





VETTER ENGINEERING INC

- SPECIALIZING IN STRUCTURAL ANALYSIS - CONSTRUCTION CONSULTING - PLANS -

BRUCE VETTER, P.E. - 5754 EASTVIEW DRIVE - NEW FRANKLIN, OHIO 44216 - (330) 882-6119

1/19/21

VE5072

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**Structural analysis results for Dennis Baughman Company**

**Job:** James Addition  
283 Bicknell Drive  
Hudson, Ohio

**Situation:** Provide bearing length, transferred load and sizes of suitable beams.

**Results summary:**

Beam "A": Clearspan beam design with beam length 16'-2". This beam spans front to rear under the left gable end wall of the addition. Top of beam to align with top of new 2x12 floor joists.

- 1) Bearing point at "GT1" requires a hanger connection for 4934 lbs. Use a Simpson HHU55.50/10 hanger and fill all nail holes with 3 1/2" long x 0.162" diameter nails.
- 2) Bearing point at "GT2" requires a hanger connection for 4934 lbs. Use a Simpson HHU55.50/10 hanger and fill all nail holes with 3 1/2" long x 0.162" diameter nails.

size	depth	width	bearing point	length	material
3 ply	14"	1 3/4"	all	2.00'	2.OE Microllam LVL

Beam "B": Clearspan beam design with beam length 16'-2". This beam spans front to rear under the right end of the addition. Top of beam to align with top of new 2x12 floor joists.

- 1) Bearing point at "GT1" requires a hanger connection for 4557 lbs. Use a Simpson HHU55.50/10 hanger and fill all nail holes with 3 1/2" long x 0.162" diameter nails.
- 2) Bearing point at "GT2" requires a hanger connection for 4682 lbs. Use a Simpson HHU55.50/10 hanger and fill all nail holes with 3 1/2" long x 0.162" diameter nails.

size	depth	width	bearing point	length	material
3 ply	14"	1 3/4"	all	2.00'	2.OE Microllam LVL

Beam "D": Two span continuous beam with length 10'-0". This beam spans front to rear at the top of the wall at the right end of the addition.

- 1) Bearing point #1 at front requires support for 532 lbs.
- 2) Bearing point #2 requires support for 3004 lbs.
- 3) Bearing point #3 requires support for 1159 lbs.

size	depth	width	bearing point	length	material
2 ply	7 1/4"	1 1/2"	#2	3.50'	1.4E No. 2 SPF
			others	1.50'	

Beam "E": Clearspan beam design with length 4'-0".

- 1) Bearing point #6 at front requires support for 1794 lbs.
- 2) Bearing point #7 requires support for 10755 lbs.

size	depth	width	bearing point	length	material
2 ply	9 1/4"	1 3/4"	#6	1.50'	2.OE Microllam LVL
			#7	4.50'	

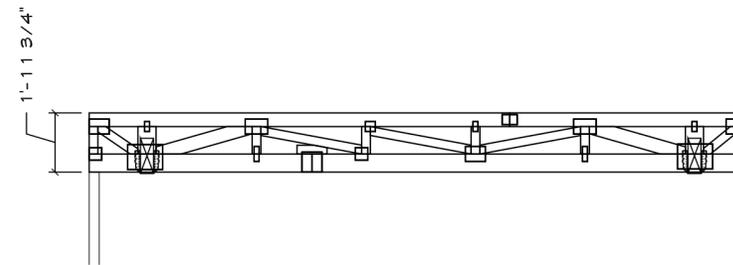
"GT1": Clearspan parallel chord girder truss. 4 ply with 2x6 SP 2400F 2.OE top chord and 2x8 SP 2400F 2.OE bottom chord. Provide 2x8 verticals centered on the tie in loads from Beams "A" and "B". Overall height to be 1-11-12.

- 1) Bearing point #4 at exterior garage wall requires support for 11585 lbs.
- 2) Bearing point #5 at wall common to house and garage requires support for 10860 lbs.

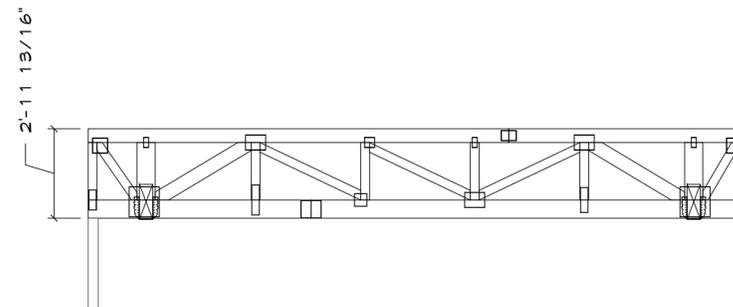
"GT2": Clearspan parallel chord girder truss. 3 ply with 2x6 SP 2400F 2.OE top chord and 2x8 SP 2400F 2.OE bottom chord. Provide 2x8 verticals centered on the tie in loads from Beams "A" and "B". Overall height to be 2-11-12.

- 1) Bearing point at Beam "E" requires support for 12191 lbs.
- 2) Bearing point #8 at wall common to house and garage requires support for 11733 lbs.

Review loads to foundation. Some discussion required.



**1** GIRDER TRUSS "1"  
1/4" = 1'-0"



**2** GIRDER TRUSS "2"  
1/4" = 1'-0"

**DENNIS BAUGHMAN  
COMPANY**

2566 AURORA RD  
HUDSON, OH 44236  
330 620-5233

**CLARKE DESIGN**

P.O. BOX 439 | 1749 MAIN STREET  
PENINSULA, OHIO 44264  
v 330.338.8438 f 330.657.4040

**THE JAMES RESIDENCE**

283 BICKNELL DR.  
HUDSON, OH 44236

DATE	
04.05.2021	Zoning Application
Drawn by	TC
Scale	

Structural Engineering

A-2



















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Existing Photos

**1** EXISTING HOME

**A4.3**

# Pella® Lifestyle Series Double-Hung

## Aluminum EnduraClad® Exterior

### Detailed Product Description

#### Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are clear pine.
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks.
- Overall frame depth is 5" (127 mm) for a wall depth of 3-11/16" (94 mm).
- Jamb liner shall be high-impact polyvinyl chloride backed by continuous hard-tempered aluminum springs.
- Optional factory applied jamb extensions are available.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied EnduraClad® exterior trim.

#### Sash

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are clear pine.
- Exterior surfaces are clad with aluminum, lap-jointed and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 1-5/8" (41 mm).
- Sashes tilt for easy cleaning.

#### Weatherstripping

- Foam with 3 mm skin at head and bottom rail. Thermal-plastic elastomer bulb with slip-coating set into upper sash for tight contact at check rail.
- Secondary polyvinyl chloride leaf-type weatherstrip on bottom sash at sill.
- Jamb liner to seal against sides of sash.

#### Glazing System

- Quality float glass complying with ASTM C 1036.
- High altitude glazing available.
- Silicone groove-glazed 11/16" [obscure] dual-seal insulating glass [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [AdvancedComfort] [NaturalSun Low-E] with argon]].

#### Exterior

- Exterior aluminum surfaces are finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
  - Color is [White] [Tan] [Putty] [Brown] [Poplar White] [Portobello] [Hartford Green] [Morning Sky Gray] [Brick Red] [Black].

#### Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [factory prefinished [White] [Linen] [Bright White] [stain<sub>1</sub>]].

#### Hardware

- Galvanized block-and-tackle balances are connected to sash with a polyester cord and concealed within the frame.
- Factory installed self-aligning surface-mounted sash lock. Two sash locks on units with frame width 33-1/4" and greater.
- Optional Sash lift furnished for field installation. Two lifts on units with frame width 33-1/4" and greater.
- Finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Oil-Rubbed Bronze] [Satin Nickel].
- Champagne locks are standard on unfinished units; White locks are standard on factory prefinished white units.

## Optional Products

### Grilles

- Simulated-Divided-Light [with optional spacer]
  - ♣ 7/8" Grilles permanently bonded to the interior and exterior of glass.
  - ♣ Patterns are [Traditional] [Prairie] [Cross] [Top Row] [Custom – Equally Divided].
  - ♣ Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [White] [Linen White] [Bright White] [stain<sub>1</sub>]]. Exterior grilles to match the exterior cladding color.
  - ♣ Available only on units glazed with Low-E insulated glass with argon.

– or –

- Grilles-Between-the-Glass<sub>2</sub>
  - ♣ Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
  - ♣ Patterns are [Traditional] [9-Lite Prairie] [Top Row] [Custom – Equally Divided].
  - ♣ Interior color is [White] [Ivory] [Tan<sub>3</sub>] [Brickstone] [Black] [Putty<sub>3</sub>] [Brown<sub>3</sub>] [Harvest] [Cordovan].
  - ♣ Exterior color [matched to the exterior cladding color] [White]<sub>4</sub>.

– or –

- Roomside Removable Grilles
  - ♣ 3/4" [Traditional] [Custom – Equally Divided] removable solid pine wood bars steel-pinned at joints and fitted to sash with steel clips and tacks.
  - ♣ Interior [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [White] [Linen White] [Bright White] [stain<sub>1</sub>]].
  - ♣ Exterior [unfinished, ready for site finishing] [factory primed] [factory prefinished, finish color matched to exterior cladding] [White] <sub>4</sub>.

### Screens

- InView™ screens
  - ♣ Full-size Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  - ♣ Screen frame finish is baked enamel, color to match window cladding.

– or –

- Vivid View® screens
  - ♣ Full-size PVDF 21/17 mesh, minimum 78 percent light transmissive screen, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  - ♣ Screen frame finish is baked enamel, color to match window cladding.

### Hardware

- Optional factory applied limited opening device available for vent units in steel, nominal 3-3/4" opening.
- Optional window opening control device available for field installation. Device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Complies with ASTM F2090-10.

### Sensors

- Optional factory installed integrated security sensors available in vent units.

- (1) Contact your local Pella sales representative for current designs and color options.
- (2) Available on units glazed with Low-E insulated glass with argon, and obscure insulated glass.
- (3) Tan, brown and putty Interior GBG colors are available only with matching interior and exterior colors.
- (4) Appearance of exterior grille color will vary depending on Low-E coating on glass.



# LANDMARK<sup>®</sup> ClimateFlex<sup>®</sup>

## Impact-Resistant Shingles



BETTER PLIABILITY AND GRANULE ADHESION



HIGHEST INDUSTRY-RATED IMPACT PROTECTION



ENDURES WEATHERING AND COLD-WEATHER EXTREMES



LIFETIME LIMITED WARRANTY

Landmark ClimateFlex | Shown in Moire Black



# Landmark® ClimateFlex® Color Palette



**Burnt Sienna**



**Heather Blend**



**Moire Black**



**Resawn Shake**



**Colonial Slate**



**Weathered Wood**

# Trust your home to Landmark®

Few things in this world are as precious as the place that you call home. It is much more than just a house. It's the foundation from which you build your life.

That's why having a roof that gives your home long-lasting curb appeal and protection from the elements is so important. At CertainTeed, our benchmark for success is our customers' total peace of mind. And we wouldn't have it any other way.

Our product portfolio offers the widest variety of design and color options in the industry. It's no wonder that more than a million homeowners across North America choose CertainTeed each year.

And the job doesn't stop once the roof goes on. Every CertainTeed product is backed by our industry-leading manufacturer's warranty, allowing you to rest confidently and comfortably for years to come.



**HIGH-QUALITY,  
RELIABLE CHOICE**

+



**INDUSTRY-BEST  
WARRANTY**

+



**CENTURY OF TRUSTED  
PERFORMANCE**

=

**PEACE OF MIND**

**Our dedication to making the highest quality roofing systems continues to earn the respect of top building professionals.**



Landmark ClimateFlex | Shown in Weathered Wood

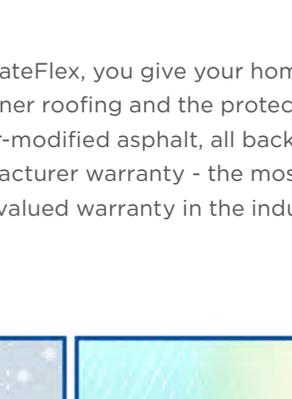
# Technology that protects the beauty of your roof and strengthens its performance.



## ClimateFlex<sup>®</sup>

**Outstanding durability.** Featuring the latest advances in polymer science, CertainTeed's ClimateFlex technology works at a molecular level to make shingles strong and pliable. The rubber-like qualities of the ClimateFlex asphalt formula provides each shingle with improved hail resistance, cold-weather flexibility, and granule adhesion than traditional asphalt shingles.

With Landmark ClimateFlex, you give your home the curb appeal of designer roofing and the protective resilience of polymer-modified asphalt, all backed by CertainTeed's manufacturer warranty - the most comprehensive and valued warranty in the industry.

			
 <b>POLYMER-BLENDED ASPHALT</b>	 <b>ENHANCED PROTECTION</b>	 <b>EXTREME ENDURANCE</b>	 <b>INVESTING IN THE LONG-TERM</b>
Deeper-embedded granules with greater adhesion vs. standard asphalt, helping prevent UV damage	Highest industry-rated impact protection against hail & other weather-related impacts	Allows for easier cold-weather installation and greater weathering endurance than standard asphalt shingles	Enhanced leak protection and peace of mind with a Lifetime Limited Warranty, which may qualify your home for insurance discounts

# NailTrak<sup>®</sup>

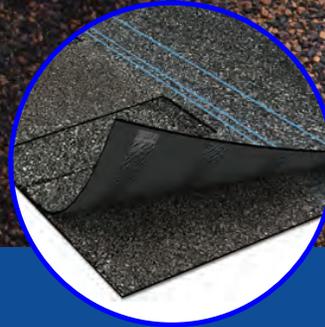
Fast, Accurate, Visible



1-1/2" extra-wide nailing area improves efficiency and accuracy

# QuadraBond<sup>™</sup>

Advanced Layering



An industry leading four strips of our Quadra-Bond adhesive for durability

## WIDER, SAFER, PROVEN

For more than fifteen years, contractors have used NailTrak to install Landmark shingles with speed, accuracy, and confidence. With a nailing area three times wider than that of a typical laminate shingle, NailTrak helps ensure each shingle is installed per manufacturer's specifications.

Landmark shingles also feature CertainTeed's specially formulated Quadra-Bond<sup>®</sup> adhesive, which

laminates shingle layers at an industry-leading four points for superior resistance to delamination.

Together, our NailTrak and Quadra-Bond technologies deliver the strength and durability that gives homeowners greater peace of mind that their home and possessions are protected.

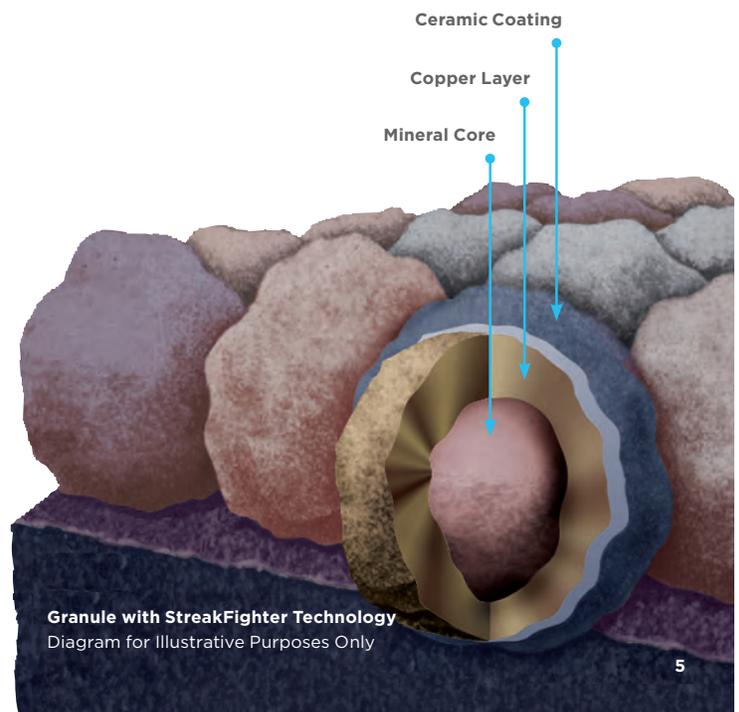
# StreakFighter<sup>®</sup>

Algae Resistance

## HELP MAINTAIN THE NATURAL BEAUTY OF YOUR ROOF

Those streaks you see on other roofs in your neighborhood? That's algae, and it's a common eyesore on roofing throughout North America.

CertainTeed's StreakFighter technology uses the natural anti-algae properties of copper-containing surface granules to help prevent algae from forming on shingles, reducing the need for costly and time-consuming algae cleaning and maintenance while helping your roof maintain its curb appeal for years to come.





# Strength with Style

**LANDMARK® ClimateFlex®**

## SPECIFICATIONS

- Two-piece laminated fiberglass-based construction
- Classic shades and dimensionality of natural wood or slate

*(For U.S. building code compliance, see product specification sheets.)*

**CERTAINTEED PRODUCTS ARE TESTED TO ENSURE THE HIGHEST QUALITY AND COMPLY WITH THE FOLLOWING INDUSTRY STANDARDS:**

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### IMPACT RESISTANCE

- ✓ UL Classified to UL 2218 Class 4 Impact Resistance

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### FIRE RESISTANCE

- ✓ UL Listed to UL 790 Class A
- ✓ Meets ASTM D3018 Type 1

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### WIND RESISTANCE

- ✓ UL Classified to ASTM D7158 Class H
- ✓ UL Classified to ASTM D3161 Class F
- ✓ Meets TDI Windstorm Requirements

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### TEAR RESISTANCE

- ✓ UL Classified to ASTM D3462

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### WARRANTY

- ✓ Lifetime limited transferable warranty against manufacturing defects on residential applications
- ✓ 50-year limited transferable warranty against manufacturing defects on group-owned or commercial applications
- ✓ 10-year StreakFighter® algae-resistance warranty
- ✓ 10-year SureStart™ protection
- ✓ 15-year 110 mph wind-resistance warranty
- ✓ Wind warranty upgrade to 130 mph available. CertainTeed starter and CertainTeed hip and ridge required

See actual warranty for specific details and limitations.

Landmark ClimateFlex | Shown in Moire Black



## Add a Little Accent to Your Roof

CertainTeed offers Shadow Ridge® ClimateFlex, a Class 4 impact resistant accessory shingle used for capping hips and ridges of your roof. It is the perfect finishing touch, offering blended color and low-profile design.

## Color Companion Products for Flat Roof Areas

With CertainTeed Flintlastic® SA, you can coordinate flat roof areas like carports, canopies and porches with your main roof. Flintlastic SA is a self-adhering low slope roofing product available in colors that complement some of the most popular CertainTeed shingles.





# Integrity Roof System<sup>®</sup>

A COMPLETE APPROACH TO LONG-LASTING BEAUTY AND PERFORMANCE

With as much care as you take in selecting the right contractor, choosing the right roof system is equally as important. A CertainTeed Integrity Roof System combines key elements that help ensure you have a well-built roof for long-lasting performance.

- 1 WATERPROOFING UNDERLAYMENT**

The first step in your defense against the elements. Self-adhering underlayment is installed at vulnerable areas of your roof to help prevent leaks from wind-driven rain and ice dams.
- 2 WATER-RESISTANT UNDERLAYMENT**

Provides a protective layer over the roof decks and acts as a secondary barrier against leaks.
- 3 STARTER SHINGLES**

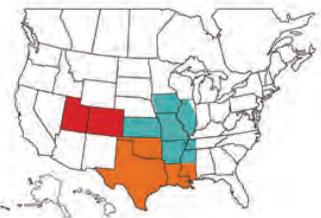
Starter shingles are the first course of shingles that are installed and designed to work in tandem with the roof shingles above for optimal shingle sealing and performance.

- 4 SHINGLES**

Choose from a variety of Good-Better-Best styles to complement any roof design and fit your budget.
- 5 HIP & RIDGE CAPS**

Available in numerous profiles, these accessories are used on the roof's hip and ridge lines for a distinctive finishing touch to your new roof.
- 6 VENTILATION**

A roof that breathes is shown to perform better and last longer. Ridge vents, in combination with intake vents, allow air to flow on the underside of your roof deck, keeping the attic cooler in the summer and drier in the winter.



Landmark<sup>®</sup> CimateFlex<sup>®</sup>  
available in areas shown



## CertainTeed

CEILINGS • DECKING • FENCE • GYPSUM • INSULATION • RAILING • ROOFING • SIDING • TRIM  
20 Moores Road, Malvern, PA 19355 800-233-8990