | -108.7 | -121.9 | -135.8 | -150.5 | |
| | 2 | 20 | -55.0 | -64.5 | -74.9 | -85.9 | -97.8 | -110.4 | -123.7 | -137.9 | -152.8 | |
| | | 25 | -57.4 | -67.4 | -78.2 | -89.7 | -102.1 | -115.3 | -129.2 | -144.0 | -159.5 | |
| | | 30 | -59.9 | -70.3 | -81.5 | -93.6 | -106.5 | -120.2 | -134.7 | -150.1 | -166.3 | |
| | | 40 | -63.5 | -74.6 | -86.5 | -99.3 | -113.0 | -127.5 | -143.0 | -159.3 | -176.5 | |
| | | 50 | -66.6 | -78.2 | -90.7 | -104.1 | -118.4 | -133.7 | -149.9 | -167.0 | -185.0 | |
| | | 60 | -69.0 | -81.0 | -94.0 | -107.9 | -122.7 | -138.6 | -155.4 | -173.1 | -191.8 | |
| | 3 | 20 | -70.2 | -82.4 | -95.6 | -109.7 | -124.8 | -140.9 | -158.0 | -176.0 | -195.1 | |
| | | 25 | -73.3 | -86.1 | -99.8 | -114.6 | -130.4 | -147.2 | -165.0 | -183.9 | -203.7 | |
| | | 30 | -76.5 | -89.7 | -104.1 | -119.5 | -135.9 | -153.5 | -172.0 | -191.7 | -212.4 | |
| | | 40 | -81.1 | -95.2 | -110.4 | -126.8 | -144.3 | -162.9 | -182.6 | -203.4 | -225.4 | |
| | | 50 | -85.0 | -99.8 | -115.8 | -132.9 | -151.2 | -170.7 | -191.4 | -213.2 | -236.2 | |
| | | 60 | -88.2 | -103.5 | -120.0 | -137.8 | -156.7 | -176.9 | -198.4 | -221.0 | -244.9 | |

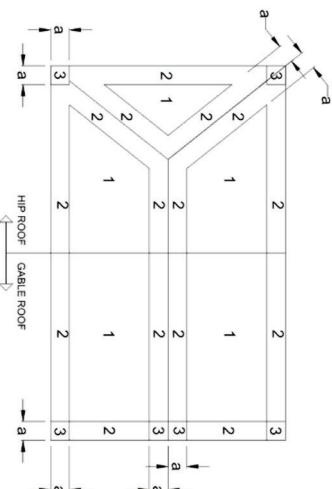


1/3 OF LEAST HORIZONTAL DIMENSION OR 5 ft, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 1/4 OF LEAST HORIZONTAL DIMENSION OR 5 ft (10mm) OR AS DETERMINED BY DESIGN OR OTHER APPLICABLE CODE.

ROOF ZONES FOR GENERIC BUILDING

Allowable Design Pressures required for Gable and Hip Roofs in Exposure D with roof slope between 2:12 and 12:12

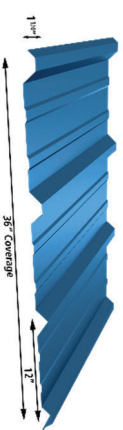
| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | | |
|----------------------------|--------------------|-----------------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | |
| Enclosed or Partially Open | 1 | 20 | -44.3 | -51.9 | -60.2 | -69.2 | -78.7 | -88.8 | -99.6 | -111.0 | -123.0 | |
| | | 25 | -45.9 | -53.9 | -62.5 | -71.7 | -81.6 | -92.1 | -103.3 | -115.1 | -127.5 | |
| | | 30 | -47.5 | -55.8 | -64.7 | -74.3 | -84.5 | -95.4 | -107.0 | -119.2 | -132.1 | |
| | | 40 | -50.0 | -58.7 | -68.1 | -78.1 | -88.9 | -100.4 | -112.5 | -125.4 | -138.9 | |
| | | 50 | -52.1 | -61.1 | -70.8 | -81.3 | -92.5 | -104.5 | -117.1 | -130.5 | -144.6 | |
| | | 60 | -53.7 | -63.0 | -73.1 | -83.9 | -95.5 | -107.8 | -120.8 | -134.6 | -149.1 | |
| | 2 | 20 | -58.5 | -68.6 | -79.6 | -91.4 | -104.0 | -117.4 | -131.6 | -146.6 | -162.4 | |
| | | 25 | -60.6 | -71.2 | -82.5 | -94.8 | -107.8 | -121.7 | -136.4 | -152.0 | -168.5 | |
| | | 30 | -62.8 | -73.7 | -85.5 | -98.1 | -111.7 | -126.1 | -141.3 | -157.5 | -174.5 | |
| | | 40 | -66.1 | -77.5 | -89.9 | -103.2 | -117.4 | -132.6 | -148.6 | -165.6 | -183.5 | |
| | | 50 | -68.8 | -80.7 | -93.6 | -107.4 | -122.2 | -138.0 | -154.7 | -172.4 | -191.0 | |
| | | 60 | -70.9 | -83.2 | -96.5 | -110.8 | -126.1 | -142.4 | -159.6 | -177.8 | -197.0 | |
| | 3 | 20 | -76.8 | -90.1 | -104.5 | -119.9 | -136.4 | -154.0 | -172.7 | -192.4 | -213.2 | |
| | | 25 | -79.6 | -93.4 | -108.3 | -124.4 | -141.5 | -159.7 | -179.1 | -199.5 | -221.1 | |
| | | 30 | -82.4 | -96.7 | -112.2 | -128.8 | -146.6 | -165.4 | -185.5 | -206.7 | -229.0 | |
| | | 40 | -86.7 | -101.8 | -118.0 | -135.5 | -154.1 | -174.0 | -195.1 | -217.4 | -240.8 | |
| | | 50 | -90.3 | -105.9 | -122.8 | -141.0 | -160.5 | -181.1 | -203.1 | -226.3 | -250.7 | |
| | | 60 | -93.1 | -109.3 | -126.7 | -145.5 | -165.5 | -186.8 | -209.5 | -233.4 | -258.6 | |
| Partially Enclosed | 1 | 20 | -51.8 | -60.8 | -70.5 | -80.9 | -92.0 | -103.9 | -116.5 | -129.8 | -143.8 | |
| | | 25 | -53.7 | -63.0 | -73.1 | -83.9 | -95.5 | -107.8 | -120.8 | -134.6 | -149.2 | |
| | | 30 | -55.6 | -65.3 | -75.7 | -86.9 | -98.9 | -111.6 | -125.1 | -139.4 | -154.5 | |
| | 2 | 40 | -58.5 | -68.6 | -79.6 | -91.4 | -104.0 | -117.4 | -131.6 | -146.6 | -162.5 | |
| | | 50 | -60.9 | -71.5 | -82.9 | -95.1 | -108.2 | -122.2 | -137.0 | -152.6 | -169.1 | |
| | | 60 | -62.8 | -73.7 | -85.5 | -98.1 | -111.7 | -126.0 | -141.3 | -157.4 | -174.5 | |
| | 3 | 20 | -66.0 | -77.4 | -89.8 | -103.1 | -117.3 | -132.4 | -148.5 | -165.4 | -183.3 | |
| | | 25 | -68.4 | -80.3 | -93.1 | -106.9 | -121.7 | -137.3 | -154.0 | -171.6 | -190.1 | |
| | | 30 | -70.9 | -83.2 | -96.5 | -110.7 | -126.0 | -142.2 | -159.5 | -177.7 | -196.9 | |
| | Partially Enclosed | 2 | 40 | -74.5 | -87.5 | -101.5 | -116.5 | -132.5 | -149.6 | -167.7 | -186.9 | -207.1 |
| | | | 50 | -77.6 | -91.1 | -105.6 | -121.2 | -138.0 | -155.7 | -174.6 | -194.5 | -215.6 |
| | | | 60 | -80.0 | -93.9 | -108.9 | -125.1 | -142.3 | -160.6 | -180.1 | -200.7 | -222.3 |
| 3 | | 20 | -84.3 | -98.9 | -114.7 | -131.7 | -149.8 | -169.1 | -189.6 | -211.2 | -234.1 | |
| | | 25 | -87.4 | -102.6 | -118.9 | -136.5 | -155.4 | -175.4 | -196.6 | -219.1 | -242.7 | |
| | | 30 | -90.5 | -106.2 | -123.2 | -141.4 | -160.9 | -181.6 | -203.6 | -226.9 | -251.4 | |
| 3 | 40 | -95.2 | -111.7 | -129.6 | -148.7 | -169.2 | -191.0 | -214.2 | -238.6 | -264.4 | | |
| | 50 | -99.1 | -116.3 | -134.9 | -154.8 | -176.2 | -198.9 | -222.9 | -248.4 | -275.2 | | |
| | 60 | -102.2 | -120.0 | -139.1 | -159.7 | -181.7 | -205.1 | -230.0 | -256.2 | -283.9 | | |



*A: MIN OF LEAST HORIZONTAL DIMENSION OR 'a' WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 'a' OR LEAST HORIZONTAL DIMENSION OR 'a' (0.9M).
 DIMENSIONS SHOWN IN PARENTHESES ARE IN METRIC UNITS.

ROOF ZONES FOR GENERIC BUILDING

FL33818.06-R5



GulfPBR™

Gulf Coast Supply & Manufacturing 14229 SW 2nd Pl G30, Newberry FL 32669

Product Description: PBR exposed fastener panel with nominal 36" max coverage and nominal rib height of 1-1/4".

Product Material: 24ga (min) or 26ga (min) steel (corrosion resistant per FBC 1507.4.3 where required)

Fastener: #9 or #10 fastener *Compliant with FBC 1506.6 where required.*

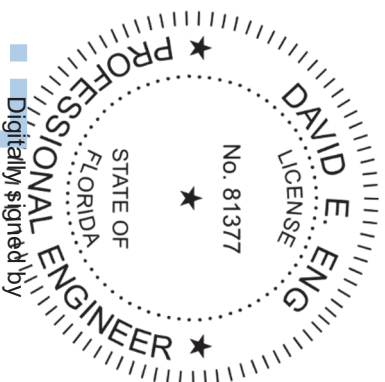
Maximum Allowable Loads & Installation Requirements:

| System No | Deck/Substrate | Roof Panel | Panel Attachment | Allowable Pressure (psf) |
|-----------|---|----------------------|---|--------------------------|
| GP-1 | 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 12"-12" pattern (1 per rib), fastener rows at 24" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. | -60.5 |
| GP-2 | 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 7"-5"-7"-5" pattern (1 per rib), fastener rows at 12" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. | -154.75 |
| GP-3 | 1x4 SYP (nom, or better) on 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 12"-12" pattern (1 per rib), fastener rows at 24" o.c and with continuous bead of sealant or butyl tape in side lap. 1x4s attached to plywood with 8DX2.5" ring shank nails at 4" o.c. | -100.5 |
| GP-4 | 1x4 SYP (nom, or better) on 15/32" (min) plywood or 3/4" (min) wood plank | 26ga (min) PBR panel | #9 fastener in 7"-5"-7"-5" pattern (1 per rib), fastener rows at 12" o.c. 1/4" lap fastener at 24" o.c and with continuous bead of sealant or butyl tape in side lap. 1x4s attached to plywood with 8DX2.5" ring shank nails at 4" o.c. | -151.75 |

A factor of safety of 2 has been applied.

Evaluated by:

David Eng, PE
Timberlake Cove, LLC
1317 Edgewater Dr, Ste 2339
Orlando FL
FL PE 81377 | FL CA 37675
www.TimberlakeCove.com

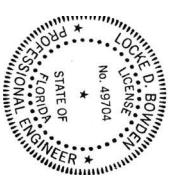


Digitally signed by

David E Eng

Date: 2024.05.01

21:32:59-04'00"



Digitally signed
by Locke D.
Bowden

Date: 2024.05.16

13:23:37 -05'00"



METAL ROOFING PRODUCTS



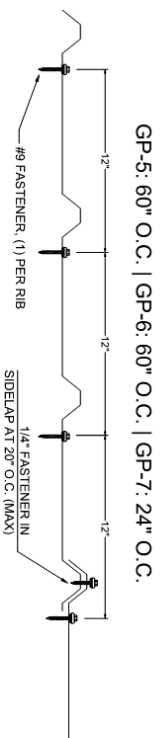
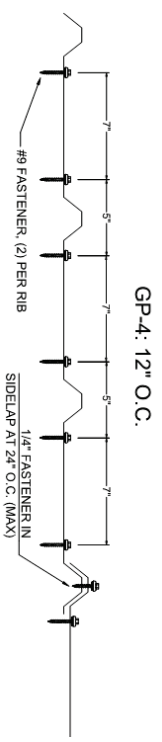
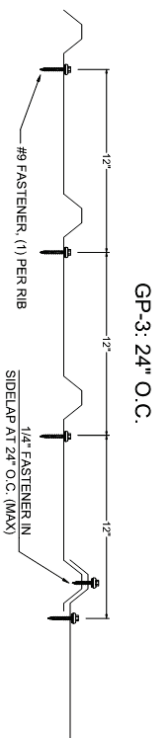
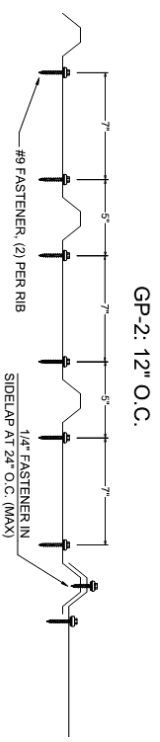
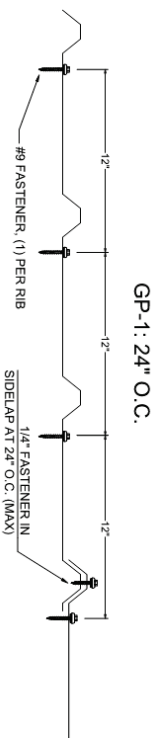
1.888.393.0335

www.GulfCoastSupply.com

Maximum Allowable Loads & Installation Requirements:

| System No | Deck/Substrate | Roof Panel | Panel Attachment | Allowable Pressure (psf) |
|-----------|--------------------------------------|----------------------|--|--------------------------|
| GP-5 | 16ga (min) steel purlins at 60" o.c. | 26ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 60" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -40 |
| GP-6 | 16ga (min) steel purlins at 60" o.c. | 24ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 60" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -60 |
| GP-7 | 16ga (min) steel purlins at 24" o.c. | 24ga (min) PBR panel | #1 2 fastener in 12"-12" pattern, purlins at 24" o.c. ¼" lap fastener at 20" o.c. and with continuous bead of sealant or butyl tape in side lap. | -150 |

A factor of safety of 2 has been applied.



Underlayment: Comply with local building code or FBC 1507.1.1 where required.

Slope: Comply with local building code or FBC 1507.4.2 where required.

Re-Roofing: This panel may be installed over a single layer of existing shingles as permitted by local building code or FBC 1511, provided the existing roof meets the conditions required by the applicable code.

Fire Barrier: Comply with FBC 1516.1 and 1516.2 where required. Optional where not required by code.

Insulation (optional): ISO board or other insulation is permitted between steel deck and panels. Increase fastener length to penetrate 1/4" beyond underside of substrate. Comply with FBC 1508 and 1519.11 where required.

Compliance Statement: This product as described has demonstrated compliance with Florida Building Code 2023, 1504.3.2 (non-HVHZ), as required by FL Rule 61G20-3, method 1D.

This product as described has been tested and demonstrated compliance with:

- UL580 – Test for Uplift Resistance of Roof Assemblies
- UL 1897 – Uplift test for roof covering systems

Technical Documentation:

- Force Engineering (TST-5328), TAS 125/UL 580/ASTM E1592, reports 117-0062T-07G-1, 117-0331T-08C, 84-0320T-06A-D

Design Process: Compare the maximum allowable loads to the ASD uplift pressures for the project to determine sufficiency and installation requirements. Alternatively, as an option, the load tables in this report may be used to identify the pressure required for roofs within the parameters described.

For roofs outside of the listed parameters, design wind loads shall be determined as required by FBC 1609, ASCE 7, or other design code in force, using allowable stress. These load tables are based on ASCE 7-22. Use of these tables assumes that the structure is: Enclosed, partially enclosed, or partially open and conforms to wind-borne debris provisions and is a regular shaped building and is not subject to across-wind loading, vortex shedding, or instability; nor does it have a site location for which channeling or buffeting warrant consideration

Engineering analysis may be completed by other licensed engineers for project specific approval by local authorities having jurisdiction.

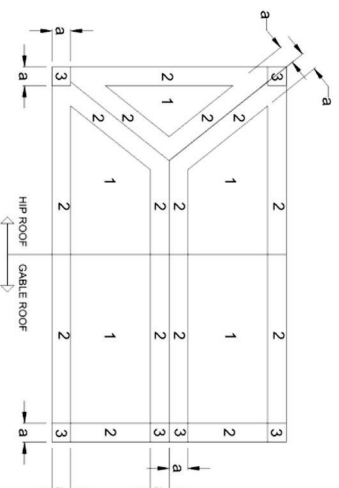
Certification of Independence: David Eng, PE and Timberlake Cove, LLC do not have, nor will acquire a financial interest in any company manufacturing or distributing products under this evaluation. The same entities do not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

Exclusions and Limitations: Design of deck and roof structure (to include attachment of substrate) shall be completed by others. Fire classification and shear diaphragm design are outside the scope of this evaluation. Accelerated weathering/salt spray is outside the scope of this evaluation.

This report is limited to compliance with structural wind load requirements of FBC 1504.3.2, as required by Rule 61G20-3. Neither Timberlake Cove nor the manufacturer shall be responsible for any conclusions, interpretations, or designs made by others based on this evaluation report. This report is limited solely to documenting compliance with Rule 61G20-3, and makes no express or implied warranty regarding performance of this product. Installation shall be subject to the local building code and authority having jurisdiction; this report shall not be construed to supersede local codes in force.

Allowable Design Pressures required for Gable and Hip Roofs in Exposure B with roof slope between 2:12 and 12:12

| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | |
|----------------------------|------|-----------------------|--------------------------|-------|-------|--------|--------|--------|--------|--------|--------|
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| Enclosed or Partially Open | 1 | 20 | -25.4 | -29.8 | -34.6 | -39.7 | -45.2 | -51.0 | -57.2 | -63.7 | -70.6 |
| | | 25 | -27.1 | -31.7 | -36.8 | -42.3 | -48.1 | -54.3 | -60.9 | -67.8 | -75.1 |
| | | 30 | -28.7 | -33.7 | -39.0 | -44.8 | -51.0 | -57.6 | -64.6 | -71.9 | -79.7 |
| | | 40 | -30.3 | -35.6 | -41.3 | -47.4 | -53.9 | -60.9 | -68.2 | -76.0 | -84.2 |
| | | 50 | -32.4 | -38.0 | -44.1 | -50.6 | -57.6 | -65.0 | -72.9 | -81.2 | -89.9 |
| | | 60 | -34.0 | -39.9 | -46.3 | -53.2 | -60.5 | -68.3 | -76.5 | -85.3 | -94.5 |
| | 2 | 20 | -33.6 | -39.4 | -45.7 | -52.5 | -59.7 | -67.4 | -75.5 | -84.2 | -93.3 |
| | | 25 | -35.7 | -41.9 | -48.6 | -55.8 | -63.5 | -71.7 | -80.4 | -89.6 | -99.3 |
| | | 30 | -37.9 | -44.5 | -51.6 | -59.2 | -67.4 | -76.1 | -85.3 | -95.0 | -105.3 |
| | | 40 | -40.1 | -47.0 | -54.5 | -62.6 | -71.2 | -80.4 | -90.2 | -100.4 | -111.3 |
| | | 50 | -42.8 | -50.2 | -58.2 | -66.8 | -76.0 | -85.8 | -96.2 | -107.2 | -118.8 |
| | | 60 | -44.9 | -52.7 | -61.2 | -70.2 | -79.9 | -90.2 | -101.1 | -112.7 | -124.8 |
| | 3 | 20 | -44.1 | -51.7 | -60.0 | -68.8 | -78.3 | -88.4 | -99.1 | -110.5 | -122.4 |
| | | 25 | -46.9 | -55.0 | -63.8 | -73.3 | -83.4 | -94.1 | -105.5 | -117.6 | -130.3 |
| | | 30 | -49.7 | -58.4 | -67.7 | -77.7 | -88.4 | -99.8 | -111.9 | -124.7 | -138.2 |
| | | 40 | -52.6 | -61.7 | -71.6 | -82.2 | -93.5 | -105.5 | -118.3 | -131.8 | -146.1 |
| | | 50 | -56.1 | -65.9 | -76.4 | -87.7 | -99.8 | -112.7 | -126.3 | -140.7 | -156.0 |
| | | 60 | -59.0 | -69.2 | -80.3 | -92.2 | -104.9 | -118.4 | -132.7 | -147.9 | -163.8 |
| Partially Enclosed | 1 | 20 | -29.7 | -34.9 | -40.5 | -46.4 | -52.8 | -59.7 | -66.9 | -74.5 | -82.6 |
| | | 25 | -31.6 | -37.1 | -43.1 | -49.4 | -56.3 | -63.5 | -71.2 | -79.3 | -87.9 |
| | | 30 | -33.6 | -39.4 | -45.7 | -52.4 | -59.7 | -67.4 | -75.5 | -84.1 | -93.2 |
| | | 40 | -35.5 | -41.6 | -48.3 | -55.4 | -63.1 | -71.2 | -79.8 | -88.9 | -98.5 |
| | | 50 | -37.9 | -44.4 | -51.6 | -59.2 | -67.3 | -76.0 | -85.2 | -94.9 | -105.2 |
| | | 60 | -39.8 | -46.7 | -54.2 | -62.2 | -70.7 | -79.9 | -89.5 | -99.8 | -110.5 |
| | 2 | 20 | -37.9 | -44.5 | -51.6 | -59.2 | -67.3 | -76.0 | -85.2 | -95.0 | -105.2 |
| | | 25 | -40.3 | -47.3 | -54.9 | -63.0 | -71.7 | -80.9 | -90.7 | -101.1 | -112.0 |
| | | 30 | -42.8 | -50.2 | -58.2 | -66.8 | -76.0 | -85.8 | -96.2 | -107.2 | -118.8 |
| | | 40 | -45.2 | -53.1 | -61.5 | -70.6 | -80.4 | -90.7 | -101.7 | -113.4 | -125.6 |
| | | 50 | -48.3 | -56.7 | -65.7 | -75.4 | -85.8 | -96.9 | -108.6 | -121.0 | -134.1 |
| | | 60 | -50.7 | -59.5 | -69.0 | -79.2 | -90.2 | -101.8 | -114.1 | -127.1 | -140.9 |
| | 3 | 20 | -48.4 | -56.8 | -65.8 | -75.6 | -86.0 | -97.1 | -108.8 | -121.3 | -134.4 |
| | | 25 | -51.5 | -60.4 | -70.1 | -80.5 | -91.5 | -103.3 | -115.9 | -129.1 | -143.0 |
| | | 30 | -54.6 | -64.1 | -74.3 | -85.3 | -97.1 | -109.6 | -122.9 | -136.9 | -151.7 |
| | | 40 | -57.7 | -67.8 | -78.6 | -90.2 | -102.6 | -115.9 | -129.9 | -144.7 | -160.4 |
| | | 50 | -61.6 | -72.3 | -83.9 | -96.3 | -109.6 | -123.7 | -138.7 | -154.5 | -171.2 |
| | | 60 | -64.8 | -76.0 | -88.1 | -101.2 | -115.1 | -130.0 | -145.7 | -162.3 | -179.9 |

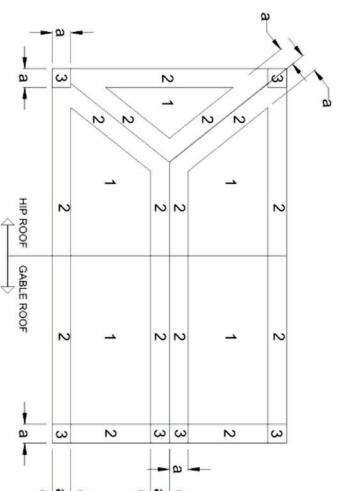


* 1/8" OF LEAST HORIZONTAL DIMENSION OR 6 IN. WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4" OF LEAST HORIZONTAL DIMENSION OR 8 FT (2.4M), OR AS DETERMINED BY DESIGN ON OTHER PARTICULAR CODE.

ROOF ZONES FOR GENERIC BUILDING

Allowable Design Pressures required for Gable and Hip Roofs in Exposure C with roof slope between 2:12 and 12:12

| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | | |
|----------------------------|------|-----------------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | |
| Enclosed or Partially Open | 1 | 20 | -36.9 | -43.3 | -50.2 | -57.6 | -65.6 | -74.0 | -83.0 | -92.5 | -102.5 | |
| | | 25 | -38.5 | -45.2 | -52.4 | -60.2 | -68.5 | -77.3 | -86.7 | -96.6 | -107.0 | |
| | | 30 | -40.2 | -47.1 | -54.7 | -62.8 | -71.4 | -80.6 | -90.4 | -100.7 | -111.6 | |
| | | 40 | -42.6 | -50.0 | -58.0 | -66.6 | -75.8 | -85.5 | -95.9 | -106.9 | -118.4 | |
| | | 50 | -44.7 | -52.4 | -60.8 | -69.8 | -79.4 | -89.7 | -100.5 | -112.0 | -124.1 | |
| | | 60 | -46.3 | -54.4 | -63.0 | -72.4 | -82.3 | -92.9 | -104.2 | -116.1 | -128.6 | |
| | 2 | 20 | -48.7 | -57.2 | -66.3 | -76.1 | -86.6 | -97.8 | -109.6 | -122.2 | -135.4 | |
| | | 25 | -50.9 | -59.7 | -69.3 | -79.5 | -90.5 | -102.1 | -114.5 | -127.6 | -141.4 | |
| | | 30 | -53.1 | -62.3 | -72.2 | -82.9 | -94.3 | -106.5 | -119.4 | -133.0 | -147.4 | |
| | | 40 | -56.3 | -66.1 | -76.6 | -88.0 | -100.1 | -113.0 | -126.7 | -141.2 | -156.4 | |
| | | 50 | -59.0 | -69.3 | -80.3 | -92.2 | -104.9 | -118.4 | -132.8 | -148.0 | -163.9 | |
| | | 60 | -61.2 | -71.8 | -83.3 | -95.6 | -108.8 | -122.8 | -137.7 | -153.4 | -170.0 | |
| | 3 | 20 | -64.0 | -75.1 | -87.1 | -99.9 | -113.7 | -128.4 | -143.9 | -160.3 | -177.7 | |
| | | 25 | -66.8 | -78.4 | -90.9 | -104.4 | -118.8 | -134.1 | -150.3 | -167.5 | -185.6 | |
| | | 30 | -69.6 | -81.7 | -94.8 | -108.8 | -123.8 | -139.8 | -156.7 | -174.6 | -193.5 | |
| | | 40 | -73.9 | -86.7 | -100.6 | -115.5 | -131.4 | -148.3 | -166.3 | -185.3 | -205.3 | |
| | | 50 | -77.5 | -90.9 | -105.4 | -121.0 | -137.7 | -155.5 | -174.3 | -194.2 | -215.2 | |
| | | 60 | -80.3 | -94.2 | -109.3 | -125.5 | -142.8 | -161.2 | -180.7 | -201.3 | -223.2 | |
| Partially Enclosed | 1 | 20 | -43.1 | -50.6 | -58.7 | -67.4 | -76.7 | -86.6 | -97.1 | -108.2 | -119.9 | |
| | | 25 | -45.1 | -52.9 | -61.3 | -70.4 | -80.1 | -90.4 | -101.4 | -113.0 | -125.2 | |
| | | 30 | -47.0 | -55.1 | -63.9 | -73.4 | -83.5 | -94.3 | -105.7 | -117.8 | -130.5 | |
| | | 40 | -49.9 | -58.5 | -67.9 | -77.9 | -88.6 | -100.1 | -112.2 | -125.0 | -138.5 | |
| | | 50 | -52.3 | -61.3 | -71.1 | -81.7 | -92.9 | -104.9 | -117.6 | -131.0 | -145.2 | |
| | | 60 | -54.2 | -63.6 | -73.7 | -84.6 | -96.3 | -108.7 | -121.9 | -135.8 | -150.5 | |
| | 2 | 20 | -55.0 | -64.5 | -74.9 | -85.9 | -97.8 | -110.4 | -123.7 | -137.9 | -152.8 | |
| | | 25 | -57.4 | -67.4 | -78.2 | -89.7 | -102.1 | -115.3 | -129.2 | -144.0 | -159.5 | |
| | | 30 | -59.9 | -70.3 | -81.5 | -93.6 | -106.5 | -120.2 | -134.7 | -150.1 | -166.3 | |
| | | 40 | -63.5 | -74.6 | -86.5 | -99.3 | -113.0 | -127.5 | -143.0 | -159.3 | -176.5 | |
| | | 50 | -66.6 | -78.2 | -90.7 | -104.1 | -118.4 | -133.7 | -149.9 | -167.0 | -185.0 | |
| | | 60 | -69.0 | -81.0 | -94.0 | -107.9 | -122.7 | -138.6 | -155.4 | -173.1 | -191.8 | |
| | 3 | 20 | -70.2 | -82.4 | -95.6 | -109.7 | -124.8 | -140.9 | -158.0 | -176.0 | -195.1 | |
| | | 25 | -73.3 | -86.1 | -99.8 | -114.6 | -130.4 | -147.2 | -165.0 | -183.9 | -203.7 | |
| | | 30 | -76.5 | -89.7 | -104.1 | -119.5 | -135.9 | -153.5 | -172.0 | -191.7 | -212.4 | |
| | | 40 | -81.1 | -95.2 | -110.4 | -126.8 | -144.3 | -162.9 | -182.6 | -203.4 | -225.4 | |
| | | 50 | -85.0 | -99.8 | -115.8 | -132.9 | -151.2 | -170.7 | -191.4 | -213.2 | -236.2 | |
| | | 60 | -88.2 | -103.5 | -120.0 | -137.8 | -156.7 | -176.9 | -198.4 | -221.0 | -244.9 | |

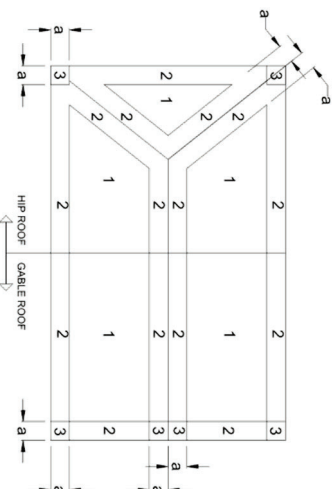


1/3 OF LEAST HORIZONTAL DIMENSION OR 5 ft, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 1/4 OF LEAST HORIZONTAL DIMENSION OR 5 ft (10mm) OR AS DETERMINED BY DESIGN OR OTHER APPLICABLE CODE.

ROOF ZONES FOR GENERIC BUILDING

Allowable Design Pressures required for Gable and Hip Roofs in Exposure D with roof slope between 2:12 and 12:12

| Building Type | Zone | Mean Roof Height (ft) | Ultimate Windspeed (mph) | | | | | | | | | |
|----------------------------|------|-----------------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | | | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | |
| Enclosed or Partially Open | 1 | 20 | -44.3 | -51.9 | -60.2 | -69.2 | -78.7 | -88.8 | -99.6 | -111.0 | -123.0 | |
| | | 25 | -45.9 | -53.9 | -62.5 | -71.7 | -81.6 | -92.1 | -103.3 | -115.1 | -127.5 | |
| | | 30 | -47.5 | -55.8 | -64.7 | -74.3 | -84.5 | -95.4 | -107.0 | -119.2 | -132.1 | |
| | | 40 | -50.0 | -58.7 | -68.1 | -78.1 | -88.9 | -100.4 | -112.5 | -125.4 | -138.9 | |
| | | 50 | -52.1 | -61.1 | -70.8 | -81.3 | -92.5 | -104.5 | -117.1 | -130.5 | -144.6 | |
| | | 60 | -53.7 | -63.0 | -73.1 | -83.9 | -95.5 | -107.8 | -120.8 | -134.6 | -149.1 | |
| | 2 | 20 | -58.5 | -68.6 | -79.6 | -91.4 | -104.0 | -117.4 | -131.6 | -146.6 | -162.4 | |
| | | 25 | -60.6 | -71.2 | -82.5 | -94.8 | -107.8 | -121.7 | -136.4 | -152.0 | -168.5 | |
| | | 30 | -62.8 | -73.7 | -85.5 | -98.1 | -111.7 | -126.1 | -141.3 | -157.5 | -174.5 | |
| | | 40 | -66.1 | -77.5 | -89.9 | -103.2 | -117.4 | -132.6 | -148.6 | -165.6 | -183.5 | |
| | | 50 | -68.8 | -80.7 | -93.6 | -107.4 | -122.2 | -138.0 | -154.7 | -172.4 | -191.0 | |
| | | 60 | -70.9 | -83.2 | -96.5 | -110.8 | -126.1 | -142.4 | -159.6 | -177.8 | -197.0 | |
| | 3 | 20 | -76.8 | -90.1 | -104.5 | -119.9 | -136.4 | -154.0 | -172.7 | -192.4 | -213.2 | |
| | | 25 | -79.6 | -93.4 | -108.3 | -124.4 | -141.5 | -159.7 | -179.1 | -199.5 | -221.1 | |
| | | 30 | -82.4 | -96.7 | -112.2 | -128.8 | -146.6 | -165.4 | -185.5 | -206.7 | -229.0 | |
| | | 40 | -86.7 | -101.8 | -118.0 | -135.5 | -154.1 | -174.0 | -195.1 | -217.4 | -240.8 | |
| | | 50 | -90.3 | -105.9 | -122.8 | -141.0 | -160.5 | -181.1 | -203.1 | -226.3 | -250.7 | |
| | | 60 | -93.1 | -109.3 | -126.7 | -145.5 | -165.5 | -186.8 | -209.5 | -233.4 | -258.6 | |
| Partially Enclosed | 1 | 20 | -51.8 | -60.8 | -70.5 | -80.9 | -92.0 | -103.9 | -116.5 | -129.8 | -143.8 | |
| | | 25 | -53.7 | -63.0 | -73.1 | -83.9 | -95.5 | -107.8 | -120.8 | -134.6 | -149.2 | |
| | | 30 | -55.6 | -65.3 | -75.7 | -86.9 | -98.9 | -111.6 | -125.1 | -139.4 | -154.5 | |
| | | 40 | -58.5 | -68.6 | -79.6 | -91.4 | -104.0 | -117.4 | -131.6 | -146.6 | -162.5 | |
| | 2 | 50 | -60.9 | -71.5 | -82.9 | -95.1 | -108.2 | -122.2 | -137.0 | -152.6 | -169.1 | |
| | | 60 | -62.8 | -73.7 | -85.5 | -98.1 | -111.7 | -126.0 | -141.3 | -157.4 | -174.5 | |
| | | 20 | -66.0 | -77.4 | -89.8 | -103.1 | -117.3 | -132.4 | -148.5 | -165.4 | -183.3 | |
| | | 25 | -68.4 | -80.3 | -93.1 | -106.9 | -121.7 | -137.3 | -154.0 | -171.6 | -190.1 | |
| | 3 | 30 | -70.9 | -83.2 | -96.5 | -110.7 | -126.0 | -142.2 | -159.5 | -177.7 | -196.9 | |
| | | 40 | -74.5 | -87.5 | -101.5 | -116.5 | -132.5 | -149.6 | -167.7 | -186.9 | -207.1 | |
| | | 50 | -77.6 | -91.1 | -105.6 | -121.2 | -138.0 | -155.7 | -174.6 | -194.5 | -215.6 | |
| | | 60 | -80.0 | -93.9 | -108.9 | -125.1 | -142.3 | -160.6 | -180.1 | -200.7 | -222.3 | |
| Partially Enclosed | 2 | 20 | -84.3 | -98.9 | -114.7 | -131.7 | -149.8 | -169.1 | -189.6 | -211.2 | -234.1 | |
| | | 25 | -87.4 | -102.6 | -118.9 | -136.5 | -155.4 | -175.4 | -196.6 | -219.1 | -242.7 | |
| | | 30 | -90.5 | -106.2 | -123.2 | -141.4 | -160.9 | -181.6 | -203.6 | -226.9 | -251.4 | |
| | 3 | 40 | -95.2 | -111.7 | -129.6 | -148.7 | -169.2 | -191.0 | -214.2 | -238.6 | -264.4 | |
| | | 50 | -99.1 | -116.3 | -134.9 | -154.8 | -176.2 | -198.9 | -222.9 | -248.4 | -275.2 | |
| | | 60 | -102.2 | -120.0 | -139.1 | -159.7 | -181.7 | -205.1 | -230.0 | -256.2 | -283.9 | |



*A: MIN OF LEAST HORIZONTAL DIMENSION OR 'a' WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 'a' OR LEAST HORIZONTAL DIMENSION OR 'a' (0.9M).
DIMENSIONS SHOWN IN PARENTHESES ARE IN METRIC UNITS.

ROOF ZONES FOR GENERIC BUILDING

ICC-ES Evaluation Report

ESR-2290

Reissued March 2024


This report also contains:

- CBC Supplement
- FBC Supplement

Subject to renewal March 2026

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|---|--|--|---|
| <p>DIVISION: 06 00 00— WOOD, PLASTICS AND COMPOSITES</p> <p>Section: 06 16 00— Sheathing</p> <p>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 46 46— Fiber-Cement Siding</p> | <p>REPORT HOLDER: JAMES HARDIE BUILDING PRODUCTS, INC.</p> | <p>EVALUATION SUBJECT: HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES</p> |  |
|---|--|--|---|

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, 2012, 2009 and 2006 [International Residential Code \(IRC\)](#)
- 2013 *Abu Dhabi International Building Code (ADIBC)*[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Weather protection
- Structural
- Types I, II, III, and IV (noncombustible) construction
- Fire-resistance-rated construction
- Thermal resistance

1.2 Evaluation to the following green standards:

- 2020, 2015, 2012 and 2008 ICC 700 [National Green Building Standard™](#) (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

See Section 3.1

2.0 USES

James Hardie fiber-cement panels, plank lap siding, and cladding shingles are used as exterior wall covering. The products comply with 2021 and 2018 IBC Section 1403.10 [2015, 2012, 2009 and 2006 IBC Sections 1404.10] and IRC Section R703.10. The products may be used on exterior walls required to be of Type I, II, III or IV construction (IBC).

3.0 DESCRIPTION

3.1 General:

The exterior sidings are single-faced, cellulose fiber–reinforced cement (fiber-cement) products. Exterior sidings are identified as Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle Individual shingles.

The products comply with ASTM C1186, as Grade II, Type A; have a flame-spread index of 0 and a smoke-developed index of 5 when tested in accordance with ASTM E84; and are classified as noncombustible when tested in accordance with ASTM E136. Thermal conductance (K) and resistance (R) values for the products are as shown in [Table 2](#) of this report, based on testing in accordance with ASTM C177.

The attributes of the fiber-cement sidings have been verified as conforming to the provisions of (i) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 602.1.6 and 11.602.1.6 for termite-resistant materials; and (ii) ICC 700-2008 Section 602.8 for termite-resistant materials. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.2 Siding:

Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are supplied either coated, or uncoated for subsequent application of a compatible exterior-grade top coat. Nominal product dimensions are noted in [Table 1](#).

The products are available in a variety of finish textures. Hardie®Shingle panels are offered in three configurations: half-round, staggered-edge, and square-edge. Hardie®Shingle individual shingles are offered in two configurations: staggered-edge and square-edge.

3.3 Fasteners:

Fastener type, size, spacing and installation method must be as shown in the tables of this report. Fasteners must be made from corrosion-resistant steel.

4.0 DESIGN AND INSTALLATION

4.1 Design:

Walls: The maximum basic wind speeds for positive or negative transverse load resistance of Hardie®Shingle® panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are presented in [Tables 3](#) through [13](#).

4.2 Installation:

4.2.1 General: Installation must comply with this report, and a copy of this report must be available at all times on the jobsite during installation. All products may be cut to shape on-site by the score-and-snap method using a score-and-snap knife, a hand guillotine or a handsaw utilizing a carbide blade. A clear distance of 6 inches (152 mm) must be maintained between the siding and the earth. Unless otherwise noted in this report, the products must be installed in accordance with 2021 and 2018 IBC Section 1404.16; 2015, 2012, and 2009 IBC Section 1405.16; 2006 IBC Sections 1405.15, 1405.16, and 1405.17; 2021, 2018 and 2015 IRC Section R703.10 and Table R703.3; 2012, 2009, and 2006 IRC Section R703.10 and Table R703.4, as applicable.

4.2.2 Hardie®Shingle Panels: When installation is on wood or metal framing members, with or without wood structural panel sheathing, a water-resistive barrier must be applied over the wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. The panels must be fastened in accordance with the provisions of [Table 4](#) of this report.

A $\frac{1}{8}$ -inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Vertical joints must occur over framing members and must be sealed with caulking or covered with battens. Horizontal joints must be flashed with metal Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.3 Hardie® Plank (Cemplank®, Prevail®, and RFC®) Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened either through the overlapping planks (face nailed) or through the top edge of single planks (blind nailed) in accordance with the provisions of [Table 4](#) of this report. A water-resistive barrier must be applied over wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with [Tables 5](#) through [10](#). The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must occur over studs, except where the “off-stud splice device” is installed or where the planks are installed to wood structural panel sheathing complying with the applicable code, and must be staggered on subsequent courses. Where the “off-stud splice device” is installed, the splice device’s bottom lip must be placed over the adjacent solid course of planks. The plank must then be fastened to the framing with corrosion-resistant fasteners. The abutting plank must be positioned and fastened into place ensuring that the lower edges of the two planks align. The metal device must be located centrally over the vertical joint.

Vertical joints between planks must be lightly butted or gapped and must be protected by one of the following methods: (a) sealed with caulking in accordance with the caulk manufacturer’s published gapping requirements and caulking application instructions; or (b) covered with an H-section joint cover; or (c) located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.4 Artisan® Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened through the top edge of single planks (blind nailed) in accordance with the provisions of [Table 4](#) of this report. A water-resistive barrier must be applied over wood or metal framing or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with [Tables 5](#) through [10](#). The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must be made off-stud. Joints may be located centrally between studs but no closer than 4 inches (102 mm) from the edge of a stud. Nails must not be placed within 1 inch (25.4 mm) of the end of the planks. Vertical joints must be staggered on subsequent courses. The plank must then be fastened to the framing with corrosion-resistant fasteners.

Vertical joints between planks must be lightly butted and must be located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at the locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and must occur over solid blocking or wood structural panel sheathing.

4.2.5 Hardie® Shingle Individual Shingles: When installed on wood structural panel sheathing, the cladding shingles are fastened in accordance with the provisions of either [Table 11](#), [12](#), or [13](#) of this report. A water-resistive barrier in accordance with the applicable code must be applied over the wood-based sheathing substrate to which the shingles are attached.

The individual shingles require the use of a starter strip to set the first course on the proper angle and to create a drip edge. The nominally 1 1/4-inch-wide-by-1/4-inch-thick starter strip and a minimum 8 1/4-inch-wide (210 mm) Hardie® Plank (Cemplank®, Prevail®, and RFC®) lap siding starter course are installed over the water-resistive barrier with the bottom of the starter strip and starter course even with the bottom of the bottom plate. Shingles are spaced a maximum of 1/4 inch (6.4 mm) apart, leaving a minimum side lap of 1 1/2 inches (38 mm) between the joints of successive courses. Fasteners must be spaced a minimum of 3/4 inch (19 mm) and a maximum of 1 inch (25.4 mm) from shingle edges and must be positioned to be covered a nominal 1 1/4 inches by the succeeding shingle course; for 12-inch-wide (305 mm) shingles, the third nail (see [Table 13](#)) must be installed mid-span of the shingle. Nails must secure shingles but must not be over-driven. Trim and corners must be installed, and the shingles must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at locations where the shingle butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing.

4.3 Fire-resistance-rated Wall Assembly (Hardie®Plank (CemPlank®, Prevail®, and RFC®) Lap Siding):

The asymmetrical, load-bearing, one-hour fire-resistance-rated wall assembly must consist of nominally 2-by-4 wood studs spaced a maximum of 24 inches (610 mm) on center, with two top plates and a single bottom plate. One layer of ⁵/₈-inch-thick (15.9), Type X, gypsum wallboard complying with ASTM C36 or ASTM C1396, 48 inches (1219 mm) wide, must be applied vertically to the interior face of the studs and secured with minimum 1³/₄-inch-long (44 mm) cup-head gypsum wallboard nails, spaced 7 inches (178 mm) on center at board edges and intermediate framing members. All board joints must be backed by framing. The ⁵/₈-inch-thick (15.9 mm), Type X, gypsum wallboard joints and nail heads must be finished in accordance with ASTM C840 or GA216. The exterior face of the wall must be covered with one layer of ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core treated gypsum sheathing complying with ASTM C36 or ASTM C1396 and one layer of maximum 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding lapped a minimum of 1¹/₄ inches (32 mm). The ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be applied vertically to the exterior side of the framing members with vertical edges staggered 24 inches (610 mm) from the joints on the opposite side. All board joints must be backed by framing. The ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be fastened to the framing members with 1³/₄-inch-long (44 mm) roofing nails spaced 7 inches (178 mm) on center in the field and 4 inches (102 mm) on center along the perimeter of each board. The outer layer of ⁵/₁₆-inch-thick (7.5 mm), minimum 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding must be applied over the ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing by attaching 1¹/₂-inch-wide (38 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) starter strips through the gypsum sheathing into the bottom plate and 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding applied horizontally with a minimum nominally 1¹/₄-inch head lap, and fastening with a single 6d corrosion-resistant common nail driven through the lapped planks into each stud.

The axial load must be the lesser of the following, provided structural consideration for axial, flexural and bearing perpendicular-to-grain stresses is in accordance with ANSI/AWC NDS-2018 for the 2021, 2018 IBC and IRC; ANSI/AWC NDS-2015 for the 2015 IBC and IRC; ANSI/AF&PA NDS-2010 for the 2012 IBC or IRC (-2005 for the 2009 and 2006 IBC or IRC):

1. Maximum 100 percent of full allowable axial compressive design load permitted for the wood species.
2. Maximum allowable wood axial stress of 0.78 F_c , which must not exceed 0.78 F_c at a slenderness ratio l_e/d of 33.

5.0 CONDITIONS OF USE:

The Hardie®Shingle panels, Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 James Hardie® Building Products, Inc. products listed in this report must be installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's instructions, this report governs.
- 5.2 Hardie®Shingle panels, Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles must be installed on exterior walls braced in accordance the applicable code.
- 5.3 Design wind speeds applied to James Hardie® sidings described in this report must be determined in accordance with the applicable code and must be less than those shown in the wind speed tables in this report.
- 5.4 The sidings must be installed over a code-complying water-resistive barrier and as noted in this report.
- 5.5 For use in fire-resistance-rated construction, installation must be in accordance with Section 4.3.
- 5.6 Flashing must be installed at all penetrations and terminations in accordance with the applicable code.
- 5.7 Under the 2021 and 2018 IBC Section 1402.5; and 2015 or 2012 IBC, Section 1403.5, installation on exterior walls of buildings of Type I, II, III, and IV construction is limited to buildings that are not greater than 40 feet in height above grade plane and that feature a combustible water-resistive barrier, except as permitted under Exception 2 of the 2021 and 2018 IBC Section 1402.5 and 2015 IBC Section 1403.5.
- 5.8 The products are manufactured at the following locations, with quality control inspections by ICC-ES:
 - Cleburne, Texas
 - Peru, Illinois
 - Plant City, Florida
 - Prattville, Alabama

- Pulaski, Virginia
- Sparks, Nevada
- Tacoma, Washington
- Waxahachie, Texas
- Fontana, California
- Summerville, South Carolina

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), dated October 2020 (editorially revised December 2020).

7.0 IDENTIFICATION

7.1 Pallets of the James Hardie® Building Products, Inc., Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle shingles must carry a label bearing the manufacturer's name and telephone number, the product name, the name of the inspection agency, ICC-ES, and the evaluation report number (ESR-2290).

7.2 The report holder's contact information is the following:

JAMES HARDIE BUILDING PRODUCTS, INC.

10901 ELM AVENUE

FONTANA, CALIFORNIA 92337

(909) 942-7343

www.jameshardie.com

info@jameshardie.com

TABLE 1—STANDARD NOMINAL PANEL, PLANK AND SHINGLE DIMENSIONS

| PRODUCT | WIDTH (INCHES) | LENGTH | THICKNESSES (INCHES) |
|--|---|--|--------------------------------|
| Hardie®Plank lap siding | 4, 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Artisan® lap siding, | 5 ¹ / ₄ , 7 ¹ / ₄ , 8 ¹ / ₄ | 12, 14 feet | 5 ¹ / ₈ |
| Cemplank® lap siding | 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Prevail® lap siding | 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| RFC® lap siding | 6 ¹ / ₄ , 7 ¹ / ₂ , 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Hardie®Shingle 5-inch exposure (square & staggered edge) | 48 | 14 inches | 1 ¹ / ₄ |
| Hardie®Shingle 7-inch exposure (square & staggered edge) | 48 | 15 ¹ / ₄ , 15 ⁷ / ₈ inches | 1 ¹ / ₄ |
| Hardie®Shingle panel (square & staggered edge) | 48 | 16 inches | 1 ¹ / ₄ |
| Hardie®Shingle panel (half round) | 48 | 16, 19 inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles 5-inch exposure | 3 ¹ / ₂ , 4 ¹ / ₂ , 5 ¹ / ₂ , 7, 8 ¹ / ₄ | 14 inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles 7-inch exposure | 4 ³ / ₁₆ , 5 ¹ / ₂ , 6 ³ / ₄ , 7 ¹ / ₄ , 10, | 15 ¹ / ₄ inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles | 6, 8, & 12 | 18 inches | 1 ¹ / ₄ |

For **SI**: 1 inch = 25.4 mm, 1 ft = 305 mm.

TABLE 2—"K" and "R" VALUES FOR FIBER-CEMENT PRODUCTS

| PRODUCT THICKNESS ³ (INCH) | THERMAL CONDUCTANCE ¹ K _{EFF} = (BTU/HR-FT ² -°F)/INCH | THERMAL RESISTANCE ¹ R = 1/K _{EFF} | ACTUAL THERMAL CONDUCTANCE ² (K _{EFF}) | ACTUAL THERMAL RESISTANCE ² (R) |
|---------------------------------------|---|--|---|--|
| 1 ¹ / ₄ | 1.95 | 0.51 | 7.80 | 0.13 |
| 5 ¹ / ₁₆ | 2.07 | 0.48 | 6.62 | 0.15 |

For **SI**: 1 inch = 25.4 mm, 1 Btu/h-ft²-°F = 5.678 W/m²-K.

¹Based on 1 inch of panel thickness.

²Actual value for panel thickness shown.

TABLE 3—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

| PRODUCT | THICK (IN.) | FASTENER TYPE ^{1a} | FASTENER SPACING (IN.) | FRAME TYPE ¹ | STUD SPACING (IN.) | BLDG. HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--|-------------|---|---|---|--|--------------------|--|-----|-----|-----|--|-----|---|---|
| | | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{asst}}^{4,6,9,12}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{2,8}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{\text{ult}}^{(b,11)}$) | | | |
| | | | | | | | B | C | D | | B | C | D | |
| Hardie®Shingle Panel (straight or half round installation) | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 13.75 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 126 | 85 | - | 163 | 110 | - | - | - |
| | | | | | | 20 | 121 | 85 | - | 156 | 110 | - | - | |
| | | | | | | 40 | 105 | 85 | - | 136 | 110 | - | - | |
| | | | | | | 60 | 95 | - | - | 123 | - | - | - | |
| Hardie®Shingle Panel (staggered installation) | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 13.75 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 105 | 85 | - | 136 | 110 | - | - | |
| | | | | | | 20 | 105 | - | - | 136 | - | - | - | |
| | | | | | | 40 | 95 | - | - | 123 | - | - | - | |
| | | | | | | 60 | 85 | - | - | 110 | - | - | - | |
| Hardie®Shingle Panel | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 8 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 158 | 143 | 130 | 204 | 185 | 168 | - | |
| | | | | | | 20 | 158 | 139 | 127 | 204 | 179 | 164 | - | |
| | | | | | | 40 | 152 | 130 | 120 | 196 | 168 | 155 | - | |
| | | | | | | 60 | 143 | 124 | 115 | 185 | 160 | 148 | - | |
| Hardie®Shingle Panel | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 6 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 172 | 156 | 142 | 222 | 201 | 183 | - | |
| | | | | | | 20 | 172 | 151 | 138 | 222 | 195 | 178 | - | |
| | | | | | | 40 | 165 | 141 | 130 | 213 | 182 | 168 | - | |
| | | | | | | 60 | 156 | 135 | 126 | 201 | 174 | 163 | - | |
| Hardie®Shingle Panel | 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), 1.17" x 1.125" x .3" (PART #650964) or #650964) | 7" exposure, nailed at 16" o.c. (horizontal) and 7" o.c. (vertical) | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 113 | 102 | 93 | 146 | 132 | 120 | - | |
| | | | | | | 20 | 113 | 100 | 91 | 146 | 129 | 117 | - | |
| | | | | | | 40 | 108 | 93 | 86 | 140 | 120 | 110 | - | |
| | | | | | | 60 | 102 | 89 | - | 132 | 115 | - | - | |
| Hardie®Shingle Panel | 1/4 | 0.083" shank x 0.187" HD x 1 1/2" long ring shank nail ² | at each stud ³ | Nominal 2x4 ¹ or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | - | |
| | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | - | |
| | | | | | | 40 | 168 | 126 | 105 | 217 | 163 | 136 | - | |
| | | | | | | 60 | 158 | 116 | 105 | 204 | 150 | 136 | - | |
| Hardie®Shingle Panel | 1/4 | 0.083" shank x 0.187" HD x 1 1/2" long ring shank nail ² | at each stud ³ | Nominal 2x4 ¹ or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | - | |
| | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | - | |
| | | | | | | 40 | 126 | 95 | - | 163 | 123 | - | - | |
| | | | | | | 60 | 116 | 89 | - | 150 | 115 | - | - | |

For SI : 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.444 m/s.

^{1a}Values are for species of wood having a specific gravity of 0.40 or greater.

²For application to metal framing members, fasteners must be ET & F Fastening Systems, Inc. ET&F Panelfast® nail, ET & F No. AGS-100-0150, head diameter = 0.313 in., shank diameter = 0.100 in., length = 1.5 in. Metal studs must be minimum Fy = 33 ksi.

³For application to ASTM C90 concrete masonry unit wall, fasteners must be either ET & F Fastening Systems, Inc. ET&F block nail (ET & F No. ASM-144-0125, head dia. = 0.30 in., shank dia. = 0.14 in., length = 1.25 in.), Max System block nail (CP-C-832 WT-ICC, head diameter = 0.30 in., shank diameter = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaeco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.) applied at the equivalent fastener or stud spacing.

⁴Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: 1 = 1.0, K_{e1} = 1, K_d = 0.85, G_{CPI} = 0.18, G_{CP} = 1.4.

⁵For application to wood framing or wood-based sheathing, the minimum fastener penetration must be 1 inch into framing or the sheathing thickness as applicable.

⁶V_{ult} = ultimate design wind speed.

⁷Wind speed design assumptions per Section 30.4, of ASCE 7-10: K_{z1} = 1, K_d = 0.85, G_{CPI} = 0.18, G_{CP} = -1.4.

⁸2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V_{ult} √0.6

⁹V = basic design wind speed

¹⁰2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V √0.6

¹¹Smooth-shank stainless steel nails are outside of the scope of this report.

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1a} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | | | |
|--------------|-------------------------|----------------|-----------------------------------|-------------------------------|---|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|---|-----|--|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{ASD}^{(3)(12)(16)}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{(6)(11)}$, 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{SD}^{(3)(9)}$) | |
| | | | | | | | | | | | | | | B | C | D | B |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 147 | 217 | 217 | 190 | 190 | 190 | | |
| | | | | | | | 20 | 168 | 168 | 147 | 217 | 217 | 190 | 190 | | | |
| | | | | | | | 40 | 168 | 158 | 137 | 217 | 204 | 177 | 177 | | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 190 | 163 | 163 | | | |
| | | | | | | | 20 | 168 | 168 | 147 | 217 | 217 | 190 | 163 | | | |
| | | | | | | | 40 | 168 | 158 | 137 | 217 | 204 | 177 | 177 | | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 190 | 163 | 163 | | | |
| | | | | | | | 20 | 168 | 147 | 126 | 217 | 190 | 163 | 163 | | | |
| | | | | | | | 40 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 177 | 150 | 150 | | | |
| | | | | | | | 20 | 168 | 147 | 116 | 217 | 190 | 163 | 163 | | | |
| | | | | | | | 40 | 168 | 131 | 116 | 217 | 169 | 150 | 150 | | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | | |
| | | | | | | | 40 | 158 | 126 | 105 | 204 | 163 | 136 | 136 | | | |
| Hardie®Plank | 5/16 | 12 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 145 | 131 | 119 | 187 | 169 | 154 | 154 | | | |
| | | | | | | | 20 | 145 | 127 | 116 | 187 | 164 | 150 | 150 | | | |
| | | | | | | | 40 | 139 | 119 | 110 | 179 | 154 | 142 | 142 | | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | 136 | | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 100 | 187 | 150 | 129 | 129 | | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | 136 | | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------------------|--|-------------------------------|--|--------------------|-----------------------|--|-----|-----|-----|--|-----|-----|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{Wind} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 100 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 126 | 110 | 207 | 163 | 142 | | |
| | | | | | | | 40 | 147 | 121 | 105 | 190 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 116 | 100 | 207 | 150 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 40 | 137 | 105 | 89 | 177 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 116 | 95 | 207 | 150 | 123 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 136 | 123 | | |
| | | | | | | | 40 | 137 | 105 | 89 | 177 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 158 | 105 | 95 | 204 | 136 | 123 | | |
| | | | | | | | 40 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 40 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| Hardie®Plank | 5/16 | 12 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 106 | 96 | 87 | 137 | 124 | 112 | | |
| | | | | | | | 20 | 106 | 93 | 85 | 137 | 120 | 110 | | |
| | | | | | | | 40 | 102 | 87 | - | 132 | 112 | - | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| | | | | | | | 20 | 158 | 121 | 100 | 204 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| | | | | | | | 20 | 158 | 121 | 100 | 204 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 116 | 100 | 217 | 150 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 40 | 137 | 105 | 89 | 177 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| | | | | | | | 40 | 121 | 89 | - | 156 | 115 | - | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 137 | 100 | 85 | 163 | 129 | 110 | | |
| | | | | | | | 40 | 126 | 100 | 85 | 163 | 129 | 110 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------------------|--|---|--|--------------------|-----------------------|--|-----|-----|-------|--|-----|---|-------|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{15,14}$) | | | |
| | | | | | | | | B | C | D | Other | B | C | D | Other |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 137 | 95 | 85 | 177 | 123 | 110 | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 60 | 105 | 85 | - | 136 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 137 | 95 | - | 177 | 123 | - | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 60 | 105 | 85 | - | 136 | 110 | - | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 110 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 20 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 40 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| | | | | | | | 60 | 121 | 95 | - | 156 | 123 | - | | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| | | | | | | | 40 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 60 | 105 | 89 | - | 136 | 115 | - | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 137 | 95 | 85 | 177 | 123 | 110 | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 60 | 105 | 85 | - | 136 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 126 | 85 | - | 163 | 110 | - | | |
| | | | | | | | 20 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 40 | 100 | - | - | 129 | - | - | | |
| | | | | | | | 60 | 95 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 116 | - | - | 150 | - | - | | |
| | | | | | | | 20 | 105 | - | - | 136 | - | - | | |
| | | | | | | | 40 | 95 | - | - | 123 | - | - | | |
| | | | | | | | 60 | 85 | - | - | 110 | - | - | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 170 | 158 | 219 | 219 | 204 | | |
| | | | | | | | 20 | 170 | 169 | 154 | 219 | 218 | 199 | | |
| | | | | | | | 40 | 170 | 157 | 145 | 219 | 203 | 187 | | |
| | | | | | | | 60 | 170 | 151 | 140 | 219 | 194 | 180 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 155 | 141 | 219 | 200 | 182 | | |
| | | | | | | | 20 | 170 | 151 | 138 | 219 | 195 | 178 | | |
| | | | | | | | 40 | 164 | 140 | 130 | 218 | 181 | 167 | | |
| | | | | | | | 60 | 155 | 135 | 125 | 207 | 174 | 161 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|--|-----|-----|----------|---|-----|---|----------|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | Exposure | B | C | D | Exposure |
| Hardie®Plank | 5/16 | 7 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 156 | 142 | 129 | 202 | 183 | 166 | | |
| | | | | | | | 20 | 156 | 138 | 126 | 202 | 178 | 162 | | |
| | | | | | | | 40 | 150 | 128 | 118 | 193 | 165 | 153 | | |
| | | | | | | | 60 | 142 | 123 | 114 | 183 | 159 | 147 | | |
| | | | | | | | 0-15 | 153 | 139 | 126 | 197 | 179 | 163 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 197 | 174 | 159 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 147 | 125 | 116 | 190 | 162 | 150 | | |
| | | | | | | | 60 | 139 | 120 | 112 | 179 | 155 | 144 | | |
| | | | | | | | 0-15 | 147 | 134 | 121 | 190 | 172 | 157 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 153 | | |
| | | | | | | | 40 | 141 | 121 | 111 | 182 | 156 | 144 | | |
| | | | | | | | 60 | 134 | 116 | 108 | 172 | 150 | 139 | | |
| Hardie®Plank | 5/16 | 8 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 145 | 131 | 119 | 187 | 169 | 154 | | |
| | | | | | | | 20 | 145 | 127 | 116 | 187 | 165 | 150 | | |
| | | | | | | | 40 | 139 | 119 | 110 | 179 | 153 | 141 | | |
| | | | | | | | 60 | 131 | 114 | 106 | 169 | 147 | 136 | | |
| | | | | | | | 0-15 | 135 | 123 | 111 | 175 | 158 | 144 | | |
| | | | | | | | 20 | 135 | 119 | 109 | 175 | 154 | 141 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 130 | 111 | 102 | 168 | 143 | 132 | | |
| | | | | | | | 60 | 123 | 106 | 99 | 158 | 137 | 128 | | |
| | | | | | | | 0-15 | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 152 | 138 | | |
| | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | |
| | | | | | | | 60 | 121 | 105 | 97 | 156 | 135 | 126 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 156 | 142 | 129 | 201 | 183 | 166 | | |
| | | | | | | | 20 | 156 | 138 | 126 | 201 | 178 | 162 | | |
| | | | | | | | 40 | 150 | 128 | 118 | 193 | 165 | 153 | | |
| | | | | | | | 60 | 142 | 123 | 114 | 183 | 159 | 147 | | |
| | | | | | | | 0-15 | 140 | 127 | 115 | 180 | 164 | 149 | | |
| | | | | | | | 20 | 140 | 123 | 112 | 180 | 159 | 145 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 134 | 115 | 106 | 173 | 148 | 137 | | |
| | | | | | | | 60 | 127 | 110 | 102 | 164 | 142 | 132 | | |
| | | | | | | | 0-15 | 127 | 116 | 105 | 165 | 149 | 136 | | |
| | | | | | | | 20 | 127 | 112 | 103 | 165 | 145 | 132 | | |
| | | | | | | | 40 | 122 | 105 | 97 | 158 | 135 | 125 | | |
| | | | | | | | 60 | 116 | 100 | 93 | 149 | 130 | 120 | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| | | | | | | | 40 | 120 | 102 | 95 | 155 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | 118 | | |
| | | | | | | | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 120 | 102 | 95 | 155 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | 118 | | |
| | | | | | | | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| | | | | | | | 40 | 120 | 102 | 95 | 155 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | 118 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁸ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|---|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C | D |
| | | | | | | | | | | | | | | | | |
| Hardie®Plank | 5/16 | 8 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 120 | 109 | 99 | 155 | 141 | 128 | | | |
| | | | | | | | 20 | 120 | 106 | 97 | 155 | 137 | 125 | | | |
| | | | | | | | 40 | 115 | 99 | 91 | 149 | 127 | 117 | | | |
| | | | | | | | 60 | 109 | 95 | 88 | 141 | 122 | 113 | | | |
| | | | | | | | 0-15 | 118 | 107 | 97 | 152 | 138 | 126 | | | |
| | | | | | | | 20 | 118 | 104 | 95 | 152 | 134 | 123 | | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 113 | 97 | 89 | 146 | 125 | 115 | | | |
| | | | | | | | 60 | 107 | 93 | 86 | 138 | 120 | 111 | | | |
| | | | | | | | 0-15 | 110 | 100 | 91 | 142 | 129 | 117 | | | |
| | | | | | | | 20 | 110 | 97 | 89 | 142 | 126 | 115 | | | |
| | | | | | | | 40 | 106 | 91 | - | 137 | 117 | - | | | |
| | | | | | | | 60 | 100 | 87 | - | 129 | 112 | - | | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 109 | 99 | 90 | 140 | 127 | 116 | | | |
| | | | | | | | 20 | 109 | 96 | 87 | 140 | 124 | 113 | | | |
| | | | | | | | 40 | 104 | 89 | - | 135 | 115 | - | | | |
| | | | | | | | 60 | 99 | 85 | - | 127 | 110 | - | | | |
| | | | | | | | 0-15 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 20 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| Hardie®Plank | 5/16 | 5 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 60 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 0-15 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 20 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 40 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 60 | 170 | 168 | 156 | 219 | 217 | 201 | | | |
| Hardie®Plank | 5/16 | 6 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 170 | 160 | 219 | 219 | 207 | | | |
| | | | | | | | 20 | 170 | 170 | 157 | 219 | 219 | 203 | | | |
| | | | | | | | 40 | 170 | 160 | 147 | 219 | 207 | 190 | | | |
| | | | | | | | 60 | 170 | 153 | 142 | 219 | 198 | 183 | | | |
| | | | | | | | 0-15 | 170 | 170 | 157 | 219 | 219 | 203 | | | |
| | | | | | | | 20 | 170 | 170 | 154 | 219 | 217 | 199 | | | |
| Hardie®Plank | 5/16 | 7 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 157 | 145 | 219 | 203 | 187 | | | |
| | | | | | | | 60 | 170 | 150 | 139 | 219 | 194 | 179 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |
| | | | | | | | 40 | 170 | 151 | 139 | 219 | 195 | 179 | | | |
| | | | | | | | 60 | 167 | 144 | 134 | 216 | 186 | 173 | | | |
| Hardie®Plank | 5/16 | 7 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |
| Hardie®Plank | 5/16 | 8 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 151 | 139 | 219 | 195 | 179 | | | |
| | | | | | | | 60 | 167 | 144 | 134 | 216 | 186 | 173 | | | |
| | | | | | | | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| Hardie®Plank | 5/16 | 8 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 169 | 153 | 139 | 218 | 198 | 179 | | |
| | | | | | | | 20 | 169 | 149 | 136 | 218 | 192 | 176 | | |
| | | | | | | | 40 | 162 | 138 | 128 | 209 | 178 | 165 | | |
| | | | | | | | 60 | 153 | 133 | 123 | 198 | 172 | 159 | | |
| | | | | | | | 0-15 | 166 | 151 | 137 | 214 | 195 | 177 | | |
| | | | | | | | 20 | 166 | 146 | 134 | 214 | 188 | 173 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 159 | 136 | 126 | 205 | 176 | 163 | | |
| | | | | | | | 60 | 151 | 131 | 121 | 195 | 169 | 156 | | |
| | | | | | | | 0-15 | 160 | 145 | 132 | 207 | 187 | 170 | | |
| | | | | | | | 20 | 160 | 141 | 129 | 207 | 182 | 167 | | |
| | | | | | | | 40 | 154 | 131 | 121 | 199 | 169 | 156 | | |
| | | | | | | | 60 | 145 | 126 | 117 | 187 | 163 | 151 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 160 | 145 | 132 | 207 | 187 | 170 | | |
| | | | | | | | 20 | 160 | 141 | 129 | 207 | 182 | 167 | | |
| | | | | | | | 40 | 154 | 131 | 121 | 199 | 169 | 156 | | |
| | | | | | | | 60 | 145 | 126 | 117 | 187 | 163 | 151 | | |
| | | | | | | | 0-15 | 159 | 144 | 131 | 205 | 186 | 169 | | |
| | | | | | | | 20 | 159 | 140 | 128 | 205 | 181 | 165 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 153 | 130 | 120 | 198 | 168 | 155 | | |
| | | | | | | | 60 | 144 | 125 | 116 | 186 | 161 | 150 | | |
| | | | | | | | 0-15 | 156 | 141 | 128 | 201 | 182 | 165 | | |
| | | | | | | | 20 | 156 | 137 | 125 | 201 | 177 | 161 | | |
| | | | | | | | 40 | 150 | 128 | 118 | 194 | 165 | 152 | | |
| | | | | | | | 60 | 141 | 123 | 114 | 182 | 159 | 147 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 150 | 136 | 123 | 194 | 176 | 159 | | |
| | | | | | | | 20 | 150 | 132 | 121 | 194 | 170 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 113 | 186 | 159 | 146 | | |
| | | | | | | | 60 | 136 | 118 | 109 | 176 | 152 | 141 | | |
| | | | | | | | 0-15 | 147 | 134 | 121 | 190 | 173 | 156 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 152 | | |
| Hardie®Plank | 5/16 | 8 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 141 | 121 | 111 | 182 | 156 | 143 | | |
| | | | | | | | 60 | 134 | 116 | 108 | 173 | 150 | 139 | | |
| | | | | | | | 0-15 | 138 | 125 | 113 | 178 | 161 | 146 | | |
| | | | | | | | 20 | 138 | 121 | 111 | 178 | 156 | 143 | | |
| | | | | | | | 40 | 132 | 113 | 104 | 170 | 146 | 134 | | |
| | | | | | | | 60 | 125 | 108 | 101 | 161 | 139 | 130 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| | | | | | | | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |
| | | | | | | | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |
| | | | | | | | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| | | | | | | | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|--|-------------------------------|---|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|-----|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C |
| Hardie®Plank | 5/16 | 4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 217 | 177 | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 217 | 204 | 177 | |
| | | | | | | | 40 | 168 | 147 | 131 | 217 | 217 | 190 | 169 | |
| | | | | | | | 60 | 168 | 137 | 126 | 217 | 217 | 177 | 163 | |
| | | | | | | | 0-15 | 168 | 168 | 137 | 217 | 217 | 217 | 177 | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 217 | 204 | 177 | |
| Hardie®Plank | 5/16 | 6 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 217 | 177 | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 217 | 204 | 177 | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 217 | 190 | 169 | |
| | | | | | | | 60 | 168 | 137 | 121 | 217 | 217 | 177 | 163 | |
| | | | | | | | 0-15 | 168 | 147 | 126 | 217 | 217 | 217 | 190 | |
| | | | | | | | 20 | 168 | 147 | 121 | 217 | 217 | 190 | 163 | |
| Hardie®Plank | 5/16 | 8 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 217 | 190 | | |
| | | | | | | | 20 | 168 | 147 | 121 | 217 | 217 | 190 | 156 | |
| | | | | | | | 40 | 168 | 131 | 116 | 217 | 217 | 169 | 150 | |
| | | | | | | | 60 | 158 | 126 | 105 | 204 | 204 | 163 | 136 | |
| | | | | | | | 0-15 | 168 | 147 | 126 | 217 | 217 | 190 | 163 | |
| | | | | | | | 20 | 168 | 137 | 121 | 217 | 217 | 177 | 156 | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 217 | 190 | | |
| | | | | | | | 20 | 168 | 137 | 121 | 217 | 217 | 177 | 156 | |
| | | | | | | | 40 | 168 | 131 | 116 | 217 | 217 | 169 | 150 | |
| | | | | | | | 60 | 158 | 121 | 105 | 204 | 204 | 156 | 136 | |
| | | | | | | | 0-15 | 168 | 137 | 116 | 217 | 217 | 177 | 150 | |
| | | | | | | | 20 | 168 | 131 | 110 | 217 | 217 | 169 | 142 | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 116 | 100 | 190 | 190 | 150 | | |
| | | | | | | | 20 | 168 | 126 | 105 | 217 | 217 | 163 | 136 | |
| | | | | | | | 40 | 158 | 121 | 105 | 204 | 204 | 156 | 123 | |
| | | | | | | | 60 | 137 | 105 | 89 | 177 | 177 | 136 | 115 | |
| | | | | | | | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| Hardie®Plank | 5/16 | 4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 155 | 126 | 110 | 200 | 200 | 163 | 142 | |
| | | | | | | | 60 | 145 | 116 | 105 | 187 | 187 | 150 | 136 | |
| | | | | | | | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| Hardie®Plank | 5/16 | 6 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 154 | 126 | 110 | 199 | 199 | 163 | 142 | |
| | | | | | | | 60 | 145 | 116 | 105 | 187 | 187 | 150 | 136 | |
| | | | | | | | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |

2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{Bas}^{3.9,12,15})

2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{Ult}^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V^{13,14})

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ^{1,5} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|---|--|---|--------------------|-----------------------|---|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{Wind}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 145 | 116 | 207 | 187 | 150 | | |
| | | | | | | | 20 | 160 | 141 | 110 | 207 | 182 | 142 | | |
| | | | | | | | 40 | 154 | 131 | 105 | 199 | 169 | 136 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 105 | 207 | 156 | 136 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| Hardie®Plank | 5/16 | 8 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 105 | 207 | 156 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 40 | 137 | 105 | 95 | 177 | 136 | 123 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 158 | 110 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 40 | 137 | 100 | 89 | 177 | 129 | 115 | | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 146 | 132 | 120 | 188 | 171 | 155 | | |
| | | | | | | | 20 | 163 | 143 | 131 | 210 | 185 | 169 | | |
| | | | | | | | 40 | 156 | 133 | 123 | 202 | 172 | 159 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 148 | 128 | 119 | 191 | 165 | 154 | | |
| | | | | | | | 20 | 146 | 128 | 117 | 188 | 166 | 151 | | |
| | | | | | | | 40 | 140 | 119 | 110 | 180 | 154 | 142 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 151 | 138 | | |
| | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 121 | 105 | 97 | 156 | 135 | 126 | | |
| | | | | | | | 20 | 130 | 118 | 107 | 168 | 152 | 138 | | |
| | | | | | | | 40 | 125 | 107 | 99 | 161 | 138 | 127 | | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 125 | 114 | 103 | 162 | 147 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 101 | 162 | 143 | 130 | | |
| | | | | | | | 40 | 120 | 103 | 95 | 155 | 133 | 122 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|---------------------------------------|--|--------------------------|--------------------|-----------------------|---|-----|-----|-------------------|--|-----|---|-------------------|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{Bas} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{13,14}) | | | |
| | | | | | | | | B | C | D | Exposure Category | B | C | D | Exposure Category |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 123 | 112 | 101 | 159 | 144 | 131 | | |
| | | | | | | | 20 | 123 | 108 | 99 | 159 | 140 | 128 | | |
| | | | | | | | 40 | 118 | 101 | 93 | 152 | 130 | 120 | | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 115 | 104 | 95 | 148 | 135 | 122 | | |
| | | | | | | | 20 | 115 | 101 | 93 | 148 | 131 | 119 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 122 | 112 | | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 104 | 90 | - | 135 | 117 | - | | |
| | | | | | | | 20 | 113 | 103 | 93 | 146 | 133 | 121 | | |
| | | | | | | | 40 | 109 | 93 | 86 | 140 | 120 | 111 | | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 133 | 121 | 110 | 172 | 156 | 141 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 151 | 138 | | |
| | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 121 | 105 | 97 | 156 | 135 | 125 | | |
| | | | | | | | 20 | 119 | 108 | 98 | 153 | 139 | 126 | | |
| | | | | | | | 40 | 114 | 98 | 90 | 147 | 126 | 116 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 108 | 94 | 87 | 139 | 121 | 112 | | |
| | | | | | | | 20 | 108 | 98 | 89 | 140 | 127 | 115 | | |
| | | | | | | | 40 | 104 | 89 | - | 134 | 115 | - | | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 98 | 85 | - | 127 | 110 | - | | |
| | | | | | | | 20 | 106 | 96 | 88 | 137 | 125 | 113 | | |
| | | | | | | | 40 | 102 | 87 | - | 132 | 113 | - | | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 102 | 93 | - | 132 | 120 | - | | |
| | | | | | | | 20 | 102 | 90 | - | 132 | 116 | - | | |
| | | | | | | | 40 | 98 | - | - | 127 | - | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 93 | - | - | 120 | - | - | | |
| | | | | | | | 20 | 100 | 91 | - | 129 | 117 | - | | |
| | | | | | | | 40 | 96 | - | - | 124 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 91 | - | - | 117 | - | - | | |
| | | | | | | | 20 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | 40 | 90 | - | - | 116 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 85 | - | - | 110 | - | - | | |
| | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |
| | | | | | | | 40 | 85 | - | - | 110 | - | - | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|---|--|--------------------------|--------------------|-----------------------|--|-----|-----|-----|---|-----|-----|---|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 93 | - | - | - | 119 | - | - | - |
| | | | | | | | 20 | 93 | - | - | 119 | - | - | - | |
| | | | | | | | 40 | 89 | - | - | 115 | - | - | - | |
| | | | | | | | 60 | - | - | - | - | - | - | - | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 170 | 170 | 166 | 219 | 219 | 219 | 214 | |
| | | | | | | | 20 | 170 | 170 | 162 | 219 | 219 | 219 | 209 | |
| | | | | | | | 40 | 170 | 165 | 153 | 219 | 213 | 197 | 197 | |
| | | | | | | | 60 | 170 | 158 | 147 | 219 | 205 | 190 | 190 | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 211 | 192 | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | 187 | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 176 | 176 | |
| | | | | | | | 60 | 164 | 142 | 132 | 211 | 183 | 170 | 170 | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 164 | 149 | 136 | 212 | 193 | 175 | | |
| | | | | | | | 20 | 164 | 145 | 132 | 212 | 187 | 171 | 171 | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 174 | 161 | 161 | |
| | | | | | | | 60 | 149 | 129 | 120 | 193 | 167 | 155 | 155 | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 161 | 146 | 133 | 208 | 189 | 172 | | |
| | | | | | | | 20 | 161 | 142 | 130 | 208 | 183 | 167 | 167 | |
| | | | | | | | 40 | 155 | 132 | 122 | 200 | 171 | 158 | 158 | |
| | | | | | | | 60 | 146 | 127 | 118 | 189 | 164 | 152 | 152 | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 155 | 141 | 128 | 200 | 182 | 165 | | |
| | | | | | | | 20 | 155 | 137 | 125 | 200 | 176 | 161 | 161 | |
| | | | | | | | 40 | 149 | 127 | 117 | 192 | 164 | 152 | 152 | |
| | | | | | | | 60 | 141 | 122 | 113 | 182 | 157 | 146 | 146 | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 152 | 138 | 126 | 197 | 178 | 162 | | |
| | | | | | | | 20 | 152 | 134 | 123 | 197 | 173 | 158 | 158 | |
| | | | | | | | 40 | 146 | 125 | 115 | 189 | 161 | 149 | 149 | |
| | | | | | | | 60 | 138 | 120 | 111 | 178 | 155 | 144 | 144 | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 142 | 129 | 117 | 184 | 167 | 152 | | |
| | | | | | | | 20 | 142 | 126 | 115 | 184 | 162 | 148 | 148 | |
| | | | | | | | 40 | 137 | 117 | 108 | 176 | 151 | 139 | 139 | |
| | | | | | | | 60 | 129 | 112 | 104 | 167 | 145 | 134 | 134 | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 140 | 127 | 116 | 181 | 164 | 149 | | |
| | | | | | | | 20 | 140 | 124 | 113 | 181 | 160 | 146 | 146 | |
| | | | | | | | 40 | 135 | 115 | 106 | 174 | 148 | 137 | 137 | |
| | | | | | | | 60 | 127 | 110 | 102 | 164 | 142 | 132 | 132 | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 164 | 149 | 136 | 212 | 193 | 175 | | |
| | | | | | | | 20 | 164 | 145 | 132 | 212 | 187 | 171 | 171 | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 147 | 161 | 161 | |
| | | | | | | | 60 | 149 | 129 | 120 | 193 | 167 | 155 | 155 | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|---|--|---|--------------------|-----------------------|---|-----|-----|-----|--|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{Bas} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{13,14}) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 147 | 134 | 121 | 190 | 172 | 157 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 153 | | |
| | | | | | | | 40 | 141 | 121 | 111 | 182 | 156 | 144 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 134 | 116 | 108 | 172 | 150 | 139 | | |
| | | | | | | | 20 | 134 | 122 | 111 | 173 | 157 | 143 | | |
| | | | | | | | 40 | 134 | 118 | 108 | 173 | 153 | 140 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 122 | 106 | 98 | 157 | 136 | 127 | | |
| | | | | | | | 20 | 132 | 119 | 109 | 170 | 154 | 140 | | |
| | | | | | | | 40 | 129 | 110 | 102 | 166 | 142 | 131 | | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 132 | 119 | 109 | 170 | 154 | 140 | | |
| | | | | | | | 20 | 132 | 116 | 106 | 170 | 150 | 137 | | |
| | | | | | | | 40 | 126 | 108 | 100 | 163 | 139 | 129 | | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 127 | 115 | 104 | 163 | 148 | 135 | | |
| | | | | | | | 20 | 127 | 112 | 102 | 163 | 144 | 132 | | |
| | | | | | | | 40 | 122 | 104 | 96 | 157 | 134 | 124 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 115 | 100 | 93 | 148 | 129 | 120 | | |
| | | | | | | | 20 | 124 | 113 | 102 | 161 | 146 | 132 | | |
| | | | | | | | 40 | 119 | 102 | 94 | 154 | 132 | 122 | | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 113 | 98 | 91 | 146 | 126 | 117 | | |
| | | | | | | | 20 | 116 | 106 | 96 | 150 | 136 | 124 | | |
| | | | | | | | 40 | 112 | 95 | 88 | 144 | 123 | 114 | | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 106 | 92 | 85 | 136 | 118 | 110 | | |
| | | | | | | | 20 | 114 | 104 | 94 | 148 | 134 | 122 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 104 | 90 | - | 134 | 116 | - | | |
| | | | | | | | 20 | 114 | 101 | 92 | 148 | 130 | 119 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| Hardie®Plank | 5/16 | 4 | No. 8 x 1 1/4, in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 177 | | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 204 | 177 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |
| Hardie®Plank | 5/16 | 6 | No. 8 x 1 1/4, in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 177 | | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 204 | 177 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8 x 1 1/4, in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 158 | 142 | 217 | 204 | 183 | | |
| | | | | | | | 20 | 168 | 158 | 131 | 217 | 204 | 169 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|--|-------------------------------|---|--------------------|-----------------------|---|-----|-----|-----|--|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{Wind}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{15,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 152 | 126 | 217 | 196 | 163 | | |
| | | | | | | | 20 | 168 | 147 | 116 | 217 | 190 | 150 | | |
| | | | | | | | 40 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 116 | 217 | 190 | 150 | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 121 | 105 | 190 | 156 | 136 | | |
| | | | | | | | 20 | 168 | 142 | 121 | 217 | 183 | 156 | | |
| | | | | | | | 40 | 158 | 126 | 110 | 204 | 163 | 136 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 142 | 121 | 217 | 183 | 156 | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 110 | 204 | 163 | 142 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 20 | 168 | 126 | 105 | 217 | 163 | 136 | | |
| | | | | | | | 40 | 158 | 116 | 105 | 204 | 150 | 136 | | |
| Hardie®Plank | 5/16 | 4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 20 | 160 | 131 | 110 | 207 | 169 | 142 | | |
| | | | | | | | 40 | 152 | 121 | 105 | 196 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 6 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 100 | 187 | 150 | 129 | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 40 | 152 | 121 | 105 | 196 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 20 | 160 | 131 | 105 | 207 | 169 | 136 | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 116 | 100 | 207 | 150 | 129 | | |
| | | | | | | | 40 | 147 | 105 | 89 | 190 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|---|--|---|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed washerhead screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 147 | 105 | 89 | 190 | 136 | 115 | | |
| | | | | | | | 40 | 131 | 95 | 85 | 169 | 123 | 110 | | |
| | | | | | | | 60 | 121 | 89 | 85 | 156 | 115 | 110 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | 20 | 141 | 124 | 114 | 182 | 160 | 147 | | |
| | | | | | | | 40 | 135 | 116 | 107 | 174 | 150 | 138 | | |
| | | | | | | | 60 | 128 | 111 | 103 | 165 | 143 | 133 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 126 | 114 | 104 | 163 | 147 | 134 | | |
| | | | | | | | 20 | 126 | 111 | 102 | 163 | 143 | 132 | | |
| | | | | | | | 40 | 121 | 103 | 96 | 156 | 133 | 124 | | |
| | | | | | | | 60 | 114 | 99 | 92 | 147 | 128 | 119 | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 115 | 104 | 95 | 148 | 134 | 123 | | |
| | | | | | | | 20 | 115 | 102 | 93 | 148 | 132 | 120 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| | | | | | | | 60 | 104 | 91 | - | 134 | 117 | - | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 113 | 102 | 93 | 146 | 132 | 120 | | |
| | | | | | | | 20 | 113 | 99 | 91 | 146 | 128 | 117 | | |
| | | | | | | | 40 | 108 | 93 | 85 | 139 | 120 | 110 | | |
| | | | | | | | 60 | 102 | 89 | - | 132 | 115 | - | | |
| Hardie®Plank | 5/16 | 8 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 109 | 99 | 90 | 141 | 128 | 116 | | |
| | | | | | | | 20 | 109 | 96 | 87 | 141 | 124 | 112 | | |
| | | | | | | | 40 | 104 | 89 | - | 134 | 115 | - | | |
| | | | | | | | 60 | 99 | 85 | - | 128 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 107 | 97 | 88 | 138 | 125 | 114 | | |
| | | | | | | | 20 | 107 | 94 | 86 | 138 | 121 | 111 | | |
| | | | | | | | 40 | 102 | 88 | - | 132 | 114 | - | | |
| | | | | | | | 60 | 97 | - | - | 125 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 100 | 90 | 80 | 129 | 116 | - | | |
| | | | | | | | 20 | 100 | 88 | - | 129 | 114 | - | | |
| | | | | | | | 40 | 96 | - | - | 124 | - | - | | |
| | | | | | | | 60 | 90 | - | - | 116 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 98 | 89 | - | 127 | 115 | - | | |
| | | | | | | | 20 | 98 | 87 | - | 127 | 112 | - | | |
| | | | | | | | 40 | 94 | - | - | 121 | - | - | | |
| | | | | | | | 60 | 89 | - | - | 115 | - | - | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1,8} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|--------|--|--|---------------------------|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/RC, 2006 IBC/RC (Basic Wind Speed, $V_{\text{asd}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1.3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 115 | 104 | 95 | 148 | 134 | 123 | | |
| | | | | | | | 20 | 115 | 102 | 93 | 148 | 132 | 120 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 104 | 91 | - | 134 | 117 | - | | |
| | | | | | | | 20 | 103 | 93 | - | 133 | 120 | - | | |
| | | | | | | | 40 | 103 | 91 | - | 133 | 117 | - | | |
| | | | | | | | 60 | 99 | - | - | 128 | - | - | | |
| | | | | | | | 0-15 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | 20 | 94 | - | - | 121 | - | - | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 92 | - | - | 119 | - | - | | |
| | | | | | | | 20 | 92 | - | - | 119 | - | - | | |
| | | | | | | | 40 | 88 | - | - | 114 | - | - | | |
| | | | | | | | 60 | - | - | - | - | - | - | | |
| | | | | | | | 0-15 | 89 | - | - | 115 | - | - | | |
| | | | | | | | 20 | 89 | - | - | 115 | - | - | | |
| Hardie®Plank | 5/16 | 8 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 20 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 40 | 85 | - | - | 110 | - | - | | |
| | | | | | | | 60 | - | - | - | - | - | - | | |
| | | | | | | | 0-15 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 20 | 87 | - | - | 112 | - | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 153 | 138 | 126 | 198 | 178 | 163 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 198 | 174 | 159 | | |
| | | | | | | | 40 | 146 | 125 | 116 | 188 | 161 | 150 | | |
| | | | | | | | 60 | 138 | 120 | 112 | 178 | 155 | 145 | | |
| | | | | | | | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 143 | 126 | 115 | 185 | 163 | 148 | | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 153 | 138 | 126 | 198 | 178 | 163 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 198 | 174 | 159 | | |
| | | | | | | | 40 | 146 | 125 | 116 | 188 | 161 | 150 | | |
| | | | | | | | 60 | 138 | 120 | 112 | 178 | 155 | 145 | | |
| | | | | | | | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 143 | 126 | 115 | 185 | 163 | 148 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 143 | 126 | 115 | 185 | 163 | 148 | | |
| | | | | | | | 40 | 137 | 117 | 108 | 177 | 151 | 139 | | |
| | | | | | | | 60 | 130 | 113 | 105 | 168 | 146 | 136 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,15} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|---|---|---|-----------------------------------|-----------------------|---|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IBC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{adj}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{13/14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/2 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | 20 | 141 | 124 | 113 | 182 | 160 | 146 | | |
| | | | | | | | 40 | 135 | 116 | 107 | 174 | 150 | 138 | | |
| Hardie®Plank | 5/16 | 12 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 123 | 112 | 101 | 159 | 144 | 131 | | |
| | | | | | | | 20 | 123 | 108 | 99 | 159 | 140 | 128 | | |
| | | | | | | | 40 | 118 | 101 | 934 | 152 | 130 | 120 | | |
| Hardie®Plank | 5/16 | 8 1/4 | 0.092" shank X 0.222" HD X 2.375" L | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 0-15 | 203 | 184 | 167 | 262 | 238 | 216 | | |
| | | | | | | | 20 | 203 | 179 | 163 | 262 | 231 | 210 | | |
| | | | | | | | 40 | 194 | 166 | 153 | 250 | 214 | 198 | | |
| Hardie®Plank | 5/16 | 8 1/4 | 0.113" shank X 0.260" HD X 2.375" L | face nailed through plank overlap | 2 x 4 wood ⁶ | 24 | 0-15 | 166 | 151 | 137 | 214 | 195 | 177 | | |
| | | | | | | | 20 | 166 | 146 | 134 | 214 | 188 | 173 | | |
| | | | | | | | 40 | 159 | 136 | 126 | 205 | 176 | 163 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 0.092" shank X 0.222" HD X 2" long galv. nail | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 0-15 | 151 | 137 | 125 | 195 | 177 | 161 | | |
| | | | | | | | 20 | 151 | 133 | 122 | 195 | 172 | 158 | | |
| | | | | | | | 40 | 145 | 124 | 115 | 187 | 160 | 148 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 0-15 | 137 | 119 | 111 | 177 | 154 | 143 | | |
| | | | | | | | 20 | 187 | 170 | 154 | 241 | 219 | 199 | | |
| | | | | | | | 40 | 180 | 154 | 142 | 232 | 199 | 183 | | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 207 | 188 | 171 | 267 | 243 | 221 | | |
| | | | | | | | 20 | 207 | 183 | 167 | 267 | 236 | 216 | | |
| | | | | | | | 40 | 199 | 170 | 157 | 257 | 219 | 203 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 183 | 166 | 151 | 236 | 214 | 195 | | |
| | | | | | | | 20 | 183 | 161 | 147 | 236 | 208 | 190 | | |
| | | | | | | | 40 | 176 | 150 | 139 | 227 | 194 | 179 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 165 | 150 | 136 | 213 | 194 | 176 | | |
| | | | | | | | 20 | 165 | 145 | 133 | 213 | 187 | 172 | | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 174 | 161 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 150 | 136 | 124 | 194 | 176 | 160 | | |
| | | | | | | | 20 | 150 | 133 | 121 | 194 | 172 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 114 | 186 | 159 | 147 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 150 | 136 | 124 | 194 | 176 | 160 | | |
| | | | | | | | 20 | 150 | 133 | 121 | 194 | 172 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 114 | 186 | 159 | 147 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁶ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|--------|---|---|--|-----------------------------|-----------------------|-------------------|-----|-----|-------------------|-----|-----|--|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 8 X 1-5/8" long X 0.375" HD ribbed water head screws ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 139 | 126 | 114 | 179 | 163 | 147 | |
| | | | | | | | 20 | 139 | 122 | 112 | 179 | 158 | 145 | |
| | | | | | | | 40 | 133 | 114 | 105 | 172 | 147 | 136 | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.090" shank X 0.215" HD X 1.5" long ring shank nails ⁵ | blind nail through top edge of plank at 8 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 145 | 132 | 120 | 187 | 170 | 155 | |
| | | | | | | | 20 | 145 | 128 | 117 | 187 | 165 | 151 | |
| | | | | | | | 40 | 139 | 119 | 110 | 179 | 154 | 142 | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.090" shank X 0.215" HD X 1.5" long ring shank nails ⁵ | blind nail through top edge of plank at 6 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 166 | 150 | 137 | 214 | 194 | 177 | |
| | | | | | | | 20 | 166 | 146 | 133 | 214 | 188 | 172 | |
| | | | | | | | 40 | 159 | 136 | 125 | 205 | 176 | 161 | |
| Hardie®Plank | 5/16 | ≤9 1/2 | 0.091" shank, 0.221" HD, 1.5" long ring shank nails ⁵ | Face Nailed through the overlap at 12" O.C. | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 100 | 91 | - | 129 | 117 | - | |
| | | | | | | | 20 | 100 | 88 | - | 129 | 114 | - | |
| | | | | | | | 40 | 96 | - | - | 124 | - | - | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 146 | 146 | 132 | 207 | 188 | 171 | |
| | | | | | | | 20 | 161 | 142 | 129 | 207 | 183 | 167 | |
| | | | | | | | 40 | 154 | 132 | 122 | 199 | 170 | 157 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 146 | 133 | 120 | 189 | 171 | 156 | |
| | | | | | | | 20 | 146 | 129 | 118 | 189 | 166 | 152 | |
| | | | | | | | 40 | 140 | 120 | 111 | 181 | 155 | 143 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 137 | 124 | 113 | 176 | 160 | 145 | |
| | | | | | | | 20 | 137 | 120 | 110 | 176 | 156 | 142 | |
| | | | | | | | 40 | 131 | 112 | 103 | 169 | 145 | 134 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 130 | 118 | 107 | 168 | 152 | 138 | |
| | | | | | | | 20 | 130 | 115 | 105 | 168 | 148 | 135 | |
| | | | | | | | 40 | 125 | 107 | 99 | 161 | 138 | 127 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 118 | 102 | 95 | 152 | 132 | 123 | |
| | | | | | | | 20 | 118 | 102 | 95 | 152 | 132 | 123 | |
| | | | | | | | 40 | 118 | 102 | 95 | 152 | 132 | 123 | |

2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asf}^{3,9,12,15})

2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V_{13,14})

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ⁸ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|--|--|--|-----------------------------|-----------------------|---|-----|-----|-----|---|-----|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 148 | 135 | 122 | 192 | 174 | 158 | | |
| | | | | | | | | 148 | 131 | 119 | 192 | 169 | 154 | | |
| | | | | | | | | 142 | 122 | 112 | 184 | 157 | 145 | | |
| 135 | 117 | 108 | 174 | 151 | 140 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 134 | 122 | 111 | 173 | 157 | 143 | | |
| | | | | | | | | 134 | 118 | 108 | 173 | 153 | 139 | | |
| | | | | | | | | 129 | 110 | 102 | 166 | 142 | 131 | | |
| 122 | 106 | 98 | 157 | 136 | 127 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | | 125 | 110 | 100 | 161 | 142 | 130 | | |
| | | | | | | | | 120 | 102 | 94 | 154 | 132 | 122 | | |
| 113 | 98 | 91 | 146 | 127 | 118 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 118 | 107 | 97 | 152 | 138 | 126 | | |
| | | | | | | | | 118 | 104 | 95 | 152 | 134 | 123 | | |
| | | | | | | | | 113 | 97 | 89 | 146 | 125 | 115 | | |
| 107 | 93 | 86 | 138 | 120 | 111 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 140 | 127 | 115 | 180 | 164 | 149 | | |
| | | | | | | | | 140 | 123 | 113 | 180 | 159 | 145 | | |
| | | | | | | | | 134 | 115 | 106 | 173 | 148 | 137 | | |
| 127 | 110 | 102 | 164 | 142 | 132 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 125 | 114 | 103 | 162 | 147 | 134 | | |
| | | | | | | | | 125 | 111 | 101 | 162 | 143 | 130 | | |
| | | | | | | | | 120 | 103 | 95 | 155 | 133 | 123 | | |
| 114 | 99 | 92 | 147 | 128 | 118 | | | | | | | | | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 116 | 105 | 96 | 150 | 136 | 123 | | |
| | | | | | | | | 116 | 102 | 93 | 150 | 132 | 121 | | |
| | | | | | | | | 111 | 95 | 88 | 144 | 123 | 113 | | |
| 105 | 91 | - | 136 | 118 | - | | | | | | | | | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 109 | 99 | 90 | 141 | 128 | 116 | | |
| | | | | | | | | 109 | 96 | 88 | 141 | 125 | 114 | | |
| | | | | | | | | 105 | 90 | - | 136 | 116 | - | | |
| 99 | 86 | - | 128 | 111 | - | | | | | | | | | | |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | | 133 | 117 | 107 | 172 | 152 | 138 | | |
| | | | | | | | | 128 | 109 | 101 | 165 | 141 | 130 | | |
| 121 | 105 | 97 | 156 | 135 | 126 | | | | | | | | | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ^{1,6} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{3,3,9}$) | |
|--------------|-------------------------|-------|--|--|--|-----------------------------|-----------------------|-------------------|-----|-----|-----|---|-----|
| | THICK. | WIDTH | | | | | | EXPOSURE CATEGORY | | | | | |
| | | | | | | | | B | C | D | B | C | D |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 108 | 94 | 87 | 139 | 121 | 112 |
| | | | | | | | | 110 | 99 | 90 | 141 | 128 | 117 |
| | | | | | | | | 119 | 105 | 96 | 154 | 136 | 124 |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 108 | 94 | 87 | 139 | 121 | 112 |
| | | | | | | | | 110 | 99 | 90 | 141 | 128 | 117 |
| | | | | | | | | 119 | 105 | 96 | 154 | 136 | 124 |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 99 | 86 | - | 128 | 111 | - |
| | | | | | | | | 103 | 93 | - | 133 | 120 | - |
| | | | | | | | | 103 | 91 | - | 133 | 117 | - |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 93 | - | - | 120 | - | - |
| | | | | | | | | 128 | 116 | 106 | 165 | 150 | 136 |
| | | | | | | | | 128 | 113 | 103 | 165 | 146 | 133 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 114 | 103 | 94 | 147 | 133 | 121 |
| | | | | | | | | 114 | 100 | 92 | 147 | 130 | 118 |
| | | | | | | | | 128 | 113 | 103 | 165 | 146 | 133 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 20 | 123 | 105 | 97 | 159 | 136 | 125 |
| | | | | | | | | 123 | 105 | 97 | 159 | 136 | 125 |
| | | | | | | | | 123 | 105 | 97 | 159 | 136 | 125 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 116 | 101 | 94 | 150 | 130 | 121 |
| | | | | | | | | 116 | 101 | 94 | 150 | 130 | 121 |
| | | | | | | | | 116 | 101 | 94 | 150 | 130 | 121 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 103 | 90 | - | 133 | 116 | - |
| | | | | | | | | 104 | 95 | 86 | 135 | 122 | 111 |
| | | | | | | | | 104 | 92 | - | 135 | 119 | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 100 | 86 | - | 129 | 111 | - |
| | | | | | | | | 100 | 86 | - | 129 | 111 | - |
| | | | | | | | | 100 | 86 | - | 129 | 111 | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 95 | - | - | 122 | - | - |
| | | | | | | | | 98 | 89 | - | 126 | 114 | - |
| | | | | | | | | 98 | 86 | - | 126 | 111 | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 94 | - | - | 121 | - | - |
| | | | | | | | | 94 | - | - | 121 | - | - |
| | | | | | | | | 94 | - | - | 121 | - | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 89 | - | - | 114 | - | - |
| | | | | | | | | 89 | - | - | 114 | - | - |
| | | | | | | | | 89 | - | - | 114 | - | - |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1,8} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|--|--------------------------------------|---------------------------|--------------------|-----------------------|---|-----|-----|-----|--|-----|--|--|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 128 | 111 | 103 | 165 | 143 | 133 | | |
| | | | | | | | | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | | 141 | 124 | 114 | 182 | 161 | 147 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 128 | 111 | 103 | 165 | 143 | 133 | | |
| | | | | | | | | 130 | 118 | 108 | 168 | 153 | 139 | | |
| | | | | | | | | 130 | 115 | 105 | 168 | 149 | 136 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 125 | 107 | 99 | 162 | 138 | 128 | | |
| | | | | | | | | 118 | 103 | 95 | 153 | 133 | 123 | | |
| | | | | | | | | 115 | 105 | 95 | 149 | 135 | 123 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 105 | 91 | - | 135 | 117 | - | | |
| | | | | | | | | 107 | 97 | 88 | 138 | 125 | 113 | | |
| | | | | | | | | 107 | 94 | 86 | 138 | 121 | 111 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 102 | 87 | - | 132 | 113 | - | | |
| | | | | | | | | 97 | - | - | 125 | - | - | | |
| | | | | | | | | 107 | 97 | 88 | 138 | 125 | 113 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 149 | 130 | 120 | 193 | 167 | 155 | | |
| | | | | | | | | 135 | 122 | 111 | 174 | 158 | 143 | | |
| | | | | | | | | 165 | 149 | 136 | 213 | 193 | 175 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 129 | 110 | 102 | 167 | 142 | 132 | | |
| | | | | | | | | 135 | 119 | 108 | 174 | 153 | 140 | | |
| | | | | | | | | 165 | 145 | 133 | 213 | 188 | 171 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 122 | 106 | 98 | 158 | 137 | 127 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 113 | 96 | 89 | 145 | 124 | 115 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 106 | 92 | 86 | 137 | 119 | 111 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.
²Face = Fastened through the overlapping plank. Blind = Fastened through the top edge of single plank.
³Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05; I = 1.0, K_{z1} = 1, K_d = 0.85, G_{Cp1} = 0.18, G_{Cp} = -1.4.
⁴ET&F pin fasteners have knurled shanks.
⁵Fastener length shall be sufficient to penetrate back side of the minimum 7/16" WSP sheathing by at least 1/2" for nails or 3 full threads for screws.
⁶Values are for species of wood having a specific gravity of 0.50 or greater.
⁷Values are for species of wood having a specific gravity of 0.40 or greater.
⁸Metal studs must be minimum Fy = 33 ksi.
⁹V_{asst} = nominal design wind speed.
¹⁰V_{ult} = ultimate design wind speed.
¹¹Wind speed design assumptions per Section 30.4, of ASCE 7-10: K_{z1} = 1, K_d = 0.85, G_{Cp1} = 0.18, G_{Cp} = -1.4.
¹²2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V_{ult}^{10,6}
¹³V = basic design wind speed
¹⁴Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{z1} = 1, K_d = 0.85, G_{Cp1} = 0.18, G_{Cp} = -1.4.
¹⁵2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V √0.6
¹⁶Smooth-shank stainless steel nails are outside of the scope of this report.

**TABLE 5—(V_{asst} 100 MPH; V_{ult} / V 129 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 23 | 21 | 19 |
| 30 | 24 | 24 | 24 | 24 | 24 | 23 | 24 | 24 | 24 | 21 | 19 | 18 |
| 40 | 24 | 24 | 24 | 24 | 24 | 21 | 24 | 22 | 24 | 20 | 19 | 17 |
| 50 | 24 | 24 | 24 | 24 | 24 | 20 | 24 | 21 | 24 | 19 | 18 | 16 |
| 60 | 24 | 24 | 22 | 24 | 22 | 19 | 24 | 20 | 24 | 17 | 17 | 15 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 100 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 129 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 6—(V_{asst} 110 MPH; V_{ult} / V 142 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 24 | 22 | 24 | 24 | 19 | 24 | 21 | 17 | 23 | 19 | 15 |
| 30 | 24 | 24 | 21 | 24 | 22 | 18 | 24 | 20 | 16 | 23 | 18 | 15 |
| 40 | 24 | 24 | 20 | 24 | 20 | 17 | 24 | 18 | 15 | 23 | 16 | 14 |
| 50 | 24 | 24 | 22 | 24 | 19 | 16 | 24 | 17 | 15 | 21 | 15 | 13 |
| 60 | 24 | 24 | 21 | 24 | 18 | 16 | 22 | 16 | 14 | 20 | 14 | 12 |
| | | | 18 | 23 | 18 | 15 | 21 | 16 | 14 | 19 | 14 | 12 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 110 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 142 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 7—(V_{asst} 120 MPH; V_{ult} / V 155 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,3,4}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 23 | 19 | 24 | 20 | 17 | 24 | 18 | 15 | 19 | 16 | 13 |
| 30 | 24 | 22 | 18 | 24 | 19 | 16 | 24 | 17 | 14 | 19 | 15 | 12 |
| 40 | 24 | 24 | 17 | 24 | 17 | 15 | 24 | 15 | 13 | 19 | 14 | 12 |
| 50 | 24 | 24 | 19 | 22 | 16 | 14 | 20 | 14 | 12 | 18 | 13 | 11 |
| 60 | 24 | 18 | 16 | 21 | 16 | 13 | 18 | 14 | 12 | 17 | 12 | 11 |
| | | 17 | 15 | 20 | 15 | 13 | 18 | 13 | 11 | 16 | 12 | 10 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 120 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 155 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 8—(V_{asst} 130 MPH; V_{ult} / V 168 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 24 | 20 | 16 | 21 | 17 | 14 | 18 | 15 | 12 | 16 | 14 | 11 |
| 20 | 24 | 19 | 15 | 21 | 16 | 13 | 18 | 14 | 12 | 16 | 13 | 11 |
| 30 | 24 | 17 | 14 | 21 | 15 | 12 | 18 | 13 | 11 | 16 | 12 | 10 |
| 40 | 22 | 16 | 14 | 19 | 14 | 12 | 17 | 12 | 11 | 15 | 11 | 9 |
| 50 | 21 | 15 | 13 | 18 | 13 | 11 | 16 | 12 | 10 | 14 | 11 | 9 |
| 60 | 20 | 15 | 13 | 17 | 13 | 11 | 15 | 11 | 10 | 13 | 10 | 9 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head dia. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 130 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 168 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 9—(V_{asst} 140 MPH; V_{ult} / V 181 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 21 | 17 | 14 | 18 | 15 | 12 | 16 | 13 | 11 | 14 | 12 | 10 |
| 20 | 21 | 16 | 13 | 18 | 14 | 12 | 16 | 12 | 10 | 14 | 11 | 9 |
| 30 | 21 | 15 | 12 | 18 | 13 | 11 | 16 | 11 | 10 | 14 | 10 | 9 |
| 40 | 19 | 14 | 12 | 16 | 12 | 10 | 15 | 11 | 9 | 13 | 9 | 8 |
| 50 | 18 | 13 | 11 | 15 | 11 | 10 | 14 | 10 | 9 | 12 | 9 | 8 |
| 60 | 17 | 13 | 11 | 15 | 11 | 10 | 13 | 10 | 9 | 12 | 9 | 8 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 140 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 181 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 10—(V_{asst} 150 MPH; V_{ult} / V 194 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|---|-----------------------------------|----|---|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 18 | 15 | 12 | 16 | 13 | 11 | 14 | 11 | 9 | 12 | 10 | 8 |
| 20 | 18 | 14 | 12 | 16 | 12 | 10 | 14 | 11 | 9 | 12 | 10 | 8 |
| 30 | 18 | 13 | 11 | 16 | 11 | 9 | 14 | 10 | 8 | 12 | 9 | 7 |
| 40 | 16 | 12 | 10 | 14 | 10 | 9 | 13 | 9 | 8 | 11 | 8 | 7 |
| 50 | 15 | 12 | 10 | 13 | 10 | 9 | 12 | 9 | 8 | 11 | 8 | 7 |
| 60 | 15 | 11 | 10 | 13 | 10 | 8 | 11 | 8 | 7 | 10 | 8 | 7 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head dia. = 0.30 in., shank dia. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 150 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 194 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 11—ALLOWABLE BASIC WIND SPEEDS (mph) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

| Sheathing Type | Sliding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{3,7}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{s7}^{8,9}$) | |
|--|---|--|---------------------------|---|-----|--|-----|
| | | | | Exposure Category | | Exposure Category | |
| | | | | B | C | B | C |
| Minimum ^{1/2,2} inch thick plywood complying with DOC PS 1-95 | Min. 0.121 in. shank x 0.371 in. HD x 1 1/4 in. long corrosion resistant roofing Nail | 8 inch exposure 2 roofing nails 9 inches from butt edge | 0-15 | 126 | 110 | 163 | 142 |
| | | | 20 | 126 | 105 | 163 | 136 |
| | | | 40 | 126 | 95 | 163 | 123 |
| | | | 60 | 126 | 89 | 163 | 115 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 126 | 121 | 163 | 156 |
| | | 7 inch exposure 2 roofing nails 8 inches from butt edge | 0-15 | 126 | 105 | 163 | 136 |
| | | | 20 | 126 | 105 | 163 | 136 |
| | | | 40 | 126 | 126 | 163 | 163 |
| | | | 60 | 126 | 126 | 163 | 163 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 126 | 121 | 163 | 156 |
| 6 inch exposure 2 roofing nails 7 inches from butt edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| | 40 | 126 | 121 | 163 | 156 | | |
| | 60 | 126 | 116 | 163 | 150 | | |
| | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| 5 inch exposure 2 roofing nails 6 inches from butt edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 121 | 163 | 163 | | |
| | 40 | 126 | 121 | 163 | 156 | | |
| | 60 | 126 | 116 | 163 | 150 | | |
| | 0-15 | 126 | 116 | 163 | 150 | | |
| | 20 | 126 | 111 | 163 | 142 | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

² V_{asd} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult} \sqrt{0.6}$

⁶V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

TABLE 12—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

| Sheathing Type | Sliding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{3,7}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{s7}^{8,9}$) | |
|---|---|---|---------------------------|---|-----|--|-----|
| | | | | Exposure Category | | Exposure Category | |
| | | | | B | C | B | C |
| Minimum ^{7/16} inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1 1/2 in. long corrosion resistant sliding Nail | 8 inch exposure 2 siding nails 9 inches from butt edge | 0-15 | 126 | 89 | 163 | 115 |
| | | | 20 | 126 | 89 | 163 | 115 |
| | | | 40 | 105 | 85 | 136 | 110 |
| | | | 60 | 100 | 129 | 163 | 110 |
| | | | 0-15 | 126 | 105 | 163 | 136 |
| | | | 20 | 126 | 100 | 163 | 129 |
| | | 7 inch exposure 2 siding nails 8 inches from butt edge | 0-15 | 126 | 95 | 156 | 123 |
| | | | 20 | 116 | 89 | 150 | 115 |
| | | | 40 | 126 | 116 | 163 | 150 |
| | | | 60 | 126 | 110 | 163 | 142 |
| | | | 0-15 | 126 | 110 | 163 | 142 |
| | | | 20 | 126 | 105 | 163 | 136 |
| 6 inch exposure 2 siding nails 7 inches from butt edge | 0-15 | 126 | 105 | 163 | 123 | | |
| | 20 | 126 | 95 | 163 | 123 | | |
| | 40 | 126 | 116 | 163 | 150 | | |
| | 60 | 126 | 116 | 163 | 150 | | |
| | 0-15 | 126 | 116 | 163 | 150 | | |
| | 20 | 126 | 110 | 163 | 142 | | |
| 5 inch exposure 2 siding nails 6 inches from butt edge | 0-15 | 126 | 110 | 163 | 142 | | |
| | 20 | 126 | 110 | 163 | 142 | | |
| | 40 | 126 | 105 | 163 | 136 | | |
| | 60 | 126 | 95 | 163 | 136 | | |
| | 0-15 | 126 | 116 | 163 | 150 | | |
| | 20 | 126 | 111 | 163 | 142 | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

² V_{asd} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult} \sqrt{0.6}$

⁶V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

**TABLE 13—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE
INDIVIDUAL SHINGLE EXTERIOR WALL FINISH**

| Sheathing Type | Siding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{ast}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{(7)}$, 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{d}^{(7)}$) | |
|--|---|--|---------------------------|--|-----|--|-----|
| | | | | Exposure Category | | Exposure Category | |
| | | | | B | C | B | C |
| Minimum $7/16$ inch thick OSB sheathing complying with DCC-PS Z-95 | Min. 0.091 in. shank x 0.221 in.-HD x $1\frac{1}{2}$ in. long corrosion resistant siding Nail | 8 inch exposure, 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 9 inches from drip edge | 0-15 | 116 | 116 | 150 | 150 |
| | | | 20 | 110 | 110 | 142 | 142 |
| | | | 40 | 100 | 100 | 129 | 129 |
| | | | 60 | 95 | 95 | 123 | 123 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 121 | 121 | 156 | 156 |
| | | 40 | 110 | 110 | 142 | 142 | |
| | | 60 | 105 | 105 | 136 | 136 | |
| | | 0-15 | 126 | 126 | 163 | 163 | |
| | | 20 | 126 | 126 | 163 | 163 | |
| | | 40 | 126 | 126 | 163 | 163 | |
| | | 60 | 121 | 121 | 156 | 156 | |
| 0-15 | 126 | 126 | 163 | 163 | | | |
| 20 | 126 | 126 | 163 | 163 | | | |
| 40 | 126 | 126 | 163 | 163 | | | |
| 60 | 121 | 121 | 156 | 156 | | | |
| 0-15 | 126 | 126 | 163 | 163 | | | |
| 20 | 126 | 126 | 163 | 163 | | | |
| 40 | 126 | 126 | 163 | 163 | | | |
| 60 | 121 | 121 | 156 | 156 | | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: $I = 1.0$, $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

² V_{ast} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{ast} = V_{ult} \sqrt{0.6}$

⁶ V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{ast} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 46—Fiber-Cement Siding

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in ICC-ES evaluation report ESR-2290, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 *California Building Code*® (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 *California Residential Code*® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16 and 17, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued March 2024.

Reissued March 2024

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie® Shingle Panels, Hardie® Plank Lap Siding, Artisan® Lap Siding, and Hardie® Shingle Individual Shingles, recognized in ICC-ES evaluation report ESR-2290, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Hardie® Shingle Panels, Hardie® Plank (Cemplank® and Prevail®) Lap Siding, Hardie® Shingle Individual Shingles, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2290, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2290 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following conditions:

- Design wind loads must be based on Section 1609 of the *Florida Building Code—Building* or Section R301.2.1.1 of the *Florida Building Code—Residential*, as applicable.
 - Load Combinations must be in accordance with Section 1605.2 if Section 1605.3 of the *Florida Building Code—Building*, as applicable.
 - Installation must meet requirements of Section 1403.8 of the *Florida Building Code – Building* and Section R318.7 of the *Florida Building Code – Residential*, as applicable.
 - Water-resistive barrier must be in accordance with Section 1404.2 of the *Florida Building Code—Building* or Section R703.2 of the *Florida Building Code—Residential*, as applicable.
 - Flashing must be in accordance with Section 1405.4 of the *Florida Building Code—Building* or Section R703.4 of the *Florida Building Code—Residential*, as applicable.
 - Evaluation of Artisan® Lap Siding is outside the scope of this supplement.
- Use of the Hardie® Plank (Cemplank® and Prevail®) Lap Siding has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* with the following conditions:
- The allowable negative design wind load of Hardie® Plank (Cemplank® and Prevail®) Lap Siding must not exceed 92 psf (4405 Pa).

- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be installed on minimum 5/8-inch-thick solid plywood structural sheathing complying with DOC PS-1.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to wood studs in accordance with *Florida Building Code-Building* Section 2322.3. The wood studs must have a minimum specific gravity of 0.42.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to metal studs spaced at 6-inches (152 mm) on-center. At panel edges and all intermediate supports using a No. 8-18 1-1/4-inch (31.75 mm) long by 0.315-inch (8 mm) head diameter ribbed bugle head screw. The metal studs must have a minimum thickness of 0.033-inch (0.838 mm), web depth of 3-5/8-inch (92.1 mm), and flange size 1-5/8-inch (41.3 mm).
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding shall be applied horizontally commencing from the bottom course of the wall with 1-1/4-inch-wide (31.75 mm) laps at the top of the plank such that the exposure area of each plank is less than or equal to 8-1/4-inch (210 mm) vertically.
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be fastened to sheathing over wood studs with a minimum 2-1/2-inch (63.5 mm) long by 0.223-inch (5.66 mm) shank diameter corrosion-resistant siding nails.
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be fastened to sheathing over metal studs with a minimum No. 8-18 by 2-1/4-inch (57.15 mm) by 0.315-inch (8 mm) bugle head screws.
- Fasteners are spaced 16 inches (406 mm) on-center and less than or equal to 8-1/4-inch (210 mm) vertically on the studs.
- Fasteners shall have a minimum edge distance of 3/8-inch (9.53 mm).
- Maximum support/span spacing shall be no more than 16 inches (406 mm) on-center.

In addition to the data noted in Section 6.0 of the evaluation report ESR-2290, data in accordance with *Florida Building Code Test Protocols* for High-Velocity Zones TAS 202 and TAS 203 was submitted for Hardie®Plank (Cemiplank® and Prevail®) Lap Siding.

Use of the Hardie®Shingle Panels, Artisan® Lap Siding, and Hardie®Shingle Individual Shingles for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* and the *Florida Building Code-Residential* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued March 2024.

ICC-ES Evaluation Report

ESR-2290

Reissued March 2024


This report also contains:

- CBC Supplement
- FBC Supplement

Subject to renewal March 2026

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|---|---|---|---|
| <p>DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES</p> <p>Section: 06 16 00—Sheathing</p> <p>DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 46 46—Fiber-Cement Siding</p> | <p>REPORT HOLDER: JAMES HARDIE BUILDING PRODUCTS, INC.</p> | <p>EVALUATION SUBJECT: HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES</p> |  |
|---|---|---|---|

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, 2012, 2009 and 2006 [International Residential Code \(IRC\)](#)
- 2013 *Abu Dhabi International Building Code (ADIBC)*[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Weather protection
- Structural
- Types I, II, III, and IV (noncombustible) construction
- Fire-resistance-rated construction
- Thermal resistance

1.2 Evaluation to the following green standards:

- 2020, 2015, 2012 and 2008 ICC 700 [National Green Building Standard™](#) (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

See Section 3.1

2.0 USES

James Hardie fiber-cement panels, plank lap siding, and cladding shingles are used as exterior wall covering. The products comply with 2021 and 2018 IBC Section 1403.10 [2015, 2012, 2009 and 2006 IBC Sections 1404.10] and IRC Section R703.10. The products may be used on exterior walls required to be of Type I, II, III or IV construction (IBC).

3.0 DESCRIPTION

3.1 General:

The exterior sidings are single-faced, cellulose fiber–reinforced cement (fiber-cement) products. Exterior sidings are identified as Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle Individual shingles.

The products comply with ASTM C1186, as Grade II, Type A; have a flame-spread index of 0 and a smoke-developed index of 5 when tested in accordance with ASTM E84; and are classified as noncombustible when tested in accordance with ASTM E136. Thermal conductance (K) and resistance (R) values for the products are as shown in [Table 2](#) of this report, based on testing in accordance with ASTM C177.

The attributes of the fiber-cement sidings have been verified as conforming to the provisions of (i) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 602.1.6 and 11.602.1.6 for termite-resistant materials; and (ii) ICC 700-2008 Section 602.8 for termite-resistant materials. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.2 Siding:

Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are supplied either coated, or uncoated for subsequent application of a compatible exterior-grade top coat. Nominal product dimensions are noted in [Table 1](#).

The products are available in a variety of finish textures. Hardie®Shingle panels are offered in three configurations: half-round, staggered-edge, and square-edge. Hardie®Shingle individual shingles are offered in two configurations: staggered-edge and square-edge.

3.3 Fasteners:

Fastener type, size, spacing and installation method must be as shown in the tables of this report. Fasteners must be made from corrosion-resistant steel.

4.0 DESIGN AND INSTALLATION

4.1 Design:

Walls: The maximum basic wind speeds for positive or negative transverse load resistance of Hardie®Shingle ®) panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are presented in [Tables 3](#) through [13](#).

4.2 Installation:

4.2.1 General: Installation must comply with this report, and a copy of this report must be available at all times on the jobsite during installation. All products may be cut to shape on-site by the score-and-snap method using a score-and-snap knife, a hand guillotine or a handsaw utilizing a carbide blade. A clear distance of 6 inches (152 mm) must be maintained between the siding and the earth. Unless otherwise noted in this report, the products must be installed in accordance with 2021 and 2018 IBC Section 1404.16; 2015, 2012, and 2009 IBC Section 1405.16; 2006 IBC Sections 1405.15, 1405.16, and 1405.17; 2021, 2018 and 2015 IRC Section R703.10 and Table R703.3; 2012, 2009, and 2006 IRC Section R703.10 and Table R703.4, as applicable.

4.2.2 Hardie®Shingle Panels: When installation is on wood or metal framing members, with or without wood structural panel sheathing, a water-resistive barrier must be applied over the wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. The panels must be fastened in accordance with the provisions of [Table 4](#) of this report.

A $\frac{1}{8}$ -inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Vertical joints must occur over framing members and must be sealed with caulking or covered with battens. Horizontal joints must be flashed with metal Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.3 Hardie® Plank (Cemplank®, Prevail®, and RFC®) Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened either through the overlapping planks (face nailed) or through the top edge of single planks (blind nailed) in accordance with the provisions of [Table 4](#) of this report. A water-resistive barrier must be applied over wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with [Tables 5](#) through [10](#). The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must occur over studs, except where the “off-stud splice device” is installed or where the planks are installed to wood structural panel sheathing complying with the applicable code, and must be staggered on subsequent courses. Where the “off-stud splice device” is installed, the splice device’s bottom lip must be placed over the adjacent solid course of planks. The plank must then be fastened to the framing with corrosion-resistant fasteners. The abutting plank must be positioned and fastened into place ensuring that the lower edges of the two planks align. The metal device must be located centrally over the vertical joint.

Vertical joints between planks must be lightly butted or gapped and must be protected by one of the following methods: (a) sealed with caulking in accordance with the caulk manufacturer’s published gapping requirements and caulking application instructions; or (b) covered with an H-section joint cover; or (c) located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.4 Artisan® Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened through the top edge of single planks (blind nailed) in accordance with the provisions of [Table 4](#) of this report. A water-resistive barrier must be applied over wood or metal framing or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with [Tables 5](#) through [10](#). The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must be made off-stud. Joints may be located centrally between studs but no closer than 4 inches (102 mm) from the edge of a stud. Nails must not be placed within 1 inch (25.4 mm) of the end of the planks. Vertical joints must be staggered on subsequent courses. The plank must then be fastened to the framing with corrosion-resistant fasteners.

Vertical joints between planks must be lightly butted and must be located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at the locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and must occur over solid blocking or wood structural panel sheathing.

4.2.5 Hardie® Shingle Individual Shingles: When installed on wood structural panel sheathing, the cladding shingles are fastened in accordance with the provisions of either [Table 11](#), [12](#), or [13](#) of this report. A water-resistive barrier in accordance with the applicable code must be applied over the wood-based sheathing substrate to which the shingles are attached.

The individual shingles require the use of a starter strip to set the first course on the proper angle and to create a drip edge. The nominally 1 1/4-inch-wide-by-1/4-inch-thick starter strip and a minimum 8 1/4-inch-wide (210 mm) Hardie® Plank (Cemplank®, Prevail®, and RFC®) lap siding starter course are installed over the water-resistive barrier with the bottom of the starter strip and starter course even with the bottom of the bottom plate. Shingles are spaced a maximum of 1/4 inch (6.4 mm) apart, leaving a minimum side lap of 1 1/2 inches (38 mm) between the joints of successive courses. Fasteners must be spaced a minimum of 3/4 inch (19 mm) and a maximum of 1 inch (25.4 mm) from shingle edges and must be positioned to be covered a nominal 1 1/4 inches by the succeeding shingle course; for 12-inch-wide (305 mm) shingles, the third nail (see [Table 13](#)) must be installed mid-span of the shingle. Nails must secure shingles but must not be over-driven. Trim and corners must be installed, and the shingles must be finished in accordance with the manufacturer’s application instructions. A 1/8-inch (3.2 mm) gap must be left at locations where the shingle butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing.

4.3 Fire-resistance-rated Wall Assembly (Hardie®Plank (CemPlank®, Prevail®, and RFC®) Lap Siding):

The asymmetrical, load-bearing, one-hour fire-resistance-rated wall assembly must consist of nominally 2-by-4 wood studs spaced a maximum of 24 inches (610 mm) on center, with two top plates and a single bottom plate. One layer of ⁵/₈-inch-thick (15.9), Type X, gypsum wallboard complying with ASTM C36 or ASTM C1396, 48 inches (1219 mm) wide, must be applied vertically to the interior face of the studs and secured with minimum 1³/₄-inch-long (44 mm) cup-head gypsum wallboard nails, spaced 7 inches (178 mm) on center at board edges and intermediate framing members. All board joints must be backed by framing. The ⁵/₈-inch-thick (15.9 mm), Type X, gypsum wallboard joints and nail heads must be finished in accordance with ASTM C840 or GA216. The exterior face of the wall must be covered with one layer of ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core treated gypsum sheathing complying with ASTM C36 or ASTM C1396 and one layer of maximum 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding lapped a minimum of 1¹/₄ inches (32 mm). The ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be applied vertically to the exterior side of the framing members with vertical edges staggered 24 inches (610 mm) from the joints on the opposite side. All board joints must be backed by framing. The ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be fastened to the framing members with 1³/₄-inch-long (44 mm) roofing nails spaced 7 inches (178 mm) on center in the field and 4 inches (102 mm) on center along the perimeter of each board. The outer layer of ⁵/₁₆-inch-thick (7.5 mm), minimum 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding must be applied over the ¹/₂-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing by attaching 1¹/₂-inch-wide (38 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) starter strips through the gypsum sheathing into the bottom plate and 12-inch-wide (305 mm) Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding applied horizontally with a minimum nominally 1¹/₄-inch head lap, and fastening with a single 6d corrosion-resistant common nail driven through the lapped planks into each stud.

The axial load must be the lesser of the following, provided structural consideration for axial, flexural and bearing perpendicular-to-grain stresses is in accordance with ANSI/AWC NDS-2018 for the 2021, 2018 IBC and IRC; ANSI/AWC NDS-2015 for the 2015 IBC and IRC; ANSI/AF&PA NDS-2010 for the 2012 IBC or IRC (-2005 for the 2009 and 2006 IBC or IRC):

1. Maximum 100 percent of full allowable axial compressive design load permitted for the wood species.
2. Maximum allowable wood axial stress of 0.78 F_c , which must not exceed 0.78 F_c at a slenderness ratio l_e/d of 33.

5.0 CONDITIONS OF USE:

The Hardie®Shingle panels, Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 James Hardie® Building Products, Inc. products listed in this report must be installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's instructions, this report governs.
- 5.2 Hardie®Shingle panels, Hardie®Plank (CemPlank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles must be installed on exterior walls braced in accordance the applicable code.
- 5.3 Design wind speeds applied to James Hardie® sidings described in this report must be determined in accordance with the applicable code and must be less than those shown in the wind speed tables in this report.
- 5.4 The sidings must be installed over a code-complying water-resistive barrier and as noted in this report.
- 5.5 For use in fire-resistance-rated construction, installation must be in accordance with Section 4.3.
- 5.6 Flashing must be installed at all penetrations and terminations in accordance with the applicable code.
- 5.7 Under the 2021 and 2018 IBC Section 1402.5; and 2015 or 2012 IBC, Section 1403.5, installation on exterior walls of buildings of Type I, II, III, and IV construction is limited to buildings that are not greater than 40 feet in height above grade plane and that feature a combustible water-resistive barrier, except as permitted under Exception 2 of the 2021 and 2018 IBC Section 1402.5 and 2015 IBC Section 1403.5.
- 5.8 The products are manufactured at the following locations, with quality control inspections by ICC-ES:
 - Cleburne, Texas
 - Peru, Illinois
 - Plant City, Florida
 - Prattville, Alabama

- Pulaski, Virginia
- Sparks, Nevada
- Tacoma, Washington
- Waxahachie, Texas
- Fontana, California
- Summerville, South Carolina

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), dated October 2020 (editorially revised December 2020).

7.0 IDENTIFICATION

7.1 Pallets of the James Hardie® Building Products, Inc., Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle shingles must carry a label bearing the manufacturer's name and telephone number, the product name, the name of the inspection agency, ICC-ES, and the evaluation report number (ESR-2290).

7.2 The report holder's contact information is the following:

JAMES HARDIE BUILDING PRODUCTS, INC.

10901 ELM AVENUE

FONTANA, CALIFORNIA 92337

(909) 942-7343

www.jameshardie.com

info@jameshardie.com

TABLE 1—STANDARD NOMINAL PANEL, PLANK AND SHINGLE DIMENSIONS

| PRODUCT | WIDTH (INCHES) | LENGTH | THICKNESSES (INCHES) |
|--|---|--|--------------------------------|
| Hardie®Plank lap siding | 4, 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Artisan® lap siding, | 5 ¹ / ₄ , 7 ¹ / ₄ , 8 ¹ / ₄ | 12, 14 feet | 5 ¹ / ₈ |
| Cemplank® lap siding | 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Prevail® lap siding | 5 ¹ / ₄ , 6, 6 ¹ / ₄ , 7 ¹ / ₄ , 7 ¹ / ₂ , 8, 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| RFC® lap siding | 6 ¹ / ₄ , 7 ¹ / ₂ , 8 ¹ / ₄ , 9 ¹ / ₂ & 12 | 12, 14 feet | 5 ¹ / ₁₆ |
| Hardie®Shingle 5-inch exposure (square & staggered edge) | 48 | 14 inches | 1 ¹ / ₄ |
| Hardie®Shingle 7-inch exposure (square & staggered edge) | 48 | 15 ¹ / ₄ , 15 ⁷ / ₈ inches | 1 ¹ / ₄ |
| Hardie®Shingle panel (square & staggered edge) | 48 | 16 inches | 1 ¹ / ₄ |
| Hardie®Shingle panel (half round) | 48 | 16, 19 inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles 5-inch exposure | 3 ¹ / ₂ , 4 ¹ / ₂ , 5 ¹ / ₂ , 7, 8 ¹ / ₄ | 14 inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles 7-inch exposure | 4 ³ / ₁₆ , 5 ¹ / ₂ , 6 ³ / ₄ , 7 ¹ / ₄ , 10, | 15 ¹ / ₄ inches | 1 ¹ / ₄ |
| Hardie®Shingle individual shingles | 6, 8, & 12 | 18 inches | 1 ¹ / ₄ |

For **SI**: 1 inch = 25.4 mm, 1 ft = 305 mm.

TABLE 2—"K" and "R" VALUES FOR FIBER-CEMENT PRODUCTS

| PRODUCT THICKNESS ³ (INCH) | THERMAL CONDUCTANCE ¹ K _{EFF} = (BTU/HR-FT ² -°F)/INCH | THERMAL RESISTANCE ¹ R = 1/K _{EFF} | ACTUAL THERMAL CONDUCTANCE ² (K _{EFF}) | ACTUAL THERMAL RESISTANCE ² (R) |
|---------------------------------------|---|--|---|--|
| 1 ¹ / ₄ | 1.95 | 0.51 | 7.80 | 0.13 |
| 5 ¹ / ₁₆ | 2.07 | 0.48 | 6.62 | 0.15 |

For **SI**: 1 inch = 25.4 mm, 1 Btu/h-ft²-°F = 5.678 W/m²-K.

¹Based on 1 inch of panel thickness.

²Actual value for panel thickness shown.

TABLE 3—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

| PRODUCT | THICK (IN.) | FASTENER TYPE ^{1a} | FASTENER SPACING (IN.) | FRAME TYPE ¹ | STUD SPACING (IN.) | BLDG. HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--|-------------|---|---|---|--|--------------------|--|-----|-----|-----|--|-----|---|---|
| | | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{asst}}^{4,6,9,12}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{2,8}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{\text{ult}}^{(b,11)}$) | | | |
| | | | | | | | B | C | D | | B | C | D | |
| Hardie®Shingle Panel (straight or half round installation) | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 13.75 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 126 | 85 | - | 163 | 110 | - | - | - |
| | | | | | | 20 | 121 | 85 | - | 156 | 110 | - | - | |
| | | | | | | 40 | 105 | 85 | - | 136 | 110 | - | - | |
| | | | | | | 60 | 95 | - | - | 123 | - | - | - | |
| Hardie®Shingle Panel (staggered installation) | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 13.75 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 105 | 85 | - | 136 | 110 | - | - | |
| | | | | | | 20 | 105 | - | - | 136 | - | - | - | |
| | | | | | | 40 | 95 | - | - | 123 | - | - | - | |
| | | | | | | 60 | 85 | - | - | 110 | - | - | - | |
| Hardie®Shingle Panel | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 8 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 158 | 143 | 130 | 204 | 185 | 168 | - | |
| | | | | | | 20 | 158 | 139 | 127 | 204 | 179 | 164 | - | |
| | | | | | | 40 | 152 | 130 | 120 | 196 | 168 | 155 | - | |
| | | | | | | 60 | 143 | 124 | 115 | 185 | 160 | 148 | - | |
| Hardie®Shingle Panel | 1/4 | 0.090" shank x 0.215" HD x 1 1/2" long ring shank nails ⁵ | 6 | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 172 | 156 | 142 | 222 | 201 | 183 | - | |
| | | | | | | 20 | 172 | 151 | 138 | 222 | 195 | 178 | - | |
| | | | | | | 40 | 165 | 141 | 130 | 213 | 182 | 168 | - | |
| | | | | | | 60 | 156 | 135 | 126 | 201 | 174 | 163 | - | |
| Hardie®Shingle Panel | 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), 1.17" x 1.125" x .3" (PART #650964) or #650964) | 7" exposure, nailed at 16" o.c. (horizontal) and 7" o.c. (vertical) | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached to framing per code | 0-15 | 113 | 102 | 93 | 146 | 132 | 120 | - | |
| | | | | | | 20 | 113 | 100 | 91 | 146 | 129 | 117 | - | |
| | | | | | | 40 | 108 | 93 | 86 | 140 | 120 | 110 | - | |
| | | | | | | 60 | 102 | 89 | - | 132 | 115 | - | - | |
| Hardie®Shingle Panel | 1/4 | 0.083" shank x 0.187" HD x 1 1/2" long ring shank nail ² | at each stud ³ | Nominal 2x4 ¹ or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | - | |
| | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | - | |
| | | | | | | 40 | 168 | 126 | 105 | 217 | 163 | 136 | - | |
| | | | | | | 60 | 158 | 116 | 105 | 204 | 150 | 136 | - | |
| Hardie®Shingle Panel | 1/4 | 0.083" shank x 0.187" HD x 1 1/2" long ring shank nail ² | at each stud ³ | Nominal 2x4 ¹ or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | - | |
| | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | - | |
| | | | | | | 40 | 126 | 95 | - | 163 | 123 | - | - | |
| | | | | | | 60 | 116 | 89 | - | 150 | 115 | - | - | |

For SI : 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.444 m/s.

^{1a}Values are for species of wood having a specific gravity of 0.40 or greater.

²For application to metal framing members, fasteners must be ET & F Fastening Systems, Inc. ET&F Panelfast® nail, ET & F No. AGS-100-0150, head diameter = 0.313 in., shank diameter = 0.100 in., length = 1.5 in. Metal studs must be minimum Fy = 33 ksi.

³For application to ASTM C90 concrete masonry unit wall, fasteners must be either ET & F Fastening Systems, Inc. ET&F block nail (ET & F No. ASM-144-0125, head dia. = 0.30 in., shank dia. = 0.14 in., length = 1.25 in.), Max System block nail (CP-C-832 WT-ICC, head diameter = 0.30 in., shank diameter = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaeco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.) applied at the equivalent fastener or stud spacing.

⁴Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: 1 = 1.0, K_{zt} = 1, K_d = 0.85, G_{CPI} = 0.18, G_{Cp} = -1.4.

⁵For application to wood framing or wood-based sheathing, the minimum fastener penetration must be 1 inch into framing or the sheathing thickness as applicable.

⁶V_{ult} = ultimate design wind speed.

⁷Wind speed design assumptions per Section 30.4, of ASCE 7-10: K_{zt} = 1, K_d = 0.85, G_{CPI} = 0.18, G_{Cp} = -1.4.

⁸2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V_{ult} √0.6

⁹V = basic design wind speed

¹⁰2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V √0.6

¹¹Smooth-shank stainless steel nails are outside of the scope of this report.

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1a} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | | |
|--------------|-------------------------|----------------|-----------------------------------|-------------------------------|---|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|-----|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C | D |
| | | | | | | | | | | | | | | | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 147 | 217 | 217 | 217 | 190 | | |
| | | | | | | | 20 | 168 | 168 | 147 | 217 | 217 | 217 | 190 | | |
| | | | | | | | 40 | 168 | 158 | 137 | 217 | 204 | 177 | 177 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 190 | 163 | | | |
| | | | | | | | 20 | 168 | 168 | 137 | 217 | 217 | 177 | 177 | | |
| | | | | | | | 40 | 168 | 158 | 137 | 217 | 204 | 177 | 177 | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 190 | 163 | | | |
| | | | | | | | 20 | 168 | 147 | 126 | 217 | 190 | 163 | 163 | | |
| | | | | | | | 40 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 126 | 105 | 217 | 163 | 136 | | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | |
| | | | | | | | 40 | 168 | 131 | 116 | 217 | 169 | 150 | 150 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 105 | 204 | 163 | 136 | 136 | | |
| Hardie®Plank | 5/16 | 12 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 145 | 131 | 119 | 187 | 169 | 154 | | | |
| | | | | | | | 20 | 145 | 127 | 116 | 187 | 164 | 150 | 150 | | |
| | | | | | | | 40 | 139 | 119 | 110 | 179 | 154 | 142 | 142 | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | 136 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 100 | 187 | 150 | 129 | | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | 136 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | 150 | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | 136 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------------------|--|-------------------------------|--|--------------------|-----------------------|---|-----|-----|-----|--|-----|-----|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{Bas} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 100 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 126 | 110 | 207 | 163 | 142 | | |
| | | | | | | | 40 | 147 | 121 | 105 | 190 | 156 | 136 | | |
| | | | | | | | 60 | 137 | 116 | 95 | 177 | 150 | 123 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 116 | 100 | 207 | 150 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 40 | 137 | 105 | 89 | 177 | 136 | 115 | | |
| | | | | | | | 60 | 126 | 95 | 89 | 163 | 123 | 115 | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 158 | 105 | 95 | 204 | 136 | 123 | | |
| | | | | | | | 40 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| | | | | | | | 60 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 40 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| | | | | | | | 60 | 126 | 95 | - | 163 | 123 | - | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 106 | 96 | 87 | 137 | 124 | 112 | | |
| | | | | | | | 20 | 106 | 93 | 85 | 137 | 120 | 110 | | |
| | | | | | | | 40 | 102 | 87 | - | 132 | 112 | - | | |
| | | | | | | | 60 | 96 | - | - | 124 | - | - | | |
| Hardie®Plank | 5/16 | 12 | ET&F pin 0.100" x 1.5" x 0.25" HD | Face Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| | | | | | | | 20 | 158 | 121 | 100 | 204 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| | | | | | | | 60 | 137 | 105 | 95 | 177 | 136 | 123 | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| | | | | | | | 20 | 158 | 121 | 100 | 204 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| | | | | | | | 60 | 137 | 105 | 95 | 177 | 136 | 123 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 116 | 100 | 217 | 150 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| | | | | | | | 60 | 137 | 105 | 95 | 177 | 136 | 123 | | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 116 | 100 | 217 | 150 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 40 | 137 | 105 | 89 | 177 | 136 | 115 | | |
| | | | | | | | 60 | 126 | 100 | 85 | 163 | 129 | 110 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| | | | | | | | 40 | 121 | 89 | - | 156 | 115 | - | | |
| | | | | | | | 60 | 110 | 85 | - | 142 | 110 | - | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|--|---|--|--------------------|-----------------------|--|-----|-----|-----|--|-----|---|---|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{Wind} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | B | C | D | E | B | C | D | E |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 137 | 95 | 85 | 177 | 123 | 110 | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 105 | 85 | - | 136 | 110 | - | | |
| | | | | | | | 20 | 95 | - | - | 123 | - | - | | |
| | | | | | | | 40 | 95 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 20 | 116 | 85 | - | 129 | - | - | | |
| | | | | | | | 40 | 100 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 126 | 85 | - | 163 | 110 | - | | |
| | | | | | | | 20 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 40 | 100 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 137 | 95 | 85 | 177 | 123 | 110 | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 20 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| | | | | | | | 40 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| Hardie®Plank | 5/16 | 4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 121 | 95 | - | 156 | 123 | - | | |
| | | | | | | | 20 | 158 | 110 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 40 | 147 | 105 | 85 | 190 | 136 | 110 | | |
| Hardie®Plank | 5/16 | 6 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| | | | | | | | 20 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| | | | | | | | 40 | 121 | 95 | - | 156 | 123 | - | | |
| Hardie®Plank | 5/16 | 6 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 147 | 105 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 20 | 137 | 100 | 85 | 177 | 129 | 110 | | |
| | | | | | | | 40 | 126 | 95 | - | 163 | 123 | - | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 105 | 85 | - | 136 | 110 | - | | |
| | | | | | | | 20 | 126 | 95 | - | 163 | 123 | - | | |
| | | | | | | | 40 | 116 | 85 | - | 150 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 126 | 85 | - | 163 | 110 | - | | |
| | | | | | | | 20 | 116 | 85 | - | 150 | 110 | - | | |
| | | | | | | | 40 | 100 | - | - | 129 | - | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 116 | - | - | 150 | - | - | | |
| | | | | | | | 20 | 105 | - | - | 136 | - | - | | |
| | | | | | | | 40 | 95 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 170 | 158 | 219 | 219 | 204 | | |
| | | | | | | | 20 | 170 | 169 | 154 | 219 | 218 | 199 | | |
| | | | | | | | 40 | 170 | 157 | 145 | 219 | 203 | 187 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 155 | 141 | 219 | 200 | 182 | | |
| | | | | | | | 20 | 170 | 151 | 140 | 219 | 194 | 180 | | |
| | | | | | | | 40 | 170 | 151 | 140 | 219 | 194 | 180 | | |
| Hardie®Plank | 5/16 | 8 1/4 | ET&F pin 0.100" x 1.5" x 0.313" HD | Blind Nailed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 170 | 155 | 141 | 219 | 200 | 182 | | |
| | | | | | | | 20 | 105 | - | - | 136 | - | - | | |
| | | | | | | | 40 | 95 | - | - | 123 | - | - | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 151 | 138 | 219 | 195 | 178 | | |
| | | | | | | | 20 | 170 | 151 | 138 | 219 | 195 | 178 | | |
| | | | | | | | 40 | 164 | 140 | 130 | 218 | 181 | 167 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 155 | 141 | 219 | 200 | 182 | | |
| | | | | | | | 20 | 170 | 151 | 138 | 219 | 195 | 178 | | |
| | | | | | | | 40 | 164 | 140 | 130 | 218 | 181 | 167 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁸ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 156 | 142 | 129 | 202 | 183 | 166 | | |
| | | | | | | | 20 | 156 | 138 | 126 | 202 | 178 | 162 | | |
| | | | | | | | 40 | 150 | 128 | 118 | 193 | 165 | 153 | | |
| | | | | | | | 60 | 142 | 123 | 114 | 183 | 159 | 147 | | |
| | | | | | | | 0-15 | 153 | 139 | 126 | 197 | 179 | 163 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 197 | 174 | 159 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 139 | 120 | 112 | 179 | 155 | 144 | | |
| | | | | | | | 20 | 147 | 134 | 121 | 190 | 172 | 157 | | |
| | | | | | | | 40 | 147 | 125 | 116 | 190 | 162 | 150 | | |
| | | | | | | | 60 | 139 | 120 | 112 | 179 | 155 | 144 | | |
| | | | | | | | 0-15 | 147 | 134 | 121 | 190 | 172 | 157 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 153 | | |
| Hardie®Plank | 5/16 | 8 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 145 | 131 | 119 | 187 | 169 | 154 | | |
| | | | | | | | 20 | 145 | 127 | 116 | 187 | 165 | 150 | | |
| | | | | | | | 40 | 141 | 121 | 111 | 182 | 156 | 144 | | |
| | | | | | | | 60 | 134 | 116 | 108 | 172 | 150 | 139 | | |
| | | | | | | | 0-15 | 145 | 131 | 119 | 187 | 169 | 154 | | |
| | | | | | | | 20 | 145 | 119 | 109 | 175 | 154 | 141 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 135 | 123 | 111 | 175 | 158 | 144 | | |
| | | | | | | | 20 | 135 | 119 | 109 | 175 | 154 | 141 | | |
| | | | | | | | 40 | 130 | 111 | 102 | 168 | 143 | 132 | | |
| | | | | | | | 60 | 123 | 106 | 99 | 158 | 137 | 128 | | |
| | | | | | | | 0-15 | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 152 | 138 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 121 | 105 | 97 | 156 | 135 | 126 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 152 | 138 | | |
| | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | |
| | | | | | | | 60 | 121 | 105 | 97 | 156 | 135 | 126 | | |
| | | | | | | | 0-15 | 156 | 142 | 129 | 201 | 183 | 166 | | |
| | | | | | | | 20 | 156 | 138 | 126 | 201 | 178 | 162 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 140 | 127 | 115 | 180 | 164 | 149 | | |
| | | | | | | | 20 | 140 | 123 | 112 | 180 | 159 | 145 | | |
| | | | | | | | 40 | 134 | 115 | 106 | 173 | 148 | 137 | | |
| | | | | | | | 60 | 142 | 123 | 114 | 183 | 159 | 147 | | |
| | | | | | | | 0-15 | 140 | 127 | 115 | 180 | 164 | 149 | | |
| | | | | | | | 20 | 140 | 123 | 112 | 180 | 159 | 145 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 127 | 116 | 105 | 165 | 149 | 136 | | |
| | | | | | | | 20 | 127 | 112 | 103 | 165 | 145 | 132 | | |
| | | | | | | | 40 | 122 | 105 | 97 | 158 | 135 | 125 | | |
| | | | | | | | 60 | 116 | 100 | 93 | 149 | 130 | 120 | | |
| | | | | | | | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| | | | | | | | 40 | 120 | 102 | 95 | 155 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | 118 | | |
| | | | | | | | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |
| | | | | | | | 40 | 120 | 102 | 95 | 155 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | 118 | | |
| | | | | | | | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | 130 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁸ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|---|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C | D |
| | | | | | | | | | | | | | | | | |
| Hardie®Plank | 5/16 | 8 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 120 | 109 | 99 | 155 | 141 | 128 | | | |
| | | | | | | | 20 | 120 | 106 | 97 | 155 | 137 | 125 | | | |
| | | | | | | | 40 | 115 | 99 | 91 | 149 | 127 | 117 | | | |
| | | | | | | | 60 | 109 | 95 | 88 | 141 | 122 | 113 | | | |
| | | | | | | | 0-15 | 118 | 107 | 97 | 152 | 138 | 126 | | | |
| | | | | | | | 20 | 118 | 104 | 95 | 152 | 134 | 123 | | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 113 | 97 | 89 | 146 | 125 | 115 | | | |
| | | | | | | | 60 | 107 | 93 | 86 | 138 | 120 | 111 | | | |
| | | | | | | | 0-15 | 110 | 100 | 91 | 142 | 129 | 117 | | | |
| | | | | | | | 20 | 110 | 97 | 89 | 142 | 126 | 115 | | | |
| | | | | | | | 40 | 106 | 91 | - | 137 | 117 | - | | | |
| | | | | | | | 60 | 100 | 87 | - | 129 | 112 | - | | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 109 | 99 | 90 | 140 | 127 | 116 | | | |
| | | | | | | | 20 | 109 | 96 | 87 | 140 | 124 | 113 | | | |
| | | | | | | | 40 | 104 | 89 | - | 135 | 115 | - | | | |
| | | | | | | | 60 | 99 | 85 | - | 127 | 110 | - | | | |
| | | | | | | | 0-15 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 20 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| Hardie®Plank | 5/16 | 5 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 60 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 0-15 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 20 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 40 | 170 | 170 | 170 | 219 | 219 | 219 | | | |
| | | | | | | | 60 | 170 | 168 | 156 | 219 | 217 | 201 | | | |
| Hardie®Plank | 5/16 | 6 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 170 | 160 | 219 | 219 | 207 | | | |
| | | | | | | | 20 | 170 | 170 | 157 | 219 | 219 | 203 | | | |
| | | | | | | | 40 | 170 | 160 | 147 | 219 | 207 | 190 | | | |
| | | | | | | | 60 | 170 | 153 | 142 | 219 | 198 | 183 | | | |
| | | | | | | | 0-15 | 170 | 170 | 157 | 219 | 219 | 203 | | | |
| | | | | | | | 20 | 170 | 170 | 154 | 219 | 217 | 199 | | | |
| Hardie®Plank | 5/16 | 7 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 157 | 145 | 219 | 203 | 187 | | | |
| | | | | | | | 60 | 170 | 150 | 139 | 219 | 194 | 179 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |
| | | | | | | | 40 | 170 | 151 | 139 | 219 | 195 | 179 | | | |
| | | | | | | | 60 | 167 | 144 | 134 | 216 | 186 | 173 | | | |
| Hardie®Plank | 5/16 | 7 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |
| Hardie®Plank | 5/16 | 8 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 170 | 151 | 139 | 219 | 195 | 179 | | | |
| | | | | | | | 60 | 167 | 144 | 134 | 216 | 186 | 173 | | | |
| | | | | | | | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| Hardie®Plank | 5/16 | 8 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 212 | 192 | | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | | | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 177 | | | |
| | | | | | | | 60 | 164 | 142 | 132 | 212 | 183 | 170 | | | |
| | | | | | | | 0-15 | 170 | 167 | 151 | 219 | 216 | 195 | | | |
| | | | | | | | 20 | 170 | 162 | 148 | 219 | 209 | 191 | | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|-------------------------------|-----------------------------------|--------------------------|--------------------|-----------------------|---|-----|-----|-------------------|--|-----|---|-------------------|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{Wind}}^{3.9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V^{13,14}$) | | | |
| | | | | | | | | B | C | D | Exposure Category | B | C | D | Exposure Category |
| Hardie®Plank | 5/16 | 9 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 0-15 | 169 | 153 | 139 | 218 | 198 | 179 | | |
| | | | | | | | 20 | 169 | 149 | 136 | 218 | 192 | 176 | | |
| | | | | | | | 40 | 162 | 138 | 128 | 209 | 178 | 165 | | |
| | | | | | | | 60 | 153 | 133 | 123 | 198 | 172 | 159 | | |
| | | | | | | | 0-15 | 166 | 151 | 137 | 214 | 195 | 177 | | |
| | | | | | | | 20 | 166 | 146 | 134 | 214 | 188 | 173 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 16 | 40 | 159 | 136 | 126 | 205 | 176 | 163 | | |
| | | | | | | | 60 | 151 | 131 | 121 | 195 | 169 | 156 | | |
| | | | | | | | 0-15 | 160 | 145 | 132 | 207 | 187 | 170 | | |
| | | | | | | | 20 | 160 | 141 | 129 | 207 | 182 | 167 | | |
| | | | | | | | 40 | 154 | 131 | 121 | 199 | 169 | 156 | | |
| | | | | | | | 60 | 145 | 126 | 117 | 187 | 163 | 151 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 160 | 145 | 132 | 207 | 187 | 170 | | |
| | | | | | | | 20 | 160 | 141 | 129 | 207 | 182 | 167 | | |
| | | | | | | | 40 | 154 | 131 | 121 | 199 | 169 | 156 | | |
| | | | | | | | 60 | 145 | 126 | 117 | 187 | 163 | 151 | | |
| | | | | | | | 0-15 | 159 | 144 | 131 | 205 | 186 | 169 | | |
| | | | | | | | 20 | 159 | 140 | 128 | 205 | 181 | 165 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 153 | 130 | 120 | 198 | 168 | 155 | | |
| | | | | | | | 60 | 144 | 125 | 116 | 186 | 161 | 150 | | |
| | | | | | | | 0-15 | 156 | 141 | 128 | 201 | 182 | 165 | | |
| | | | | | | | 20 | 156 | 137 | 125 | 201 | 177 | 161 | | |
| | | | | | | | 40 | 150 | 128 | 118 | 194 | 165 | 152 | | |
| | | | | | | | 60 | 141 | 123 | 114 | 182 | 159 | 147 | | |
| Hardie®Plank | 5/16 | 7 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 150 | 136 | 123 | 194 | 176 | 159 | | |
| | | | | | | | 20 | 150 | 132 | 121 | 194 | 170 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 113 | 186 | 159 | 146 | | |
| | | | | | | | 60 | 136 | 118 | 109 | 176 | 152 | 141 | | |
| | | | | | | | 0-15 | 147 | 134 | 121 | 190 | 173 | 156 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 152 | | |
| Hardie®Plank | 5/16 | 8 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 141 | 121 | 111 | 182 | 156 | 143 | | |
| | | | | | | | 60 | 134 | 116 | 108 | 173 | 150 | 139 | | |
| | | | | | | | 0-15 | 138 | 125 | 113 | 178 | 161 | 146 | | |
| | | | | | | | 20 | 138 | 121 | 111 | 178 | 156 | 143 | | |
| | | | | | | | 40 | 132 | 113 | 104 | 170 | 146 | 134 | | |
| | | | | | | | 60 | 125 | 108 | 101 | 161 | 139 | 130 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| | | | | | | | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |
| | | | | | | | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| Hardie®Plank | 5/16 | 9 1/2 | 8d common | Face Nailed Through plank overlap | 2X4 wood | 24 | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |
| | | | | | | | 0-15 | 136 | 123 | 112 | 176 | 159 | 145 | | |
| | | | | | | | 20 | 136 | 120 | 109 | 176 | 155 | 141 | | |
| | | | | | | | 40 | 130 | 111 | 103 | 168 | 143 | 133 | | |
| | | | | | | | 60 | 123 | 107 | 99 | 159 | 138 | 128 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|--|-------------------------------|---|--------------------|-----------------------|--|-----|-----|-----|--|-----|-----|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{Bas}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V^{13,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 217 | 177 | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 217 | 204 | 177 | |
| | | | | | | | 40 | 168 | 147 | 131 | 217 | 217 | 190 | 169 | |
| Hardie®Plank | 5/16 | 60 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 126 | 217 | 217 | 177 | 163 | |
| | | | | | | | 20 | 168 | 137 | 126 | 217 | 217 | 204 | 177 | |
| | | | | | | | 40 | 168 | 137 | 126 | 217 | 217 | 190 | 163 | |
| Hardie®Plank | 5/16 | 6 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 177 | 177 | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 217 | 204 | 177 | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 217 | 190 | 169 | |
| Hardie®Plank | 5/16 | 8 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 126 | 217 | 217 | 190 | 163 | |
| | | | | | | | 20 | 168 | 147 | 121 | 217 | 217 | 190 | 156 | |
| | | | | | | | 40 | 168 | 131 | 116 | 217 | 217 | 169 | 150 | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 158 | 126 | 105 | 204 | 204 | 163 | 136 | |
| | | | | | | | 20 | 168 | 147 | 126 | 217 | 217 | 190 | 163 | |
| | | | | | | | 40 | 168 | 137 | 121 | 217 | 217 | 177 | 156 | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 217 | 177 | 150 | |
| | | | | | | | 20 | 168 | 131 | 110 | 217 | 217 | 169 | 142 | |
| | | | | | | | 40 | 158 | 121 | 105 | 204 | 204 | 156 | 136 | |
| Hardie®Plank | 5/16 | 12 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 116 | 100 | 190 | 190 | 150 | 129 | |
| | | | | | | | 20 | 168 | 126 | 105 | 217 | 217 | 163 | 136 | |
| | | | | | | | 40 | 168 | 121 | 95 | 217 | 217 | 156 | 123 | |
| Hardie®Plank | 5/16 | 4 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 137 | 110 | 95 | 177 | 177 | 142 | 123 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 155 | 126 | 110 | 200 | 200 | 163 | 142 | |
| Hardie®Plank | 5/16 | 60 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 105 | 187 | 187 | 150 | 136 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| Hardie®Plank | 5/16 | 6 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 154 | 126 | 110 | 199 | 199 | 163 | 142 | |
| Hardie®Plank | 5/16 | 6 | No. 8-18, 1-5/16" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 105 | 187 | 187 | 150 | 136 | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 207 | 177 | 150 | |
| | | | | | | | 40 | 154 | 126 | 110 | 199 | 199 | 163 | 142 | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ^{1,5} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|---|--|---|--------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|--|--|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 145 | 116 | 207 | 187 | 150 | | |
| | | | | | | | 20 | 160 | 141 | 110 | 207 | 182 | 142 | | |
| | | | | | | | 40 | 154 | 131 | 105 | 199 | 169 | 136 | | |
| | | | | | | | 60 | 145 | 126 | 100 | 187 | 163 | 129 | | |
| | | | | | | | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 105 | 207 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 40 | 147 | 110 | 95 | 190 | 142 | 123 | | |
| | | | | | | | 60 | 137 | 105 | 89 | 177 | 136 | 123 | | |
| | | | | | | | 0-15 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 40 | 137 | 105 | 95 | 177 | 136 | 123 | | |
| | | | | | | | 60 | 131 | 100 | 89 | 169 | 129 | 115 | | |
| | | | | | | | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 158 | 110 | 95 | 204 | 142 | 123 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw | Face Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 110 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 20 | 158 | 110 | 95 | 204 | 142 | 123 | | |
| | | | | | | | 40 | 137 | 100 | 89 | 177 | 129 | 115 | | |
| | | | | | | | 60 | 126 | 95 | 85 | 163 | 123 | 110 | | |
| | | | | | | | 0-15 | 163 | 148 | 134 | 210 | 191 | 173 | | |
| | | | | | | | 20 | 163 | 143 | 131 | 210 | 185 | 169 | | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 146 | 132 | 120 | 188 | 171 | 155 | | |
| | | | | | | | 20 | 146 | 128 | 117 | 188 | 166 | 151 | | |
| | | | | | | | 40 | 156 | 133 | 123 | 202 | 172 | 159 | | |
| | | | | | | | 60 | 148 | 128 | 119 | 191 | 165 | 154 | | |
| | | | | | | | 0-15 | 163 | 148 | 134 | 210 | 191 | 173 | | |
| | | | | | | | 20 | 163 | 143 | 131 | 210 | 185 | 169 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 146 | 132 | 120 | 188 | 171 | 155 | | |
| | | | | | | | 20 | 146 | 128 | 117 | 188 | 166 | 151 | | |
| | | | | | | | 40 | 140 | 119 | 110 | 180 | 154 | 142 | | |
| | | | | | | | 60 | 132 | 115 | 106 | 171 | 148 | 137 | | |
| | | | | | | | 0-15 | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | 20 | 133 | 117 | 107 | 172 | 151 | 138 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 130 | 118 | 107 | 168 | 152 | 138 | | |
| | | | | | | | 20 | 130 | 115 | 105 | 168 | 148 | 135 | | |
| | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | |
| | | | | | | | 60 | 121 | 105 | 97 | 156 | 135 | 126 | | |
| | | | | | | | 0-15 | 130 | 118 | 107 | 168 | 152 | 138 | | |
| | | | | | | | 20 | 130 | 115 | 105 | 168 | 148 | 135 | | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 118 | 102 | 95 | 152 | 132 | 123 | | |
| | | | | | | | 20 | 125 | 107 | 99 | 161 | 138 | 127 | | |
| | | | | | | | 40 | 118 | 102 | 95 | 152 | 132 | 123 | | |
| | | | | | | | 60 | 125 | 114 | 103 | 162 | 147 | 133 | | |
| | | | | | | | 0-15 | 125 | 114 | 103 | 162 | 147 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 101 | 162 | 143 | 130 | | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 125 | 114 | 103 | 162 | 147 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 101 | 162 | 143 | 130 | | |
| | | | | | | | 40 | 120 | 103 | 95 | 155 | 133 | 122 | | |
| | | | | | | | 60 | 114 | 99 | 91 | 147 | 127 | 118 | | |
| | | | | | | | 0-15 | 125 | 114 | 103 | 162 | 147 | 133 | | |
| | | | | | | | 20 | 125 | 110 | 101 | 162 | 143 | 130 | | |

2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{nat}^{3,9,12,15})

2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V_{13,14})



TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | | | |
|--------------|-------------------------|-------|---------------------------------------|--|--|--------------------|-----------------------|---|------|-----|-----|--|-----|-----|-----|---|--|
| | THICK. | WIDTH | | | | | | B | | C | | B | | C | | D | |
| | | | | | | | | B | C | D | B | C | D | B | C | D | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{13,14}) | | | | | |
| | | | | | | | | 123 | 112 | 101 | 159 | 144 | 131 | | | | |
| | | | | | | | | 123 | 108 | 99 | 159 | 140 | 128 | | | | |
| | | | | | | | | 118 | 101 | 93 | 152 | 130 | 120 | | | | |
| | | | | | | | | 60 | 112 | 97 | 90 | 144 | 125 | 116 | | | |
| | | | | | | | | 0-15 | 115 | 104 | 95 | 148 | 135 | 122 | | | |
| | 5/16 | 9 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 115 | 101 | 93 | 148 | 131 | 119 | | | | |
| | | | | | | | | 110 | 94 | 87 | 142 | 122 | 112 | | | | |
| | | | | | | | | 104 | 90 | - | 135 | 117 | - | | | | |
| | | | | | | | | 0-15 | 113 | 103 | 93 | 146 | 133 | 121 | | | |
| | | | | | | | | 20 | 113 | 100 | 91 | 146 | 129 | 118 | | | |
| | | | | | | | | 40 | 109 | 93 | 86 | 140 | 120 | 111 | | | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 103 | 89 | - | 133 | 115 | 107 | | | | |
| | | | | | | | | 133 | 121 | 110 | 172 | 156 | 141 | | | | |
| | | | | | | | | 20 | 133 | 117 | 107 | 172 | 151 | 138 | | | |
| | | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | 130 | | | |
| | | | | | | | | 60 | 121 | 105 | 97 | 156 | 135 | 125 | | | |
| | | | | | | | | 0-15 | 119 | 108 | 98 | 153 | 139 | 126 | | | |
| | Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 119 | 108 | 98 | 153 | 139 | 126 | | | |
| | | | | | | | | | 20 | 119 | 105 | 96 | 153 | 135 | 124 | | |
| | | | | | | | | | 40 | 114 | 98 | 90 | 147 | 126 | 116 | | |
| | | | | | | | | | 60 | 108 | 94 | 87 | 139 | 121 | 112 | | |
| | | | | | | | | | 0-15 | 108 | 98 | 89 | 140 | 127 | 115 | | |
| | | | | | | | | | 20 | 108 | 96 | 87 | 140 | 123 | 113 | | |
| Hardie®Plank | | 5/16 | 7 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 108 | 96 | 88 | 137 | 125 | 113 | | | |
| | | | | | | | | | 20 | 106 | 94 | 86 | 137 | 121 | 110 | | |
| | | | | | | | | | 40 | 102 | 87 | - | 132 | 113 | - | | |
| | | | | | | | | | 60 | 96 | - | - | 125 | 108 | - | | |
| | | | | | | | | | 0-15 | 106 | 96 | 88 | 137 | 125 | 113 | | |
| | | | | | | | | | 20 | 106 | 94 | 86 | 137 | 121 | 110 | | |
| | Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 102 | 93 | - | 132 | 120 | - | | | |
| | | | | | | | | | 20 | 102 | 90 | - | 132 | 116 | - | | |
| | | | | | | | | | 40 | 98 | - | - | 127 | - | - | | |
| | | | | | | | | | 60 | 93 | - | - | 120 | - | - | | |
| | | | | | | | | | 0-15 | 100 | 91 | - | 129 | 117 | - | | |
| | | | | | | | | | 20 | 102 | 88 | - | 129 | 114 | - | | |
| Hardie®Plank | | 5/16 | 8 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 100 | 91 | - | 129 | 117 | - | | | |
| | | | | | | | | | 20 | 100 | 88 | - | 129 | 114 | - | | |
| | | | | | | | | | 40 | 96 | - | - | 124 | - | - | | |
| | | | | | | | | | 60 | 91 | - | - | 117 | - | - | | |
| | | | | | | | | | 0-15 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |
| | Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 94 | 85 | - | 121 | 110 | - | | | |
| | | | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |
| | | | | | | | | | 40 | 90 | - | - | 116 | - | - | | |
| | | | | | | | | | 60 | 85 | - | - | 110 | - | - | | |
| | | | | | | | | | 0-15 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |
| Hardie®Plank | | 5/16 | 9 1/4 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 94 | 85 | - | 121 | 110 | - | | | |
| | | | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |
| | | | | | | | | | 40 | 90 | - | - | 116 | - | - | | |
| | | | | | | | | | 60 | 85 | - | - | 110 | - | - | | |
| | | | | | | | | | 0-15 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | | | 20 | 94 | - | - | 121 | 107 | - | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|---|--|--------------------------|--------------------|-----------------------|--|-----|-----|-----|--|-----|-----|---|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{15,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.25" long roofing nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 93 | - | - | - | 119 | - | - | - |
| | | | | | | | 20 | 93 | - | - | 119 | - | - | - | |
| | | | | | | | 40 | 89 | - | - | 115 | - | - | - | |
| | | | | | | | 60 | - | - | - | - | - | - | - | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 170 | 170 | 166 | 219 | 219 | 219 | 214 | |
| | | | | | | | 20 | 170 | 170 | 162 | 219 | 219 | 219 | 209 | |
| | | | | | | | 40 | 170 | 165 | 153 | 219 | 213 | 197 | 190 | |
| | | | | | | | 60 | 170 | 158 | 147 | 219 | 205 | 190 | 190 | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 170 | 164 | 149 | 219 | 211 | 192 | | |
| | | | | | | | 20 | 170 | 159 | 145 | 219 | 205 | 187 | 187 | |
| | | | | | | | 40 | 170 | 148 | 137 | 219 | 191 | 176 | 176 | |
| | | | | | | | 60 | 164 | 142 | 132 | 211 | 183 | 170 | 170 | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 164 | 149 | 136 | 212 | 193 | 175 | | |
| | | | | | | | 20 | 164 | 145 | 132 | 212 | 187 | 171 | 171 | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 174 | 161 | 161 | |
| | | | | | | | 60 | 149 | 129 | 120 | 193 | 167 | 155 | 155 | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 161 | 146 | 133 | 208 | 189 | 172 | | |
| | | | | | | | 20 | 161 | 142 | 130 | 208 | 183 | 167 | 167 | |
| | | | | | | | 40 | 155 | 132 | 122 | 200 | 171 | 158 | 158 | |
| | | | | | | | 60 | 146 | 127 | 118 | 189 | 164 | 152 | 152 | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 155 | 141 | 128 | 200 | 182 | 165 | | |
| | | | | | | | 20 | 155 | 137 | 125 | 200 | 176 | 161 | 161 | |
| | | | | | | | 40 | 149 | 127 | 117 | 192 | 164 | 152 | 152 | |
| | | | | | | | 60 | 141 | 122 | 113 | 182 | 157 | 146 | 146 | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 152 | 138 | 126 | 197 | 178 | 162 | | |
| | | | | | | | 20 | 152 | 134 | 123 | 197 | 173 | 158 | 158 | |
| | | | | | | | 40 | 146 | 125 | 115 | 189 | 161 | 149 | 149 | |
| | | | | | | | 60 | 138 | 120 | 111 | 178 | 155 | 144 | 144 | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 142 | 129 | 117 | 184 | 167 | 152 | | |
| | | | | | | | 20 | 142 | 126 | 115 | 184 | 162 | 148 | 148 | |
| | | | | | | | 40 | 137 | 117 | 108 | 176 | 151 | 139 | 139 | |
| | | | | | | | 60 | 129 | 112 | 104 | 167 | 145 | 134 | 134 | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 16 | 0-15 | 140 | 127 | 116 | 181 | 164 | 149 | | |
| | | | | | | | 20 | 140 | 124 | 113 | 181 | 160 | 146 | 146 | |
| | | | | | | | 40 | 135 | 115 | 106 | 174 | 148 | 137 | 137 | |
| | | | | | | | 60 | 127 | 110 | 102 | 164 | 142 | 132 | 132 | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 164 | 149 | 136 | 212 | 193 | 175 | | |
| | | | | | | | 20 | 164 | 145 | 132 | 212 | 187 | 171 | 171 | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 147 | 161 | 161 | |
| | | | | | | | 60 | 149 | 129 | 120 | 193 | 167 | 155 | 155 | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|--|--|---|--------------------|-----------------------|---|-----|-----|-----|--|-----|---|---|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,9,12,15}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | B | C | D | — | B | C | D | — |
| Hardie®Plank | 5/16 | 6 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 147 | 134 | 121 | 190 | 172 | 157 | | |
| | | | | | | | 20 | 147 | 130 | 118 | 190 | 168 | 153 | | |
| | | | | | | | 40 | 141 | 121 | 111 | 182 | 156 | 144 | | |
| | | | | | | | 60 | 134 | 116 | 108 | 172 | 150 | 139 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 134 | 122 | 111 | 173 | 157 | 143 | | |
| | | | | | | | 20 | 134 | 118 | 108 | 173 | 153 | 140 | | |
| | | | | | | | 40 | 129 | 110 | 102 | 166 | 142 | 131 | | |
| | | | | | | | 60 | 122 | 106 | 98 | 157 | 136 | 127 | | |
| Hardie®Plank | 5/16 | 7 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 132 | 119 | 109 | 170 | 154 | 140 | | |
| | | | | | | | 20 | 132 | 116 | 106 | 170 | 150 | 137 | | |
| | | | | | | | 40 | 126 | 108 | 100 | 163 | 139 | 129 | | |
| | | | | | | | 60 | 119 | 104 | 96 | 154 | 134 | 124 | | |
| Hardie®Plank | 5/16 | 8 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 127 | 115 | 104 | 163 | 148 | 135 | | |
| | | | | | | | 20 | 127 | 112 | 102 | 163 | 144 | 132 | | |
| | | | | | | | 40 | 122 | 104 | 96 | 157 | 134 | 124 | | |
| | | | | | | | 60 | 115 | 100 | 93 | 148 | 129 | 120 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 124 | 113 | 102 | 161 | 146 | 132 | | |
| | | | | | | | 20 | 124 | 110 | 100 | 161 | 142 | 129 | | |
| | | | | | | | 40 | 119 | 102 | 94 | 154 | 132 | 122 | | |
| | | | | | | | 60 | 113 | 98 | 91 | 146 | 126 | 117 | | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 116 | 106 | 96 | 150 | 136 | 124 | | |
| | | | | | | | 20 | 116 | 103 | 94 | 150 | 133 | 121 | | |
| | | | | | | | 40 | 112 | 95 | 88 | 144 | 123 | 114 | | |
| | | | | | | | 60 | 106 | 92 | 85 | 136 | 118 | 110 | | |
| Hardie®Plank | 5/16 | 9 1/2 | No. 11 gauge, 1.75 inch long roofing Nail | Blind Nailed Through top edge of plank | 2X4 wood | 24 | 0-15 | 114 | 104 | 94 | 148 | 134 | 122 | | |
| | | | | | | | 20 | 114 | 101 | 92 | 148 | 130 | 119 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| | | | | | | | 60 | 104 | 90 | - | 134 | 116 | - | | |
| Hardie®Plank | 5/16 | 4 | No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 177 | | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 204 | 177 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |
| | | | | | | | 60 | 168 | 137 | 121 | 217 | 177 | 156 | | |
| Hardie®Plank | 5/16 | 6 | No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 168 | 137 | 217 | 217 | 177 | | |
| | | | | | | | 20 | 168 | 158 | 137 | 217 | 204 | 177 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |
| | | | | | | | 60 | 168 | 137 | 121 | 217 | 177 | 156 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 158 | 142 | 217 | 204 | 183 | | |
| | | | | | | | 20 | 168 | 158 | 131 | 217 | 204 | 169 | | |
| | | | | | | | 40 | 168 | 147 | 126 | 217 | 190 | 163 | | |
| | | | | | | | 60 | 158 | 137 | 121 | 204 | 177 | 156 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ^{1,5} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|--|-------------------------------|---|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 152 | 126 | 217 | 196 | 163 | | |
| | | | | | | | 20 | 168 | 147 | 116 | 217 | 190 | 150 | | |
| | | | | | | | 40 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 147 | 116 | 217 | 190 | 150 | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 121 | 105 | 190 | 156 | 136 | | |
| | | | | | | | 20 | 168 | 142 | 121 | 217 | 183 | 156 | | |
| | | | | | | | 40 | 158 | 137 | 116 | 217 | 177 | 150 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 142 | 121 | 217 | 183 | 156 | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 110 | 204 | 163 | 142 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 147 | 116 | 105 | 190 | 150 | 136 | | |
| | | | | | | | 20 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 40 | 158 | 126 | 105 | 204 | 163 | 136 | | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 16 | 0-15 | 168 | 137 | 116 | 217 | 177 | 150 | | |
| | | | | | | | 20 | 168 | 126 | 105 | 217 | 163 | 136 | | |
| | | | | | | | 40 | 158 | 116 | 105 | 204 | 150 | 136 | | |
| Hardie®Plank | 5/16 | 4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 20 | 160 | 131 | 110 | 207 | 169 | 142 | | |
| | | | | | | | 40 | 152 | 121 | 105 | 196 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 6 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 100 | 187 | 150 | 129 | | |
| | | | | | | | 20 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 40 | 152 | 121 | 105 | 196 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 6 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 137 | 116 | 207 | 177 | 150 | | |
| | | | | | | | 20 | 160 | 131 | 105 | 207 | 169 | 136 | | |
| | | | | | | | 40 | 154 | 121 | 105 | 199 | 156 | 136 | | |
| Hardie®Plank | 5/16 | 7 1/4 or 7 1/2 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 145 | 116 | 100 | 187 | 150 | 129 | | |
| | | | | | | | 20 | 160 | 126 | 105 | 207 | 163 | 136 | | |
| | | | | | | | 40 | 147 | 105 | 89 | 190 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 131 | 100 | 89 | 169 | 129 | 115 | | |
| | | | | | | | 20 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 x 1 1/4 in. Long x 0.375 in. HD ribbed waterproof screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 160 | 121 | 100 | 207 | 156 | 129 | | |
| | | | | | | | 20 | 158 | 116 | 100 | 204 | 150 | 129 | | |
| | | | | | | | 40 | 142 | 105 | 89 | 183 | 136 | 115 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,16} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|----------------|---|--|---|--------------------|-----------------------|--|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{\text{ref}}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{\text{ult}}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{1/3,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/4 or 9 1/2 | No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed washerhead screws | Blind Screwed | Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud | 24 | 0-15 | 158 | 116 | 95 | 204 | 150 | 123 | | |
| | | | | | | | 20 | 147 | 105 | 89 | 190 | 136 | 115 | | |
| | | | | | | | 40 | 131 | 95 | 85 | 169 | 123 | 110 | | |
| | | | | | | | 60 | 121 | 89 | 85 | 156 | 115 | 110 | | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | 20 | 141 | 124 | 114 | 182 | 160 | 147 | | |
| | | | | | | | 40 | 135 | 116 | 107 | 174 | 150 | 138 | | |
| | | | | | | | 60 | 128 | 111 | 103 | 165 | 143 | 133 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 126 | 114 | 104 | 163 | 147 | 134 | | |
| | | | | | | | 20 | 126 | 111 | 102 | 163 | 143 | 132 | | |
| | | | | | | | 40 | 121 | 103 | 96 | 156 | 133 | 124 | | |
| | | | | | | | 60 | 114 | 99 | 92 | 147 | 128 | 119 | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 115 | 104 | 95 | 148 | 134 | 123 | | |
| | | | | | | | 20 | 115 | 102 | 93 | 148 | 132 | 120 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| | | | | | | | 60 | 104 | 91 | - | 134 | 117 | - | | |
| Hardie®Plank | 5/16 | 7 1/2 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 113 | 102 | 93 | 146 | 132 | 120 | | |
| | | | | | | | 20 | 113 | 99 | 91 | 146 | 128 | 117 | | |
| | | | | | | | 40 | 108 | 93 | 85 | 139 | 120 | 110 | | |
| | | | | | | | 60 | 102 | 89 | - | 132 | 115 | - | | |
| Hardie®Plank | 5/16 | 8 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 109 | 99 | 90 | 141 | 128 | 116 | | |
| | | | | | | | 20 | 109 | 96 | 87 | 141 | 124 | 112 | | |
| | | | | | | | 40 | 104 | 89 | - | 134 | 115 | - | | |
| | | | | | | | 60 | 99 | 85 | - | 128 | 110 | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 107 | 97 | 88 | 138 | 125 | 114 | | |
| | | | | | | | 20 | 107 | 94 | 86 | 138 | 121 | 111 | | |
| | | | | | | | 40 | 102 | 88 | - | 132 | 114 | - | | |
| | | | | | | | 60 | 97 | - | - | 125 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 100 | 90 | 80 | 129 | 116 | - | | |
| | | | | | | | 20 | 100 | 88 | - | 129 | 114 | - | | |
| | | | | | | | 40 | 96 | - | - | 124 | - | - | | |
| | | | | | | | 60 | 90 | - | - | 116 | - | - | | |
| Hardie®Plank | 5/16 | 9 1/2 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter sliding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 16 | 0-15 | 98 | 89 | - | 127 | 115 | - | | |
| | | | | | | | 20 | 98 | 87 | - | 127 | 112 | - | | |
| | | | | | | | 40 | 94 | - | - | 121 | - | - | | |
| | | | | | | | 60 | 89 | - | - | 115 | - | - | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1,8} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|--------|--|--|---------------------------|--------------------|-----------------------|---|-----|-----|-----|---|-----|---|--|
| | THICK. | WIDTH | | | | | | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{bas}^{3,9,12,15}$) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{13,14}$) | | | |
| | | | | | | | | B | C | D | | B | C | D | |
| Hardie®Plank | 5/16 | 5 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 115 | 104 | 95 | 148 | 134 | 123 | | |
| | | | | | | | 20 | 115 | 102 | 93 | 148 | 132 | 120 | | |
| | | | | | | | 40 | 110 | 94 | 87 | 142 | 121 | 112 | | |
| Hardie®Plank | 5/16 | 6 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 104 | 91 | - | 134 | 117 | - | | |
| | | | | | | | 20 | 103 | 93 | - | 133 | 120 | - | | |
| | | | | | | | 40 | 103 | 91 | - | 133 | 117 | - | | |
| | | | | | | | 60 | 99 | - | - | 128 | - | - | | |
| | | | | | | | 0-15 | 94 | 85 | - | 121 | 110 | - | | |
| | | | | | | | 20 | 94 | - | - | 121 | - | - | | |
| Hardie®Plank | 5/16 | 7 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 92 | - | - | 119 | - | - | | |
| | | | | | | | 20 | 92 | - | - | 119 | - | - | | |
| | | | | | | | 40 | 88 | - | - | 114 | - | - | | |
| | | | | | | | 60 | - | - | - | - | - | - | | |
| | | | | | | | 0-15 | 89 | - | - | 115 | - | - | | |
| | | | | | | | 20 | 89 | - | - | 115 | - | - | | |
| Hardie®Plank | 5/16 | 8 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 20 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 40 | 85 | - | - | 110 | - | - | | |
| | | | | | | | 60 | - | - | - | - | - | - | | |
| | | | | | | | 0-15 | 87 | - | - | 112 | - | - | | |
| | | | | | | | 20 | 87 | - | - | 112 | - | - | | |
| Hardie®Plank | 5/16 | 8 1/4 | 6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail | Blind Nailed Through top edge of plank | 2 x 4 wood | 24 | 0-15 | 153 | 138 | 126 | 198 | 178 | 163 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 198 | 174 | 159 | | |
| | | | | | | | 40 | 146 | 125 | 116 | 188 | 161 | 150 | | |
| | | | | | | | 60 | 138 | 120 | 112 | 178 | 155 | 145 | | |
| | | | | | | | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 143 | 126 | 115 | 185 | 163 | 148 | | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 153 | 135 | 123 | 198 | 174 | 159 | | |
| | | | | | | | 40 | 146 | 125 | 116 | 188 | 161 | 150 | | |
| Hardie®Plank | 5/16 | 9 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 143 | 130 | 118 | 185 | 168 | 152 | | |
| | | | | | | | 20 | 143 | 126 | 115 | 185 | 163 | 148 | | |
| | | | | | | | 40 | 137 | 117 | 108 | 177 | 151 | 139 | | |
| | | | | | | | 60 | 130 | 113 | 105 | 168 | 146 | 136 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,15} | FASTENING METHOD ² | FRAME TYPE ¹⁵ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|--------|---|---|---|-----------------------------------|-----------------------|-------------------|-----|-----|-----|-------------------|-----|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C |
| Hardie®Plank | 5/16 | 9 1/2 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 0-15 | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | 20 | 141 | 124 | 113 | 182 | 160 | 146 | | |
| | | | | | | | 40 | 135 | 116 | 107 | 174 | 150 | 138 | | |
| | | | | | | | 60 | 128 | 111 | 103 | 165 | 143 | 133 | | |
| | | | | | | | 0-15 | 123 | 112 | 101 | 159 | 144 | 131 | | |
| | | | | | | | 20 | 123 | 108 | 99 | 159 | 140 | 128 | | |
| Hardie®Plank | 5/16 | 12 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood | 16 | 40 | 118 | 101 | 934 | 152 | 130 | 120 | | |
| | | | | | | | 60 | 112 | 97 | 90 | 144 | 125 | 116 | | |
| | | | | | | | 0-15 | 203 | 184 | 167 | 262 | 238 | 216 | | |
| | | | | | | | 20 | 203 | 179 | 163 | 262 | 231 | 210 | | |
| | | | | | | | 40 | 194 | 166 | 153 | 250 | 214 | 198 | | |
| | | | | | | | 60 | 184 | 159 | 148 | 238 | 205 | 191 | | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 8d ring shank box nail, 0.113" shank X 0.260" HD X 2.375" L | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 0-15 | 166 | 151 | 137 | 214 | 195 | 177 | | |
| | | | | | | | 20 | 166 | 146 | 134 | 214 | 188 | 173 | | |
| | | | | | | | 40 | 159 | 136 | 126 | 205 | 176 | 163 | | |
| | | | | | | | 60 | 151 | 131 | 121 | 195 | 169 | 156 | | |
| | | | | | | | 0-15 | 151 | 137 | 125 | 195 | 177 | 161 | | |
| | | | | | | | 20 | 151 | 133 | 122 | 195 | 172 | 158 | | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.092" shank X 0.222" HD X 2" long galv. nail | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 40 | 145 | 124 | 115 | 187 | 160 | 148 | | |
| | | | | | | | 60 | 137 | 119 | 111 | 177 | 154 | 143 | | |
| | | | | | | | 0-15 | 187 | 170 | 154 | 241 | 219 | 199 | | |
| | | | | | | | 20 | 187 | 165 | 151 | 241 | 213 | 195 | | |
| | | | | | | | 40 | 180 | 154 | 142 | 232 | 199 | 183 | | |
| | | | | | | | 60 | 170 | 147 | 137 | 219 | 190 | 177 | | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.092" shank X 0.222" HD X 2.5" long galv. nail | face nailed through plank overlap | 2 x 4 wood ⁶ | 16 | 0-15 | 207 | 188 | 171 | 267 | 243 | 221 | | |
| | | | | | | | 20 | 207 | 183 | 167 | 267 | 236 | 216 | | |
| | | | | | | | 40 | 199 | 170 | 157 | 257 | 219 | 203 | | |
| | | | | | | | 60 | 188 | 163 | 152 | 243 | 210 | 196 | | |
| | | | | | | | 0-15 | 183 | 166 | 151 | 236 | 214 | 195 | | |
| | | | | | | | 20 | 183 | 161 | 147 | 236 | 208 | 190 | | |
| Hardie®Plank | 5/16 | 5 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 176 | 150 | 139 | 227 | 194 | 179 | | |
| | | | | | | | 60 | 166 | 144 | 134 | 214 | 186 | 173 | | |
| | | | | | | | 0-15 | 165 | 150 | 136 | 213 | 194 | 176 | | |
| | | | | | | | 20 | 165 | 145 | 133 | 213 | 187 | 172 | | |
| | | | | | | | 40 | 158 | 135 | 125 | 204 | 174 | 161 | | |
| | | | | | | | 60 | 150 | 130 | 120 | 194 | 168 | 155 | | |
| Hardie®Plank | 5/16 | 7 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 150 | 136 | 124 | 194 | 176 | 160 | | |
| | | | | | | | 20 | 150 | 133 | 121 | 194 | 172 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 114 | 186 | 159 | 147 | | |
| | | | | | | | 60 | 136 | 118 | 110 | 176 | 152 | 142 | | |
| | | | | | | | 0-15 | 150 | 136 | 124 | 194 | 176 | 160 | | |
| | | | | | | | 20 | 150 | 133 | 121 | 194 | 172 | 156 | | |
| Hardie®Plank | 5/16 | 8 1/4 | No. 8 X 1- 5/8" long X 0.375" HD ribbed water head screw ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 144 | 123 | 114 | 186 | 159 | 147 | | |
| | | | | | | | 60 | 136 | 118 | 110 | 176 | 152 | 142 | | |
| | | | | | | | 0-15 | 150 | 136 | 124 | 194 | 176 | 160 | | |
| | | | | | | | 20 | 150 | 133 | 121 | 194 | 172 | 156 | | |
| | | | | | | | 40 | 144 | 123 | 114 | 186 | 159 | 147 | | |
| | | | | | | | 60 | 136 | 118 | 110 | 176 | 152 | 142 | | |

2012 IBC, 2009
IBC/IRC, 2006 IBC/IRC
(Basic Wind Speed,
V_{add} 3.9, 2.15)

2015 IBC/IRC and
2012 IBC
(Ultimate Design
Wind Speed, V_{ult} 10, 11),
2021 and 2018
IBC/IRC (Basic
Design Wind Speed,
V_{13/14})

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ¹⁶ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|--------|---|---|--|-----------------------------|-----------------------|-------------------|-----|-----|-------------------|-----|-----|--|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | |
| Hardie®Plank | 5/16 | 9 1/4 | No. 8 X 1-5/8" long X 0.375" HD ribbed water head screws ⁵ | blind screw through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 139 | 126 | 114 | 179 | 163 | 147 | |
| | | | | | | | 20 | 139 | 122 | 112 | 179 | 158 | 145 | |
| | | | | | | | 40 | 133 | 114 | 105 | 172 | 147 | 136 | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.090" shank X 0.215" HD X 1.5" long ring shank nails ⁵ | blind nail through top edge of plank at 8 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 145 | 132 | 120 | 187 | 170 | 155 | |
| | | | | | | | 20 | 145 | 128 | 117 | 187 | 165 | 151 | |
| | | | | | | | 40 | 139 | 119 | 110 | 179 | 154 | 142 | |
| Hardie®Plank | 5/16 | ≤8 1/4 | 0.090" shank X 0.215" HD X 1.5" long ring shank nails ⁵ | blind nail through top edge of plank at 6 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 166 | 150 | 137 | 214 | 194 | 177 | |
| | | | | | | | 20 | 166 | 146 | 133 | 214 | 188 | 172 | |
| | | | | | | | 40 | 159 | 136 | 125 | 205 | 176 | 161 | |
| Hardie®Plank | 5/16 | ≤9 1/2 | 0.091" shank, 0.221" HD, 1.5" long ring shank nails ⁵ | Face Nailed through the overlap at 12" O.C. | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 100 | 91 | - | 129 | 117 | - | |
| | | | | | | | 20 | 100 | 88 | - | 129 | 114 | - | |
| | | | | | | | 40 | 96 | - | - | 124 | - | - | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 146 | 146 | 132 | 207 | 188 | 171 | |
| | | | | | | | 20 | 161 | 142 | 129 | 207 | 183 | 167 | |
| | | | | | | | 40 | 154 | 132 | 122 | 199 | 170 | 157 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 146 | 133 | 120 | 189 | 171 | 156 | |
| | | | | | | | 20 | 146 | 129 | 118 | 189 | 166 | 152 | |
| | | | | | | | 40 | 140 | 120 | 111 | 181 | 155 | 143 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 137 | 124 | 113 | 176 | 160 | 145 | |
| | | | | | | | 20 | 137 | 120 | 110 | 176 | 156 | 142 | |
| | | | | | | | 40 | 131 | 112 | 103 | 169 | 145 | 134 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 130 | 118 | 107 | 168 | 152 | 138 | |
| | | | | | | | 20 | 130 | 115 | 105 | 168 | 148 | 135 | |
| | | | | | | | 40 | 125 | 107 | 99 | 161 | 138 | 127 | |
| Hardie®Plank | 5/16 | 5 1/4 | #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 118 | 102 | 95 | 152 | 132 | 123 | |
| | | | | | | | 20 | 118 | 102 | 95 | 152 | 132 | 123 | |
| | | | | | | | 40 | 118 | 102 | 95 | 152 | 132 | 123 | |

2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{ASD}^{3,9,12,15})

2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V_{13,14})

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ⁸ | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|--|--|--|-----------------------------|-----------------------|---|-----|-----|-----|---|-----|---|---|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | B | C |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{nat} ^{3,5,12,15}) | | | | 2015 IBC/IRC and (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{15,14}) | | | |
| | | | | | | | | 148 | 135 | 122 | 192 | 174 | 158 | | |
| | | | | | | | | 148 | 131 | 119 | 192 | 169 | 154 | | |
| | | | | | | | | 142 | 122 | 112 | 184 | 157 | 145 | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 134 | 122 | 111 | 173 | 157 | 143 | | |
| | | | | | | | | 20 | 134 | 118 | 108 | 173 | 153 | | |
| | | | | | | | | 40 | 129 | 110 | 102 | 166 | 142 | | |
| | | | | | | | | 60 | 122 | 106 | 98 | 157 | 136 | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 125 | 113 | 103 | 161 | 146 | 133 | | |
| | | | | | | | | 20 | 125 | 110 | 100 | 161 | 142 | | |
| | | | | | | | | 40 | 120 | 102 | 94 | 154 | 132 | | |
| | | | | | | | | 60 | 113 | 98 | 91 | 146 | 127 | | |
| Hardie®Plank | 5/16 | 6 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 118 | 107 | 97 | 152 | 138 | 126 | | |
| | | | | | | | | 20 | 118 | 104 | 95 | 152 | 134 | | |
| | | | | | | | | 40 | 113 | 97 | 89 | 146 | 125 | | |
| | | | | | | | | 60 | 107 | 93 | 86 | 138 | 120 | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 140 | 127 | 115 | 180 | 164 | 149 | | |
| | | | | | | | | 20 | 140 | 123 | 113 | 180 | 159 | | |
| | | | | | | | | 40 | 134 | 115 | 106 | 173 | 148 | | |
| | | | | | | | | 60 | 127 | 110 | 102 | 164 | 142 | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 125 | 114 | 103 | 162 | 147 | 134 | | |
| | | | | | | | | 20 | 125 | 111 | 101 | 162 | 143 | | |
| | | | | | | | | 40 | 120 | 103 | 95 | 155 | 133 | | |
| | | | | | | | | 60 | 114 | 99 | 92 | 147 | 128 | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 116 | 105 | 96 | 150 | 136 | 123 | | |
| | | | | | | | | 20 | 116 | 102 | 93 | 150 | 132 | | |
| | | | | | | | | 40 | 111 | 95 | 88 | 144 | 123 | | |
| | | | | | | | | 60 | 105 | 91 | - | 136 | 118 | | |
| Hardie®Plank | 5/16 | 7 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 109 | 99 | 90 | 141 | 128 | 116 | | |
| | | | | | | | | 20 | 109 | 96 | 88 | 141 | 125 | | |
| | | | | | | | | 40 | 105 | 90 | - | 136 | 116 | | |
| | | | | | | | | 60 | 99 | 86 | - | 128 | 111 | | |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Sliding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 133 | 121 | 110 | 172 | 156 | 142 | | |
| | | | | | | | | 20 | 133 | 117 | 107 | 172 | 152 | | |
| | | | | | | | | 40 | 128 | 109 | 101 | 165 | 141 | | |
| | | | | | | | | 60 | 121 | 105 | 97 | 156 | 135 | | |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{1,6} | FASTENING METHOD ² | FRAME TYPE ^{1,6} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{10,11}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{3,3,9}$) | |
|--------------|-------------------------|-------|--|--|--|-----------------------------|-----------------------|-------------------|-----|-----|-----|---|-----|
| | THICK. | WIDTH | | | | | | EXPOSURE CATEGORY | | | | | |
| | | | | | | | | B | C | D | B | C | D |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 108 | 94 | 87 | 139 | 121 | 112 |
| | | | | | | | | 110 | 99 | 90 | 141 | 128 | 117 |
| | | | | | | | | 119 | 105 | 96 | 154 | 136 | 124 |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 108 | 94 | 87 | 139 | 121 | 112 |
| | | | | | | | | 110 | 99 | 90 | 141 | 128 | 117 |
| | | | | | | | | 119 | 105 | 96 | 154 | 136 | 124 |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 99 | 86 | - | 128 | 111 | - |
| | | | | | | | | 103 | 93 | - | 133 | 120 | - |
| | | | | | | | | 103 | 91 | - | 133 | 117 | - |
| Hardie®Plank | 5/16 | 8 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 12 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 93 | - | - | 120 | - | - |
| | | | | | | | | 128 | 116 | 106 | 165 | 150 | 136 |
| | | | | | | | | 128 | 113 | 103 | 165 | 146 | 133 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 114 | 103 | 94 | 147 | 133 | 121 |
| | | | | | | | | 114 | 100 | 92 | 147 | 130 | 118 |
| | | | | | | | | 128 | 113 | 103 | 165 | 146 | 133 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 123 | 105 | 97 | 159 | 136 | 125 |
| | | | | | | | | 116 | 101 | 94 | 150 | 130 | 121 |
| | | | | | | | | 116 | 101 | 94 | 150 | 130 | 121 |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 16 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 60 | 103 | 90 | - | 133 | 116 | - |
| | | | | | | | | 104 | 95 | 86 | 135 | 122 | 111 |
| | | | | | | | | 104 | 92 | - | 135 | 119 | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 20 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 100 | 86 | - | 129 | 111 | - |
| | | | | | | | | 95 | - | - | 122 | - | - |
| | | | | | | | | 95 | - | - | 122 | - | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 0-15 | 98 | 89 | - | 126 | 114 | - |
| | | | | | | | | 98 | 86 | - | 126 | 111 | - |
| | | | | | | | | 98 | 86 | - | 126 | 111 | - |
| Hardie®Plank | 5/16 | 9 1/4 | HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650964) or #650964) | blind nail through top edge of plank at 24 in. on center | Attached to 7/16" wood structural panel sheathing only | 7/16" WSP attached per code | 40 | 94 | - | - | 121 | - | - |
| | | | | | | | | 89 | - | - | 114 | - | - |
| | | | | | | | | 89 | - | - | 114 | - | - |

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE ^{4,16} | FASTENING METHOD ² | FRAME TYPE ^{1,8} | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | EXPOSURE CATEGORY | | | | EXPOSURE CATEGORY | | | |
|--------------|-------------------------|-------|--|--------------------------------------|---------------------------|--------------------|-----------------------|---|-----|-----|-----|--|-----|---|--|
| | THICK. | WIDTH | | | | | | B | C | D | B | C | D | D | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 141 | 128 | 116 | 182 | 165 | 150 | | |
| | | | | | | | | 141 | 124 | 114 | 182 | 161 | 147 | | |
| | | | | | | | | 135 | 116 | 107 | 175 | 149 | 138 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 128 | 111 | 103 | 165 | 143 | 133 | | |
| | | | | | | | | 130 | 118 | 108 | 168 | 153 | 139 | | |
| | | | | | | | | 130 | 115 | 105 | 168 | 149 | 136 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 125 | 107 | 99 | 162 | 138 | 128 | | |
| | | | | | | | | 118 | 103 | 95 | 153 | 133 | 123 | | |
| | | | | | | | | 115 | 105 | 95 | 149 | 135 | 123 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 105 | 91 | - | 135 | 117 | - | | |
| | | | | | | | | 107 | 97 | 88 | 138 | 125 | 113 | | |
| | | | | | | | | 107 | 94 | 86 | 138 | 121 | 111 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 102 | 87 | - | 132 | 113 | - | | |
| | | | | | | | | 97 | - | - | 125 | - | - | | |
| | | | | | | | | 107 | 97 | 88 | 138 | 125 | 113 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 16 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 165 | 149 | 136 | 213 | 193 | 175 | | |
| | | | | | | | | 165 | 145 | 133 | 213 | 188 | 171 | | |
| | | | | | | | | 158 | 135 | 125 | 204 | 174 | 161 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 149 | 130 | 120 | 193 | 167 | 155 | | |
| | | | | | | | | 135 | 122 | 111 | 174 | 158 | 143 | | |
| | | | | | | | | 135 | 119 | 108 | 174 | 153 | 140 | | |
| Artisan® Lap | 5/8 | 8 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 60 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 122 | 106 | 98 | 158 | 137 | 127 | | |
| | | | | | | | | 117 | 106 | 97 | 151 | 137 | 125 | | |
| | | | | | | | | 117 | 103 | 94 | 151 | 134 | 122 | | |
| Artisan® Lap | 5/8 | 7 1/4 | 8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail | blind nail through top edge of plank | 2X4 Wood ⁷ | 24 | 40 | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V _{asst} ^{9,13,15,16}) | | | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V _{ult} ^{10,11}), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V _{3,3,4}) | | | |
| | | | | | | | | 113 | 96 | 89 | 145 | 124 | 115 | | |
| | | | | | | | | 113 | 96 | 89 | 145 | 124 | 115 | | |
| | | | | | | | | 106 | 92 | 86 | 137 | 119 | 111 | | |

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

- ¹Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.
- ²Face = Fastened through the overlapping plank. Blind = Fastened through the top edge of single plank.
- ³Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05; I = 1.0, K_{zt} = 1, K_d = 0.85, G_{Cpi} = 0.18, G_{Cp} = -1.4.
- ⁴ET&F pin fasteners have knurled shanks.
- ⁵Fastener length shall be sufficient to penetrate back side of the minimum 7/16" WSP sheathing by at least 1/2" for nails or 3 full threads for screws.
- ⁶Values are for species of wood having a specific gravity of 0.50 or greater.
- ⁷Values are for species of wood having a specific gravity of 0.40 or greater.
- ⁸Metal studs must be minimum Fy = 33 ksi.
- ⁹V_{asst} = nominal design wind speed.
- ¹⁰V_{ult} = ultimate design wind speed.
- ¹¹Wind speed design assumptions per Section 30.4, of ASCE 7-10: K_{zt} = 1, K_d = 0.85, G_{Cpi} = 0.18, G_{Cp} = -1.4.
- ¹²2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V_{ult} × 0.6
- ¹³V = basic design wind speed
- ¹⁴Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, K_d = 0.85, G_{Cpi} = 0.18, G_{Cp} = -1.4.
- ¹⁵2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, V_{asst} = V × √0.6
- ¹⁶Smooth-shank stainless steel nails are outside of the scope of this report.

**TABLE 5—(V_{asst} 100 MPH; V_{ult} / V 129 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL.^{1,2,4,5}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 23 | 19 |
| 30 | 24 | 24 | 24 | 24 | 24 | 23 | 24 | 24 | 24 | 24 | 21 | 18 |
| 40 | 24 | 24 | 24 | 24 | 24 | 21 | 24 | 22 | 19 | 24 | 20 | 17 |
| 50 | 24 | 24 | 24 | 24 | 24 | 20 | 24 | 21 | 18 | 24 | 19 | 16 |
| 60 | 24 | 24 | 22 | 24 | 22 | 19 | 24 | 20 | 17 | 24 | 18 | 15 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 100 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 129 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 6—(V_{asst} 110 MPH; V_{ult} / V 142 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL.^{1,2,4,5}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 24 | 22 | 24 | 24 | 19 | 24 | 21 | 17 | 23 | 19 | 15 |
| 30 | 24 | 24 | 21 | 24 | 22 | 18 | 24 | 20 | 16 | 23 | 18 | 15 |
| 40 | 24 | 24 | 20 | 24 | 20 | 17 | 24 | 18 | 15 | 23 | 16 | 14 |
| 50 | 24 | 24 | 22 | 24 | 19 | 16 | 24 | 17 | 15 | 21 | 15 | 13 |
| 60 | 24 | 24 | 21 | 24 | 18 | 16 | 22 | 16 | 14 | 20 | 14 | 12 |
| | | | 18 | 23 | 18 | 15 | 21 | 16 | 14 | 19 | 14 | 12 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 110 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 142 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 7—(V_{asst} 120 MPH; V_{ult} / V 155 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL.^{1,3,4}**

| Building Height (feet) | ≤6 1/2-inch wide | | | 7 1/4- & 7 1/2-inch wide | | | 8- & 8 1/2-inch wide | | | 9 1/4- & 9 1/2-inch wide | | |
|------------------------|------------------|----------|----------|--------------------------|----------|----------|----------------------|----------|----------|--------------------------|----------|----|
| | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | Exposure | |
| 0-15 | B | C | D | B | C | D | B | C | D | B | C | D |
| 20 | 24 | 23 | 19 | 24 | 20 | 17 | 24 | 18 | 15 | 19 | 16 | 13 |
| 30 | 24 | 22 | 18 | 24 | 19 | 16 | 24 | 17 | 14 | 19 | 15 | 12 |
| 40 | 24 | 24 | 17 | 24 | 17 | 15 | 24 | 15 | 13 | 19 | 14 | 12 |
| 50 | 24 | 24 | 19 | 24 | 22 | 14 | 20 | 14 | 12 | 18 | 13 | 11 |
| 60 | 24 | 24 | 18 | 24 | 16 | 13 | 18 | 14 | 12 | 17 | 12 | 11 |
| | | 17 | 15 | 20 | 15 | 13 | 18 | 13 | 11 | 16 | 12 | 10 |

For S1: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter = 0.30 in., shank diameter = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed (V_{asst}) shall be 120 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 155 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 8—(V_{asst} 130 MPH; V_{ult} / V 168 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 24 | 20 | 16 | 21 | 17 | 14 | 18 | 15 | 12 | 16 | 14 | 11 |
| 20 | 24 | 19 | 15 | 21 | 16 | 13 | 18 | 14 | 12 | 16 | 13 | 11 |
| 30 | 24 | 17 | 14 | 21 | 15 | 12 | 18 | 13 | 11 | 16 | 12 | 10 |
| 40 | 22 | 16 | 14 | 19 | 14 | 12 | 17 | 12 | 11 | 15 | 11 | 9 |
| 50 | 21 | 15 | 13 | 18 | 13 | 11 | 16 | 12 | 10 | 14 | 11 | 9 |
| 60 | 20 | 15 | 13 | 17 | 13 | 11 | 15 | 11 | 10 | 13 | 10 | 9 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head dia. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 130 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 168 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 9—(V_{asst} 140 MPH; V_{ult} / V 181 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 21 | 17 | 14 | 18 | 15 | 12 | 16 | 13 | 11 | 14 | 12 | 10 |
| 20 | 21 | 16 | 13 | 18 | 14 | 12 | 16 | 12 | 10 | 14 | 11 | 9 |
| 30 | 21 | 15 | 12 | 18 | 13 | 11 | 16 | 11 | 10 | 14 | 10 | 9 |
| 40 | 19 | 14 | 12 | 16 | 12 | 10 | 15 | 11 | 9 | 13 | 9 | 8 |
| 50 | 18 | 13 | 11 | 15 | 11 | 10 | 14 | 10 | 9 | 12 | 9 | 8 |
| 60 | 17 | 13 | 11 | 15 | 11 | 10 | 13 | 10 | 9 | 12 | 9 | 8 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 140 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 181 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

**TABLE 10—(V_{asst} 150 MPH; V_{ult} / V 194 MPH)³
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL^{1,2,4,5}**

| Building Height (feet) | <6 1/2-inch wide Exposure | | | 7 1/4- & 7 1/2-inch wide Exposure | | | 8- & 8 1/2-inch wide Exposure | | | 9 1/4- & 9 1/2-inch wide Exposure | | |
|------------------------|---------------------------|----|----|-----------------------------------|----|----|-------------------------------|----|---|-----------------------------------|----|---|
| | B | C | D | B | C | D | B | C | D | B | C | D |
| 0-15 | 18 | 15 | 12 | 16 | 13 | 11 | 14 | 11 | 9 | 12 | 10 | 8 |
| 20 | 18 | 14 | 12 | 16 | 12 | 10 | 14 | 11 | 9 | 12 | 10 | 8 |
| 30 | 18 | 13 | 11 | 16 | 11 | 9 | 14 | 10 | 8 | 12 | 9 | 7 |
| 40 | 16 | 12 | 10 | 14 | 10 | 9 | 13 | 9 | 8 | 11 | 8 | 7 |
| 50 | 15 | 12 | 10 | 13 | 10 | 9 | 12 | 9 | 8 | 11 | 8 | 7 |
| 60 | 15 | 11 | 10 | 13 | 10 | 8 | 11 | 8 | 7 | 10 | 8 | 7 |

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

¹Hardie® Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long). Max System block Nail (CP-C 832 W7-1CC, head dia. = 0.30 in., shank dia. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

²Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.5-in. long). Max System block Nail (CP-C 838 W7-1CC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.).

³Maximum nominal design wind speed shall be 150 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 194 mph.

⁴Interpolation to address building height and other plank widths is permitted.

⁵The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 11—ALLOWABLE BASIC WIND SPEEDS (mph) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

| Sheathing Type | Sliding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{3,7}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{s7}^{8,9}$) | |
|--|---|--|---------------------------|---|-----|--|-----|
| | | | | Exposure Category | | Exposure Category | |
| | | | | B | C | B | C |
| Minimum ^{1/2} / ₃₂ inch thick plywood complying with DOC PS 1-95 | Min. 0.121 in. shank x 0.371 in. HD x 1 1/4 in. long corrosion resistant roofing Nail | 8 inch exposure 2 roofing nails 9 inches from butt edge | 0-15 | 126 | 110 | 163 | 142 |
| | | | 20 | 126 | 105 | 163 | 136 |
| | | | 40 | 126 | 95 | 163 | 123 |
| | | | 60 | 126 | 89 | 163 | 115 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 126 | 121 | 163 | 156 |
| | | 7 inch exposure 2 roofing nails 8 inches from butt edge | 0-15 | 126 | 105 | 163 | 136 |
| | | | 20 | 126 | 105 | 163 | 136 |
| | | | 40 | 126 | 126 | 163 | 163 |
| | | | 60 | 126 | 126 | 163 | 163 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 126 | 121 | 163 | 156 |
| 6 inch exposure 2 roofing nails 7 inches from butt edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| | 40 | 126 | 121 | 163 | 156 | | |
| | 60 | 126 | 116 | 163 | 150 | | |
| | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| 5 inch exposure 2 roofing nails 6 inches from butt edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 121 | 163 | 156 | | |
| | 40 | 126 | 121 | 163 | 156 | | |
| | 60 | 126 | 116 | 163 | 150 | | |
| | 0-15 | 126 | 116 | 163 | 150 | | |
| | 20 | 126 | 111 | 163 | 142 | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

² V_{asd} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult} \sqrt{0.6}$

⁶V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

TABLE 12—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

| Sheathing Type | Sliding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{3,7}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{s7}^{8,9}$) | |
|---|---|---|---------------------------|---|-----|--|-----|
| | | | | Exposure Category | | Exposure Category | |
| | | | | B | C | B | C |
| Minimum ^{7/16} inch thick OSB sheathing complying with DOC-PS 2-95 | Min. 0.091 in. shank x 0.221 in. HD x 1 1/2 in. long corrosion resistant sliding Nail | 8 inch exposure 2 siding nails 9 inches from butt edge | 0-15 | 126 | 89 | 163 | 115 |
| | | | 20 | 126 | 89 | 163 | 115 |
| | | | 40 | 105 | 85 | 136 | 110 |
| | | | 60 | 100 | 129 | 163 | 129 |
| | | | 0-15 | 126 | 105 | 163 | 136 |
| | | | 20 | 126 | 100 | 163 | 129 |
| | | 7 inch exposure 2 siding nails 8 inches from butt edge | 0-15 | 126 | 95 | 156 | 123 |
| | | | 20 | 116 | 115 | 150 | 115 |
| | | | 40 | 126 | 116 | 163 | 150 |
| | | | 60 | 126 | 110 | 163 | 142 |
| | | | 0-15 | 126 | 110 | 163 | 142 |
| | | | 20 | 126 | 105 | 163 | 136 |
| 6 inch exposure 2 siding nails 7 inches from butt edge | 0-15 | 126 | 105 | 163 | 123 | | |
| | 20 | 126 | 116 | 163 | 136 | | |
| | 40 | 126 | 116 | 163 | 136 | | |
| | 60 | 126 | 116 | 163 | 136 | | |
| | 0-15 | 126 | 116 | 163 | 136 | | |
| | 20 | 126 | 110 | 163 | 142 | | |
| 5 inch exposure 2 siding nails 6 inches from butt edge | 0-15 | 126 | 105 | 163 | 136 | | |
| | 20 | 126 | 105 | 163 | 136 | | |
| | 40 | 126 | 105 | 163 | 136 | | |
| | 60 | 126 | 95 | 163 | 123 | | |
| | 0-15 | 126 | 95 | 163 | 123 | | |
| | 20 | 126 | 95 | 163 | 123 | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

² V_{asd} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult} \sqrt{0.6}$

⁶V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: Kzt = 1, Kd = 0.85, GCPI = 0.18, GCP = -1.4.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

**TABLE 13—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE
INDIVIDUAL SHINGLE EXTERIOR WALL FINISH**

| Sheathing Type | Siding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{ast}^{1,2,5,6}$) | | 2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, $V_{ult}^{6,7}$), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, $V_{st}^{6,7}$) | |
|---|--|--|---------------------------|--|-----|--|-----|
| | | | | B | C | B | C |
| | | | | | | | |
| Minimum 7/16 inch thick OSB sheathing complying with DCC-PS 2-95 | Min. 0.091 in. shank x 0.221 in.-HD x 1 1/2 in. long corrosion resistant siding Nail | 8 inch exposure, 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 9 inches from drip edge | 0-15 | 116 | 116 | 150 | 150 |
| | | | 20 | 110 | 110 | 142 | 142 |
| | | | 40 | 100 | 100 | 129 | 129 |
| | | | 60 | 95 | 95 | 123 | 123 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 121 | 121 | 156 | 156 |
| | | 7 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 8 inches from drip edge | 0-15 | 105 | 105 | 136 | 136 |
| | | | 20 | 110 | 110 | 142 | 142 |
| | | | 40 | 105 | 105 | 136 | 136 |
| | | | 0-15 | 126 | 126 | 163 | 163 |
| | | | 20 | 126 | 126 | 163 | 163 |
| | | | 40 | 126 | 126 | 163 | 163 |
| 6 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 7 inches from drip edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| | 40 | 126 | 126 | 163 | 163 | | |
| | 60 | 121 | 121 | 156 | 156 | | |
| | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| 5 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 6 inches from drip edge | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |
| | 40 | 126 | 126 | 163 | 163 | | |
| | 60 | 121 | 121 | 156 | 156 | | |
| | 0-15 | 126 | 126 | 163 | 163 | | |
| | 20 | 126 | 126 | 163 | 163 | | |

For **SI**: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: $I = 1.0$, $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

² V_{ast} = nominal design wind speed.

³ V_{ult} = ultimate design wind speed.

⁴Wind speed design assumptions per Section 30.4, of ASCE 7-10: $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

⁵2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{ast} = V_{ult} \sqrt{0.6}$

⁶ V = basic design wind speed

⁷Wind speed design assumptions per Section 30.3, of ASCE 7-16: $K_{zt} = 1$, $K_d = 0.85$, $G_{CPI} = 0.18$, $G_{CP} = -1.4$.

⁸2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{ast} = V \sqrt{0.6}$

⁹Smooth-shank stainless steel nails are outside of the scope of this report

Reissued March 2024

This report is subject to renewal March 2026.

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 46—Fiber-Cement Siding

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in ICC-ES evaluation report ESR-2290, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 *California Building Code*® (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 *California Residential Code*® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16 and 17, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued March 2024.

Reissued March 2024

This report is subject to renewal March 2026.

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE

Section: 07 46 46—Fiber-Cement Siding

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

HARDIE® SHINGLE PANELS, HARDIE® PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE® SHINGLE INDIVIDUAL SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie® Shingle Panels, Hardie® Plank Lap Siding, Artisan® Lap Siding, and Hardie® Shingle Individual Shingles, recognized in ICC-ES evaluation report ESR-2290, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Hardie® Shingle Panels, Hardie® Plank (Cemplank® and Prevail®) Lap Siding, Hardie® Shingle Individual Shingles, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2290, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2290 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following conditions:

- Design wind loads must be based on Section 1609 of the *Florida Building Code—Building* or Section R301.2.1.1 of the *Florida Building Code—Residential*, as applicable.
 - Load Combinations must be in accordance with Section 1605.2 if Section 1605.3 of the *Florida Building Code—Building*, as applicable.
 - Installation must meet requirements of Section 1403.8 of the *Florida Building Code – Building* and Section R318.7 of the *Florida Building Code – Residential*, as applicable.
 - Water-resistive barrier must be in accordance with Section 1404.2 of the *Florida Building Code—Building* or Section R703.2 of the *Florida Building Code—Residential*, as applicable.
 - Flashing must be in accordance with Section 1405.4 of the *Florida Building Code—Building* or Section R703.4 of the *Florida Building Code—Residential*, as applicable.
 - Evaluation of Artisan® Lap Siding is outside the scope of this supplement.
- Use of the Hardie® Plank (Cemplank® and Prevail®) Lap Siding has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* with the following conditions:
- The allowable negative design wind load of Hardie® Plank (Cemplank® and Prevail®) Lap Siding must not exceed 92 psf (4405 Pa).

- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be installed on minimum 5/8-inch-thick solid plywood structural sheathing complying with DOC PS-1.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to wood studs in accordance with *Florida Building Code-Building* Section 2322.3. The wood studs must have a minimum specific gravity of 0.42.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to metal studs spaced at 6-inches (152 mm) on-center. At panel edges and all intermediate supports using a No. 8-18 1-1/4-inch (31.75 mm) long by 0.315-inch (8 mm) head diameter ribbed bugle head screw. The metal studs must have a minimum thickness of 0.033-inch (0.838 mm), web depth of 3-5/8-inch (92.1 mm), and flange size 1-5/8-inch (41.3 mm).
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding shall be applied horizontally commencing from the bottom course of the wall with 1-1/4-inch-wide (31.75 mm) laps at the top of the plank such that the exposure area of each plank is less than or equal to 8-1/4-inch (210 mm) vertically.
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be fastened to sheathing over wood studs with a minimum 2-1/2-inch (63.5 mm) long by 0.223-inch (5.66 mm) shank diameter corrosion-resistant siding nails.
- Hardie®Plank (Cemiplank® and Prevail®) Lap Siding must be fastened to sheathing over metal studs with a minimum No. 8-18 by 2-1/4-inch (57.15 mm) by 0.315-inch (8 mm) bugle head screws.
- Fasteners are spaced 16 inches (406 mm) on-center and less than or equal to 8-1/4-inch (210 mm) vertically on the studs.
- Fasteners shall have a minimum edge distance of 3/8-inch (9.53 mm).
- Maximum support/span spacing shall be no more than 16 inches (406 mm) on-center.

In addition to the data noted in Section 6.0 of the evaluation report ESR-2290, data in accordance with *Florida Building Code Test Protocols* for High-Velocity Zones TAS 202 and TAS 203 was submitted for Hardie®Plank (Cemiplank® and Prevail®) Lap Siding.

Use of the Hardie®Shingle Panels, Artisan® Lap Siding, and Hardie®Shingle Individual Shingles for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* and the *Florida Building Code-Residential* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued March 2024.

AMERICAN CONSTRUCTION METALS

"TRIPLE 4" & "QUAD 4" - ALUMINUM "V-GROOVE" SOFFIT
 "TRIPLE 4" & "QUAD 4" - ALUMINUM "U-GROOVE" SOFFIT

NOT APPROVED FOR IMPACT RATING - APPROVED FOR NON-HVHZ ONLY
 NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE

RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

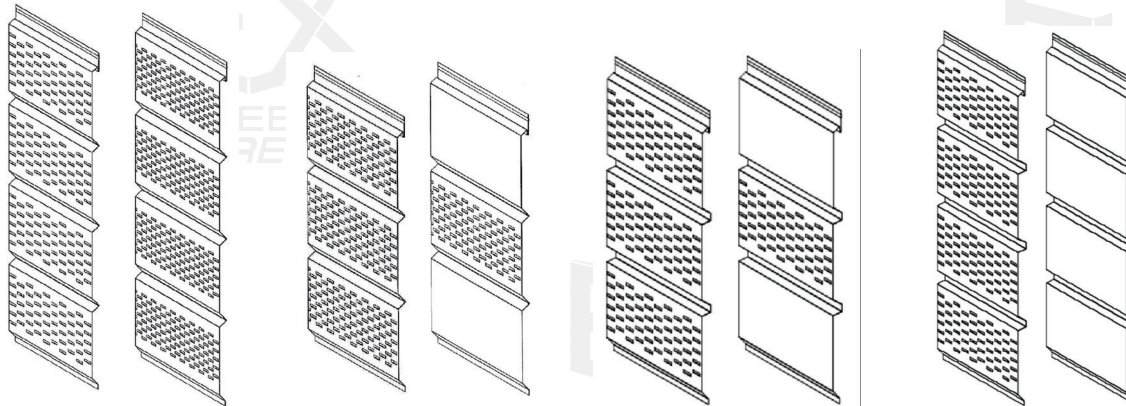
ALL INSTALLATIONS TO FOLLOW FLORIDA BUILDING / RESIDENTIAL CODE 2023 (8TH ED) INSTALLATION SPECIFICATIONS AS DETAILED IN SECTION R704.2, REGARDING SOFFIT INSTALLATION. FOR INSTALLATIONS REQUIRING CLARIFICATION OR ADDITIONAL REVIEW, CONSULT CERTIFIED, SITE SPECIFIC ENGINEERING OR ENGINEER OF RECORD.



NOTE: AMERICAN CONSTRUCTION METALS (ACM) IS AN APPROVED DEALER OF NORANDEX BRANDED PRODUCTS. THIS DRAWING IS APPROVED FOR PRODUCTS DETAILED HEREIN WITH EITHER ACM OR NORANDEX BRANDING

| TYPICAL COMPONENT SCHEDULE | | |
|----------------------------|--|-----------------|
| ITEM | DESCRIPTION | MATERIAL |
| 1 | FASCIA (0.0215"t) ALUM. 3105-H14 | ALUMINUM |
| 2 | "J" CHANNEL (0.0155"t) ALUM. 3105-H24 | ALUMINUM |
| 3 | "F" CHANNEL (0.0155"t) ALUM. 3104-H19 | ALUMINUM |
| 3A | "F" CHANNEL (0.0170"t) ALUM. 3104-H19 | ALUMINUM |
| 5 | QUAD 4 PANEL (0.0115"t OR 0.0135"t) ALUM 3105 | ALUMINUM |
| 6 | TRIPLE 4 PANEL (0.0115"t OR 0.0135"t) ALUM 3105 | ALUMINUM |
| 7 | #15 x 1-3/4" TRIM NAIL | STAINLESS STEEL |
| 7A | 14GA x 1-1/2" LONG FINISHING NAIL W/ 3/16" DIA. HEAD | STAINLESS STEEL |
| 8 | 18GA x 1/4" S.S. STAPLE (W/ 7/8" MIN. EMBEDMENT) | STEEL |
| 9 | 1" x 3" OR 2" x 2" BATTEN STRIP (G=0.42 OR BETTER) | WOOD |
| 10 | APA B-C GROUP 1 EXT. 15/32" PLYWOOD OR BETTER | WOOD |
| 11 | 0.097" DIA T-NAIL (W/ 5/8" MIN. EMBEDMENT) | STEEL |

SOFFIT MATERIALS DETAILED HEREIN TO BE PROVIDED BY AMERICAN CONSTRUCTION METALS (ACM) OR NORANDEX. QUANTITY, SIZING, AND MATERIAL TAKEOFF TO BE COORDINATED SEPARATELY.



TRIPLE 4 (T4) (V-GROOVE)
 T-4-012 (.0115" THICK)
 T-4-014 (.0135" THICK)

QUAD 4 (Q4) (V-GROOVE)
 Q-4-012 (.0115" THICK)
 Q-4-014 (.0135" THICK)

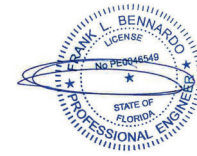
TRIPLE 4 (T4)
 (.017" THICK)

QUAD 4 (Q4)
 (.017" THICK)

NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN FLORIDA ONLY. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SPECIFIC PROJECT. CONTACT THIS OFFICE AT ENGINEERINGEXPRESS.COM/QUOTE FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

FRANK BENNARDO, PE
 PE# 0046549 CA# 9885



Digitally signed by Frank Bennardo
 Date: 2024.02.23 17:14:37 -05'00'

DESIGN NOTES:

1. THIS SYSTEM HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 8TH EDITION (2023). ALSO APPLICABLE FOR IBC/IRC 2021. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY AND GOVERN.

MAXIMUM ALLOWABLE ASD DESIGN PRESSURES:

UP TO +70 PSF ASD LOAD COMBINATION (UPWARDS / DIRECT LOADING)
 UP TO -141 PSF ASD LOAD COMBINATION (DOWNWARDS / SUCTION LOADING)

GRAVITY & UPLIFT LOAD COMBINATION TO CONSIDER ALL CODE-REQUIRED LOADING CONDITIONS INCLUDING BUT NOT LIMITED TO DEAD LOAD, LIVE LOAD, AND SITE-SPECIFIC WIND & SNOW LOADS

- SITE SPECIFIC ASD DESIGN PRESSURES TO BE CALCULATED SEPARATELY PER CODES AND STANDARDS STATED HEREIN. DESIGN CRITERIA OR SPANS BEYOND WHAT IS STATED HEREIN MAY REQUIRE ADDITIONAL SITE SPECIFIC SEALED ENGINEERING. REFER DESIGN TABLES HEREIN FOR ALLOWABLE SOFFIT SPANS.
- DESIGN SHALL UTILIZE ASD DESIGN METHOD USING ASCE 7 CODES FOR SITE SPECIFIC APPLICATIONS AS APPLICABLE. DESIGN CRITERIA OR SPANS BEYOND STATED HEREIN MAY REQUIRE ADDITIONAL SITE SPECIFIC SEALED ENGINEERING.
- SOFFIT WIND LOADS SHALL BE DESIGNED PER ASCE 7-22, FIGURE 30.7-1, C&C WIND LOADS FOR ROOF OVERHANGS BY A LICENSED DESIGN PROFESSIONAL.
- FOR USE OUTSIDE THE HIGH VELOCITY HURRICANE ZONE ONLY (NON-HVHZ). NO IMPACT RATING IS OFFERED HEREIN.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY 1.5 SAFETY FACTOR.
- THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR. WOOD BLOCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO EXISTING STRUCTURE

MATERIALS AND CONNECTIONS

- ALL ALUMINUM HEREIN SHALL BE OF ALLOY AND TEMPER 3014-H19 OR 3105-H14/H29 UNLESS OTHERWISE NOTED.
 - FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION INC. AND ANY APPLICABLE FEDERAL, STATE AND OR LOCAL CODES.
 - REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
 - ANCHOR QUANTITIES INDICATED IN DETAILS ARE FOR GRAPHICAL PURPOSES ONLY. DO NOT SCALE DIAMETER, LENGTH, OR PENETRATION(S). HEAD STYLE(S) ARE FREELY INTERCHANGEABLE.
 - ALL FASTENERS SHALL BE SPACED WITH 2x DIAMETER END DISTANCE AND 2.5xDIAMETER MIN. SPACING TO ADJACENT FASTENERS, UNLESS NOTED OTHERWISE. PROVIDE (5) PITCHES MINIMUM PAST THE THREAD PLANE FOR ALL FASTENERS.
 - THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
 - WIND LOAD DURATION FACTOR Cd = 1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- OTHER NOTES**
- UNITS SHALL BE LABELED IN ACCORDANCE WITH THE FLORIDA BUILDING COMMISSION AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATION.
 - THIS SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
 - ENGINEER SEAL AFFIXED HERETO VALIDATE STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
 - ALTERATIONS ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
 - SAFEGUARDS MUST BE OBSERVED (NOT IN THIS CERTIFICATION).
 - EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.

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 FLORIDA BUILDING CODE EIGHTH EDITION (2023)
 FLORIDA STATEWIDE APPROVAL (FSA FL #46555.1)

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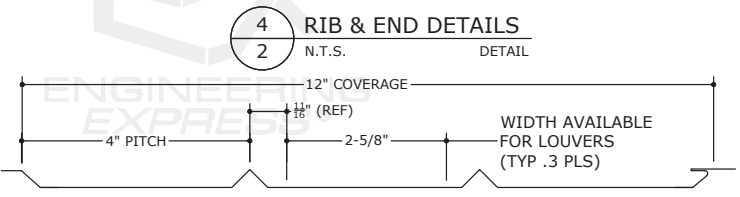
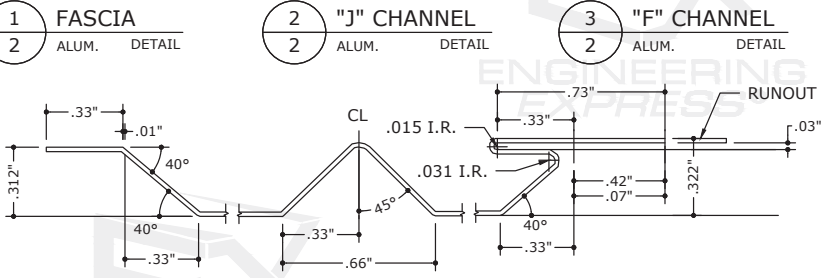
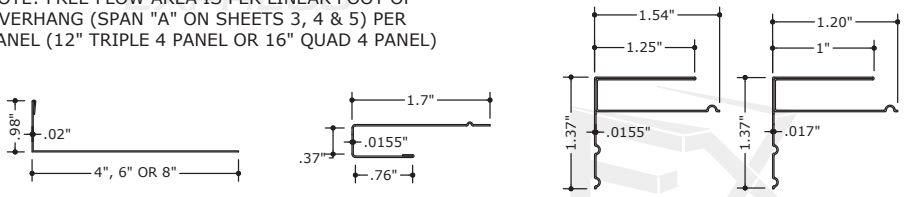
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V-GROOVE SOFFIT DETAILS

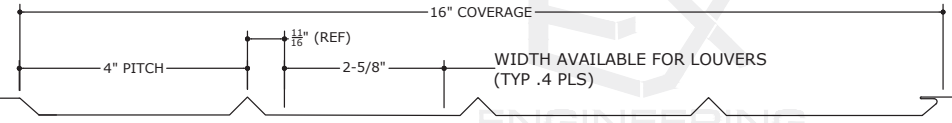
| SOFFIT AIR FLOW TABLE | | | | | | | |
|-----------------------|--|---|------------------|-------------|--|---|------------------|
| SOFFIT TYPE | AIR FLOW | | | SOFFIT TYPE | AIR FLOW | | |
| | FREE FLOW AREA (IN ² /FT ²) | FREE FLOW AREA (IN ² /LINEAR FT) | % FREE FLOW AREA | | FREE FLOW AREA (IN ² /FT ²) | FREE FLOW AREA (IN ² /LINEAR FT) | % FREE FLOW AREA |
| TRIPLE 4 | CENTER VENT NARROW PATTERN | 3.91 | 3.91* | QUAD 4 | FULL VENT NARROW PATTERN | 11.74 | 15.61* |
| | FULL VENT NARROW PATTERN | 11.74 | 11.74* | | FULL VENT WIDE PATTERN | 3.69 | 4.91* |
| | FULL VENT WIDE PATTERN | 3.69 | 3.69* | | FULL VENT WIDE PATTERN | 3.69 | 2.56* |

NOTE: FREE FLOW AREA IS PER LINEAR FOOT OF OVERHANG (SPAN "A" ON SHEETS 3, 4 & 5) PER PANEL (12" TRIPLE 4 PANEL OR 16" QUAD 4 PANEL)

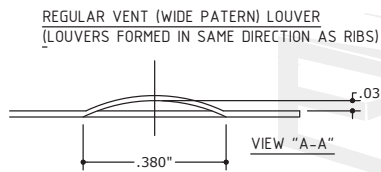
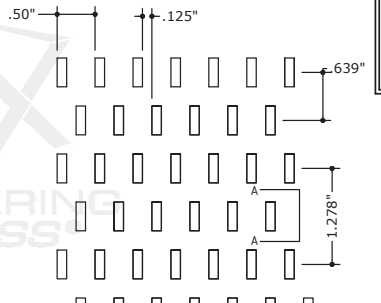
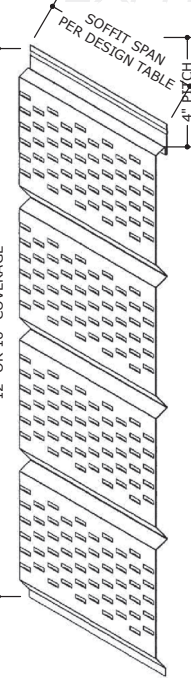
F-TRACK WITH SCREWED-SOFFIT CONNECTION DEEMED TO COMPLY WITH SOFFIT INSTALLATION INSTRUCTIONS PER FBC 1410.3 & FRC R704.2 PER ENGINEER'S RATIONAL ANALYSIS OF F-CHANNEL AS A SOFFIT SUPPORT COMPONENT AND PER RESULTS OF TESTING EVALUATION LAB INC TEST REPORTS #TEL01190073 & #TEL01192924



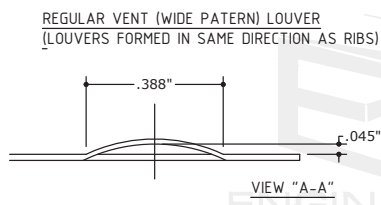
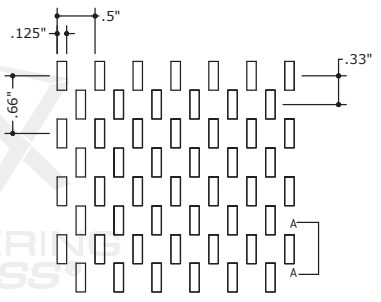
6 TRIPLE 4 PANEL
2 N.T.S. DETAIL



5 QUAD 4 PANEL
2 N.T.S. DETAIL



5/6 FULL VENT - WIDE PATTERN
2 N.T.S. DETAIL / SECTION



5/6 FULL VENT - NARROW VENT PATTERN
2 N.T.S. DETAIL / SECTION

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PE# 0046549 CA# 9885

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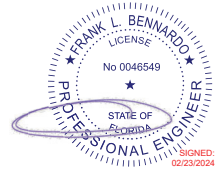
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U-GROOVE SOFFIT DETAILS

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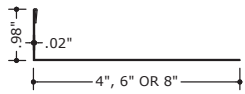
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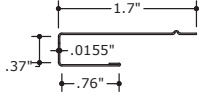
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| SOFFIT AIR FLOW TABLE | | | | | | | | | |
|-----------------------|---------------------|--|---|------------------|-------------|---------------------|--|---|------------------|
| SOFFIT TYPE | | AIR FLOW | | | SOFFIT TYPE | | AIR FLOW | | |
| | | FREE FLOW AREA (IN ² /FT ²) | FREE FLOW AREA (IN ² /LINEAR FT) | % FREE FLOW AREA | | | FREE FLOW AREA (IN ² /FT ²) | FREE FLOW AREA (IN ² /LINEAR FT) | % FREE FLOW AREA |
| TRIPLE 4 | CENTER VENT PATTERN | 1.89 | 1.89* | 1.31% | QUAD 4 | CENTER VENT PATTERN | 3.78 | 5.04* | 2.63% |
| | FULL VENT PATTERN | 5.67 | 5.67* | 3.94% | | FULL VENT PATTERN | 7.56 | 10.08* | 5.25% |

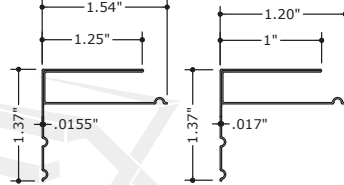
NOTE: FREE FLOW AREA IS PER LINEAR FOOT OF OVERHANG (SPAN "A" ON SHEETS 3, 4 & 5) PER PANEL (12" TRIPLE 4 PANEL OR 16" QUAD 4 PANEL)



1 FASCIA
3 ALUM. DETAIL

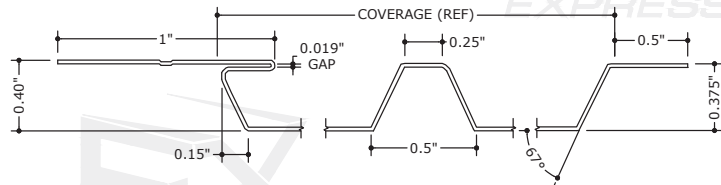


2 "J" CHANNEL
3 ALUM. DETAIL

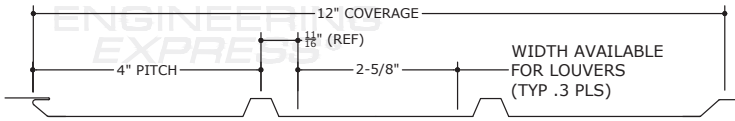


3 "F" CHANNEL
3 ALUM. DETAIL

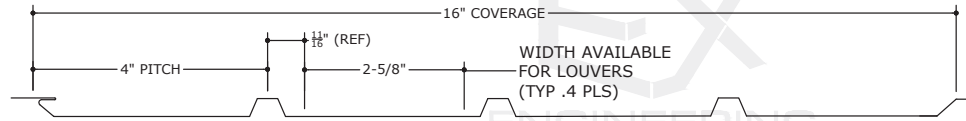
F-TRACK WITH SCREWED-SOFFIT CONNECTION DEEMED TO COMPLY WITH SOFFIT INSTALLATION INSTRUCTIONS PER FBC 1410.3 & FRC R704.2 PER ENGINEER'S RATIONAL ANALYSIS OF F-CHANNEL AS A SOFFIT SUPPORT COMPONENT AND PER RESULTS OF TESTING EVALUATION LAB INC TEST REPORTS #TEL01190073 & #TEL01192924



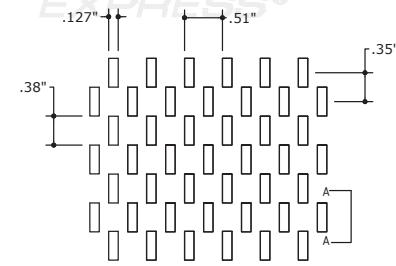
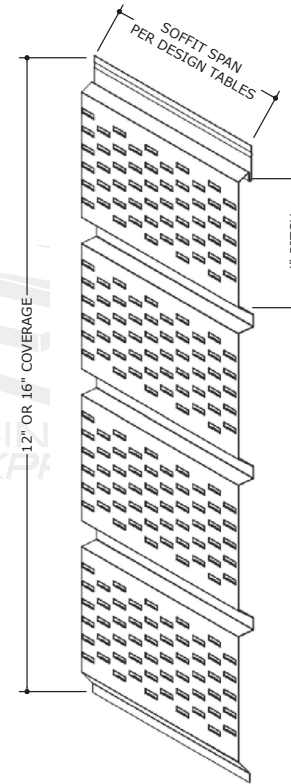
4 RIB & END DETAILS
3 N.T.S. DETAIL



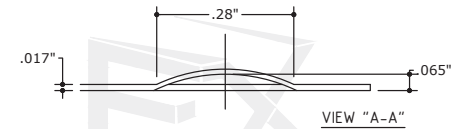
6 TRIPLE 4 PANEL
3 N.T.S. DETAIL



5 QUAD 4 PANEL
3 N.T.S. DETAIL



LOUVER PATTERN
(LOUVERS FORMED IN SAME DIRECTION AS RIBS)



5/6 FULL VENT - NARROW VENT PATTERN
3 N.T.S. DETAIL / SECTION

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FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL# 46555.1)

| DATE | DRWN | CHKD | DATE |
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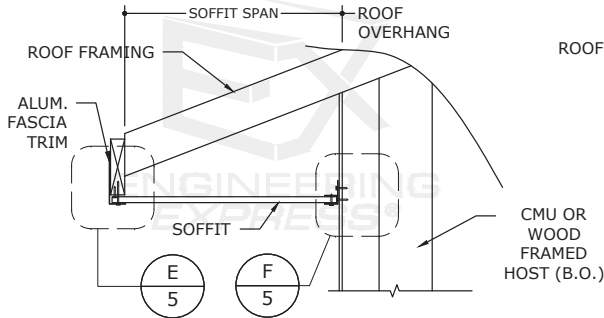
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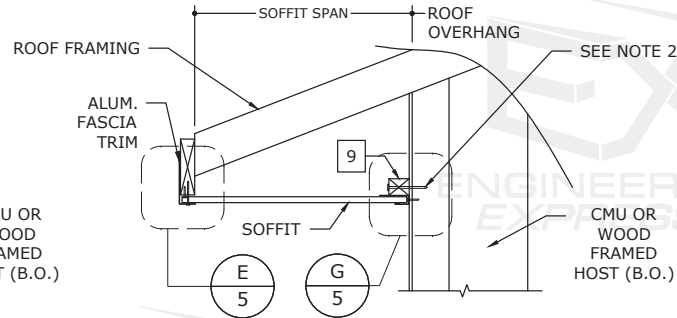
3

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SECTION VIEWS - CONNECTION DETAILS (V-GROOVE & U-GROOVE) SOFFIT WITHOUT PARALLEL TRUSS

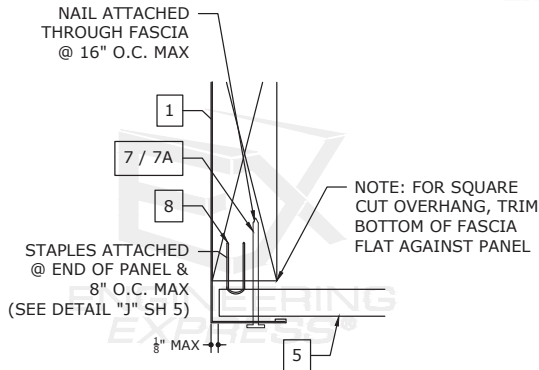


1 SINGLE SPAN WITH F-CHANNEL
N.T.S. SECTION

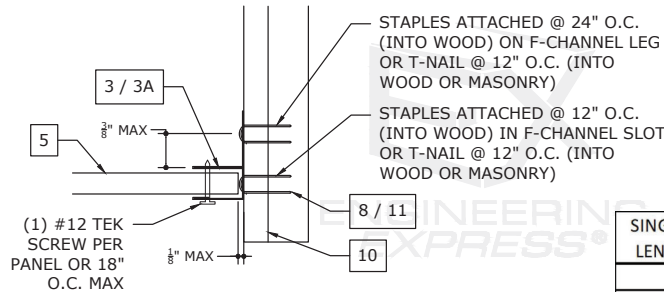


2 SINGLE SPAN WITH J-CCHANNEL
N.T.S. SECTION

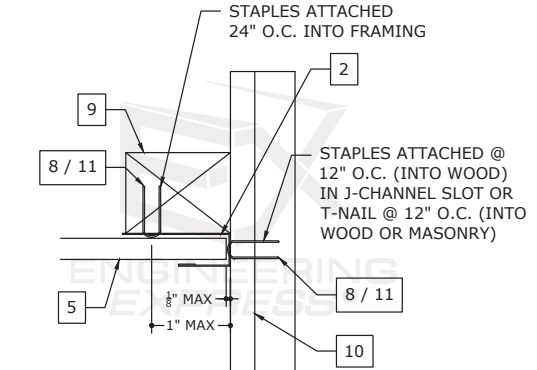
F-TRACK WITH SCREWED-SOFFIT CONNECTION DEEMED TO COMPLY WITH SOFFIT INSTALLATION INSTRUCTIONS PER FBC 1410.3 & FRC R704.2 PER ENGINEER'S RATIONAL ANALYSIS OF F-CHANNEL AS A SOFFIT SUPPORT COMPONENT AND PER RESULTS OF TESTING EVALUATION LAB INC TEST REPORTS #TEL01190073 & #TEL01192924



E FASCIA DETAIL "E"
N.T.S. DETAIL



F F-CHANNEL FASCIA DETAIL "F"
N.T.S. DETAIL



G J-CCHANNEL FASCIA DETAIL "G"
N.T.S. DETAIL

| SINGLE SPAN LENGTH "A" | ASD DESIGN PRESSURE (PSF) | |
|------------------------|---------------------------|----------|
| | POSITIVE | NEGATIVE |
| 8" | 70.0 | -141.0 |
| 10" | 60.0 | -60.0 |
| 12" | 50.0 | -50.0 |
| 14" | 38.5 | -38.5 |
| 16" | 30.0 | -30.0 |

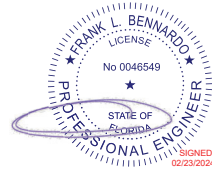
CONNECTION & TABLE NOTES:

- WOOD FRAMING AND CONNECTIONS TO BE DESIGNED BY THE ARCHITECT OR ENGINEER OF RECORD (B.O.)
- 12d COMMON NAIL OR 3/16" ITW TAPCON CONCRETE SCREW (MIN 1-1/4" EMBEDMENT) @ 24" ON CENTER
- C&C DESIGN PRESSURE FROM ASCE 7-22 FIGURE 30.7-1 (ASD DESIGN PRESSURES). "POSITIVE" SHALL DESIGNATE UPWARDS / DIRECT LOADING AND "NEGATIVE" SHALL DESIGNATE DOWNWARDS / SUCTION LOADING

FRANK BENNARDO, PE
PE# 0046549 CA# 9885

FL

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FL 46555.1

ENGINEERING EXPRESS
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

AMERICAN CONSTRUCTION METALS
6938 N. US HIGHWAY 41
APOLLO BEACH, FL 33572
(813) 671-4009
TRIPLE 4 & QUAD 4 ALUMINUM SOFFIT
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#46555.1)

| DATE | DRWN | CHKD | DATE | DATE |
|---------|------|------|------|------|
| 2/23/24 | MLD | CCB | | |

REMARKS: COPYRIGHT ENGINEERING EXPRESS

23-70565

SCALE: NTS UNLESS NOTED

5





ENGINEERING EXPRESS® (EX) PRODUCT EVALUATION REPORT

February 23, 2024

Application Number: FL 46555.1
EX Project Number: 23-70565

Product Manufacturer: American Construction Metals (ACM)
Manufacturer Address: 6938 N US Highway 41
Apollo Beach, FL 33572

Product Name & Description: "Triple 4" & "Quad 4" Aluminum Soffit (V-Groove & U-Groove Soffit)

Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1 (d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with standard ASCE 7-22 (ASD) and Florida Building Code Eighth Edition (2023) and is, for the purpose intended, at least equivalent to that required by the Standard and Code. Re-evaluation of this product shall be required following pertinent Florida Building Code or ASCE Standard modifications or revisions.

Substantiating Data:

- PRODUCT EVALUATION DOCUMENTS**

EX Performance Evaluation document # 23-70565 titled "Triple 4 & Quad 4 Aluminum Soffit (V-Groove & U-Groove Soffits)" prepared by Engineering Express, Inc., signed & sealed by Frank Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 6.

- TEST REPORTS (IF APPLICABLE)**

The product has been tested per the following:

| Test Lab | Test Report # | Test Standard | Test Description | Signed By: |
|------------------------------|---------------|---------------|-----------------------------|--|
| Testing Evaluation Lab, Inc. | TEL 01190073 | ASTM E330-02 | Uniform Static Air Pressure | Vivian K. Wright & Lyndon F. Schmidt, P.E. |
| Testing Evaluation Lab, Inc. | TEL 01192924 | ASTM E330-14 | Uniform Static Air Pressure | Vivian K. Wright & Lyndon F. Schmidt, P.E. |

American Construction Metals – “Triple 4” & “Quad 4” Aluminum Soffit
(V-Groove & U-Groove Soffit)

• **STRUCTURAL ENGINEERING CALCULATIONS**

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

1. Allowable Soffit Span Length
- No 33% increase in allowable stress has been used in the design of this product.

Impact Resistance:

Impact Resistance has not been demonstrated.

Wind Load Resistance:

This product has been designed to resist wind loads as indicated on its respective Performance Evaluation document (i.e. engineering document).

Installation:

The product listed above shall be installed in strict compliance with the Performance Evaluation document (i.e. engineering document), along with all components noted therein.

The product components shall be of the material specified in the Performance Evaluation document (i.e. engineering document).

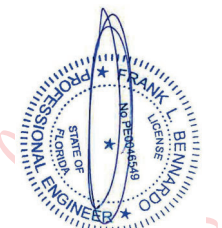
Limitations & Conditions of Use:

Use of each product shall be in strict accordance with its respective Performance Evaluation document (i.e. engineering document) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in each product's respective anchor schedule. Host structure conditions which are not accounted for in each product's respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. Any alteration to the respective Performance Evaluation document will invalidate it. This product has been designed for use outside of the High Velocity Hurricane Zone ONLY (NON-HVHZ).

Respectfully,



Digitally signed
by Frank
Bennardo

Date: 2024.02.23
17:26:14 -05'00'

Frank Bennardo, P.E.

ENGINEERING EXPRESS®

#PE0046549 | Cert. Auth. 9885



AAMA CERTIFICATION PROGRAM
An FGIA Product Certification Program

AUTHORIZATION FOR PRODUCT CERTIFICATION

JELD-WEN Windows & Doors
P.O. Box 1329
Klamath Falls, OR 97601

This authorization is based on the successful completion of tests, and the reporting to the AAMA Validator of the results of the tests by an AAMA Accredited Laboratory. The product information below will be added to the next update of the AAMA Certified Products Directory.

| SPECIFICATIONS | | RECORD OF PRODUCT TESTED | | | |
|--|--|--------------------------|--|---|--|
| AAMA/WDMA/CSA 101/1.S.2/A440-11 LC-PG65-1324x1905 (52x75)-H Negative Design Pressure = -75 psf | | TAS 201, 202, 203 | | | |
| COMPANY AND CODE JELD-WEN Windows & Doors Code: JW | Missile Level: Large Rating: +65/-75, 52x75 Rating above conforms to the requirements of: TAS 201, TAS 202, and TAS 203 | CPD NO. | SERIES MODEL & PRODUCT DESCRIPTION PREMIUM ATLANTIC VINYL SH (FIN & FLANGE) (PVC)(O/X)(OG) (INS 0.090" SGP LAM GL) (MODIF/REINF)(TILT) (ASTM) | MAXIMUM SIZE TESTED FRAME (mm) 1324 x 1905 (52" x 75") | |
| | | 22452 | | | |

This Certification will expire **April 15, 2027 (extended from April 15, 2022 per AAMA 103-19)** and requires validation until then by continued listing in the current AAMA Certified Products Directory.

Structural Test & Report By:
National Certified Testing Laboratories
 Report No: **NCTL-210-3873-1A**
 Date of Report: **April 18, 2013 (Revised May 23, 2013)**
 Date Test Completed: **April 15, 2013**

Missile Impact Test & Report By:
National Certified Testing Laboratories
 Report No: **NCTL-210-3873-1**
 Date of Report: **April 18, 2013**
 Date Test Completed: **April 15, 2013**

Evaluated for Certification: **April 21, 2025**

John B. Aitk
 Associated Laboratories, Inc.

A.L.I

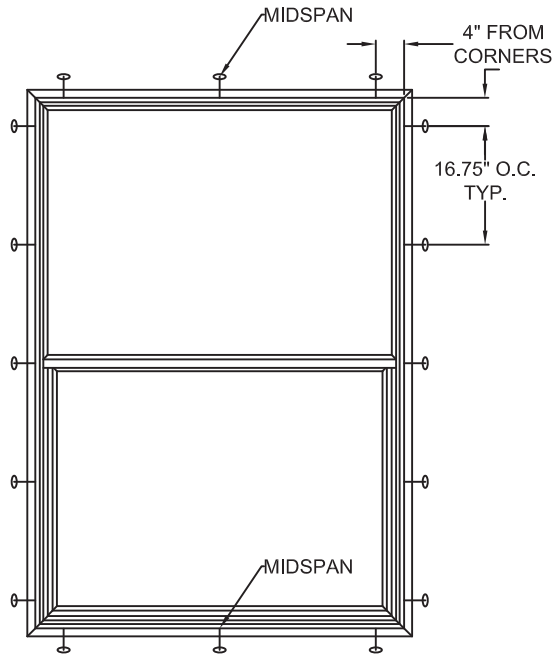
(Validator / Operations Administrator)

Authorized for Certification: **April 21, 2025**

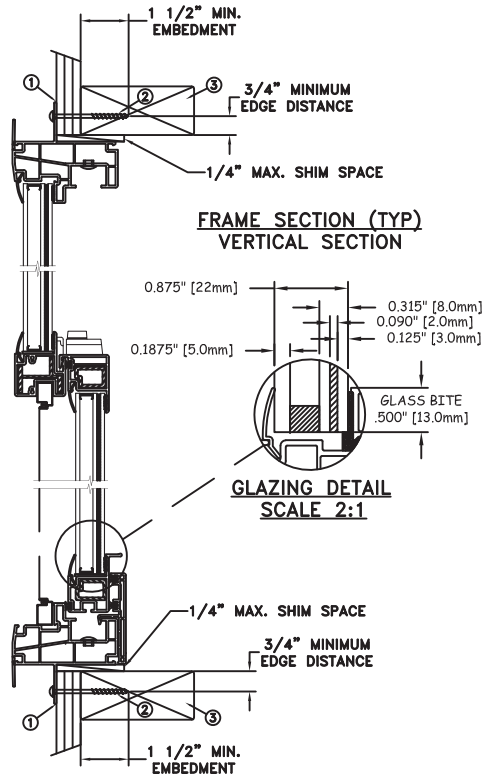
John Aitk
 Fenestration and Glazing Industry Alliance
 1900 East Golf Road Schaumburg, IL 60173

ACP-04 (Rev. 5/24)

NAILFIN/SCREW-WOOD
INSTALLATION

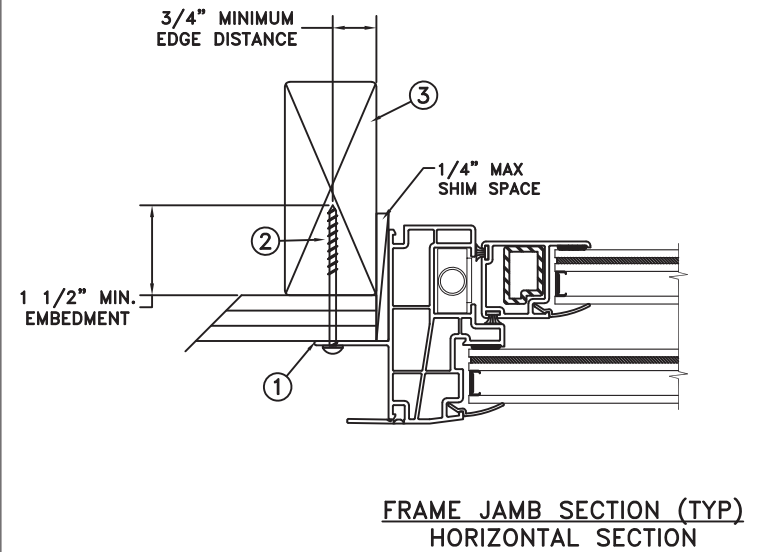


TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)
VERTICAL SECTION

GLAZING DETAIL
SCALE 2:1



FRAME JAMB SECTION (TYP)
HORIZONTAL SECTION

| MAXIMUM FRAME | DP | IMPACT |
|---------------|---------|--------|
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use #10 PH or greater fastener through the nailing flange with sufficient length to penetrate a minimum of 1-1/2" into the wood framing. For 2x wood frame substrate (min. S.G. = 0.42).
3. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.

This item has been digitally signed and sealed by Micah Swartz, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

This schedule addresses only the fasteners required to anchor the unit to achieve the rated design pressure and impact performance (where applicable) up to the size limitations noted. It is not intended as a guide to the installation process and does not address the sealing consideration that may arise in different wall conditions. For the complete installation procedure, see the instructions packaged with the unit or go to www.jeld-wen.com.

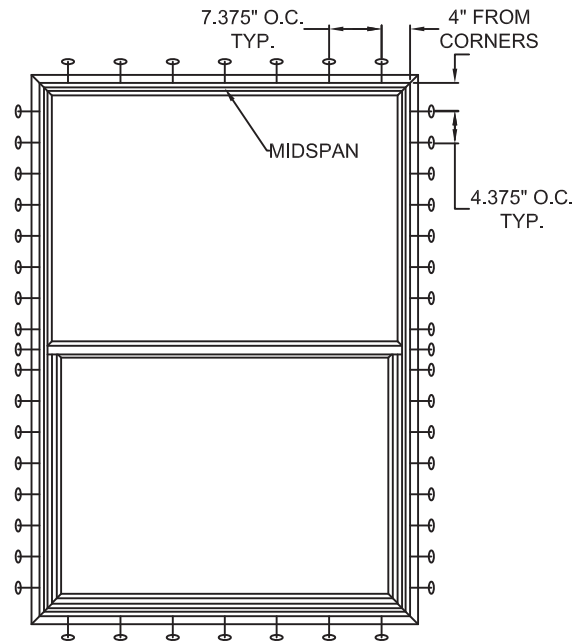
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Micah Swartz

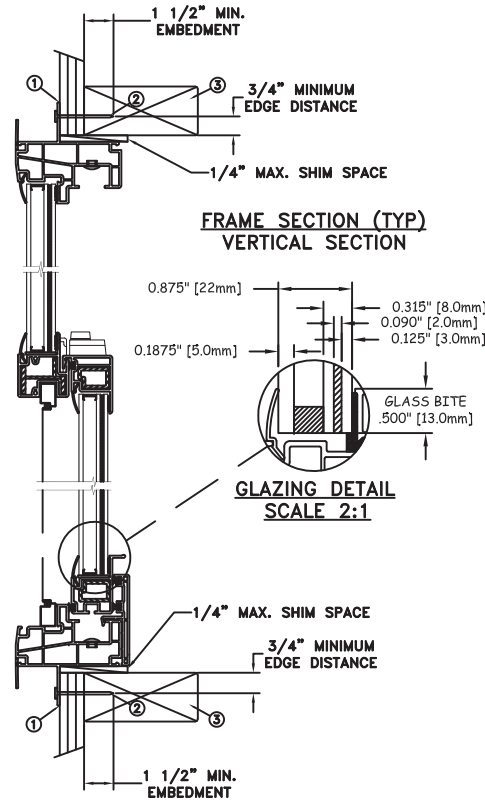
MICAH SWARTZ, P.E.
 PE No. 93573
 5134 Cambridge Ct.
 Klamath Falls, OR, 97603
 (541) 363-8075
 03/21/25

| | |
|---------------------------------|---|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 |
| DRAWN BY: M.HAM | |
| SCALE: NTS | TITLE: Premium Atlantic Vinyl Single Hung Tilt |
| CHECKED BY: J.GOOSSEN | |
| APPROVED BY: J.GOOSSEN | |
| RECORD No.: D008729 | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - |
| | REV: A SHEET 1 of 10 |

NAILFIN/NAIL-WOOD
INSTALLATION

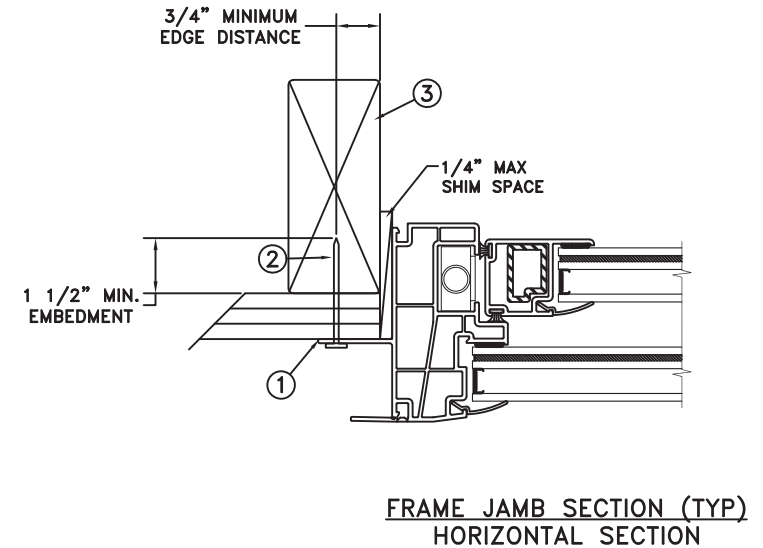


TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)
VERTICAL SECTION

GLAZING DETAIL
SCALE 2:1



FRAME JAMB SECTION (TYP)
HORIZONTAL SECTION

| | | |
|---------------|---------|--------|
| MAXIMUM FRAME | DP | IMPACT |
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use 6d x 2" fastener through the nailing flange with sufficient length to penetrate a minimum of 1-1/2" into the wood framing. For 2x wood frame substrate (min. S.G. = 0.42).
3. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.

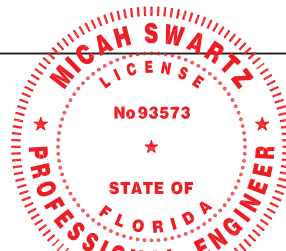
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DISCLAIMER:

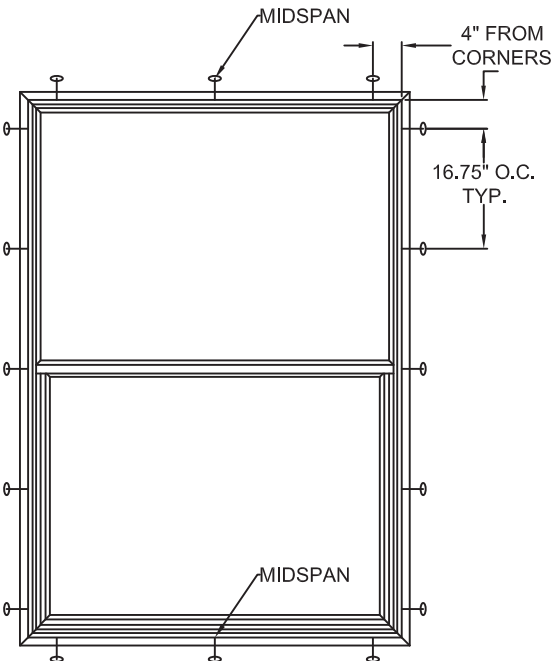
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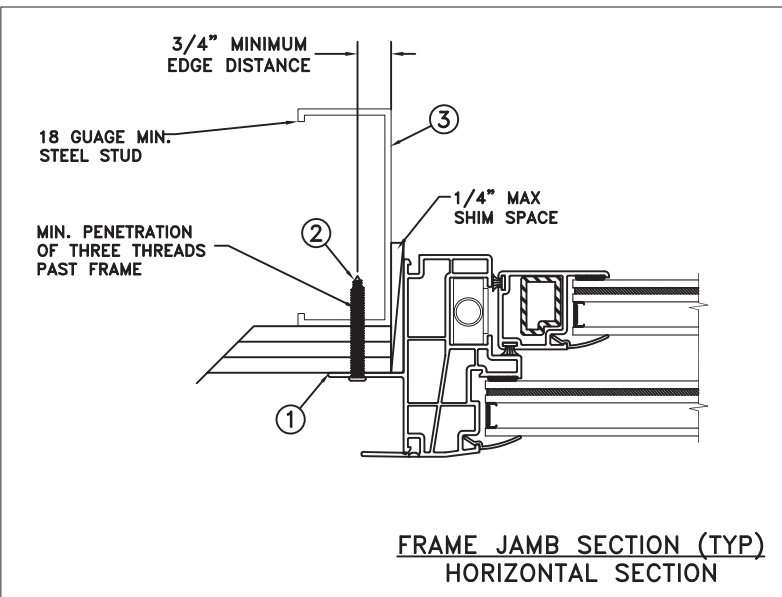
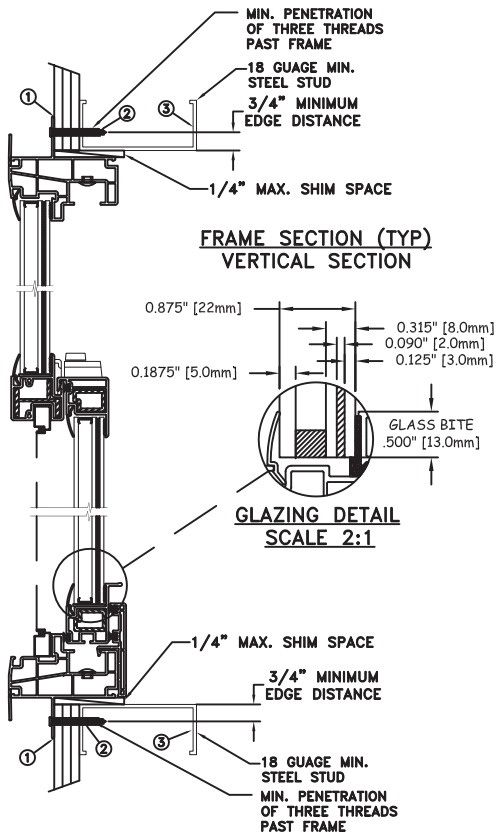
MICAH SWARTZ, P.E.
PE No. 93573 03/21/25
5134 Cambridge Ct.
Klamath Falls, OR, 97603
(541) 363-8075

| | | | |
|---------------------------------|--|-----------|------------------|
| DATE: 02/12/2025 | <p>3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936</p> | | |
| DRAWN BY: M.HAM | | | |
| CHECKED BY: J.GOOSSEN | <p>Premium Atlantic Vinyl Single Hung Tilt</p> | | |
| APPROVED BY: J.GOOSSEN | | | |
| RECORD No.: D008729 | | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A | SHEET 2 of 10 |

NAILFIN/SCREW-STEEL
INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



| | | |
|---------------|---------|--------|
| MAXIMUM FRAME | DP | IMPACT |
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. For anchoring through nailfin into metal framing use #10 TEK Self-Tapping screws with sufficient length to achieve a minimum penetration of three threads past the frame thickness. Steel substrate min. 18ga., fy = 33 ksi.
3. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

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2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.

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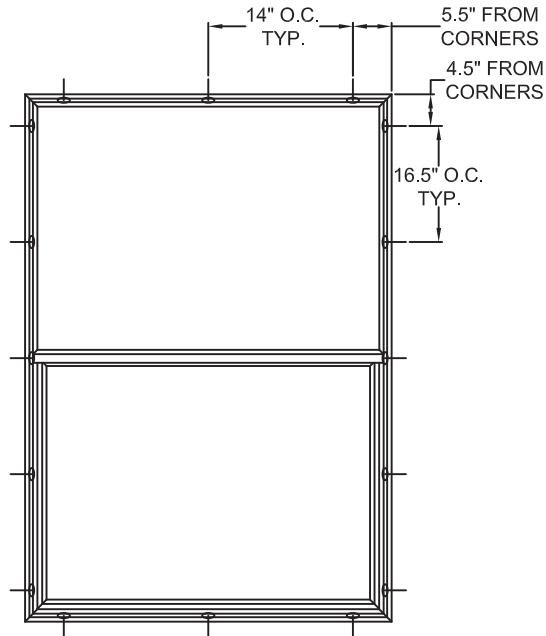
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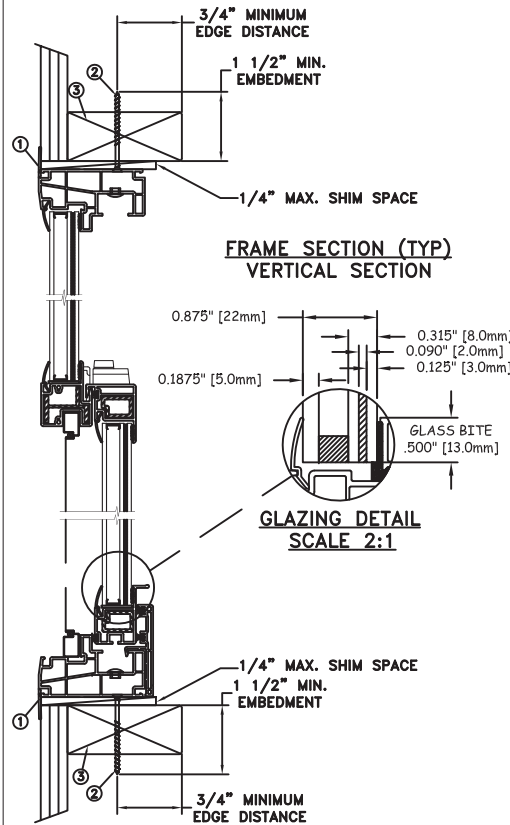
MICAH SWARTZ, P.E.
PE No. 93573
5134 Cambridge Ct. 03/21/25
Klamath Falls, OR. 97603
(541) 363-8075

| | | | |
|---------------------------------|--|-----------|------------------|
| DATE: 02/12/2025 | <p>3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936</p> | | |
| DRAWN BY: M.HAM | | | |
| CHECKED BY: J.GOOSSEN | <p>Premium Atlantic Vinyl Single Hung Tilt</p> | | |
| APPROVED BY: J.GOOSSEN | | | |
| RECORD No.: D008729 | | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A | SHEET 3 of 10 |

THROUGH FRAME/SCREW
WOOD INSTALLATION

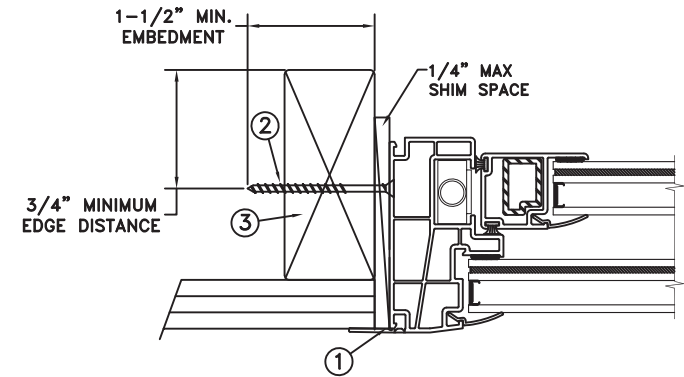


TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)
VERTICAL SECTION

GLAZING DETAIL
SCALE 2:1



FRAME JAMB SECTION (TYP)
HORIZONTAL SECTION

| MAXIMUM FRAME | DP | IMPACT |
|---------------|---------|--------|
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fasteners are used to anchor the sill (typical).
2. Use #10 PH or greater fastener through the head & side jambs with sufficient length to penetrate a minimum of 1-1/2" into the wood framing. For 2x wood frame substrate (min. S.G. = 0.42)
3. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

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2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.

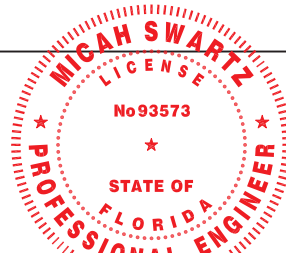
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DISCLAIMER:

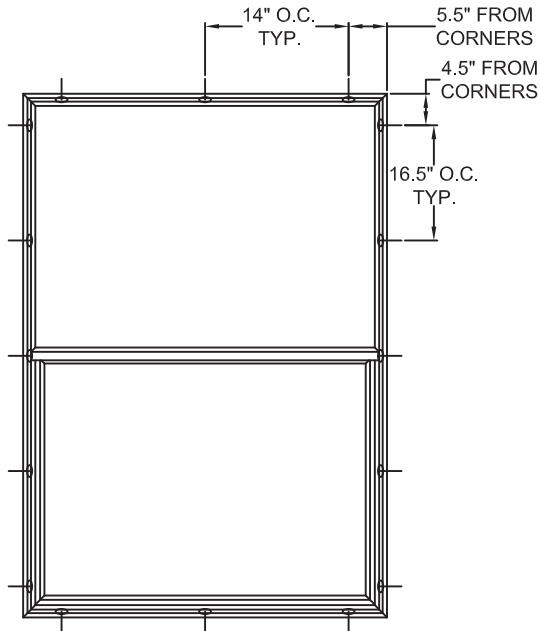
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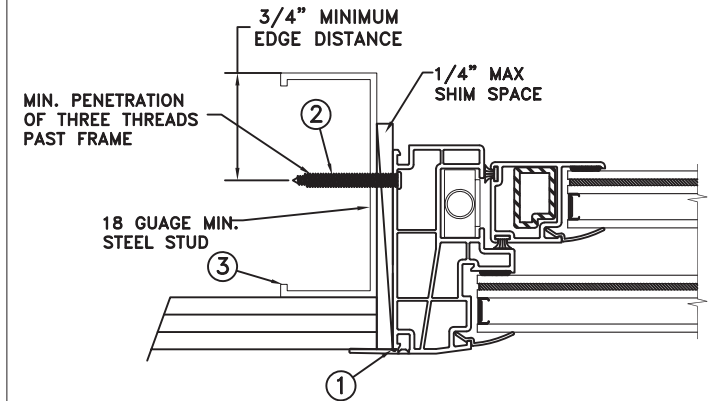
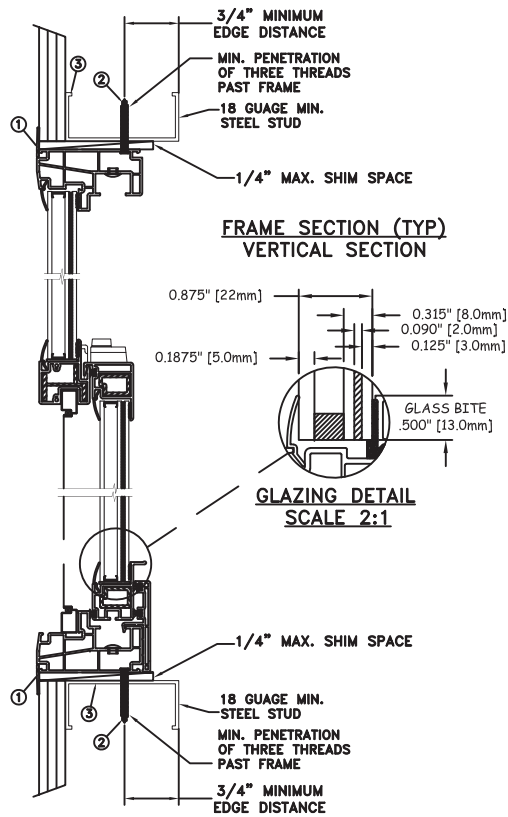
MICAH SWARTZ, P.E.
PE No. 93573
5134 Cambridge Ct. 03/21/25
Klamath Falls, OR, 97603
(541) 363-8075

| | | | |
|---------------------------------|---|-----------|------------------|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 | | |
| SCALE: NTS | | | |
| DRAWN BY: M.HAM | <p>JELD-WEN</p> <p>Premium Atlantic Vinyl Single Hung Tilt</p> | | |
| CHECKED BY: J.GOOSEN | | | |
| APPROVED BY: J.GOOSEN | | | |
| RECORD No.: D008729 | | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A | SHEET 4 of 10 |

THROUGH FRAME/SCREW
STEEL INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME JAMB SECTION (TYP)
HORIZONTAL SECTION

| | | |
|---------------|---------|--------|
| MAXIMUM FRAME | DP | IMPACT |
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. For anchoring through head and side jambs into metal framing use #10 TEK Self-Tapping screws with sufficient length to achieve a minimum penetration of three threads past the frame thickness. Steel substrate min. 18ga., $f_y = 33$ ksi.
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2. All glazing shall conform to ASTM E1300.
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4. Use structural or composite shims where required.

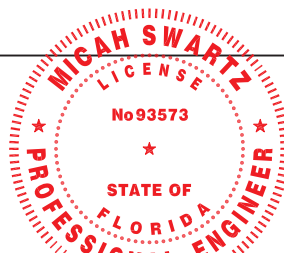
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DISCLAIMER:

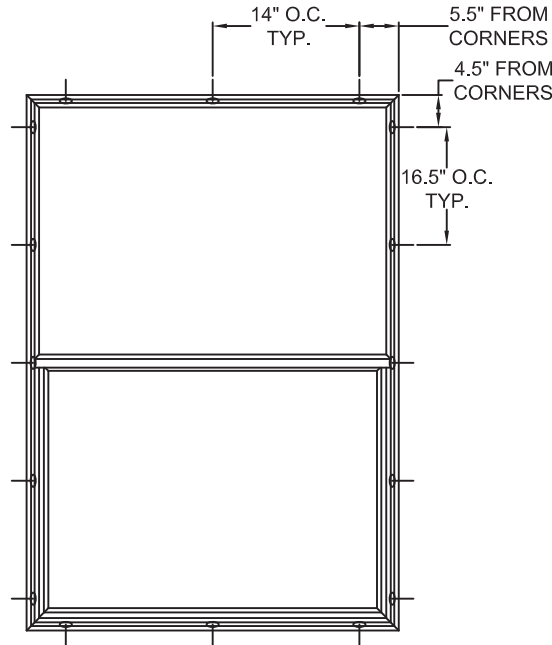
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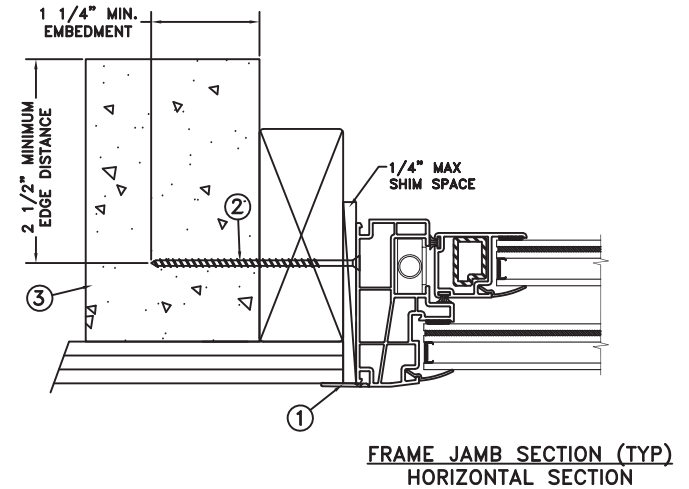
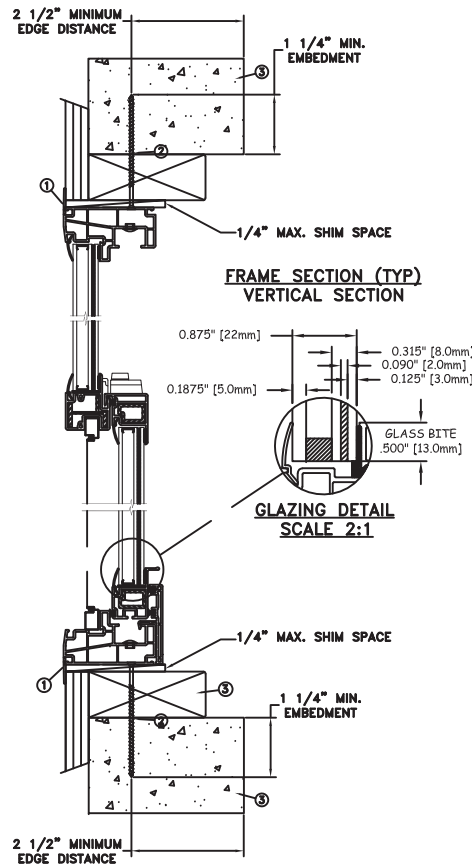
MICAH SWARTZ, P.E.
PE No. 93573 03/21/25
5134 Cambridge Ct.
Klamath Falls, OR, 97603
(541) 363-8075

| | | | |
|---------------------------------|---|-----------|------------------|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 | | |
| SCALE: NTS | | | |
| DRAWN BY: M.HAM | <p>Premium Atlantic Vinyl Single Hung Tilt</p> | | |
| CHECKED BY: J.GOOSEN | | | |
| APPROVED BY: J.GOOSEN | | | |
| RECORD No.: D008729 | | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A | SHEET 5 of 10 |

THROUGH FRAME/SCREW
CONCRETE INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



| MAXIMUM FRAME | DP | IMPACT |
|---------------|---------|--------|
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use 1/4" Tapcon or equivalent fasteners through the head and side jambs with sufficient length to penetrate a minimum of 1-1/4" into concrete or masonry at each location with a 2-1/2" min. from edge distance. For concrete (min. fc = 3000 psi) or masonry substrate (CMU shall be ASTM C90).
3. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.

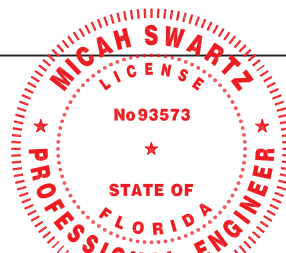
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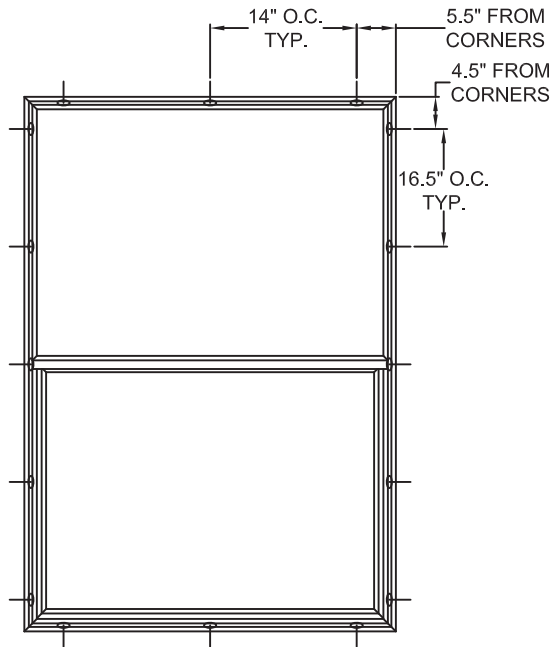
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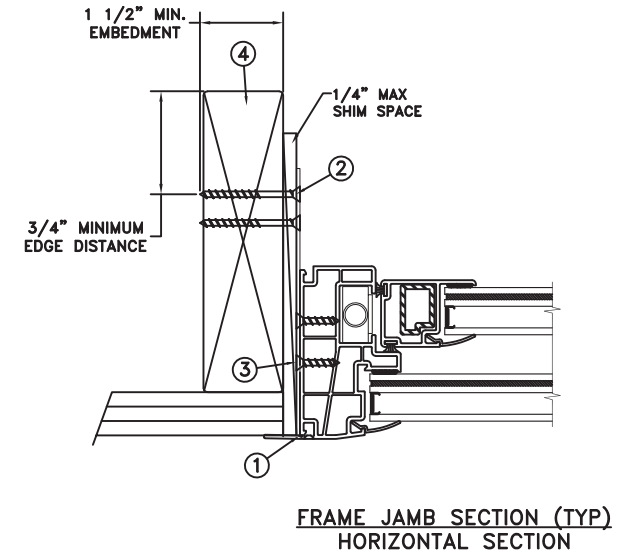
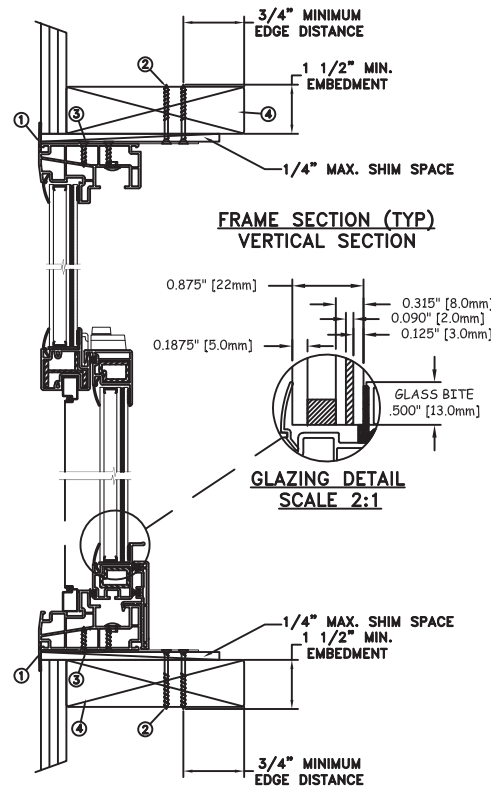
MICAH SWARTZ, P.E.
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5134 Cambridge Ct. 03/21/25
Klamath Falls, OR, 97603
(541) 363-8075

| | | | |
|---------------------------------|---|-----------|------------------|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 | | |
| SCALE: NTS | | | |
| DRAWN BY: M.HAM | <p>JELD-WEN</p> <p>Premium Atlantic Vinyl Single Hung Tilt</p> | | |
| CHECKED BY: J.GOOSEN | | | |
| APPROVED BY: J.GOOSEN | | | |
| RECORD No.: D008729 | | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A | SHEET 6 of 10 |

MASONRY STRAP
WOOD/SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



| MAXIMUM FRAME | DP | IMPACT |
|---------------|---------|--------|
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use two (2) - #10 PFH or larger fasteners through masonry strap with sufficient length to penetrate a minimum of 1-1/2" into the buck. For 2x wood frame substrate (min. S.G. = 0.42).
3. Use two (2) - #10 PFH or larger fasteners through masonry strap into jamb without penetrating through the jamb into product causing visibility or collateral damage to product.
4. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

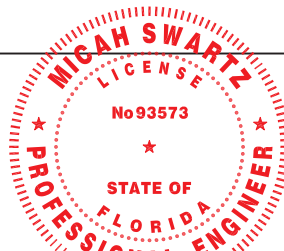
1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.
5. Masonry strap specifications: 20 Ga. galvanized steel, .036 min. thickness x 1.5" min. width.

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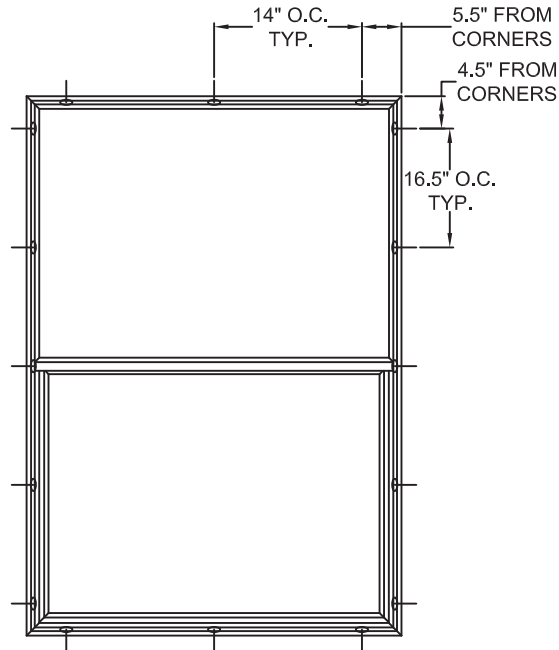
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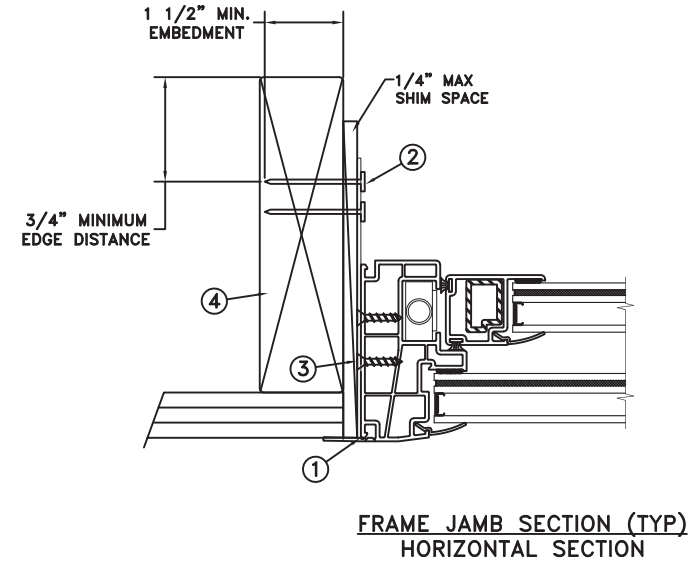
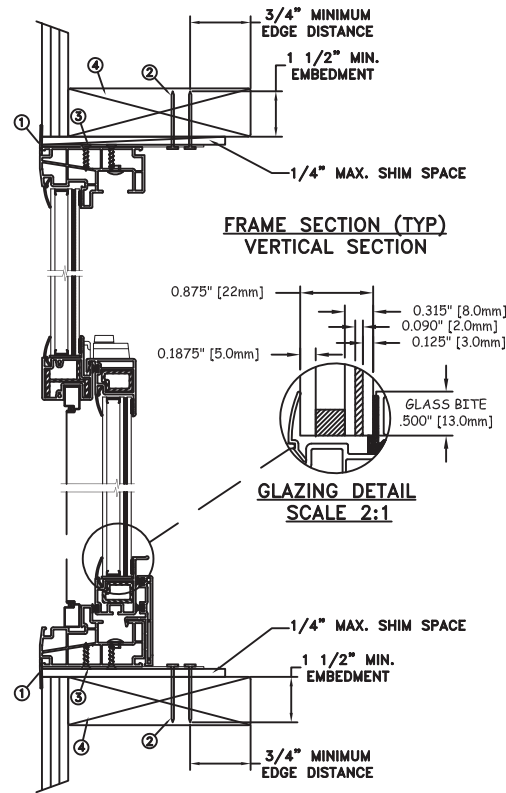
MICAH SWARTZ, P.E.
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Klamath Falls, OR, 97603
(541) 363-8075

| | | |
|---------------------------------|---|---|
| DATE: 02/12/2025 | | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 |
| DRAWN BY: M.HAM | | SCALE: NTS |
| CHECKED BY: J.GOOSSEN | TITLE: Premium Atlantic Vinyl Single Hung Tilt | |
| APPROVED BY: J.GOOSSEN | | |
| RECORD No.: D008729 | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A SHEET 7 of 10 |

MASONRY STRAP
WOOD/NAIL INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



| | | |
|---------------|---------|--------|
| MAXIMUM FRAME | DP | IMPACT |
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use two (2) - 6d x 2" fasteners through masonry strap with sufficient length to penetrate a minimum of 1-1/2" into the buck. For 2x wood frame substrate (min. S.G. = 0.42).
3. Use two (2) - #10 PFH or larger fasteners through masonry strap into jamb without penetrating through the jamb into product causing visibility or collateral damage to product.
4. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

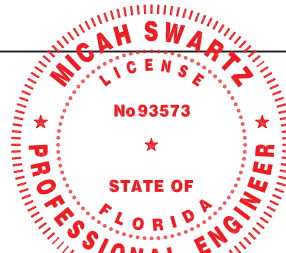
General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.
5. Masonry strap specifications: 20 Ga. galvanized steel, .036 min. thickness x 1.5" min. width.

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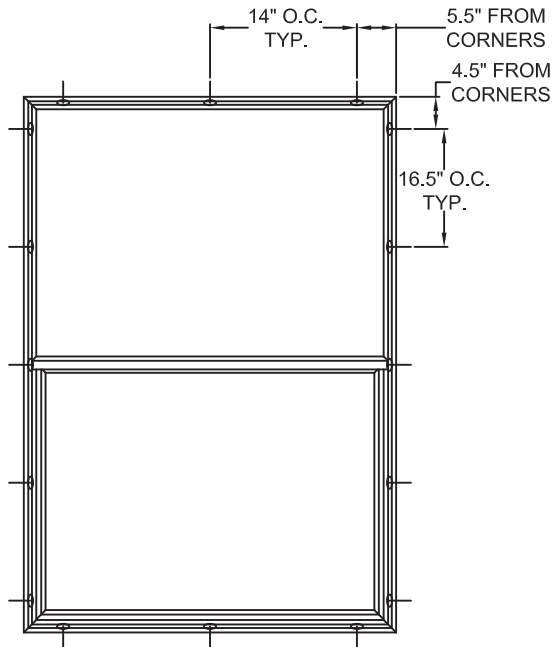
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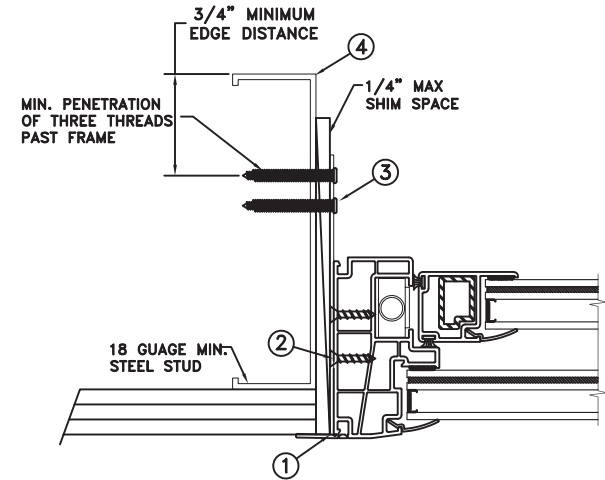
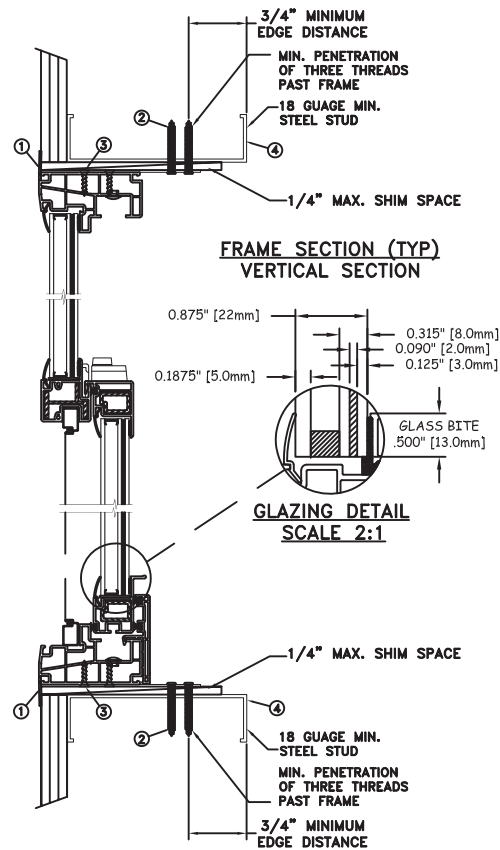
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| | |
|---------------------------------|--|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. JELD-WEN KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 |
| SCALE: NTS | |
| DRAWN BY: M.HAM | Premium Atlantic Vinyl Single Hung Tilt |
| CHECKED BY: J.GOOSSEN | |
| APPROVED BY: J.GOOSSEN | |
| RECORD No.: D008729 | CAD DWG. No.: - |
| REPORT No.: NCTL-210-3873-1A | REV: A |
| | SHEET 8 of 10 |

MASONRY STRAP
STEEL/SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME JAMB SECTION (TYP)
HORIZONTAL SECTION

| | | |
|---------------|---------|--------|
| MAXIMUM FRAME | DP | IMPACT |
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use two (2) - #10 TEK Self-Tapping or larger screws through masonry strap with sufficient length to achieve a minimum penetration of three threads past the frame thickness. Steel substrate min. 18ga., fy = 33 ksi.
3. Use two (2) - #10 PFH or larger fasteners through masonry strap into jamb without penetrating through the jamb into product causing visibility or collateral damage to product.
4. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

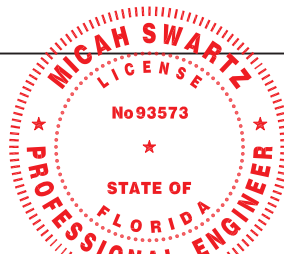
General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.
5. Masonry strap specifications: 20 Ga. galvanized steel, .036 min. thickness x 1.5" min. width.

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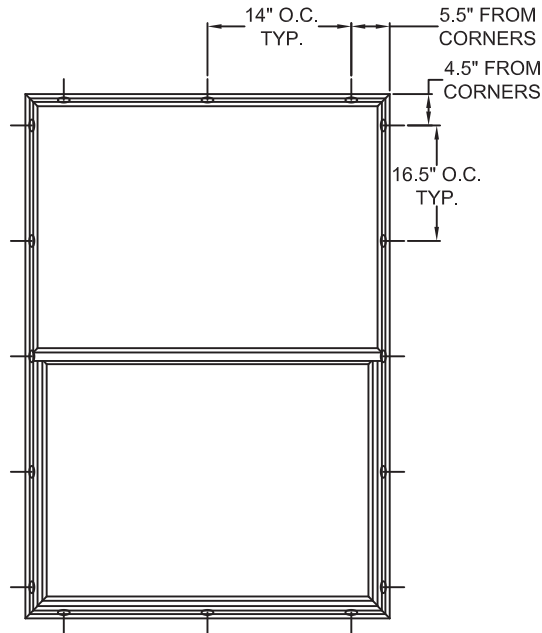
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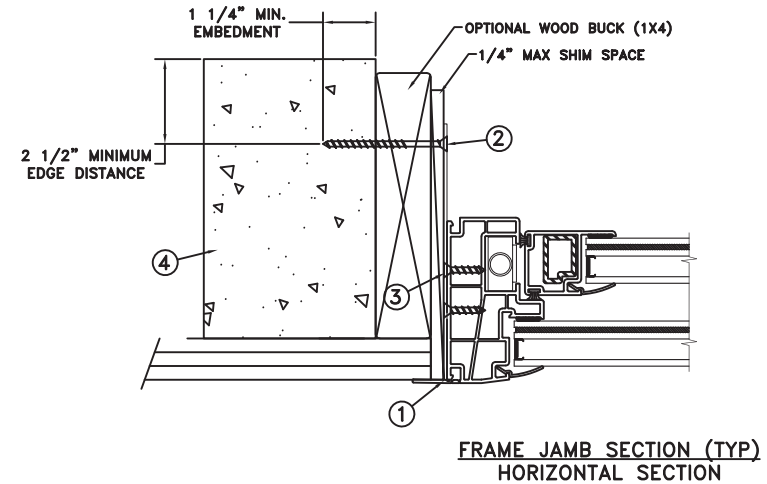
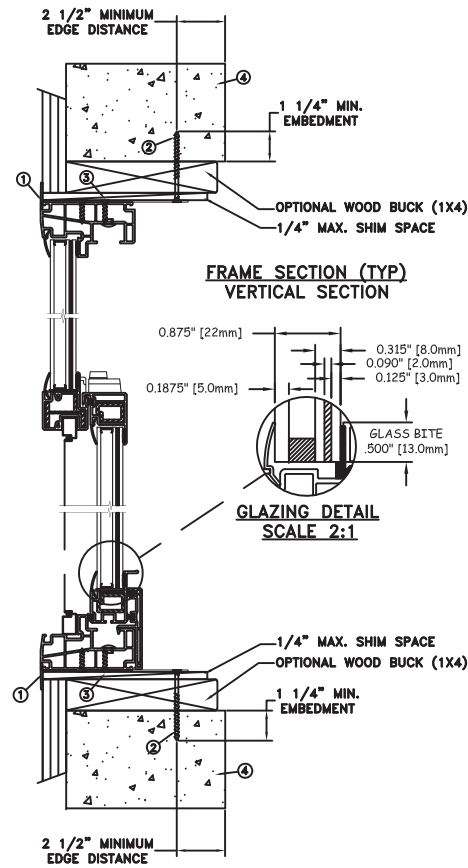
MICAH SWARTZ, P.E.
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Klamath Falls, OR, 97603
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| | |
|---------------------------------|--|
| DATE: 02/12/2025 | 3737 LAKEPORT BLVD. JELD-WEN KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 |
| SCALE: NTS | |
| DRAWN BY: M.HAM | TITLE: Premium Atlantic Vinyl Single Hung Tilt |
| CHECKED BY: J.GOOSSEN | |
| APPROVED BY: J.GOOSSEN | |
| RECORD No.: D008729 | CAD DWG. No.: - |
| REPORT No.: NCTL-210-3873-1A | REV: A |
| | SHEET 9 of 10 |

MASONRY STRAP CONCRETE SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



| MAXIMUM FRAME | DP | IMPACT |
|---------------|---------|--------|
| 52.125 x 75 | +65/-75 | YES |

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone caulk when no fastener is used to anchor the sill (typical).
2. Use one (1) - 1/4" Tapcon or equivalent fasteners through masonry strap with sufficient length to penetrate a minimum of 1-1/4" into the buck or concrete. For 2x wood frame substrate (min. S.G. = 0.42). For concrete (min. fc = 3000 psi) or masonry substrate (CMU shall be ASTM C90).
3. Use two (2) - #10 PFH or larger fasteners through masonry strap into jamb without penetrating through the jamb into product causing visibility or collateral damage to product.
4. Host structure (wood buck, masonry, steel) to be designed and anchored to properly transfer all loads to the structure. The host structure is the responsibility of the architect or engineer of record for the project of installation.

General Notes:

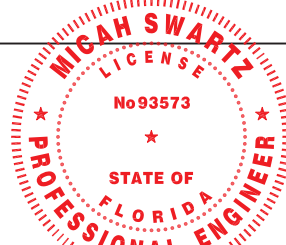
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2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 5.0mm annealed - 11.0mm airspace - 3.0mm annealed - 2mm PVB interlayer by Kuraray - 3.0mm annealed glass.
4. Use structural or composite shims where required.
5. Masonry strap specifications: 20 Ga. galvanized steel, .036 min. thickness x 1.5" min. width.

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 (541) 363-8075

| | | |
|---------------------------------|---|---|
| DATE: 02/12/2025 | | 3737 LAKEPORT BLVD. KLAMATH FALLS OR, 97601 PHONE: (800) 535-3936 |
| DRAWN BY: M.HAM | | SCALE: NTS |
| CHECKED BY: J.GOOSSEN | TITLE: Premium Atlantic Vinyl Single Hung Tilt | |
| APPROVED BY: J.GOOSSEN | | |
| RECORD No.: D008729 | | |
| REPORT No.: NCTL-210-3873-1A | CAD DWG. No.: - | REV: A SHEET 10 of 10 |



SWARTZ
CONSULTING ENGINEERS LLC

Project Number: SCE 25-03010
Project Name: Premium Atlantic Vinyl
Date: 3/21/2025 Page: 1 of 15

Product Approval Supporting Calculations Alternative Anchorage Analysis & Design

Project Number: SCE 25-03010

Drawing Number: D008729

Reference Test Report: NCTL 210-3873-1 A

Product Name: Premium Atlantic Vinyl 52-1/8" x 75"

Prepared for:

Jeld-Wen Windows & Doors
3737 Lakeport Blvd.
Klamath Falls, OR



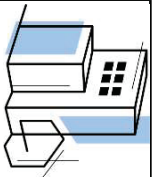
Prepared by:
Swartz Consulting Engineers LLC

Micah Swartz

Micah Swartz, PE
Florida License No. PE 93573
Florida Registry No. 38420

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Scope:

Swartz Consulting Engineers LLC is contracted by Jeld-Wen Windows & Doors to evaluate alternative anchorage for the product: Premium Atlantic Vinyl 52-1/8" x 75". This evaluation is based on testing performed by National Certified Testing Laboratories in Orlando, FL, test report no.: NCTL 210-3873-1 A and dated 04/15/13.

This evaluation does not include the air infiltration, water resistance or water penetration of the installation method or the installed product. In addition, the design of the building substrate to resist the superimposed loads is by others.

Reference Standards:

Florida Building Code, Building, 2023 Edition

ANSI/AWC NDS 2018 - National Design Specification (NDS) for Wood Construction

ANSI S100-16 (2020) North American Specification for the Design of Cold-Formed Steel Structural Members

ICC-ES Report ESR-1976 ITW Buildex TEKS Self-Drilling Fasteners

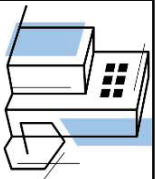
ICC-ES Report ESR-2196 Hilti Self Drilling Screws to connect cold-formed steel

NOA 24-0102.06 Tapcon Concrete and Masonry Anchors with Advanced Threadform Technology

Certification of Independence:

In accordance with Rule 61G20-3 Florida Administrative Code, Swartz Consulting Engineers LLC hereby certifies the following:

- (1) Swartz Consulting Engineers LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested or labeled by the
- (2) Swartz Consulting Engineers LLC is not owned, operated or controlled by any company manufacturing or distributing products it tests or labels.
- (3) Micah Swartz, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products for which the reports are being issued.
- (4) Micah Swartz, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.



Design Summary:

The table below summarizes the product: Premium Atlantic Vinyl 52-1/8" x 75" and their corresponding performance levels as established by testing.

Table 1: Summary of Test Results

| Series/Model | Test Report Number | Size (W x H) | Performance |
|--------------------------------------|---------------------------------|---------------|-------------------|
| Premium Atlantic Vinyl 52-1/8" x 75" | NCTL 210-3873-1 A (04/15/13) | 52-1/8" x 75" | +65 psf / -75 psf |

As Tested Design:

Applied Load (psf): psf Width: in Height: in Window Area: ft²

Total Load: lbs Number of Fasteners: ft Load Per Fastener (Nail/fin): lbs
Load Per Fastener (Thru Frame): lbs

Screw Information:

Screw Size: Screw Embed: in Edge Distance: in (minimum)

Wood Screw Withdrawal: lbs Unity:
Wood Screw Lateral: lbs Unity:

Alternative Fasteners:

Screw Information:

Screw Size: Screw Embed: in Edge Distance: in (minimum)

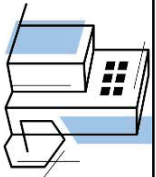
Wood Screw Withdrawal: lbs Unity:
Wood Screw Lateral: lbs Unity:

Nail Information:

Nail Size: Nail Type: Edge Distance: in (minimum)

Total Load: lbs Number of Nails: Load Per Fastener (Nail/fin): lbs

Nail Withdrawal: lbs Unity:
Nail Lateral: lbs Unity:



Design Summary Continued:

TEK Screw Information:

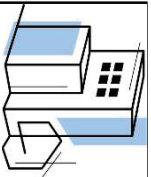
Screw Size: 10-16

| | | | | |
|-----------------|------------|-----|--------|-------------|
| TEK Withdrawal: | <u>145</u> | lbs | Unity: | <u>0.88</u> |
| TEK Lateral: | <u>147</u> | lbs | Unity: | <u>0.86</u> |

Tapcon Information:

Tapcon Size: 3/16 Embedment: 1-1/4 in (minimum) Edge Distance: 2-1/2 in (minimum)

| | | | | |
|----------------------------|------------|-----|--------|-------------|
| Tapcon Lateral (Concrete): | <u>155</u> | lbs | Unity: | <u>0.82</u> |
| Tapcon Lateral (CMU): | <u>135</u> | lbs | Unity: | <u>0.94</u> |



Summary of Test Results - Plastics Checklist

Table 2: Summary of Test Results - Plastics Checklist

| Product | Test Report Number | Test Standard | Performance |
|---------------------|--------------------|-----------------------------------|--------------------|
| White PVC 1476 5110 | P6504.04-106-18 R0 | ASTM D638 (before and after G155) | +9.5% |
| | | ASTM D1929 | 824 °F (440 °C) |
| | | ASTM D2843 | 71.8 |
| | | ASTM D635 | Classification CC1 |
| | | ASTM 256 | -3.3% |
| White PVC 1476 5290 | P6504.04-106-18 R0 | ASTM D638 (before and after G155) | +9.5% |
| | | ASTM D1929 | 806 °F (430 °C) |
| | | ASTM D2843 | 72.6 |
| | | ASTM D635 | Classification CC1 |
| | | ASTM 256 | -35.5% |

The testing summarized in the table above was conducted by Intertek in York, PA dated 08/23/23 and meets the requirements listed in Miami-Dade County Checklist #0445, For the approval of: Plastic and Foam Plastic.

The Saflex FlySafe 3D interlayer meets the requirements listed in Miami-Dade County Checklist #0445, For the approval of: Plastic and Foam Plastic as shown by NOA 23-0713.19



Subject: As Tested - Wood Screw Withdrawal

Input:
Calculation:

Screw Information:

Screw Size:
Screw Embed: in

Root Diameter: in

Main Member Type: G: F_{em}: psi

$$W' = W * C_D * C_M^2 * C_t \text{ -- As per table 11.3.1 NDS 2018}$$

C_D: Load Duration Factor - Table 2.3.2 (NDS 2018)

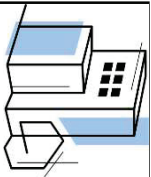
C_M: Wet Service Factor - Table 11.3.3 (NDS 2018)

C_t: Temperature Factor - Table 11.3.4 (NDS 2018)

W: lbs/in - Table 12.2B (NDS 2018)

W': lbs

W': lbs



Subject: As Tested - Wood Screw Lateral Design - Single Shear

Input:
Calculation:

Screw Information:

Screw Size:
Screw Embed: in

Root Diameter: in

Main Member Type: G: F_{em} : psi thickness (t_m): in

Side Member Type: G: F_{es} : psi thickness (t_s): in

Lateral Design Factors - Table 12.3.1A (NDS 2018)

| | | | |
|------------|------------------------------------|-----|---|
| D: | <input type="text" value="0.152"/> | in | Diameter |
| F_{yb} : | <input type="text" value="90"/> | ksi | Dowel Bending Yield Strength |
| F_{em} : | <input type="text" value="3,350"/> | psi | Main Member dowel bearing strength |
| F_{es} : | <input type="text" value="3,350"/> | psi | Side Member dowel bearing strength |
| l_m : | <input type="text" value="1.5"/> | in | Main Member dowel bearing length |
| l_s : | <input type="text" value="1.25"/> | in | Side Member dowel bearing length |
| R_d : | <input type="text" value="2.2"/> | | Reduction term - Table 12.3.1B (NDS 2018) |
| R_e : | <input type="text" value="1"/> | | $= F_{em}/F_{es}$ |
| R_t : | <input type="text" value="1.2"/> | | $= l_m/l_s$ |
| k_1 : | <input type="text" value="0.459"/> | | See Table |
| k_2 : | <input type="text" value="1.133"/> | | See Table |

Reference Lateral Design Values - Table 12.3.1A (NDS 2018)

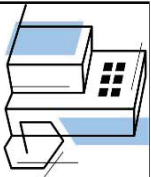
Z_{Iii} : lbs $Z_{Iim} = \frac{D l_m F_{em}}{R_d}$ (EQ 12.3 - 1) Note: Side member is part of the Jeld-Wen assembly and verified during testing. Modes Z_{Is} and Z_{Iiis} are not applicable to the calculation.

Z_{Iii} : lbs $Z_{Ii} = \frac{k_1 D l_s F_{es}}{R_d}$ (EQ 12.3 - 3)

Z_{Iiim} : lbs $Z_{IiIm} = \frac{k_2 D l_m F_{em}}{(1 + 2R_e) R_d}$ (EQ 12.3 - 4)

Z_{IV} : lbs $Z_{IV} = \frac{D^2}{R_d} \sqrt{\frac{2F_{em}F_{yb}}{3(1 + R_e)}}$ (EQ 12.3 - 6)

Z_{MIN} : lbs



Subject: As Tested - Wood Screw Lateral Design - Single Shear Cont.

Adjusted Lateral Design Values

$$Z' = Z * C_D * C_M * C_t * C_g * C_{\Delta} - \text{As per table 11.3.1 NDS 2018}$$

| | | |
|------------------|-----|---|
| C _D : | 1.6 | Load Duration Factor - Table 2.3.2 (NDS 2018) |
| C _M : | 1.0 | Wet Service Factor - Table 11.3.3 (NDS 2018) |
| C _t : | 1.0 | Temperature Factor - Table 11.3.4 (NDS 2018) |
| C _g : | 1.0 | Group Action Factor - Section 11.3.6 (NDS 2018) |
| C _Δ : | 1.0 | Geometry Factor - Section 12.5.1.1 (NDS 2018) |

Z': 168 lbs

Fastener Bending Across Shim Space

| | | |
|-------------------|-------|----------------------------------|
| Ω: | 1.67 | |
| L: | 0.25 | in Maximum Shim Gap |
| D: | 0.152 | in Diameter |
| F _{yb} : | 90 | ksi Dowel Bending Yield Strength |

$$\frac{F_{yb}}{\Omega} = \frac{M}{S} = \frac{16ZL}{\pi D^3} \Leftrightarrow Z = \frac{F_{yb}\pi D^3}{16\Omega L}$$

Where $M = \frac{ZL}{2}$ (Guided Bending)

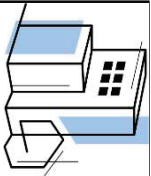
Z_n/Ω: 149 lbs

Bearing on Masonry Strap

| | | |
|------------------|-------|-------------------------------|
| Ω: | 3.00 | |
| F _u : | 33 | ksi Tensile Strength of strap |
| t: | 20 | GA |
| t: | 0.036 | in thickness of strap |
| D: | 0.152 | in |

$$\frac{P_{nv}}{\Omega} = 2.7 * t * D * F_u - (EQ.J4.3.1 - 4, AISI S100)$$

P_{nv}/Ω: 162 lbs



Subject: Nail Withdrawal

Input:
Calculation:

Nail Information:

Nail Size: Nail Length: in
Nail Type: Nail Diameter: in Nail Embedment: in

Main Member Type: G: F_{em}: psi thickness (t_m): in

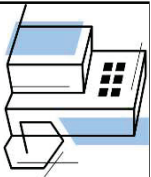
Side Member Type: G: F_{es}: psi thickness (t_s): in

$$W' = W * C_D * C_M^2 * C_t - \text{As per table 11.3.1 NDS 2018}$$

C_D: Load Duration Factor - Table 2.3.2 (NDS 2018)
C_M: Wet Service Factor - Table 11.3.3 (NDS 2018)
C_t: Temperature Factor - Table 11.3.4 (NDS 2018)

W: lbs/in W = 1380G^{5/2}D - Carbon Steel Nails (Eq. 12.2 - 3, NDS 2018)
W: lbs

W': lbs



Subject: Nail Lateral Design - Single Shear

Input:

Calculation:

Nail Information:

Nail Size:

Nail Length: in

Nail Type:

Nail Diameter: in

Nail Embedment: in

Main Member Type:

G:

F_{em} : psi thickness (t_m): in

Side Member Type:

G:

F_{es} : psi thickness (t_s): in

Lateral Design Factors - Table 12.3.1A (NDS 2018)

| | | | |
|------------|-------------------------------------|-----|---|
| D: | <input type="text" value="0.099"/> | in | Diameter |
| F_{yb} : | <input type="text" value="100"/> | ksi | Dowel Bending Yield Strength |
| F_{em} : | <input type="text" value="3,350"/> | psi | Main Member dowel bearing strength |
| F_{es} : | <input type="text" value="13,750"/> | psi | Side Member dowel bearing strength |
| l_m : | <input type="text" value="1.625"/> | in | Main Member dowel bearing length |
| l_s : | <input type="text" value="0.125"/> | in | Side Member dowel bearing length |
| R_d : | <input type="text" value="2.2"/> | | Reduction term - Table 12.3.1B (NDS 2018) |
| R_e : | <input type="text" value="0.2436"/> | | $= F_{em}/F_{es}$ |
| R_t : | <input type="text" value="13.0"/> | | $= l_m/l_s$ |
| k_1 : | <input type="text" value="1.230"/> | | See Table |
| k_2 : | <input type="text" value="0.612"/> | | See Table |

Reference Lateral Design Values - Table 12.3.1A (NDS 2018)

Note: Side member is part of the Jeld-Wen assembly and verified during testing. Modes Z_{Is} and Z_{IIs} are not applicable to the calculation.

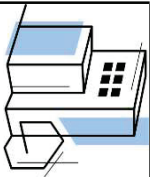
Z_{Im} : lbs $Z_{Im} = \frac{D l_m F_{em}}{R_d}$ (EQ 12.3 - 1)

Z_{II} : lbs $Z_{II} = \frac{k_1 D l_s F_{es}}{R_d}$ (EQ 12.3 - 3)

Z_{III_m} : lbs $Z_{III_m} = \frac{k_2 D l_m F_{em}}{(1 + 2R_e) R_d}$ (EQ 12.3 - 4)

Z_{IV} : lbs $Z_{IV} = \frac{D^2}{R_d} \sqrt{\frac{2F_{em}F_{yb}}{3(1 + R_e)}}$ (EQ 12.3 - 6)

Z_{MIN} : lbs



Subject: Nail Lateral Design - Single Shear Cont.

Adjusted Lateral Design Values

$$Z' = Z * C_D * C_M * C_t * C_g * C_A - \text{As per table 11.3.1 NDS 2018}$$

| | | |
|------------------|-----|---|
| C _D : | 1.6 | Load Duration Factor - Table 2.3.2 (NDS 2018) |
| C _M : | 1.0 | Wet Service Factor - Table 11.3.3 (NDS 2018) |
| C _t : | 1.0 | Temperature Factor - Table 11.3.4 (NDS 2018) |
| C _g : | 1.0 | Group Action Factor - Section 11.3.6 (NDS 2018) |
| C _A : | 1.0 | Geometry Factor - Section 12.5.1.1 (NDS 2018) |

Z': 96 lbs

Fastener Bending Across Shim Space

| | | |
|-------------------|-------|----------------------------------|
| Ω: | 1.67 | |
| L: | 0.25 | in Maximum Shim Gap |
| D: | 0.099 | in Diameter |
| F _{yb} : | 100 | ksi Dowel Bending Yield Strength |

$$\frac{F_{yb}}{\Omega} = \frac{M}{S} = \frac{16ZL}{\pi D^3} \Leftrightarrow Z = \frac{F_{yb} \pi D^3}{16 \Omega L}$$

Where $M = \frac{ZL}{2}$ (Guided Bending)

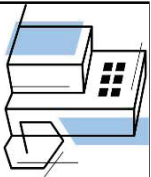
Z_n/Ω: 76 lbs

Bearing on Masonry Strap

| | | |
|------------------|-------|-------------------------------|
| Ω: | 3.00 | |
| F _u : | 33 | ksi Tensile Strength of strap |
| t: | 20 | GA |
| t: | 0.036 | in thickness of strap |
| D: | 0.099 | in |

$$\frac{P_{nv}}{\Omega} = 2.7 * t * D * F_u - (EQ. J4.3.1 - 4, AISI S100)$$

P_{nv}/Ω: 106 lbs



Subject: TEK Withdrawal

Input:

Calculation:

Shear Strength of Fastener - ESR 1976

Screw Size:

P_{nv}/Ω : lbs See ESR 2196

Tensile Pullout - ESR 1976

Screw Size:

Tensile Strength of material NOT in contact with screw head

F_u : ksi

t: GA

t: in

Thickness of material NOT in contact with screw head

P_{nv}/Ω : lbs See ESR 2196

Tensile Pullover

Note: The tensile pullover analysis checks the material IN contact with the screw head. This material is part of the Jeld-Wen assembly and has been verified by testing. Below is a check to ensure the head size of the TEK screw is equal to or larger than the head of the tested fastener, ensuring compliance.

Tested Fastener Head Size:

Screw Size:

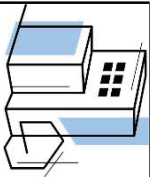
Head Size: in

Tested fastener is a

TEK Screw Head Size:

Screw Size:

Head Size: in



Subject: TEK Lateral Design

Input:

Calculation:

Shear Strength of Fastener - ESR 1976

Screw Size: 10-16

P_{nv}/Ω : 573 lbs See ESR 2196

Bearing Strength of Material NOT in Contact with Screw Head - AISI S100

Screw Size: 10-16

Ω : 3.00

D: 0.138 in Root Diameter of TEK Screw

F_u : 45 ksi Tensile Strength of material NOT in contact with screw head

t: 18 GA

t: 0.0478 in Thickness of material NOT in contact with screw head

$$\frac{P_{nv1}}{\Omega} = 2.7 * t * D * F_u - (EQ.J4.3.1 - 3, AISI S100)$$

$$\frac{P_{nv2}}{\Omega} = 4.2\sqrt{t^3 * D * F_u} - (EQ.J4.3.1 - 1, AISI S100)$$

P_{nv1}/Ω : 267 lbs

P_{nv2}/Ω : 245 lbs

P_{nv}/Ω : 245 lbs $\frac{P_{nv}}{\Omega} = \text{smallest of } \frac{P_{nv1}}{\Omega} \text{ and } \frac{P_{nv2}}{\Omega}$

Bearing Strength of Material IN in Contact with Screw Head

Note: Material IN contact with the screw head is part of the field-Wen assembly and has been verified by testing.

Fastener Bending Across Shim Space

L: 0.25 in Maximum Shim Gap Ω : 3.00

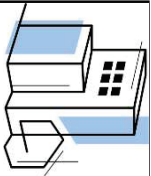
D: 0.138 in Root Diameter of TEK Screw

F_{yb} : 100 ksi Yield Strength of TEK Screw

$$\frac{F_{yb}}{\Omega} = \frac{M}{S} = \frac{16P_n L}{\pi D^3} \Leftrightarrow P_n = \frac{F_{yb} \pi D^3}{16 \Omega L}$$

Where $M = \frac{P_n L}{2}$ (Guided Bending)

P_n/Ω : 206 lbs



Bearing Strength of Masonry Straps - AISI S100

Screw Size: 10-16

TEK Screw

Ω : 3.00

D: 0.138 in

Root Diameter of TEK Screw

F_u : 33 ksi

Tensile Strength of Masonry Strap

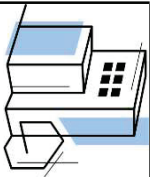
t: 20 GA

t: 0.0359 in

Thickness of Masonry Strap

$$\frac{P_{nv}}{\Omega} = 2.7 * t * D * F_u - (EQ. J4.3.1 - 3, AISI S100)$$

P_{nv}/Ω : 147 lbs



Subject: Tapcon Lateral Design

Input:
Calculation:

Tapcon Size:

| | | | |
|-------------------|---------------|----|------------------|
| Size: | 3/16 | in | Nominal Diameter |
| D: | 0.1875 | in | |
| D _{sh} : | 0.145 | in | Shank Diameter |

Fastener Shear Capacity - 3,000 psi Concrete

P_{nv}/Ω: **181** lbs See Table 1B of NOA 24-0102.06

Fastener Shear Capacity - Medium-Weight CMU

P_{nv}/Ω: **135** lbs See Table 3 of NOA 24-0102.06

Note:

- Critical anchor spacing is 16D
- Minimum Anchor Embedment is 1-1/4"
- Minimum Edge Distance is 2-1/4"

Fastener Bending Across Shim Space

| | | | |
|-------------------|--------------|-----|--------------------------|
| L: | 0.25 | in | Maximum Shim Gap |
| D _{sh} : | 0.145 | in | Shank Diameter of Tapcon |
| F _{yb} : | 100 | ksi | Yield Strength of Tapcon |

Ω: **3.00**

$$\frac{F_{yb}}{\Omega} = \frac{M}{S} = \frac{16P_n L}{\pi D^3} \Leftrightarrow P_n = \frac{F_{yb} \pi D^3}{16 \Omega L}$$

Where $M = \frac{P_n L}{2}$ (Guided Bending)

P_n/Ω: **239** lbs

Bearing Strength of Masonry Straps - AISI S100

| | | | |
|-------------------|---------------|-----|-----------------------------------|
| Size: | 3/16 | in | Tapcon Size |
| D _{sh} : | 0.145 | in | Shank Diameter of Tapcon Screw |
| F _u : | 33 | ksi | Tensile Strength of Masonry Strap |
| t: | 20 | GA | |
| t: | 0.0359 | in | Thickness of Masonry Strap |

Ω: **3.00**

$$\frac{P_{nv}}{\Omega} = 2.7 * t * D * F_u - (EQ. J4.3.1 - 3, AISI S100)$$

P_{nv}/Ω: **155** lbs

Meeting Date: 03/23/2026

Information

REQUESTED ACTION

PZCOA2026-00017

Certificate of Appropriateness

Duplex

1102 Avenue E

SUMMARY

The applicant is requesting approval of a COA for the construction of a duplex with associated driveway, parking and landscaping.

LOCATION

1102 Avenue E

RESPONSIBLE STAFF

Vennis Gilmore, Historic Preservation Officer/Senior Planner

RECOMMENDATION

The subject duplex is proposed on a prominent site in the Lincoln Park Historic District. Design of the new building meets the technical aspects of the Secretary of the Interior regarding size, scale, materials and massing. However, the architectural elements do not provide a continuity of character of the surrounding historic neighborhood.

While the overall proposal is consistent with Secretary of the Interior Standards, staff recommends the Historic Preservation Board approve the request with the following conditions and recommendation:

- All mechanical equipment must meet setbacks requirements.

- Additional architectural details, like decorative window shutters or colonial window grid be incorporated into the final design to better comport with the character of the historic district;

- As many trees as possible will be preserved

- Submit a General Address Request Application to register the parcel address and individual unit addresses.

Attachments

Staff Report
Application Supporting Documents

Form Review

Form Started By: Vennis Gilmore
Final Approval Date: 03/17/2026

Started On: 03/16/2026 03:35 PM

CITY OF FORT PIERCE

PLANNING DEPARTMENT

PROJECT: CONSTRUCTION OF A RESIDENTIAL DUPLEX – CERTIFICATE OF APPROPRIATENESS
Project #: PZCOA2026-00017

REVIEWER: VENNIS GILMORE, HISTORIC PRESERVATION OFFICER/SENIOR PLANNER

DATE: MARCH 16, 2026

STAFF REPORT

Applicant(s): Monique Neal

Owner: Anthony Alvarez

Requested Action: Certificate of Appropriateness

Location: Generally located at 1102 Avenue E

Parcel ID(s): 2404-828-0023-000-5

Historic District: Lincoln Park District

Historic Designation: Non-Contributing

Current Zoning: R-4, Medium Density Residential Zoning District

Future Land Use: RM, Medium Density Residential

Aerial



Future Land Use



Zoning



Surrounding FLU/Zoning:

| North | East | South | West |
|--------|--------|--------|--------|
| RM/R-4 | RM/R-4 | RM/R-4 | RM/R-4 |

Site Area:

+/- 0.25 Acres

Utilities:

Located within the FPUA Service Area

Staff Analysis:

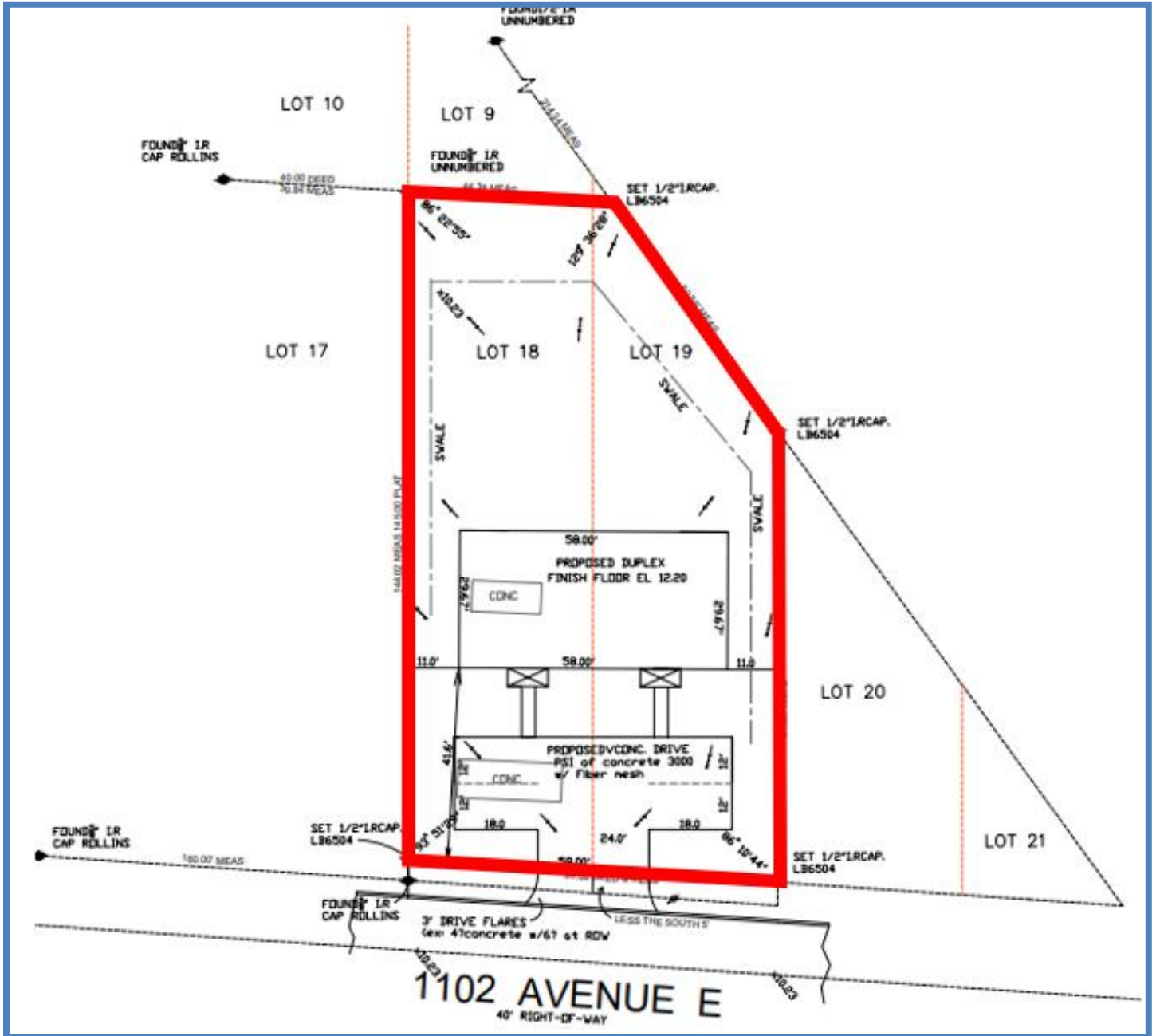
Background

The subject property is currently vacant with a future land use designation of RM, Medium Density Residential and a zoning designation of R-4, Medium Density Residential Zone.

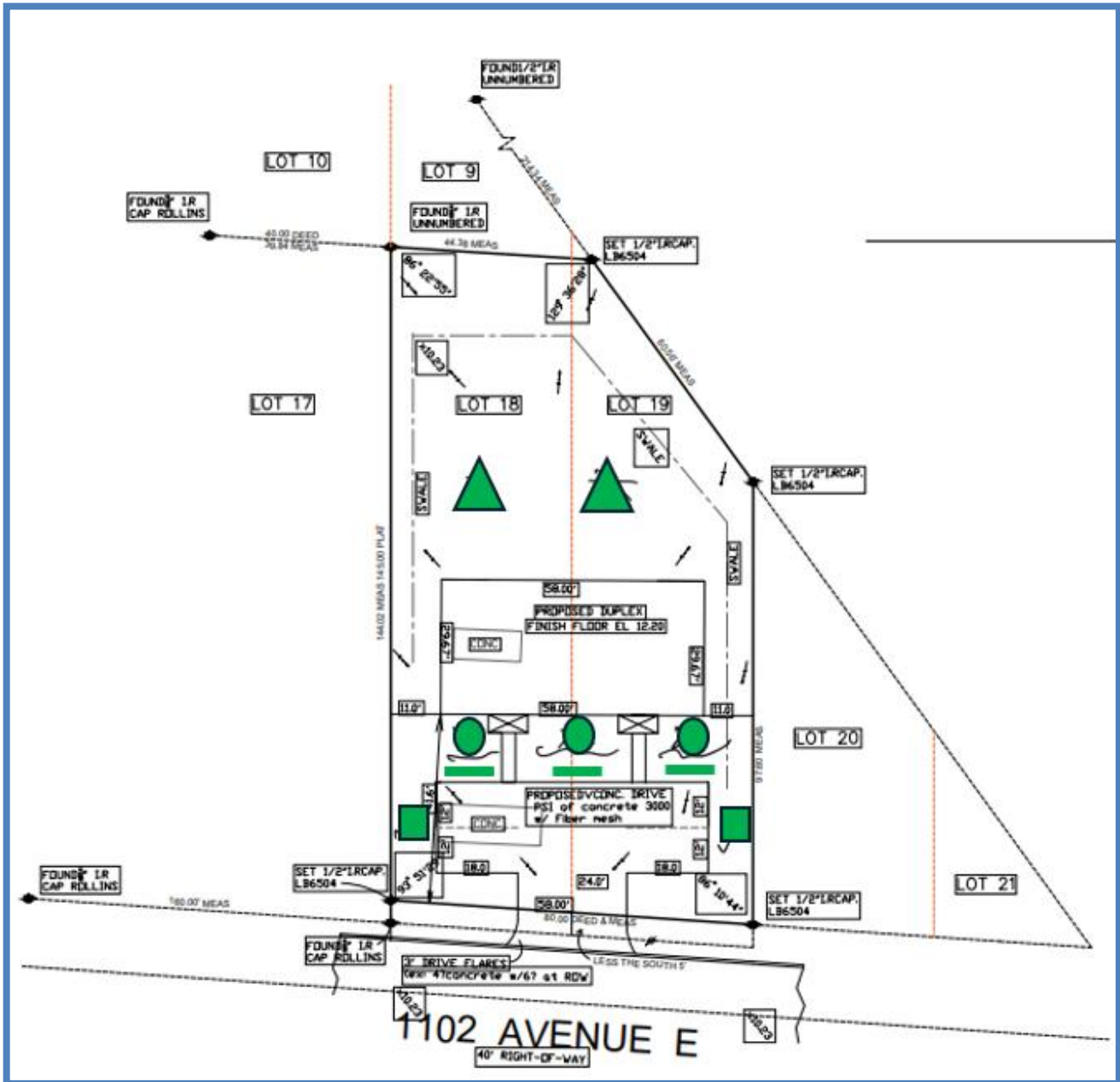
Request

The applicant is requesting COA approval to construct a residential duplex consisting of two (2) bedroom apartments, located within the historically designated district of Lincoln Park; at or near 1102 Avenue E in Fort Pierce, FL.

Proposed Site Plan

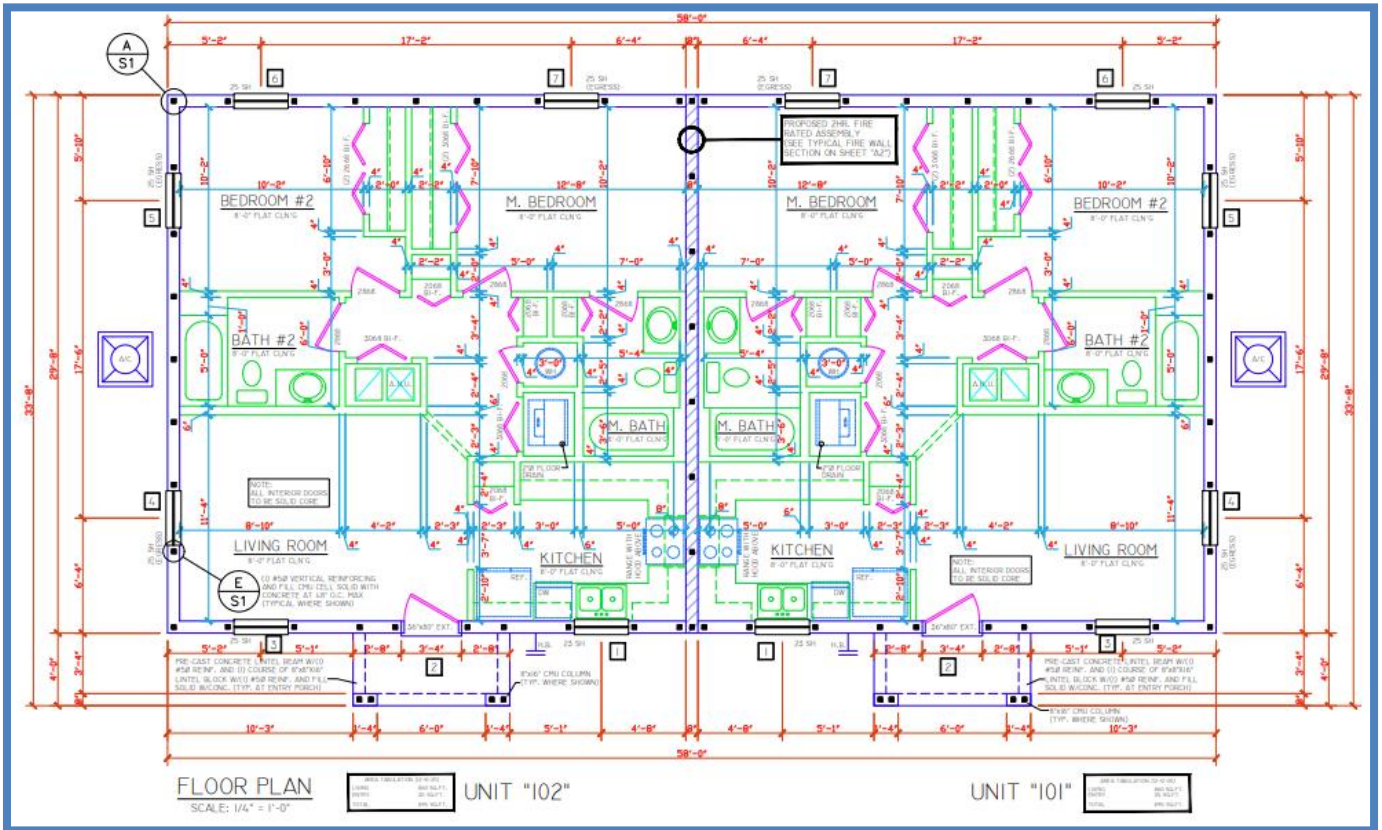


Proposed Landscape Plan



- Trees**
- Silver Trumpet ■
 - Oak Tree ▲
- Palms**
- Sabal Palm ●
- Shrubs**
- Cocoplum —

Proposed Floor Plan




Proposed Duplex – Perspective Rendering



Color Board


1102 Ave Eth Street color board

Color Code : HDC-NT-21 Body



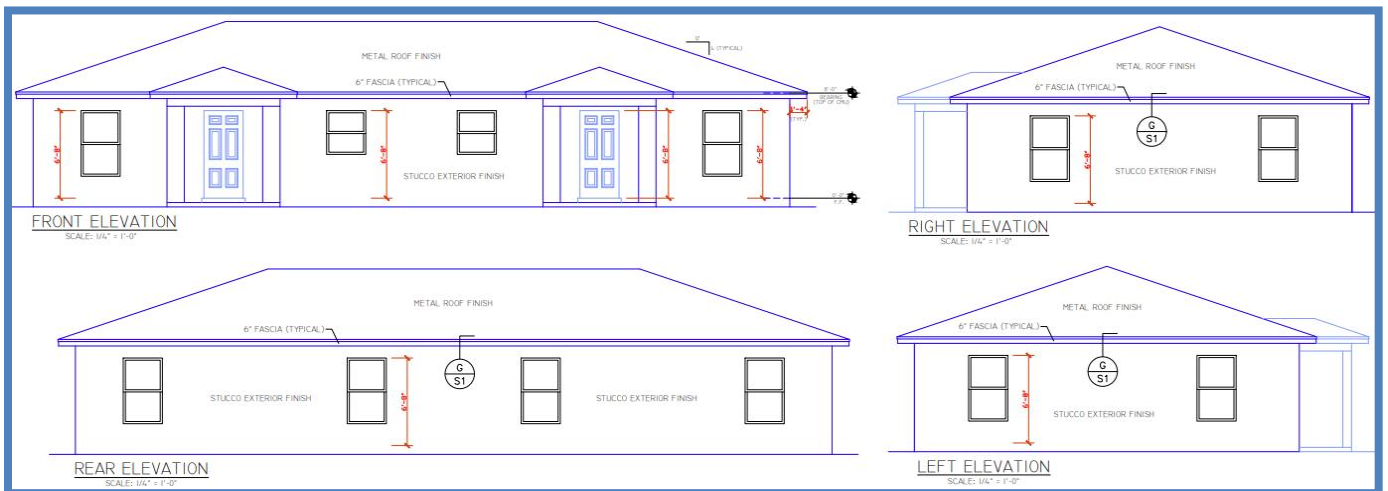
Weathered White

Color Code : PPU18-01 Trim



Cracked Pepper

Proposed Elevations



SECRETARY OF INTERIOR'S STANDARDS FOR CONSIDERATION

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials features, size, scale and proportions, and massing, to protect the integrity of the property and its environment.

Staff Determination

The subject duplex is proposed on a prominent site in the Lincoln Park Historic District. Design of the new building meets the technical aspects of the Secretary of the Interior regarding size, scale, materials and massing. However, the architectural elements do not provide a continuity of character of the surrounding historic neighborhood.

While the overall proposal is consistent with Secretary of the Interior Standards, staff recommends the Historic Preservation Board approve the request with the following conditions and recommendation:

- All mechanical equipment must meet setbacks requirements.
- Additional architectural details, like decorative window shutters or colonial window grid be incorporated into the final design to better comport with the character of the historic district;
- As many trees as possible will be preserved
- Submit a General Address Request Application to register the parcel address and individual unit addresses.

Staff Recommendations:

The overall proposal and design are consistent with the Secretary of Interior Standard 9 and 10. The Historic Preservation Board may:

- **Approve the proposed site plan**
- **Approve the proposed site plan with conditions or recommendations**
- **Deny the proposed site plan**

1102 Ave E – Project Narrative

The subject property is currently a vacant lot that will be developed with a duplex residential structure. The proposed duplex will consist of two (2) units, each designed as a 2-bedroom, 2-bathroom layout.

Each unit will contain approximately 895 square feet of living space, for a total building area of approximately 1,790 square feet.

The exterior façade of the building will be painted white, with trim accents in a “Cracked Black Pepper” (black) finish.

-DUPLEX FOR- 1102 AVE E FORT PIERCE, FL 34950

| |
|------------------------------|
| CONSTRUCTION TYPE: TYPE 5B |
| OCCUPANCY GROUP: R3 (DUPLEX) |
| OCCUPANCY LOAD UNIT 101 = 4 |
| OCCUPANCY LOAD UNIT 102 = 4 |

| | |
|----------------------------|-------------|
| UNIT "101" AREA TABULATION | |
| LIVING | 860 SQ.FT. |
| ENTRY | 35 SQ.FT. |
| TOTAL | 895 SQ.FT. |
| UNIT "102" AREA TABULATION | |
| LIVING | 860 SQ.FT. |
| ENTRY | 35 SQ.FT. |
| TOTAL | 895 SQ.FT. |
| TOTAL BUILDING | 1790 SQ.FT. |

| SHEET INDEX |
|---|
| A0 COVER SHEET |
| A1 ELEVATIONS, WINDLOAD DESIGN CRITERIA, AND ATTIC VENT CALCULATIONS |
| A2 FLOOR PLAN, WINDOW AND DOOR DESIGN PRESSURES, AND DETAIL NOTES |
| A3 LINTEL SCHEDULE, WALL SECTIONS, NOTES, AND DETAILS |
| A4 FOUNDATION PLAN, AND FOOTING DETAILS |
| A5 TRUSS LAYOUT, CONNECTOR SCHEDULE, REACTION SUMMARY, AND CONNECTOR DETAILS |
| S1 DETAILS, NOTES, AND ROOF SHEATHING |
| EPI ELECTRICAL LAYOUT, ELECTRICAL LOAD CALCULATIONS, AND ELECTRICAL RISER DIAGRAM |
| EP2 PLUMBING RISE DIAGRAMS, WATER SUPPLY DIAGRAMS, AND PLUMBING NOTES |

TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE FOLLOWING PLANS COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE 2023 FLORIDA RESIDENTIAL BUILDING CODE 8th EDITION AND LATEST ADOPTED SUPPLEMENTS

| GENERAL NOTES | |
|---------------|---|
| 1. | THESE DRAWINGS SHALL BE USED IN ACCORDANCE WITH THE PROVISIONS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND ARCHITECTS (A.P.E.A.) |
| 2. | THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL JURISDICTION. |
| 3. | THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS AND UTILITIES PRIOR TO THE START OF CONSTRUCTION. |
| 4. | THE FINAL CONTRACT SHALL BE SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPY. |
| 5. | DO NOT SCALE DRAWINGS |

| DESIGN CRITERIA | |
|-------------------|---------|
| FULLY ENCLOSED | |
| WIND SPEED | 170 MPH |
| EXPOSURE | B |
| BUILDING CATEGORY | TWO (2) |

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| REVISIONS | DATE | BY | DESCRIPTION |
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E.F.D.C.

-DUPLEX FOR-
J.A.D. ASSET MANAGEMENT
1102 AVE E FORT PIERCE, FL 34950

ENGINEER OF RECORD
EDWARD F. SHINSKIE, PE
FL ORIDA PE # 47515
PH. 321-863-3225
1707 WILD TURKEY ROAD
KIRNS, FLORIDA 32754

A0
SHEET 1 OF 9
DANIEL FROSTETTE

| REVISIONS |
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215 PALM BAY ROAD, STE. 6
 PALM BAY, FL 32909
 TEL: (321) 724-0740
 FAX: (321) 947-4206
 E-MAIL: info@edc.com
 03/08/11/12/50
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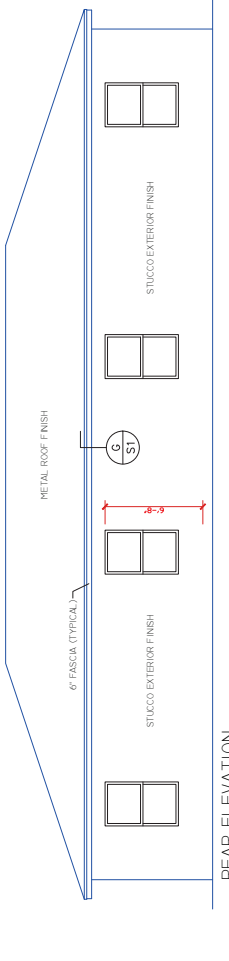
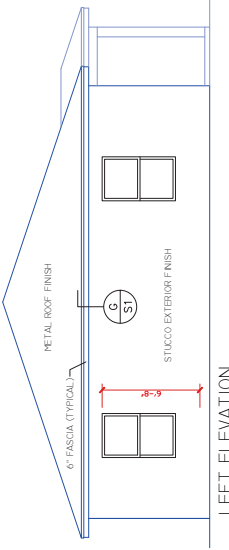
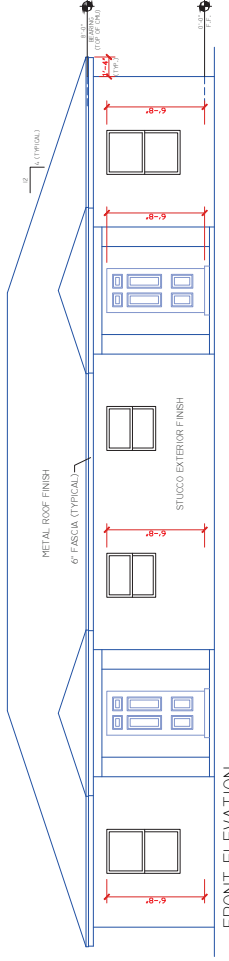
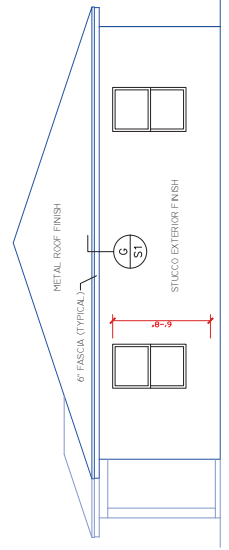
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-DUPLEX FOR-
J.A.D. ASSET MANAGEMENT
 1102 AVE E FORT PIERCE, FL 34950

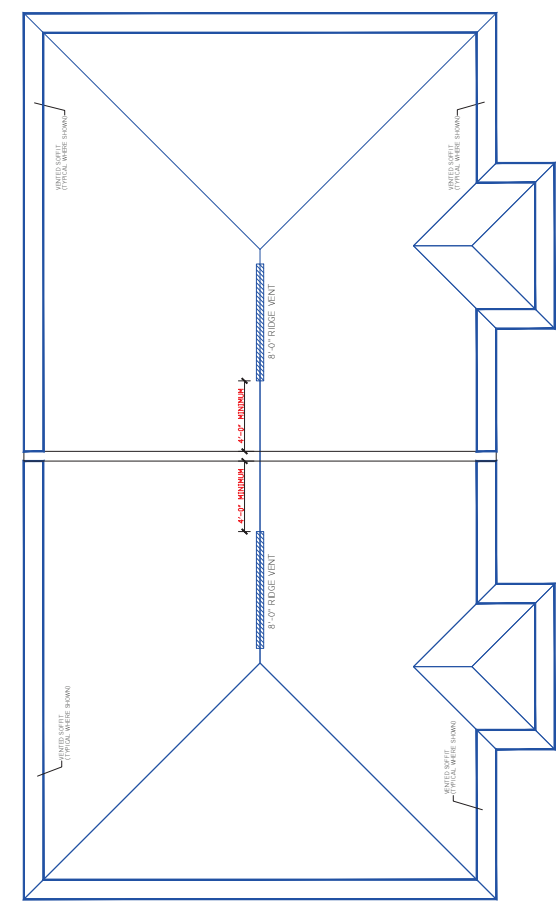
ENGINEER OF RECORD
 EDWARD F. SHINSKE, PE
 FLORIDA PE # 47515
 PE # 321-853-3225

AI
 SHEET 2 OF 9
 DANIEL FRECHETTE

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 CONSIDERED SIGNED AND SEALED AND THE SIGNATURE
 MUST BE VERIFIED ON ANY ELECTRONIC COPY.



ATTIC VENTILATION CALCULATION
 REQUIRED ATTIC VENTILATION IS 700 SQ. FT. OF THE TOTAL
 CEILING AREA OF THE ATTIC SPACE. THE TOTAL CEILING
 AREA OF THE ATTIC SPACE IS 700 SQ. FT. A TOTAL OF
 6.0 SQ. FT. OF ATTIC VENTILATION IS REQUIRED.
 ROOF VENT CALCULATIONS:
 1. 10.0 X 12.0 IN. = 120.0 SQ. FT.
 2. 10.0 X 12.0 IN. = 120.0 SQ. FT.
 3. 8.0 X 8.0 IN. = 64.0 SQ. FT.
 TOTAL PROVIDED VENTILATION = 204.0 SQ. FT.
 CALCULATIONS FOR SUFFIT VENTILATION IS BASED ON A VENTED
 SUFFIT PROVIDING 725 SQ. FT. OF VENTILATION PER SQ. FT.
 NOTE:
 1. ALL VENTILATION FOR RIDGE VENTS IS BASED ON VENT PROVIDING
 18 SQ. FT. OF VENTILATION PER LINEAR FOOT.



GENERAL NOTES
 1. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATIONS AND CONTRACT DOCUMENTS.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
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THIS DRAWING HAS BEEN REVIEWED AND APPROVED FOR CONSTRUCTION BY THE ENGINEER OF RECORD, EDWARD F. SHINSKI, PE, #47153, ON THE DATE AND AT THE PLACE SHOWN USING A DIGITAL SIGNATURE. ANY CHANGES TO THIS DRAWING MUST BE MADE BY THE ENGINEER OF RECORD. THIS DRAWING IS TO BE CONSIDERED ISSUED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPY.

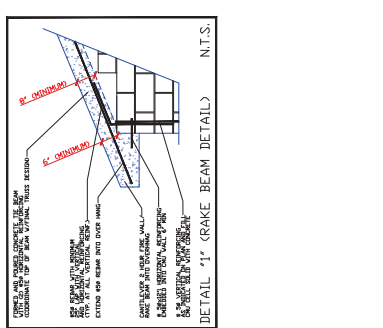
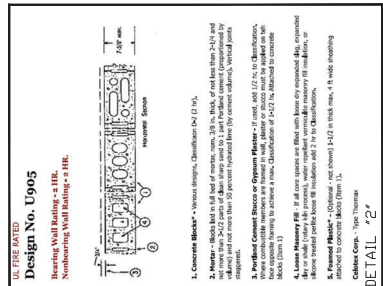
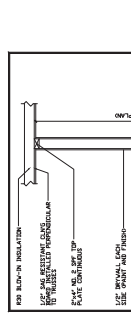
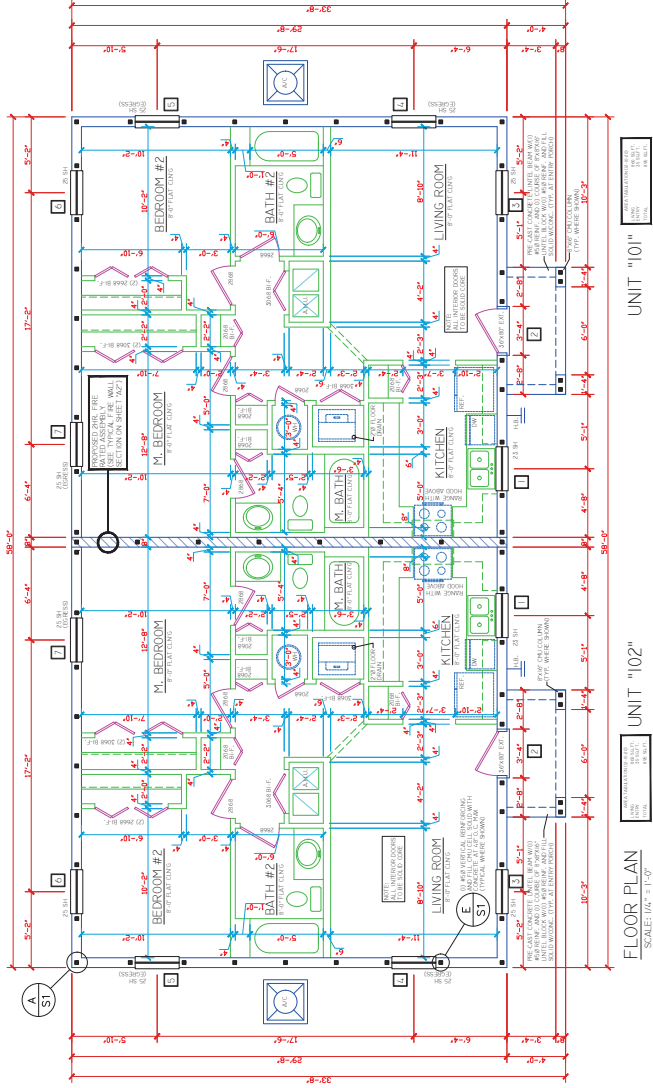
WINDLOAD
ASCE 7-22

| | |
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| PROJECT INFORMATION | GENERAL NOTES |
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| NO. | DESCRIPTION | UNIT | AMOUNT | REMARKS |
|-----|-------------|------|--------|-----------|
| 1 | WIND LOADS | PSF | 15 | ASCE 7-22 |
| 2 | WIND LOADS | PSF | 15 | ASCE 7-22 |
| 3 | WIND LOADS | PSF | 15 | ASCE 7-22 |

WINDOW AND DOOR BUCK INSTALLATION (MASONRY)

| NO. | DESCRIPTION | UNIT | AMOUNT | REMARKS |
|-----|-------------|------|--------|-----------|
| 1 | WINDOW | SF | 15 | ASCE 7-22 |
| 2 | DOOR | SF | 15 | ASCE 7-22 |
| 3 | DOOR | SF | 15 | ASCE 7-22 |

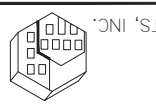


GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL WALLS ARE TO BE CONSTRUCTED WITH 8" CMU UNLESS OTHERWISE NOTED.
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DO NOT SCALE DRAWINGS.

| NO. | DATE | DESCRIPTION |
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DUPLEX FOR-
J.A.D. ASSET MANAGEMENT
1102 AVE E FORT PIERCE, FL 32950

ENGINEER OF RECORD
EDWARD F. SHINSKE, PE
FLORIDA REG. # 47,919
1102 WILD BIRCHWAY ROAD
FORT PIERCE, FL 32950
PH. 321-865-3225

A3
SHEET 4 OF 9
DATE: 11/11/11

| NO. | DATE | DESCRIPTION |
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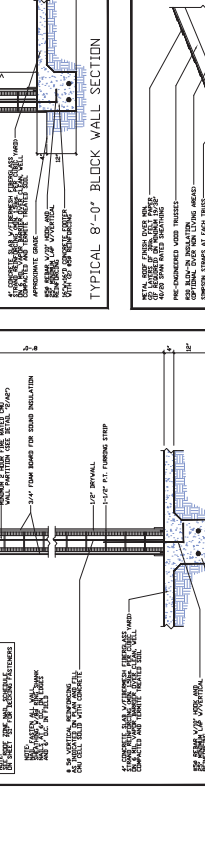
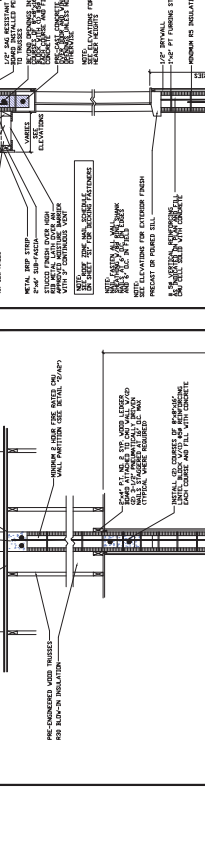
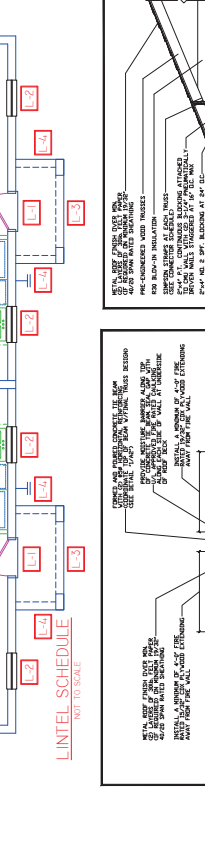
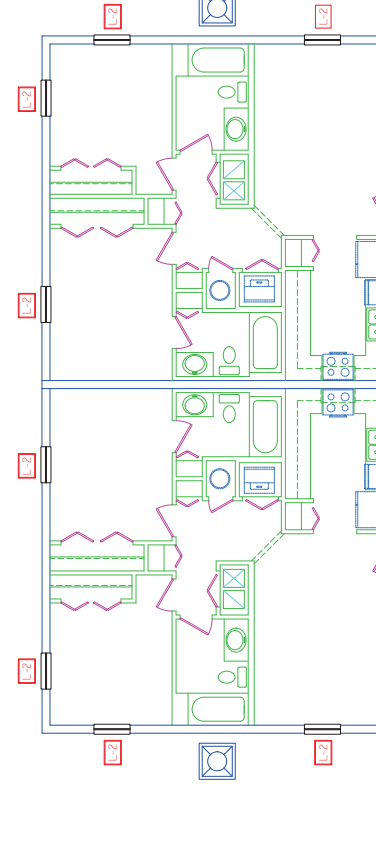
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GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES AND ALL APPLICABLE LOCAL ORDINANCES.
- ALL MATERIALS SHALL BE OF THE QUALITY AND TYPE SPECIFIED AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES AND ALL APPLICABLE LOCAL ORDINANCES.
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DO NOT SCALE DRAWINGS.

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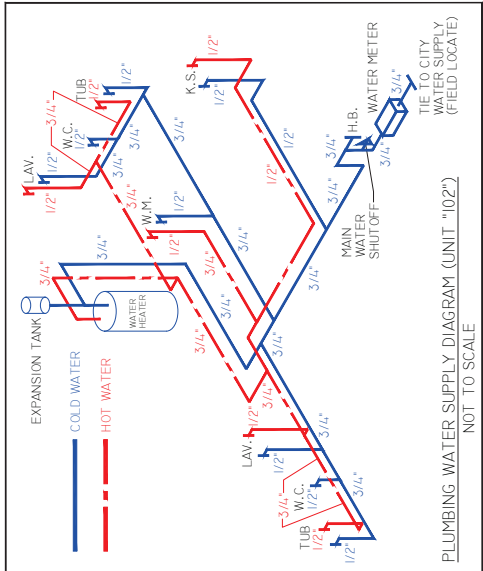
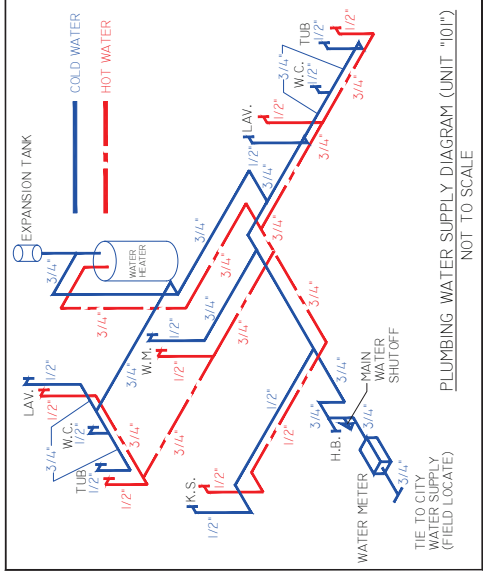
ENGINEERING AND DESIGN CONCEPTS, INC.
 1102 AVE E FORT PIERCE, FL 34950

DUPLEX FOR-
 J.A.D. ASSET MANAGEMENT

ENGINEER OF RECORD
 EDWARD F. SHINSKE, PE
 FLORIDA PE # 47515
 7401 WILD TURKEY ROAD
 FORT PIERCE, FL 34950
 PH. 321-863-5225

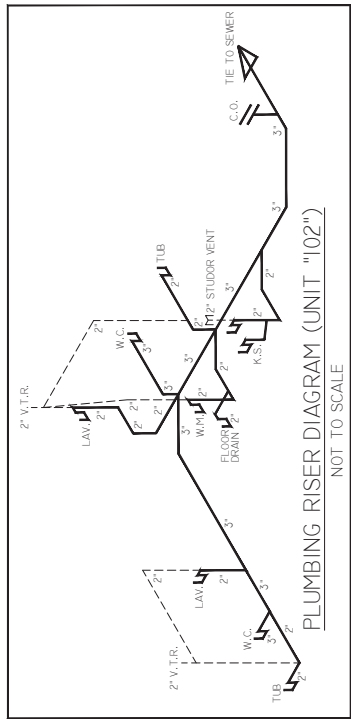
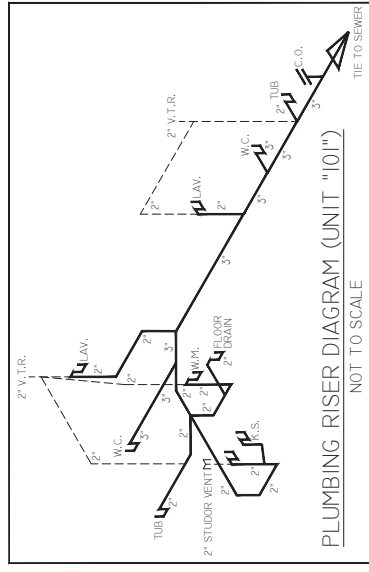
EP2
 SHEET 9 OF 9
 DANIEL F. GRIFFITH

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PLUMBING GENERAL NOTES

1. PROVIDE ALL LABORS AND MATERIALS AS REQUIRED TO PROVIDE A FULLY FUNCTIONING AND COMPLETE SYSTEM. MAINTAINANCE MANUALS AND TIE-IN TO THE EXISTING UTILITY SYSTEMS SHALL BE PROVIDED TO THE OWNER. LOCATION OF EXISTING UTILITY SHALL BE FIELD DETERMINED.
2. ALL MATERIALS SHALL BE NEW AND APPROVED BY APPROVED AGENCIES.
3. ALL FIELD WORK SHALL BE APPROVED BY APPROVED AGENCIES. FIELD VERIFY ALL FIELD WORK AND REPORT ANY DISCREPANCIES TO THE DESIGNER IMMEDIATELY.
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GENERAL NOTES

1. THESE DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CITY OF FORT PIERCE.
2. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO THE OWNER. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO THE OWNER.
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1102 Ave Eth Street color board

Color Code : HDC-NT-21 Body



Color Code : PPU18-01 Trim



Meeting Date: 03/23/2026

Information

REQUESTED ACTION

PZCOA2026-00025

Certificate of Appropriateness
Facade Renovation
207-209 Orange Avenue

SUMMARY

Staff Analysis:

Background

The subject structure is a single-story brick and mortar mixed-use building with a flat commercial roof. The structure was built in 1924.

Request

The applicant is requesting COA approval to do an exterior renovation to the front façade; including adding outdoor window boxes and hurricane shutters to the upper windows; and renovating the entranceway including replacing exterior flooring, removing tile, replacing the windows and replacing the front doors with ADA compliant entrances.

LOCATION

207-209 Orange Avenue

RESPONSIBLE STAFF

Vennis Gilmore, Historic Preservation Officer/Senior Planner

RECOMMENDATION

Staff Determination

The exterior renovation to the front façade; including adding outdoor window boxes and hurricane shutters to the upper windows; and renovating the entranceway including replacing exterior flooring, removing tile, replacing the windows and replacing the front doors with ADA compliant entrances of the contributing historic structure do not adversely affect the general welfare nor is a detriment to the historic nature of the structure and historic district.

Staff Recommendations:

The overall proposal and design are consistent with the Secretary of Interior Standard 9 and 10. The Historic Preservation Board may:

- **Approve the proposed modifications as requested (Option A or B)**

- **Approve the proposed modifications with conditions or recommendations**
- **Deny the proposed modifications**

Attachments

Staff Report
Application Supporting Documents

Form Review

Form Started By: Vennis Gilmore
Final Approval Date: 03/17/2026

Started On: 03/16/2026 06:59 PM

CITY OF FORT PIERCE

PLANNING DEPARTMENT

PROJECT: FAÇADE RENOVATION – CERTIFICATE OF APPROPRIATENESS
Project #: PZCOA2026-00025

REVIEWER: VENNIS GILMORE, HISTORIC PRESERVATION OFFICER/SENIOR PLANNER

DATE: MARCH 16, 2026

STAFF REPORT

Applicant(s): Chris Gardner

Owner: Kris Einstein of Jetset Events LLC

Requested Action: Certificate of Appropriateness

Location: Generally located at 207-209 Orange Avenue

Parcel ID(s): 2403-705-0107-000-7

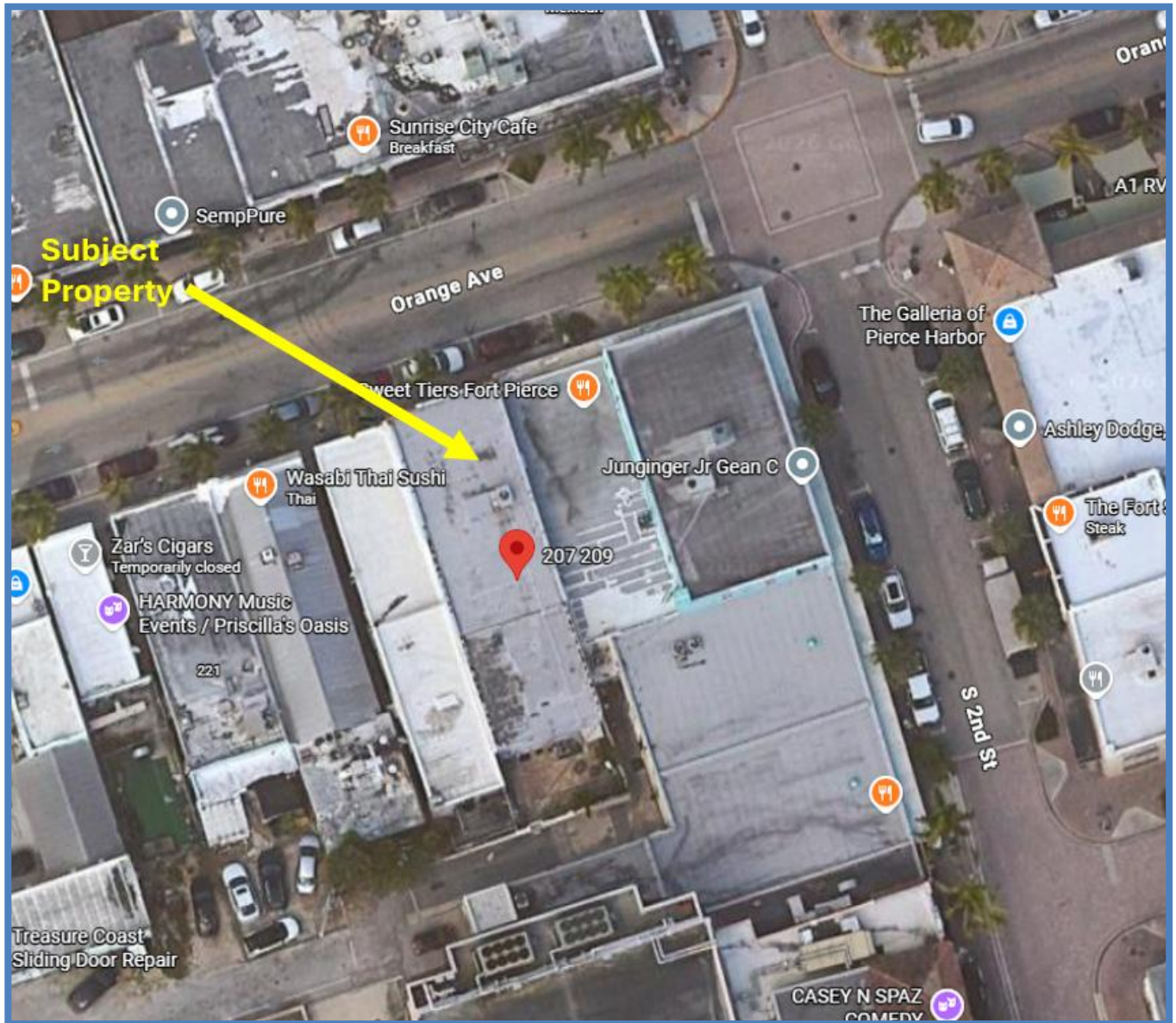
Historic District: Downtown District

Historic Designation: Contributing

Current Zoning: C-4, Central Commercial Zoning District

Future Land Use: CBD, Central Business District

Aerial



Future Land Use



Zoning



Surrounding FLU/Zoning:

| North | East | South | West |
|---------|---------|---------|---------|
| CBD/C-4 | CBD/C-4 | CBD/C-4 | CBD/C-4 |

Site Area:

+/- 0.08 Acres

Utilities:

Located within the FPUA Service Area

Staff Analysis:

Background

The subject structure is a single-story brick and mortar mixed-use building with a flat commercial roof. The structure was built in 1924.

Request

The applicant is requesting COA approval to do an exterior renovation to the front façade; including adding outdoor window boxes and hurricane shutters to the upper windows; and renovating the entranceway including replacing exterior flooring, removing tile, replacing the windows and replacing the front doors with ADA compliant entrances.

Existing Facade



Proposed Front Façade (Preferred Option) – Option A



Lower Level:

- Storefront windows remain the same size that they currently are
- Replace Plate Glass Windows
- Install ADA compliant doors
- New exterior ground tile
- Add decorative molding below windows
- Stucco/Paint/Finish the alcove the same color as the columns and building trim (Color: Cameo White)

Upper Level:

- Add Hurricane shutters and window plant boxes

Proposed Front Façade (Alternate Option) – Option B



Lower Level:

- Storefront windows remain the same size that they currently are
- Replace Plate Glass Windows
- Install ADA compliant doors **with transoms above (restoring to the buildings original design)**
- New exterior ground tile
- Add decorative molding below windows
- Stucco/Paint/Finish the alcove the same color as the columns and building trim (Color: Cameo White)

Upper Level:

- Add Hurricane shutters and window plant boxes

Staff Determination

The exterior renovation to the front façade; including adding outdoor window boxes and hurricane shutters to the upper windows; and renovating the entranceway including replacing exterior flooring, removing tile, replacing the windows and replacing the front doors with ADA compliant entrances of the contributing historic structure do not adversely affect the general welfare nor is a detriment to the historic nature of the structure and historic district.

Staff Recommendations:

The overall proposal and design are consistent with the Secretary of Interior Standard 9 and 10. The Historic Preservation Board may:

- **Approve the proposed modifications as requested (Option A or B)**
- **Approve the proposed modifications with conditions or recommendations**
- **Deny the proposed modifications**

Conceptual Front (Preferred Option)

Where Storefront Windows stay the same size they currently are



Lower Level: Replace Plate Glass Windows, Install ADA compliant doors with transoms above (which was originally how the building was), new exterior tile on exterior ground, Add decorative molding below windows, Stucco/Paint/finish the alcove the same color as the columns and building trim (which is Cameo White).

Upper Level: Add Hurricane Shutters and Window Boxes

Ignore the "outline" above & either side of the alcove - this was going to be a hurricane screen, but we opted against installing that.

Conceptual Front (Alternate Option)

Where Storefront Windows are slightly smaller than they currently are and have Transoms above windows.



Comment
Photo

Door # 1 = 36" WIDE
2 = 34" WIDE
3 = 33 3/4" WIDE

Plate Glass
A = 70" WIDE
B = 81" WIDE
C = 52 1/2" WIDE
D = 25 1/2" WIDE
90" high

Space
Between
Windows / Doors



* Have to Reduce window sizes to allow enough room for wider doors & line up properly with interior space.

Door #1
~36" wide

Door #2
(middle)
~34" wide

Door #3
33 3/4" wide

Building had transoms from @ least 1980



←9"→

←70"→

←36"→

3.5" wide

←34"→

←3 1/2"→

←81"→

←4"→
Between window + Door

←33 3/4"→

Door #1 Does not 'fully' open
Due to hinge, so not ~~have~~ 36"

Current photo

* Remove All Facade Tile
around Doors + below
Windows

Door #2
(middle)

Remove
tile
↓ expose orig
Transom

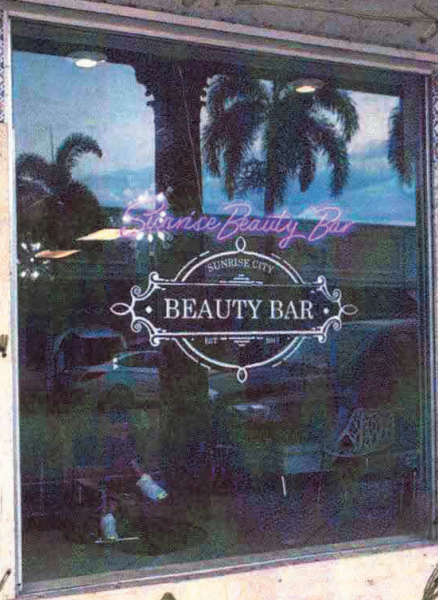
81"

52 1/2"

25"



207



current photo



90"

16"

4" between
window + door

13 1/2"

16"

34"

3/5" between
window
+ door

Replace All Ground tiles



Current photo



6-2023 Google

© 2023 Google

BRODERICK

BEAUTY BAR

207

BEAUTY BAR

209

Current photo





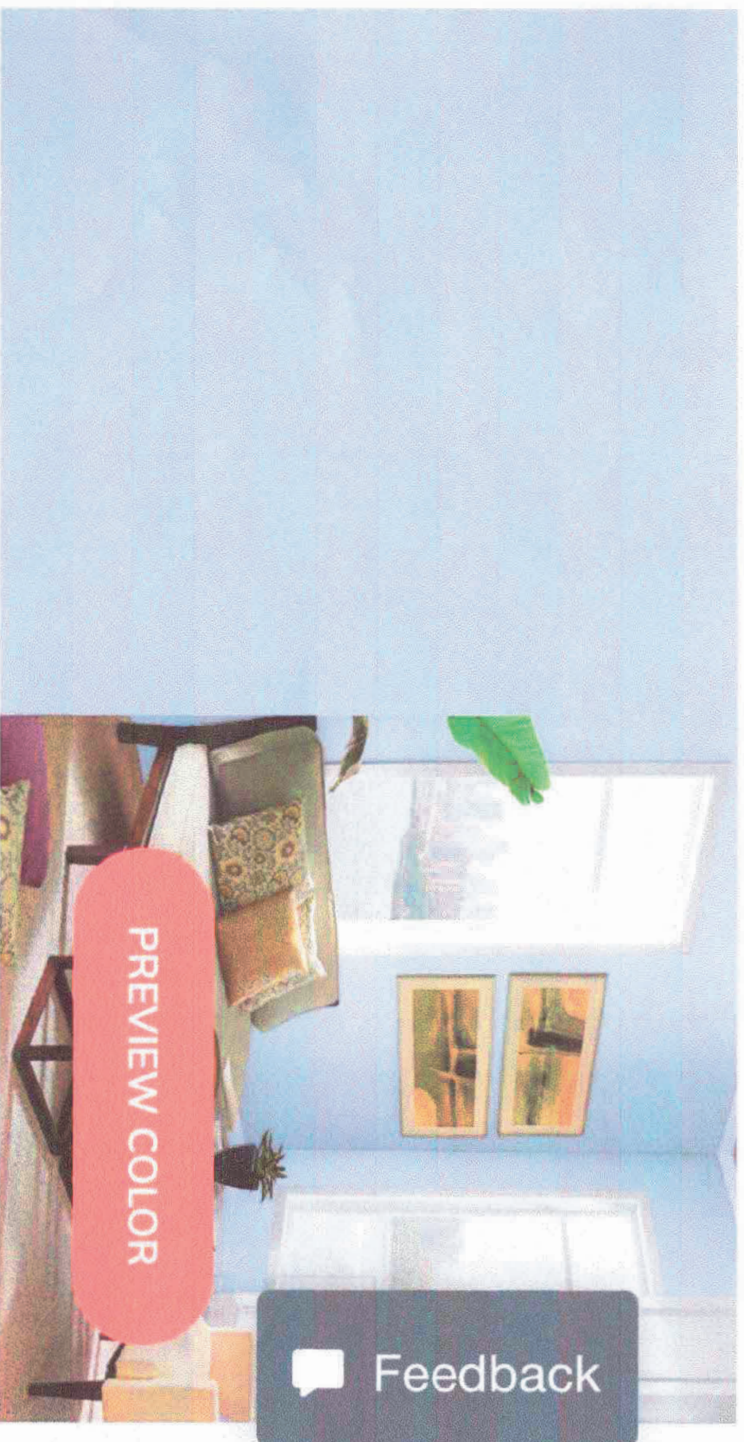
Sunset photo

*Main Paint color
of Building*

Violet Vision

S540-2

See all Purple Paint Colors



LRV: 51 R: 183 G: 189 B: 209





Ft Pierce 10PM

34947



Ft Pierce 10PM

34947



Shop All Services



DIY



Log In

Home / Paint / Paint Colors

Internet # 205264276 Model # 705005 Store SKU # 926797

Paints for birds



BEHR PREMIUM PLUS
5 gal. #S540-2 Violet Vision Satin Enamel Low Odor Interior Paint & Primer

★★★★★ (1123) Questions & Answers (435)

Feedback Live Chat



See This in My Room

Share Print

Dimensions

Container Size 5 Gallon

*Paint
Main color*

Details

| | | | |
|---------------------------------------|--|--|---|
| Approximate Coverage (sq. ft.) | 2000 | Base Material | Acrylic |
| Color Family | Purple / Lavender | Color/Finish | Violet Vision |
| Dry to Touch (min.) | 60 | Hexadecimal Value | B7BDD2 |
| HSL Value | 226.7:23.1:77.1 | Minimum Temperature for Use (F) | 35 |
| Number of coats recommended | 2 | Paint & Primer in One | Yes |
| Paint Key Features | Low Temperature, Paint & Primer in One | Paint Type | Exterior Paint |
| Paint/Stain Clean Up | Soap & Water | Protection Type | Mildew Resistant |
| Returnable | Non-Returnable | RGB Value | 183:189:210 |
| Sheen | Satin | Surface Material Use | Brick, Drywall, Masonry, Plaster, Stucco, Vinyl, Wood |
| Time before recoating (hours) | 2 | Tint Base | Base 1 |
| Transparency | Solid | | |

Cameo White

MQ3-32

*Trim Color Paint
+ Front Facade
Alcove*

See all White Paint Colors [>](#)



LRV: 81 R: 235 G: 232 B: 226



[Home Depot](#) Ft Pierce 10PM 34947

W.



Ft Pierce 10PM 34947



Shop All Services



Log In

[Home](#) / [Paint](#) / [Paint Colors](#)

*Trim color +
Front Facade Alcant*

Internet # 329086212 Model # 815005 Store SKU # 1011127493

New

BEHR PREMIUM PLUS

5 gal. #MQ3-32 Cameo White Hi-Gloss Enamel Interior/Exterior Paint & Primer

★★★★★ (73) Questions & Answers (9)

Feedback

Live Chat



Share Print

\$179.00

Pay \$154.00 after \$25 OFF your total qualifying purchase upon opening a new card. [Apply for a Home Depot Consumer Card](#)

- Durable finish, resists dirt & grime
- Hi-Gloss sheen best for kitchens, bathrooms, cabinets & trim

Dimensions

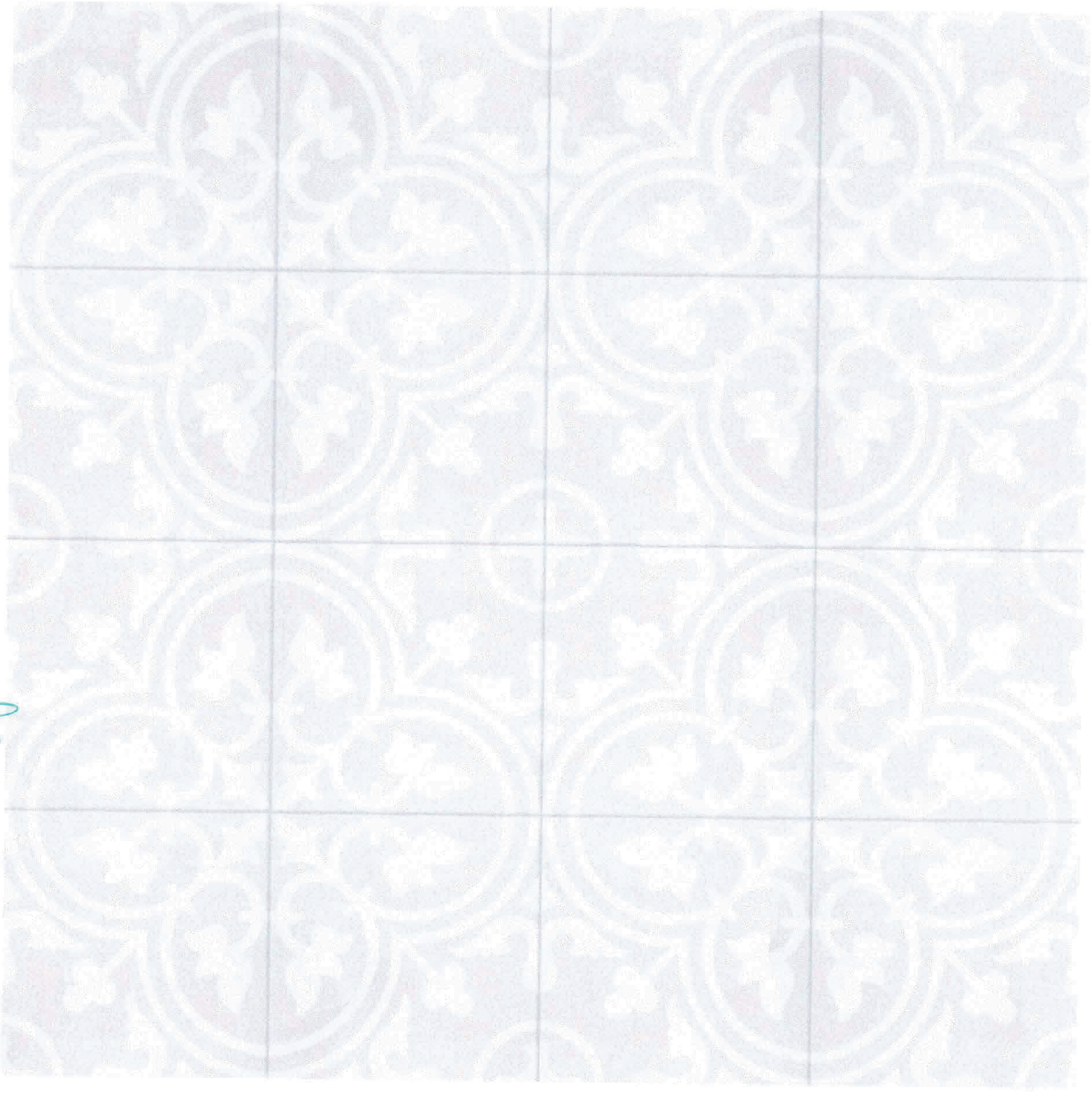
Container Size 5 Gallon

Details

| | | | |
|---------------------------------------|--|--|---|
| Approximate Coverage (sq. ft.) | 2000 | Base Material | Acrylic |
| Color Family | White | Color/Finish | Cameo White |
| Dry to Touch (min.) | 60 | Hexadecimal Value | EBE8E2 |
| HSL Value | 40.0:18.4:90.4 | Minimum Temperature for Use (F) | 35 |
| Number of coats recommended | 2 | Paint & Primer in One | Yes |
| Paint Key Features | Low Temperature, Paint & Primer in One | Paint Type | Exterior Paint |
| Paint/Stain Clean Up | Soap & Water | Protection Type | Mildew Resistant |
| Returnable | Non-Returnable | RGB Value | 235:232:226 |
| Sheen | Satin | Surface Material Use | Brick, Drywall, Masonry, Plaster, Stucco, Vinyl, Wood |
| Time before recoating (hours) | 2 | Tint Base | Base 1 |
| Transparency | Solid | | |

Cameo White
Trim & Alcove Paint

Tile for ground/floor of Akcare entry
in front



Front facade
tile

Weights & Dimensions

9-3/4 in.



9-3/4 in.

Front Facade

PO

Other Dimensions

Individual Tile

Overall Product Weight

9.75" W X 9.75" L

43.68 lb.

Additional Documents

[Owner Manual_\(pdf\)](#)

[Specifications_\(pdf\)](#)

[Warranty_Information_\(pdf\)](#)

[Installation & Assembly_\(pdf\)](#)

Features

Tile Type
Material
Floor Use
Square Feet Included
Sold In Carton
Water Absorption Rating
Water Performance Level
Submersible
Outdoor Installation
Shade Variation
Tile Design
Overall Shape
Pattern Repeat Frequency
Glazed
Gloss Level
Textured
Edge Type
Edge Style
Product Care
MOHS - Surface Hardness
Imported
DCOF Rating
Durability
Pieces per Carton
Color
Recommended Grout Joint Size

Singular Tile

Porcelain

Yes

Yes

Yes

Impervious: absorbs 0.05% or less
Waterproof

No

Withstands Sun & Rain

V1 Uniform Appearance

Patterned

Square

1

Yes

Matte

No

Pressed

Straight Edge

Tile specific cleaner

6

Yes

Above 0.42 (Slip Resistant)

Freeze Resistant

16

Gray

1/8 inches

Specifications

PEI Rating

4 - Heavy traffic

Assembly

Mounting / Installation Location

Backsplash; Bathroom; Shower; Kitchen; Fireplace

Can Be Dry Cut

Surround; Countertop; Outdoor; Patio

No

Warranty

Commercial Warranty

Product Warranty

Warranty Length

Warranty Details

No

Yes

30 Days

Manufacturing defects only - No claims will be
accepted for tile already installed

Front facade

Yes



🏠 Ft Pierce 10PM 📍 34947

What can we help you find today?



🏠 Ft Pierce 10PM 📍 34947

📍 34947

📦 Shop All Services

🔧 DIY

👤 Me

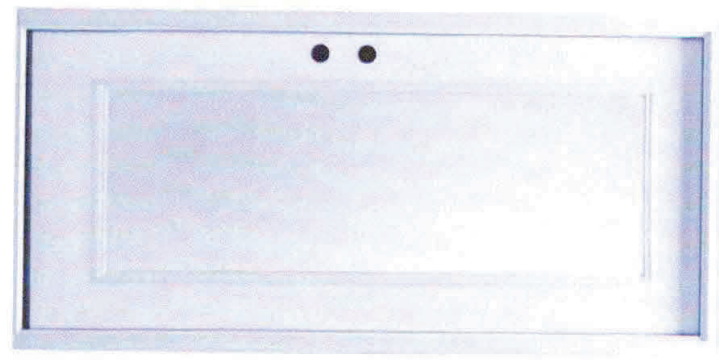
.. / [Exterior Doors](#) / [Front Doors](#) / [Steel Doors](#) / [Steel Doors With Glass](#)

Internet # 205450101 Model # Z00076:

AMI Door

👍 500

🔍 **16 in. x 80 in. Right-Hand Inswing Full Lite Clear Classic Primed Steel Prehung Front Door** ⭐⭐⭐⭐⭐ (94) [Questions & Answers \(71\)](#)



*Front facade
Option
Full Glass
Dan*

➔ Share 🖨️ Print

| | | | |
|----------------------------------|------------|-------------------------------------|-----------|
| Door Height (in.) | 81.75 in | Door Thickness (in.) | 1.75 in |
| Door Width (in.) | 37.438 in | Jamb Size (in.) | 4-9/16" |
| Nominal Door Height (in.) | 80 in | Nominal Door Thickness (in.) | 2 in |
| Nominal Door Width (in.) | 36 in | Rough Opening Height (in.) | 81.625 in |
| Rough Opening Width (in.) | 39.9375 in | | |

*Front facade
Door
option*

Doors will be "Similar" to Sunrise City Cafe.
(But single door on our building)



Mayne Rectangle 36-in W x 10.8-in H White Resin Traditional Outdoor Window Box

Item #139611 | Model #5822-W

Shop Mayne

★ 14 ♡



+3



*Front facade
& Back facade*



Color/Finish Family
Manufacturer Color/Finish

White
White

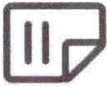
Series Name
Type



Container Size
Depth (Inches)
Diameter (Inches)
Height (Inches)

Large (25-65 quarts)
11
7.4
10.8

Potting Capacity (Cu.
Weight (lbs.)
Width (Inches)



Attached Saucer
BPA-Free
Commercial/Residential
Drainage Holes
Hanging
Hardware Included
Lowe's Exclusive
Material
Number of Tiers
Package Quantity

No
Yes
Residential
Yes
No
Yes
No
Resin
0
1

Planter Volume (Quart
Safer for Vegetables
Self Watering
Shape
Stand Included
Style
Team Name
Team/League
Use Location

Warranty

Warranty

15-year limited

*Front facade
& back*



Mayne Rectangle 36-in W x 10.8-in H Brown Resin... 10.8-in H White Resin... 10.2-in H White PVC Vinyl... 10.8-in H Gray Resin... 10.8-in H Black Resin... in W x 8.62-in H Blue Resi



Overview

With its inset panels and classic design, the Fairfield collection is a timeless choice that will never go out of style. We use 100% high-grade polyethylene resin in the m; these Fairfield window boxes sturdy, and provides the roots and potting mix with adequate insulation from surrounding weather conditions. These polyethylene window

- Durable window boxes: we use 100% high-grade polyethylene resin in the manufacturing process - making our products durable, lightweight and highly shock resistant
- Four season use: these 3ft window boxes are resistant to high impact, chemicals and extreme weather conditions - this product stands true to its four-season use tag with very little winter preparation
- Long lasting quality: the resin used to create our products contains built-in UV inhibitors that reduce the damaging effects of the sun - this ensures that your product doesn't fade, preserves its color and increases its overall lifespan
- Innovative design: double-wall design makes these Fairfield window boxes sturdy, and provides the roots and potting mix with adequate insulation from surrounding weather conditions
- Self-watering factor: In a self-watering window box, the planting container sits directly inside the water reservoir - the water is then pulled into the potting mix through capillary action, keeping your plants watered and happy
- The Mayne advantage: Mayne offers a 15-year residential warranty or a 5-year commercial warranty on this window box - our products are proudly designed in Canada and are made in the USA
- Weight: 13.5lbs; outside dimensions: 36in L x 11in W x 10.8in H; inside dimensions: 32.4in L x 7.4in W x 8in D; capacity: approximately 3 gallons (11.35 liters) water reservoir capacity and 6.5 gallons (24.6 liters) soil capacity

*Front facade
& back*

Specifications

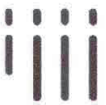
Gallery



*Front facade
& Back*

Feedback

Specifications



Color/Finish Family
Manufacturer Color/Finish

White
White

Series Name
Type



Container Size
Depth (Inches)
Diameter of Base (Inches)
Diameter of Top (Inches)

Medium (8-25 quarts)
8
0
0

Height (Inches)
Potting Capacity (Cu.
Weight (lbs.)
Width (Inches)



Attached Saucer
BPA-Free
Commercial/Residential
Drainage Holes
Hanging
Hardware Included
Lowe's Exclusive
Material

No
Yes
Commercial/Residential
Yes
No
Yes
No
Resin

Number of Tiers
Package Quantity
Planter Volume (Quart
Self Watering
Shape
Stand Included
Style
Use Location

Certifications

CA Residents : Prop 65 Warning(s)

No

*Front Jucade
& back*



Quote #

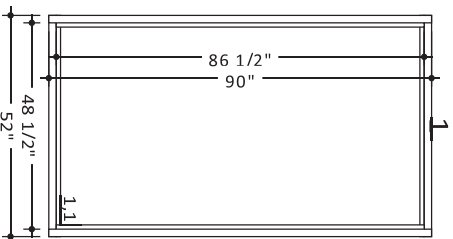
560640

Prepared by: Superior Glass Client Name: Chris Gardener
 Job Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce Fl 34950

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|-------|-----|----------------------|-------|--------|-------|-----------------|----------|---------------|
| 52X90 | 1 | MG5000 / MG500 (LMI) | 52.0" | 90.0" | White | No | +80/ -80 | JAMB 1/MULL 1 |

Glass [1/4 CLEAR HS (SB60 FACE #2) + 0.090 PVB + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0)

Looking from the outside



| Lock | Hinges | Handle | Closer | Swing | Sell each | Sell total |
|------|--------|--------|--------|-------|------------|------------|
| N/A | N/A | N/A | N/A | N/A | \$2,048.53 | \$2,048.53 |

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|-------|---|----------------------|-------|--------|-------|-----------------|----------|---------------|
| 72X90 | 1 | MG5000 / MG500 (LMI) | 72.0" | 90.0" | White | No | +70/ -70 | JAMB 1/MULL 1 |
| Glass | [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | |

| | |
|--|--|
| | |
| | |



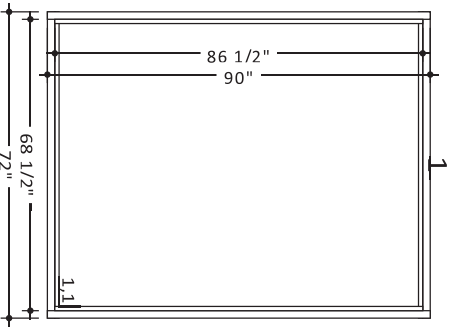
Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
 Job Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce Fl 34950

Looking from the outside

Screws all around are required



| | | | | |
|------|--------|--------|--------|-------|
| Lock | Hinges | Handle | Closer | Swing |
| N/A | N/A | N/A | N/A | N/A |

Sell each \$3,760.27

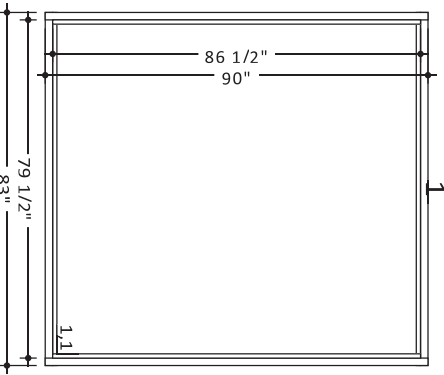
Sell total \$3,760.27

Rep: AD

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|-------|---|------------------------|-------|--------|-------|-----------------|----------|---------------|
| 83X90 | 1 | MGS5000 / MGS500 (LMI) | 83.0" | 90.0" | White | No | +70/ -70 | JAMB 1/MULL 1 |
| Glass | [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | |

Looking from the outside

Screws all around are required



| | | | | |
|------|--------|--------|--------|-------|
| Lock | Hinges | Handle | Closer | Swing |
| N/A | N/A | N/A | N/A | N/A |

Sell each \$4,257.81

Sell total \$4,257.81

| | |
|--|--|
| | |
| | |



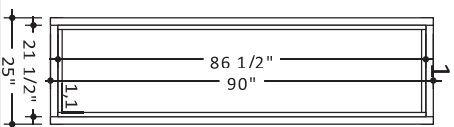
Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
 Job Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce Fl 34950

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|-------|---|----------------------|-------|--------|-------|-----------------|-----------|---------------|
| 25X90 | 1 | MG5000 / MG500 (LMI) | 25.0" | 90.0" | White | No | +130/-130 | JAMB 1/MULL 1 |
| Glass | [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | |

Looking from the outside



| Lock | Hinges | Handle | Closer | Swing |
|------|--------|--------|--------|-------|
| N/A | N/A | N/A | N/A | N/A |

Sell each Sell total
 \$1,632.61 \$1,632.61

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|-------|---|----------------------|-------|--------|-------|-----------------|-----------|---------------|
| 36X84 | 2 | MG5000 / MG500 (LMI) | 36.0" | 84.0" | White | No | +120/-120 | JAMB 1/MULL 1 |
| Glass | [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | |

| | |
|--|--|
| | |
| | |

Quote #

560640

Prepared by: Superior Glass
Job Name: Chris Gardener

Client Name:
Client Address:

Chris Gardener
207 and 209 Orange Ave Ft Pierce Fl 34950

Looking from the outside

| | | | | | |
|------------------|---------------|---------------|---------------|-------------------|------------------|
| | | | | | |
| Lock | Hinges | Handle | Closer | Swing | Sell each |
| D1: 3 point lock | 3 Hinges | Push-pull | 3084 | HRSO | \$3,206.35 |
| | | | | Sell total | \$6,412.70 |

| | | | | | | | | |
|--------------|---|----------------------|--------------|---------------|--------------|------------------------|-----------------|---------------|
| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
| 36X84L | 1 | MG5000 / MG500 (LMI) | 36.0" | 84.0" | White | No | +120/ -120 | JAMB 1/MULL 1 |
| Glass | [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | |

Looking from the outside

| | | | | | |
|------------------|---------------|---------------|---------------|-------------------|------------------|
| | | | | | |
| Lock | Hinges | Handle | Closer | Swing | Sell each |
| D1: 3 point lock | 3 Hinges | Push-pull | 3084 | HLSO | \$3,206.35 |
| | | | | Sell total | \$3,206.35 |

| | |
|--|--|
| | |
| | |

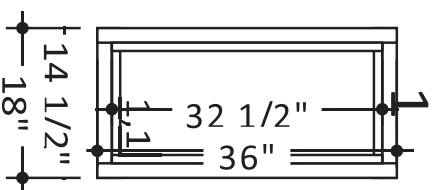
Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
 Job Name:Chris GardenerClient Address: 207 and 209 Orange Ave Ft Pierce Fl 34950

| Mark | Qty | Product | Width | Height | Frame | 90 Days Bluemax | Pressure | Reinf |
|---|-----|----------------------|-------|--------|-------|-----------------|-----------|---------------|
| 18X36 | 3 | MG5000 / MG500 (LMI) | 18.0" | 36.0" | White | No | +130/-130 | JAMB 1/MULL 1 |
| Glass [1/4 CLEAR HS (SB60 FACE #2) + 0.090 SGP + 1/4 CLEAR HS] (U-FACTOR: 0.0, SHGC: 0.0) | | | | | | | | |

Looking from the outside



| Lock | Hinges | Handle | Closer | Swing | Sell each | Sell total |
|------|--------|--------|--------|-------|-----------|------------|
| N/A | N/A | N/A | N/A | N/A | \$603.47 | \$1,810.42 |

Tubes

| Mark | Description | Length | Qty | Color | Sell Each | Sell Total |
|------|----------------|--------|-----|-------|-----------|------------|
| M/90 | 2" x 4" x 1/8" | 90.0 | 2 | White | \$212.81 | \$425.63 |



Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce FL 34950

Installation

| Mark | Description | Qty | Sell Each | Sell Total |
|--------------|---|-----|------------|------------|
| INSTALLATION | INSTALLATION OF ALL DOORS AND FIX WINDOWS | 1 | \$3,500.00 | \$3,500.00 |



Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce FL 34950

Engineering

| Mark | Description | Qty | Sell Each | Sell Total |
|--------|--|-----|-----------|------------|
| PERMIT | Permit amount is subject to change depending on the city or county request for engineering drawings. | 1 | \$500.00 | \$500.00 |



Quote #

560640

Prepared by: Superior Glass Client Name: Chris Gardener
Name: Chris Gardener Client Address: 207 and 209 Orange Ave Ft Pierce FL 34950

Summary

| System Summary | |
|-----------------------------|---|
| Total Products | 3 |
| Storefront Door (MG-500) | 3 |
| Storefront Window (MG-5000) | 7 |
| Tube | 2 |

| Sell Summary | |
|----------------|-------------|
| Subtotal: | \$23,554.31 |
| Taxes: | \$1,648.80 |
| Installations: | \$3,500.00 |
| Engineering: | \$500.00 |
| Total: | \$29,203.11 |

| Sqft Summary | |
|---------------------------|--|
| Storefront(MG-500/MG5000) | |
| Total Sqft | |

Notes: We are upgrading the software, please go to the NOA to check compliance

All rates apply, only line items mentioned are included. Customer agrees to pay all cost/expenses incurred collecting any amount due, including attorney's fees and associated expenses. A \$25 charge is added to checks returned and 1.5% monthly interest fee for past due balance. Quote valid for 30 days.

THIS QUOTE IS SUBJECT TO FIELD VERIFICATION.

ACCEPTED BY:

Print Name:

Date:

Title:

Signature:

207-209 Orange Avenue

We were awarded the FPPRA Façade Grant to complete significant improvements to our building located at 207-209 Orange Avenue in Historic Downtown. The property is a locally registered contributing historic building, and our goal throughout this project has been to preserve its historic character while making necessary updates for safety, accessibility, and long-term preservation. We have conducted extensive research on the building's history, including periods prior to when it housed Western Union and Montgomery Ward's Sales Order Office, and have worked to maintain as many original elements as possible. The proposed improvements will bring the lower-level commercial entrances into ADA compliance and align the building with current building codes, while incorporating design elements found on neighboring downtown structures to ensure architectural cohesion within the historic district.

Additionally, these updates will improve the building's energy efficiency and safety. The existing storefront consists of aging plate glass, windows, and doors that are more than 30 years old, provide little insulation, and are no longer up to modern safety standards. By replacing these elements with appropriate materials and repairing existing features, the project will enhance the building's longevity while preserving its historic integrity. Our building has remained in relatively excellent condition due to our ongoing care, regular maintenance, and commitment to using quality materials. These improvements will continue that stewardship, ensuring the structure remains a vibrant and well-maintained part of Historic Downtown while maintaining its historic character and adding to the overall beauty of the district.

Description of Improvements

Upper Level

- Add Flower Boxes to all 4 Windows
- Add Hurricane Colonial Shutters on the windows
 - The outer 2 windows would have shutters on both sides & the 2 windows in the center of the building would have a slightly larger shutter on just the outside of each window, which would be a bifold, that when opened would extend across the entire window.

Lower Level

Make the 3 entrances ADA Compliant

- Replace Tile on the Ground in Alcove
- Remove all tile on store fronts, including tiles with addresses above the doors
 - The tiles with the address are not original. Originally, all 3 doors had transoms above them, which were covered up during one of the renovations. The transom above door #3 was removed many years ago to install an AC Unit in its place.
- Replace the Plate Glass –
 - We are proposing 2 options since we are facing 2 challenges. We would like to be approved for both options to be able to move forward once we receive approval:
 - #1 - Sourcing windows of this size that meet the building code was a challenge & when we were ready to start moving forward, they were no longer available, which was one of the reasons we had to ask for an extension for the FPPRA Façade Grant.
 - #2 - As you can see from the current pictures with the dimensions, there is not a lot of room to work with when we replace the existing doors with larger ADA compliant Doors. Depending upon the available products, we might need to reduce the window sizes.
- **Preferred Option:** Keep the windows the same size as they currently are. If for some reason we cannot & we have to reduce the window size (to allow for ADA compliant doors which are wider & to line up properly with interior spaces), then we would go with our alternate option.
- **Alternate Option:** Reduce overall size of windows somewhat and add a transom above. We will keep the windows as large as possible.

- Replace Doors with ones that are ADA Compliant (We are also requesting the approval for 2 different options in case we run into size or sourcing options;)
 - **Preferred:** Doors will either be full glass or $\frac{1}{2}$ - $\frac{3}{4}$ glass fronts to allow for a mail slot (since we are having issues with mailboxes being broken into & vandalized) and electronic locks.
 - If space allows, we will add decorative molding below the glass.
 - For reference –if we do $\frac{1}{2}$ - $\frac{3}{4}$ glass doors, they will be “similar style” to the doors on the building directly across the street, ie Sunrise City Café (except ours will be single doors vs Double/French) – *Picture for reference is included in packet.*
 - **Alternate Option:** Full Glass Doors
- Transoms above all 3 doors (which were in the earliest pictures that we have of the building)
 - Add the street address #s back on the transoms
 - This is how they were in the early pictures of the building, except # 209, which its # was added to the trim below the transom/above the door, due to the transom being removed to install the AC unit.
- Add decorative molding below windows
- Stucco/Paint/finish the alcove the same color as the columns and building trim (which is Cameo White).

"Monarch" Building Before Renovations



1989

"March Building"

1989??
Before renovation



"Monarch" Building Before Renovations



1989

BEFORE



THE MONARCH BUILDING BEFORE RENOVATION





Our Impact Rated Colonial Shutters offer convenient storm protection with a distinct architectural flair reminiscent of the old south.

Our Colonial Shutters are constructed of heavy-duty aluminum, making them extremely reliable and weatherproof.

Once installed, these storm shutters become a permanent and durable part of any house or building, providing you with protection for years to come.

Architecturally pleasing

Provides excellent security

Easy to install on any existing home

Available in many custom colors

Easy operation from outside the home or office

Special sizes available upon request

Versatile protection that enhances the look of your home

GET MY QUOTE

They are simple to maintain and easy to close. Like all of our Hurricane products, our Colonial Shutters have been engineered to meet the most stringent wind codes in the country and have been reviewed and accepted by the Miami-Dade County Product Control Division, Florida Building Code, and the International Building Code.

Increases Privacy and Noise Reduction

Protects Furniture and Artwork from Sun Exposure

Custom Designed and Engineered to Each Opening



ONLINE NOW

Call for Your FREE ESTIMATE!
1-888-474-3555

8:30AM - 5PM EST MONDAY - FRIDAY

- HOME
- ABOUT US
- PRODUCTS
- SHIPPING
- TESTIMONIALS
- CONTACT US

MY QUOTE (2 ITEMS)

My Quote

[START A NEW QUOTE](#)

| Products | H & T | Rough Opening | Finished Shutter Size | Shutter Cost | Motor Cost | Total Cost | Actions |
|---|-------|---------------|-----------------------|--------------|------------|------------|---|
| High-Visibility Impact Colonial Up To 169 MPH | | 34 x 60 | 40 x 66 | | | \$967.08 | EDIT DELETE |
| High-Visibility Impact Colonial Up To 169 MPH | | 68 x 60 | 74 x 66 | | | \$1789.10 | EDIT DELETE |

[ADD SAME PRODUCT](#)

[ADD DIFFERENT PRODUCT](#)

Product Subtotal:

\$2909.55

Promotional Discount:

\$200

Discounted Subtotal:

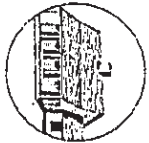
\$2709.55

Tax:

\$162.57

Total Cost:

\$2,872.12



HISTORICAL STRUCTURE FORM

Electronic Version 1.1.0

Site #8 SL00797

Recorder #

Field Date 3/10/2007

Form Date 5/1/2007

FormNo 200703

FormNo = Field Date (YYYYMM)

First Site Form Recorded for this Site? NO

GENERAL INFORMATION

Site Name (address if none) 207-209 ORANGE AVENUE

Multiple Listing (DHR only)

Other Names

>> REBECCA HAMILTON ATTORNEY (FORMER)

Survey or Project Name Fort Pierce Historic Structures Survey

Survey#

National Register Category Building(s)

LOCATION & IDENTIFICATION

| Address | Direction | Street Name | Street Type | Direction Suffix |
|----------------|-----------|---------------|---------------|------------------|
| <u>207-209</u> | | <u>ORANGE</u> | <u>Avenue</u> | |

Cross Streets (nearest/between) S DEPOT/2ND ST S

City / Town (within 3 miles) Fort Pierce

In Current City Limits? YES

County St. Lucie

Tax Parcel #(s) 2410-507-0002-000-5

Subdivision Name

Block

Lot

Ownership Private Individual

Name of Public Tract (e.g., park)

Route to (especially if no street address)

MAPPING

USGS 7.5' Map Name

Publication Date

>> FORT PIERCE, 1983

Township:

Range:

Section:

1/4 section:

>> 35S 740E 101NE

Irregular Section Name:

Landgrant

UTM: Zone

Easting

Northing

Plat or Other Map (map's name, location)

DESCRIPTION

Style Mediterranean Revival

Other Style

Exterior Plan Rectangular

Other Exterior Plan

Number of Stories 1

Structural System(s)

>> Brick

Other Structural System(s)

Foundation Type(s)

>> Continuous

Other Foundation Types

Foundation Material(s)

>> Poured Concrete Footing

Other Foundation Material(s)

Exterior Fabric(s)

>> Stucco

Other Exterior Fabric(s)

Roof Type(s)

>> Flat

Other Roof Type(s)

Roof Material(s)

>> Barrel tile

Other Roof Material(s)

Roof Secondary Structure(s) (dormers etc)

>> Other

Other Roof Secondary Structure(s)

Number of Chimneys 0

Chimney Material

Other Chimney Material(s)

Chimney Location(s)

HISTORICAL STRUCTURE FORM

85L00797

DESCRIPTION (continued)

Window Descriptions METAL AWNING

Main Entrance Description (stylistic details) CENTERED 1-LEAF DOOR

Porches: #open 0 #closed 0 #incised 0 Location(s) _____

Porch Roof Type(s) _____

Exterior Ornament PARAPET, CORINTHIAN COLUMNS, CAST CONCRETE PANEL

Interior Plan Unknown Other Interior Plan _____

Condition Good

Structure Surroundings

Commercial: ALL this category _____ Residential: NONE of this category _____

Institutional: NONE of this category _____ Undeveloped: NONE of this category _____

Ancillary Features (Number / type of outbuildings, major landscape features) _____

Archaeological Remains (describe): _____

If archaeological remains are present, was an Archaeological Site Form completed? _____

Narrative Description (optional) _____

HISTORY

Construction year 1925

Architect (last name first): _____ Builder (last name first): _____

Changes in Locations or Conditions

| Type of Change | Year of Change | Date Change Noted | Description of Changes |
|----------------|----------------|-------------------|------------------------|
| >> | | | |

Structure Use History

| Use | Year Use Started | Year Use Ended | >> |
|-----|------------------|----------------|--------------------------------------|
| | | | <u>Commercial unspecified; 1925;</u> |

Other Structure Uses _____

Ownership History (especially original owner, dates, profession, etc.) _____

RESEARCH METHODS

Research Methods >> Library Research-Local

Other research methods National Register of Historic Places

SURVEYOR'S EVALUATION OF SITE

Potentially Eligible for a Local Register? YES Name of Local Register if Eligible DOWNTOWN HISTORIC DISTRICT

Individually Eligible for National Register? NO

Potential Contributor to NR District? YES

Area(s) of historical significance >> Architecture

Other Historical Associations This building is associated with the Boom and Bust Period (1919-1929) in Fort Pierce history.

Explanation of Evaluation (required) This building is a contributing resource in the Downtown Historic District (local), eligible for listing in the National Register of Historic Places (NRHP) under Criteria A and C. This building is not eligible for individual listing in the NRHP.

HISTORICAL STRUCTURE FORM

8SL00797

DOCUMENTATION (Photos, Plans, etc.)

Photographic Negatives or Other Collections Not Filed with FMSF, Including Field Notes, Plans, other Important Documents.

Document type: _____

Maintaining Organization: _____

File or Accession #: _____

Descriptive Information: _____

>>

RECORDER INFORMATION

Recorder Name (Last, First) Henry, Geoffrey; Jenkins, Ellen

Recorder Address / Phone 9056 Chevrolet Drive Ellicott City, MD 21042 (410) -465-7929

Recorder Affiliation _____ Other Affiliation TRC

Is a Text-Only Supplement File Attached (Surveyor Only)? NO

***** MASTER SITE FILE USE ONLY *****

| | |
|---|---|
| Cultural Resource Type: <u>SS</u> | SHPO's Evaluation of Resource Date _____ |
| Electronic Form Used: <u>S110</u> | |
| Form Type Code: <u>NORM</u> | |
| Form Quality Ranking: <u>NEW</u> | |
| Form Status Code: <u>SGAT</u> | |
| Supplement Information Status: <u>NO SUPPLEMENT</u> | FMSF Staffer: _____ |
| Supplement File Status: <u>NO SUPPLEMENT FILE</u> | Computer Entry Date: <u>5/1/2007</u> |
| Form Comments: _____ | |

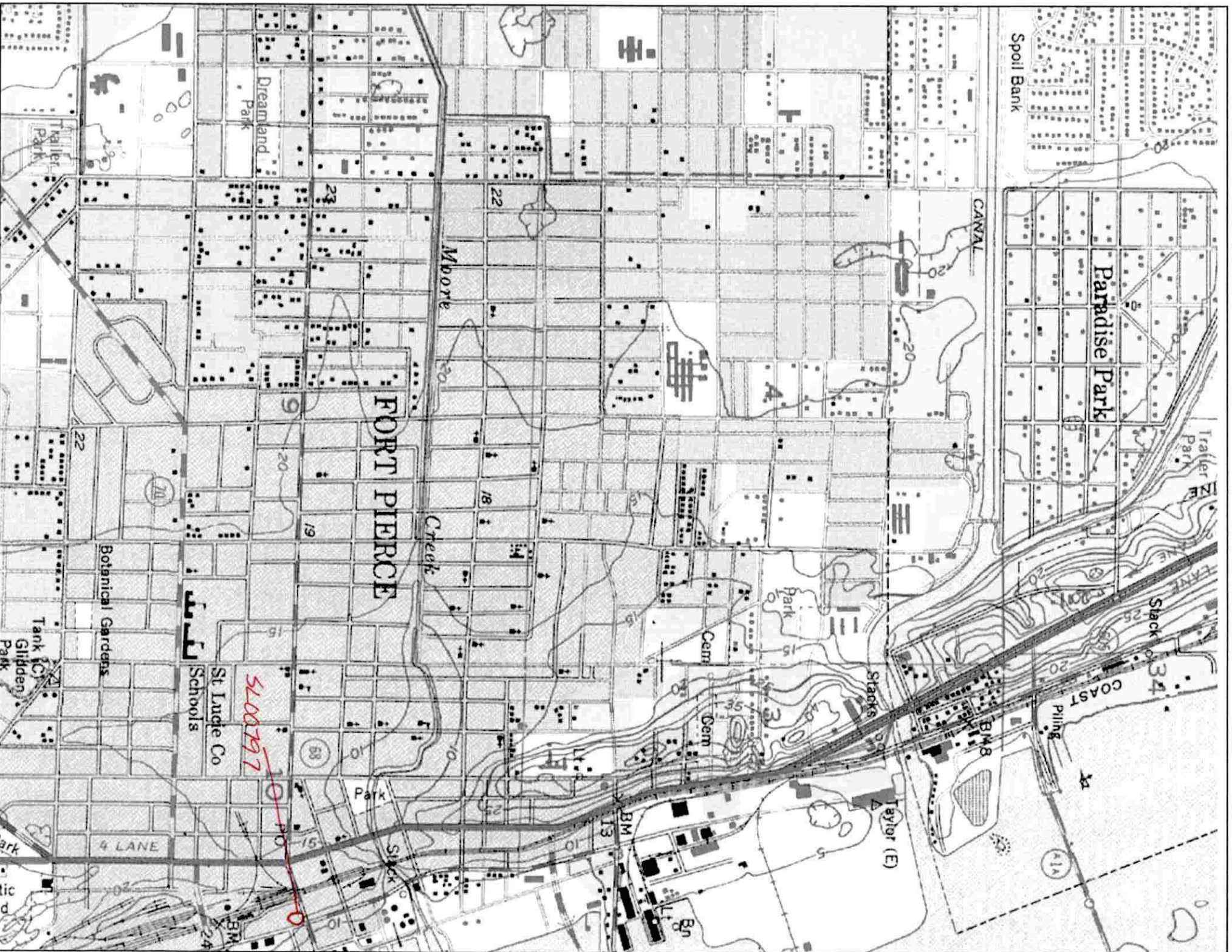
REQUIRED PAPER ATTACHMENTS

- (1) USGS 7.5" MAP WITH STRUCTURE PINPOINTED IN RED
- (2) LARGE SCALE STREET OR PLAT MAP
- (3) PHOTO OF MAIN FACADE, B&W, AT LEAST 3"X5"

SL00797-200703

Supplementary Printout

- > USGS map name/year of publication or revision:
FORT PIERCE;1983
- > Township/Range/Section/Qt:
36S :40E :10;NE
- > Structural system(s):
Brick
- > Foundation types:
Continuous
- > Foundation materials:
Poured Concrete Footing
- > Exterior fabrics:
Stucco
- > Roof types:
Flat
- > Roof materials:
Barrel tile
- > Roof secondary structures (dormers etc):
Other
- > Change status/year changed/date noted/nature:
- > Original, intermediate, present uses/year started/year ended:
Commercial unspecified;1925;
- > Research methods:
Library research-local
Sanborn maps
FL Master Site File-Cultural Resources
Plat map
- > Area(s) of historical significance:
Architecture
Community planning & development
Commerce
- > Repositories: Collection/Housed/Accession#/Describe
- > [Other name(s)]:
REBECCA HAMILTON ATTORNEY (FORMER)



Spoil Bank

Paradise Park

FORT PIERCE

Moore

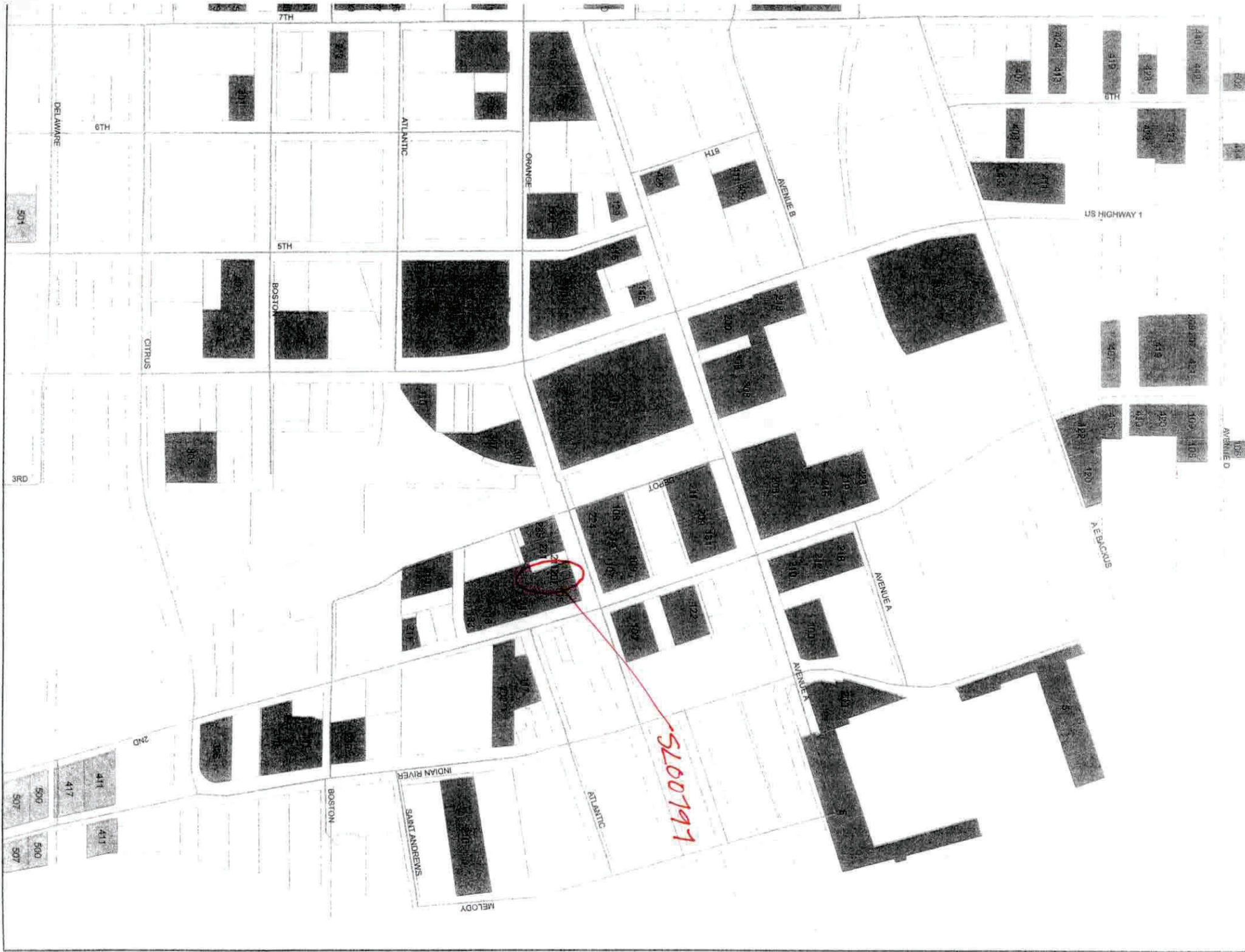
Creek

5100797

St Lucie Co
Schools

Botanical Gardens

Tank (C)
Gildden
Park



SL00791

ORANGE

ATLANTIC

5TH

6TH

BOSTON

CITRUS

3RD

US HIGHWAY 1

AVENUE A

AVENUE D

A E BACKUS

ATLANTIC

INDIAN RIVER

SANT ANDREWS

MELODY

BOSTON

DELAWARE

5TH

| | |
|-----|-----|
| 411 | 500 |
| 417 | 507 |
| 411 | 500 |
| 507 | 507 |

2ND

8TH

AVENUE X

3RD

3RD

ORANGE

1025A

405

146

146

1025A

1022

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1022

1022

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SL00797



RECORD NO: 509
Page 2

FMSF HISTORICAL STRUCTURE FORM

Site 8

ARCHAEOLOGICAL REMAINS AT THE SITE
FMSF ARCHAEOLOGICAL FORM COMPLETED? Y X n
ARTIFACTS OR OTHER REMAINS: None observed

RECORDER'S EVALUATION OF SITE
AREAS OF SIGNIFICANCE: Architecture, commerce

| | | | | | | | | |
|------------------------------|---|---|---|---------|------|------|------|------|
| ELIGIBLE FOR NAT. REGISTER? | Y | X | n | likely, | need | info | inst | info |
| SIGNIF. AS PART OF DISTRICT? | Y | X | n | likely, | need | info | inst | info |
| SIGNIFICANT AT LOCAL LEVEL? | X | Y | n | likely, | need | info | inst | info |

SUMMARY OF SIGNIFICANCE
See Continuation Sheet

| | | | | | | | | |
|-------|--|-------|-------------------|-------|--------------|-------|-------|-------|
| * * * | DHR USE ONLY | * * * | DATE LISTED ON NR | * * * | DHR USE ONLY | * * * | * * * | * * * |
| * * * | KEEPER DETERMINATION OF ELIG. (DATE): | YES | NO | * * * | | * * * | | * * * |
| * * * | SHPO EVALUATION OF ELIGIBILITY (DATE): | YES | NO | * * * | | * * * | | * * * |
| * * * | LOCAL DETERMINATION OF ELIG. (DATE): | YES | NO | * * * | | * * * | | * * * |
| * * * | OFFICE | | | * * * | | * * * | | * * * |
| * * * | DHR USE ONLY | * * * | | * * * | DHR USE ONLY | * * * | | * * * |

RECORDER INFORMATION: NAME: Robert Bennett
DATE: 10/01/92 AFFILIATION: Historic Property Associates, Inc.

PHOTOGRAPHS

LOCATION OF NEGATIVES: HPA, P.O. Box 1002, St. Augustine 32085
NEGATIVE NUMBERS: Roll 15, #26

PHOTOGRAPH

M A P

See Attachments

STATEMENT OF SIGNIFICANCE

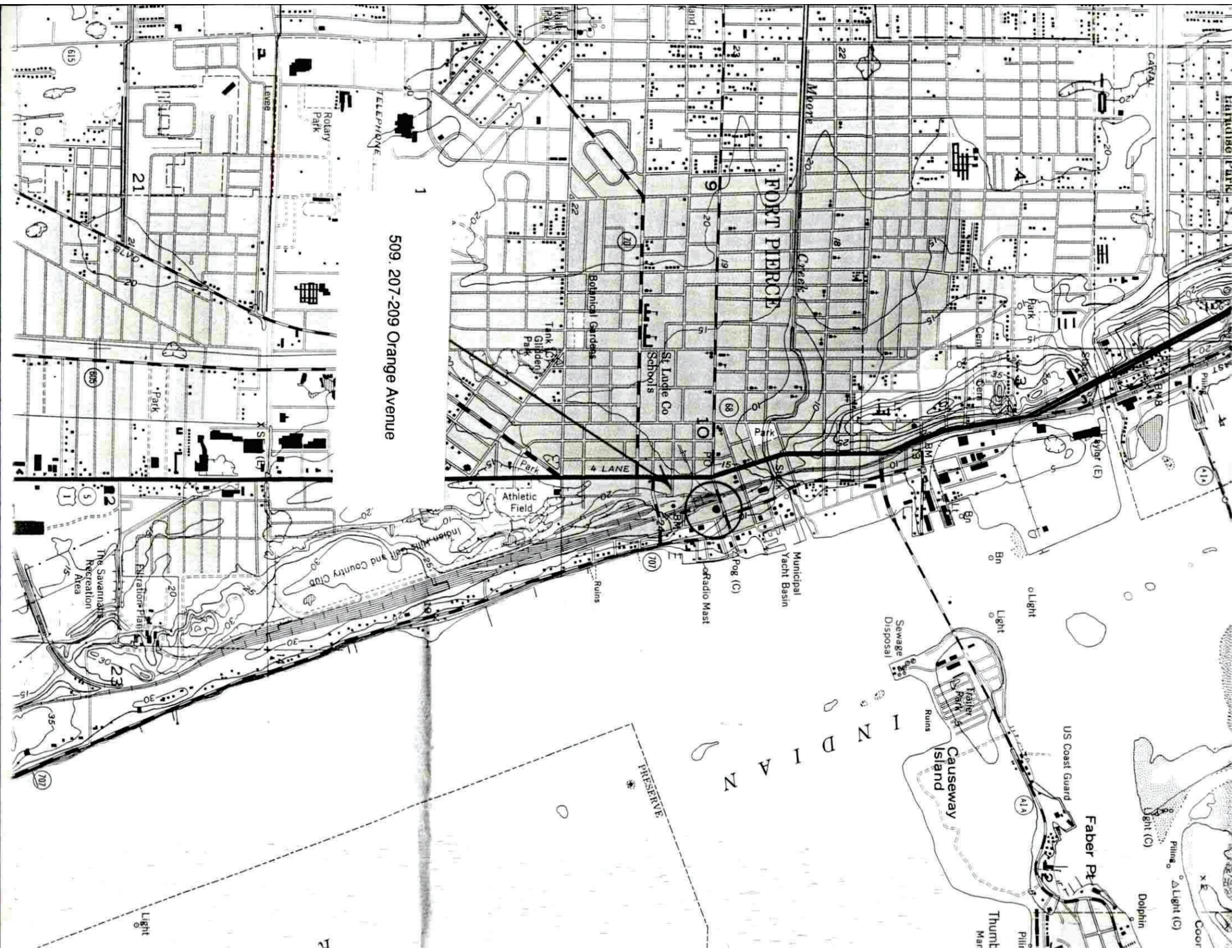
Architectural Narrative: This two-story two-part masonry Commercial Style building is located at 207-09 Orange Avenue. The facade is comprised of a lower level storefront and a second level, which contains a series of rectangular window openings. The storefront is composed of fixed plate glass show windows that flank a recessed center entrance. Upper level fenestration consists of metal awning windows. The exterior wall fabric is stucco. Other features include a parapet with pinnacles, tile cresting, and canales. With few alterations, this building has retained much of its architectural integrity.

Architectural Context: The term "Commercial Style" is used to define a building's specialized use for business or industry. Usually constructed in a contiguous manner, the design of Commercial Style buildings is confined to the street facing facade and acts as an advertisement for the business. In the United States, the first Commercial Style buildings were constructed during the 1790s in prominent urban business districts. Initially an adaptation of the row house design, these prototypes consisted of retail space on the first story and upper level residential space. The row house design, featuring storefronts adjoining one another, catered to rising land values in urban business districts. This format became universal, spreading to cities and small towns throughout the country. In general, the level of facade ornamentation in a business district reflected the socioeconomic status of the adjacent neighborhood. Eventually, overall ornamentation, and treatment of show windows and entrances became associated with specific uses, such as theaters, hotels, restaurants, grocery stores, meat markets, and dry goods stores.

The two-part block was the most common commercial design used in small cities and towns in the United States between 1850 and 1950. Generally limited to between two and four story buildings, it is characterized by a horizontal division into two distinct zones. The two zones are separated by the use of the interior space of the building. The first story is usually reserved for retail space and often contains large plate glass display windows, while the upper part contains space for offices or apartments. The exterior design of the building is usually homogeneous, but in some cases different building materials and exterior fabrics are used visually to divide the two zones.

Historical Narrative: This building embodies many of the architectural characteristics of commercial blocks constructed in Fort Pierce during the early twentieth century. It originally housed a telegraph office. Sanborn Company maps, which were prepared of Fort Pierce between 1915 and 1948, and architectural evidence based on comparisons with buildings of similar size and design, indicate that this building was constructed about 1925.

Historical Context: Fort Pierce, the St. Lucie County seat of government, lies 238 miles south of Jacksonville and 58 miles north of West Palm Beach, along Florida's Atlantic coast. Settlement of the city formally began in the late nineteenth century, following the arrival of rail lines linking the region with the population centers of the eastern seaboard. Settlement before that time consisted mainly of military forts and trading outposts that served a small number of annual tourists and an incipient agricultural industry. In 1901 Fort Pierce was organized into a town, its economy fueled by citrus products, which were shipped by rail to northern markets. In 1905 Fort Pierce incorporated as a city. Like many Florida communities, Fort Pierce experienced an era of frenetic growth in the 1920s, culminating in the crash of the great Florida Land Boom in the late years of the decade. The city's ocean port facilities and rail services helped it to weather the economic distresses of the Great Depression. Population growth, inspired by development of military bases, resumed during World War II and continued for some years thereafter.



615

21

509. 207-209 Orange Avenue

FORT PIERCE

Moote Creek

Botanical Gardens

St. Lude Co. Schools

Tank (C)
Gladden Park

4 LANE

Athletic Field

Indian Wells Golf and Country Club

Radio Mast

Municipal Yacht Basin

Sewage Disposal

Causeway Island

US Coast Guard

Faber Pt.

Thumt Mar

RESERVE

INDIAN

Dolphin

Light (C)

Light (C)

Coor





Corporate Office & Showroom
7816 S Dixie Highway
West Palm Beach, FL 33405
Office 561-588-7353 Fax 561-588-7354
www.wrightswindow.com License # CBC1262617

PROPOSAL

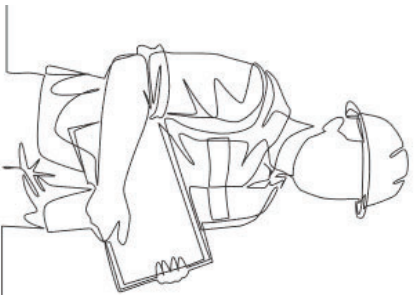
Customer Information

Chris Gardner
207 Orange Ave.
Fort Pierce FL 34950

(386) 337-5576
supplier@entertainair.com

Date: 07/18/2024
Product Specialist: Pete La Spina
(201) 961-3752
pete@wrightswindow.com

Put simply, our installation teams are trained to install all our products 'The Wright Way'. We use premium products and installation techniques to ensure maximum protection



- We will **cover the floors** with heavy duty drop cloths, cardboard and paper
- Cover furniture** with plastic
- Take **special care** to your landscape
- Take special care to **avoid damage** to alarm systems, tiles and sills
- Use the **highest quality** installation products
- Use only the **highest quality** adhesive, waterproofing and caulking materials to avoid drying, cracking, deterioration and discoloration

- Section 1: Custom Proposal**
- Section 2: Payment & Warranty**
- Section 3: Next Steps**
- Notes:**

****ALL DOOR WILL HAVE CLOSERS AND PANIC HARDWARE



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Section 1: Custom Proposal



PERMITTING COSTS INCLUDED



PREMIUM INSTALLATION MATERIALS



WARRANTY INCLUDED



Selected Package

Tinted Mid Rise (4-7 Floor Bldg)

Total Windows

7

Total Doors & Sidelites

3

Scope of Work



1 Entry

Type
Quantity
Glass Type
Frame Type
Frame Finish

French Doors - 1 Panel
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens
Hardware
 Tinted Commercial 9000
 38 x 80
 Gray Tint
 Not Included
 Upgrade (Handle Below)UPGRADE - Ladder Pulls



2 Entry

Type
Quantity
Glass Type
Frame Type
Frame Finish

French Doors - 1 Panel
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens
Hardware
 Tinted Commercial 9000
 38 x 80
 Gray Tint
 Not Included
 Upgrade (Handle Below)UPGRADE - Ladder Pulls



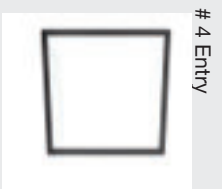
1 Entry

Type
Quantity
Glass Type
Frame Type
Frame Finish

French Doors - 1 Panel
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens
Hardware
 Tinted Commercial 9000
 38 x 80
 Gray Tint
 Not Included
 Upgrade (Handle Below)UPGRADE - Ladder Pulls

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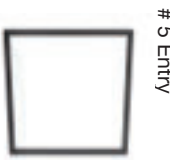
Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
 36 x 24
 Gray Tint
 Not Included

Notes
 Above door



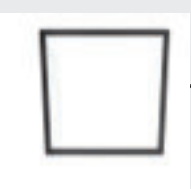
Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
 36 x 24
 Gray Tint
 Not Included

Notes
 Above door



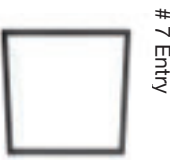
Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
 36 x 24
 Gray Tint
 Not Included

Notes
 Above door



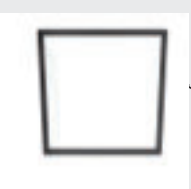
Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
 71 x 89
 Gray Tint
 Not Included

8 Entry



Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
 1
 Laminated
 Aluminum Kynar Blend 2604
 White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
 87 x 88
 Gray Tint
 Not Included

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9 Entry



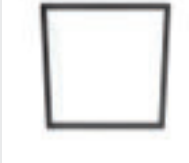
Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
1
Laminated
Aluminum Kynar Blend 2604
White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
52 x 89
Gray Tint
Not Included

10 Entry



Type
Quantity
Glass Type
Frame Type
Frame Finish

Windows - Storefront
1
Laminated
Aluminum Kynar Blend 2604
White Finish

Brand
Size
Glass Finish
Screens

Tinted Commercial 8000
26 x 89
Gray Tint
Not Included

Additional Labor & Material

Engineering - Site Specific Engineering / Project / Per 15 Openings

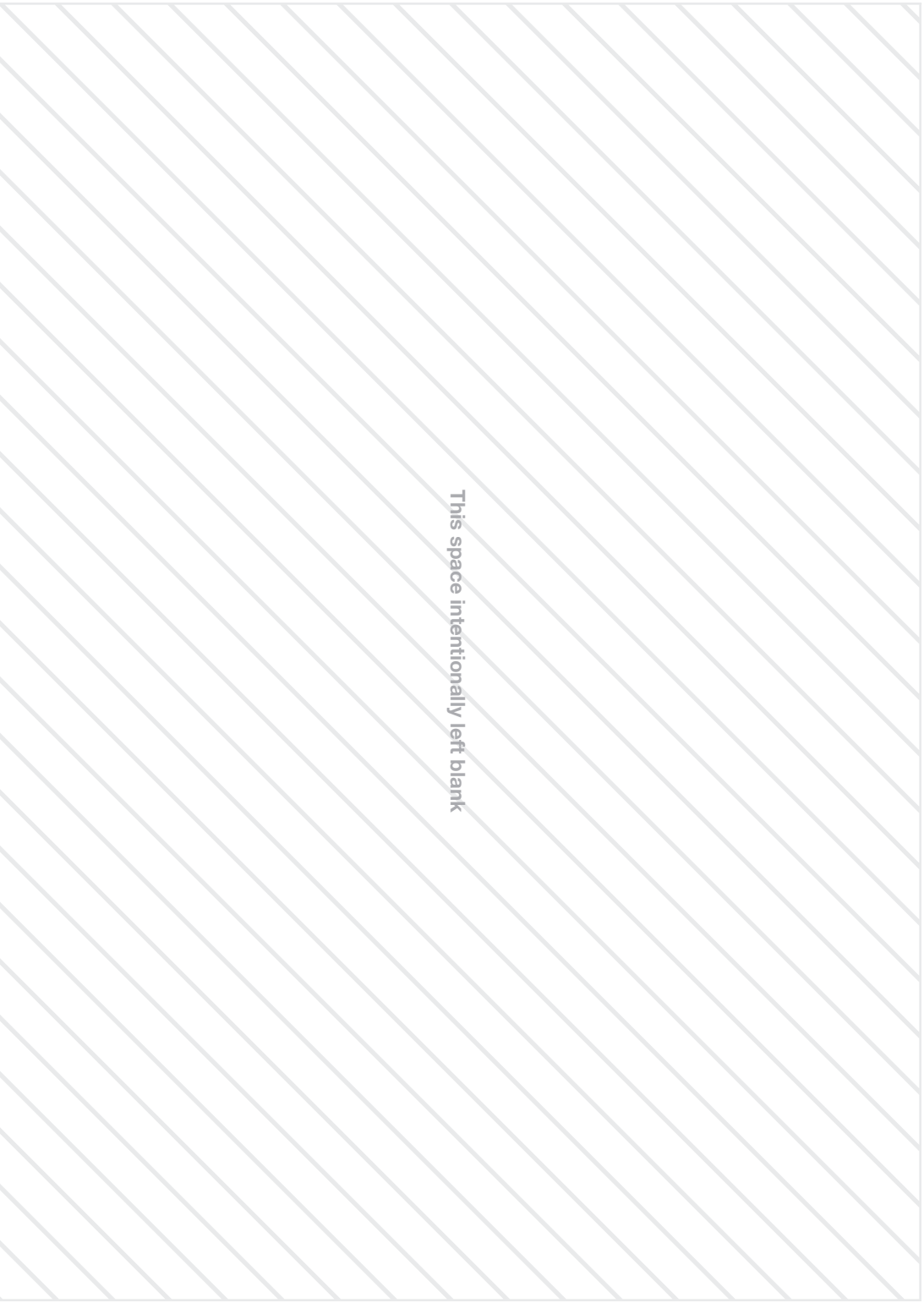
(1)

Standard Mulls [89" 2x4] -

(2)

Notes

Notes:



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Section 2: Payment & Warranty

OPTION 1: Cash

| | |
|---------------------------|---------------------|
| Payment Method | E-Check |
| MSRP | \$53,645.05 |
| Corporate Discount | -\$11,153.10 |
| Project Total: | \$42,491.95 |
| Deposit Terms | 50% Deposit |

OPTION 2: Finance

Estimated Monthly Payment

\$0.00

CERTIFICATE



PRODUCT & INSTALLATION WARRANTY

1. **Wright's Product Warranty** supercedes, and matches or exceeds manufacturer warranties for the repair and/or replacement of covered products and parts in the event of manufacturer defect*
2. **Wright's Installation Warranty** covers the quality of the installation & workmanship failures*
3. Claims are submitted to Wrights and serviced by certified technicians*
4. Fully transferrable upon sale of home*

Claim Procedure

Any claim for defect under this limited Warranty must be submitted promptly, after discovery to WRIGHTS within the warranty period specified, to service@wrightswindow.com. To help us serve you better, all claims must include proof of purchase (original contract), product identification, the address where the product is installed and a description of the problem.

This limited Lifetime Warranty covers only those manufacturing, material or installation defects as specified and does not apply to, cover or include defects or damages attributable to or caused by: improper application or use, failure to adhere to Wrights recommended cleaning and other product care and maintenance instructions, improper maintenance or cleaning, normal weathering, corrosive or otherwise abnormal environments, condensation, WRIGHTS reserves the right to inspect all defects in the field. Wrights may use in-house service technicians, subcontractors, or manufacturer service teams when necessary to complete service. For warranty questions, to request a copy of this warranty or for additional care and maintenance information, visit wrightsimpactwindowdoor.com/care



NO REPRESENTATIVE OF WRIGHTS HAS THE AUTHORITY TO CHANGE OR MODIFY THIS WARRANTY IN ANY RESPECT, EITHER ORALLY OR IN WRITING

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Historic Preservation Board - 2:00 PM

6. a.

Meeting Date: 03/23/2026

Information

REQUESTED ACTION

Administrative Certificate of Appropriateness Approvals

SUMMARY

LOCATION

RESPONSIBLE STAFF

RECOMMENDATION

Attachments

Certificate of Appropriateness Administrative Approvals

Form Review

Form Started By: Alicia Rosenthal

Started On: 03/17/2026 01:43 PM

Final Approval Date: 03/17/2026

Administrative Certificate of Appropriateness Approvals as of February 2026

| Certificate of Appropriateness – Administrative Approvals | Project # | Address | Approval Date |
|--|------------------|--------------------------------|----------------------|
| Roof | PZCOA2025-00037 | 703 Florida Avenue | 9/12/2025 |
| Fence | PZCOA2025-00038 | 305 S. 7 th Street | 8/20/2025 |
| Windows | PZCOA2025-00040 | 200 N. US HWY 1 | 8/20/2025 |
| Roof | PZCOA2025-00042 | 427 N. 10 th Street | 9/4/2025 |
| Signs for Parking Garage | PZCOA2025-00044 | 100 N. US HWY 1 | 9/8/2025 |
| A/C Installation | PZCOA2025-00047 | 706 Boston Avenue | 11/19/2025 |
| Doors | PZCOA2025-00048 | 421 N. 2 nd Street | 10/2/2025 |
| Pool Barrier Fence | PZCOA2025-00049 | 709 S. 8 th Street | 10/20/2025 |
| Sign | PZCOA2025-00050 | 211 Orange Avenue | 10/24/2025 |
| Roof | PZCOA2025-00051 | 921 Avenue D | 10/28/2025 |
| Roof | PZCOA2025-00052 | 812 Boston Avenue | 10/28/2025 |
| Fence | PZCOA2025-00053 | 326 S. 2 nd Street | 11/7/2025 |
| Fence Relocation | PZCOA2025-00054 | 308 Avenue A | 1/9/2026 |
| Roof | PZCOA2025-00056 | 803 Citrus Avenue | 12/7/2025 |
| Roof | PZCOA2025-00057 | 503 N. 7 th Street | 12/2/2025 |
| Roof | PZCOA2025-00058 | 802 Delaware Avenue | 12/10/2025 |
| A/C Replacement | PZCOA2025-00059 | 115 S. 2 nd Street | 11/19/2025 |
| Roof | PZCOA2025-00060 | 602 Cedar Place | 12/11/2025 |
| Windows | PZCOA2025-00061 | 412 AE Backus, Unit B | 1/9/2026 |
| Lift Station | PZCOA2025-00062 | 101 AE Backus Avenue | 1/8/2026 |
| Roof | PZCOA2026-00003 | 709 S. 8th Street | 1/8/2026 |
| Siding | PZCOA2026-00004 | 411 N. 2nd Street | 1/9/2026 |
| A/C Replacement | PZCOA2026-00006 | 214 Orange Avenue | 1/23/2026 |
| A/C Replacement | PZCOA2026-00007 | 308 Avenue E | 1/23/2026 |
| Truss Replacement | PZCOA2026-00009 | 907 Avenue D | 1/21/2026 |
| Roof | PZCOA2026-00010 | 503 S. 9th Street | 2/6/2026 |
| Roof | PZCOA2026-00011 | 1319 Avenue D, Unit B | 2/6/2026 |
| Roof | PZCOA2026-00012 | 710 Cedar Place | 1/2/2026 |
| A/C Replacement | PZCOA2026-00013 | 215 N. 2nd Street | 2/18/2026 |
| Roof | PZCOA2026-00015 | 603 N. Indian River Drive | 2/17/2026 |

Historic Preservation Board - 2:00 PM

6. b.

Meeting Date: 03/23/2026

Information

REQUESTED ACTION

Updated City of Fort Pierce Condemnation and Demolition of Structures Procedures

SUMMARY

LOCATION

RESPONSIBLE STAFF

RECOMMENDATION

Attachments

Rules of Procedure

Staff Presentation

Form Review

Form Started By: Alicia Rosenthal

Started On: 03/17/2026 08:59 AM

Final Approval Date: 03/17/2026

EXHIBIT A

RULES OF PROCEDURE FOR CONDEMNATION AND DEMOLITION OF STRUCTURES

These procedures are established to regulate the condemnation of structures or systems and the subsequent demolition of such structures or systems. These rules are not intended for general enforcement of violations of the Florida Building Code or the International Property Maintenance Code that may result in condemnation of a structure but will not result in its demolition. Additionally, these procedures provide guidance and direction but should not be construed as being all encompassing.

When, in the opinion of the Building Official or Code Official, there is imminent danger of failure or collapse of a building or structure that endangers life, or when there is actual or potential danger to the building occupants or those in the proximity of any structure, in accordance with IPMC Section 112.2, the Building Official or Code Official shall take whatever steps are necessary, up to and including demolition of the structure, to preserve the life, health, and safety of the community. When such action is taken, these procedures for demolition shall commence as soon as reasonably possible after the fact.

These procedures may be suspended with the issuance of a valid building permit that will abate the violations. Failure to comply with the conditions of the building permit will result in the procedures for condemnation and demolition automatically resuming.

All references to the International Property Maintenance Code (IPMC) incorporated herein shall include any future amendments or renumbering that may occur from time to time.

CONDEMNATION PROCEDURE

1. The initial inspection will be completed by the Building Official or their duly authorized representative.
2. The results of the inspection will be documented in a Notice of Violation and provide a reasonable time to correct the violations.
3. The Notice of Violation must comply with the notice requirements outlined in IPMC Section 111.4.
4. An Affidavit of Unsafe Structure will be completed and may be recorded in the public records of St. Lucie County.
5. A copy of the Notice of Violation and the Affidavit of Unsafe Structure is to be forwarded to the Historic Preservation Officer, or other such individual assigned by the Planning Department to review historic structures.
6. Posting of the property will be completed in accordance with IPMC 111.7 or as reasonably necessary to notify the occupants or public of the dangers present.
7. If no action is taken by the owner or responsible party to address the violations, and it is the opinion of the Building Department that demolition of the structure is necessary, the matter will be forwarded to the Code Enforcement Division to initiate the demolition process.

DEMOLITION DETERMINATION

The Code Official in the Department of Community Response will review all requests for demolition and make a final determination of action to be taken based upon the following:

1. The recommendation from the Building Official, based upon the structure's condition as it relates to the International Property Maintenance Code (IPMC) as adopted by the City Commission on January 3, 2017 and as amended from time to time.
2. Complaints from the public, the Fort Pierce Police Department (FPPD), the City Manager, and/or other agencies.
3. Compliance with the City of Fort Pierce Code of Ordinances Section 24-107 that allows for the removal of any building or structure that constitutes a menace to business, health, or safety, or any building or structure that constitutes a fire hazard which are hereby designated and declared to be a nuisance.

DEMOLITION APPROVAL

1. An Ownership and Encumbrances search will be completed.
2. If any additional interested parties are identified, a notice shall be provided, including copies of the Notice of Violation and Affidavit of Unsafe Structure, advising them that they have fifteen (15) days to contact the city. Such notice will be sent by regular mail.
3. A resolution is prepared for approval by the City Commission to establish a hearing date.
 - a. All interested parties shall be listed in the resolution.
 - b. No evidence will be submitted or presented in support of this resolution as it is only announcing a hearing date at which time such evidence shall be submitted and reviewed.
 - c. Following the adoption of the resolution establishing the hearing date, a Notice of Hearing and a certified copy of said resolution shall be mailed by registered or certified mail to all parties at least ten (10) days prior to the date of said hearing by the City Clerk for the City of Fort Pierce. Notice issued under this section shall advise the property owner and potential interested parties of their right to be heard on the demolition or to show cause why the demolition should not take place.
4. A resolution is prepared for approval by the City Commission to determine whether the structure is unsafe and shall be demolished. The resolution shall comply with the requirements listed in Section 24-107 of the Code of Ordinances.
5. If the City Commission finds cause to support the resolution for demolition and orders demolition, staff shall commence the demolition procedure no sooner than thirty (30) days following adoption of the resolution to allow the owner or other interested party the time to appeal the City Commission's decision.
6. Any person, firm, or corporation having any lien on, or interest in, the property ordered condemned or removed, shall have the right to appeal. However, such appeal shall not operate as a stay of demolition until an appeal bond has been filed with the St. Lucie County Clerk of Court. The amount of the appeal bond shall be set by a Judge of the Circuit Court of St. Lucie County, Florida in an amount sufficient to cover all costs, attorney's fees, and expenses reasonably incurred by the City of Fort Pierce in protecting the public from dangers and damages arising from an incident to the building or structure involved in the said appeal. Provided, however, writ of error shall

be issued out within three (3) days (Sundays excluded) and made returnable within fifteen (15) days from the date of said resolution.

DEMOLITION PROCEDURE

1. If the structure is within a designated historic district, or has otherwise been declared historic, the resolution for demolition approved by the City Commission is forwarded to the Historic Preservation Officer for the matter to be placed before the Historic Preservation Board to obtain a Certificate of Appropriateness to have the structure demolished.
2. A Final Notice of Demolition is sent regular mail to all interested parties identified in the title search providing for fifteen (15) days to contact the Community Response Department and initiate appropriate action to comply with the Resolution ordering its removal.
3. If the above steps have been completed, no appeal bond has been paid to the Circuit Court, and there are no active permits to address the violations, the matter will be forwarded to an approved City of Fort Pierce vendor for demolition.
4. The vendor will obtain a permit for demolition prior to commencing work and is subject to all fees and permit conditions as deemed appropriate by the Building Department.



Rules of Procedure for Condemnation and Demolition of Structures



Resolution No. 25-R65

- Adopted October 13, 2025.
- Applicable when a structure has been condemned and demolition is the desired outcome.
 - Regardless if demolition is completed by the owner or city.
- Actions may be suspended upon the issuance of a valid building permit that would abate the violations.



Condemnation Process

- Building Department inspects the property and generates a Notice of Violation (NOV) providing time to comply.
- Building Department prepares an Affidavit of Unsafe Structure.
- The Affidavit and copy of NOV is recorded and is also forwarded to the Historic Preservation Officer (if applicable). The property is also posted.
- If the Building Department determines demolition is necessary, notice is forwarded to Code Enforcement to initiate the demolition process.



Demolition Determination

- Code Enforcement reviews the request for demolition.
 - Complaint may be from Condemnation Case initiated by Building Dept. or other complaint from the public, FPPD, City Manager's Office, etc.
 - Structure without property maintenance issues may also be demolished if the structure constitutes a menace to business, health, safety, welfare.



Demolition Approval

- Lien Search Conducted.
- All interested parties notified.
- Resolution submitted for City Commission to set a hearing date.
- Upon adoption, all interested parties are notified of the hearing date.
- On the hearing date, evidence is provided and Resolution is submitted for approval for the City Commission to determine whether the structure is unsafe and shall be demolished.
- 30 days provided to allow for appeal.



Demolition Procedure

- If the structure is within a designated historic district, or has otherwise been declared historic, the Resolution for demolition approved by the City Commission is forwarded to the Historic Preservation Officer for the matter to be placed before the Historic Preservation Board to obtain a Certificate of Appropriateness to have the structure demolished.
- A final 15-day notice is provided to all parties.
- Upon verification of all steps completed, no appeal bond posted, and no permits to satisfy violations, a Specific Authorization is generated for the vendor.
- The vendor obtains the demolition permit and proceeds with demolition.



Questions?