

# Cedar Shingles Grace the Roof of a Historic Michigan Bungalow



## PEQUAMING, MICHIGAN

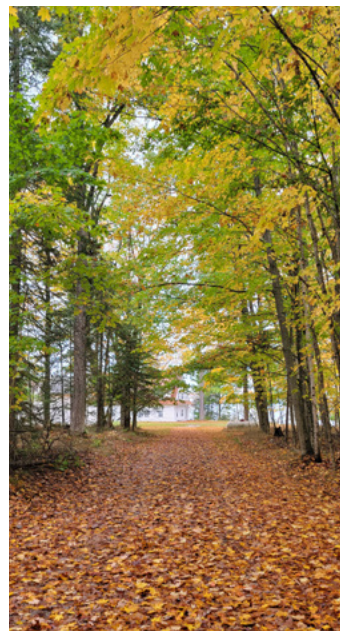
## CASE STUDY: MARCH 2022

Tucked away in the national forests of Michigan's Upper Peninsula, the town of Pequaming was founded in 1878 by Charles Hebard to gain access to timber as well as the deep harbor on the eastern shore of Lake Superior's Keweenaw Bay.

The Pequaming mills made lumber from pine, shingles from cedar, and lath (slat) from hemlock. The mill also produced rail ties and hemlock bark for tanneries. The sawmill community thrived for decades. The residents produced 30 million board feet of lumber a year on average. As the town prospered, more than 100 houses were built as well as churches, schools, offices, and a company store.

Daniel and Charles Hebard inherited the company from their father in 1904 and Daniel oversaw the construction of "The Bungalow," which was built in 1913. The Bungalow was added to the State of Michigan's Historic Sites in 1979 and the National Register of Historic Places in 1982.

The Bungalow and its cedar Certigrade® Number 1 Blue Label cedar shingle roof are the main topic of this case study, which is of special interest to architects, builders, and roofers.







## The Woodie and the Bungalow

The history of the Hebard-Ford Bungalow would be incomplete without mention of the Ford years. The Hebards sold the mill and surrounding town to the Ford Motor Company in 1923. Ford continued to invest in the town, the mills, and the infrastructure. Wood was commonly used in the bodies of early automobiles or “Woodie Wagons”. The Bungalow was frequented as a summer home by Henry Ford himself.

Although the demand for wood crashed during the Great Depression, Henry Ford supported the town, using the town as a model for his theories on self-reliance and education. The mill closed in 1942 and the Ford Motor Company eventually sold the property in 1953.

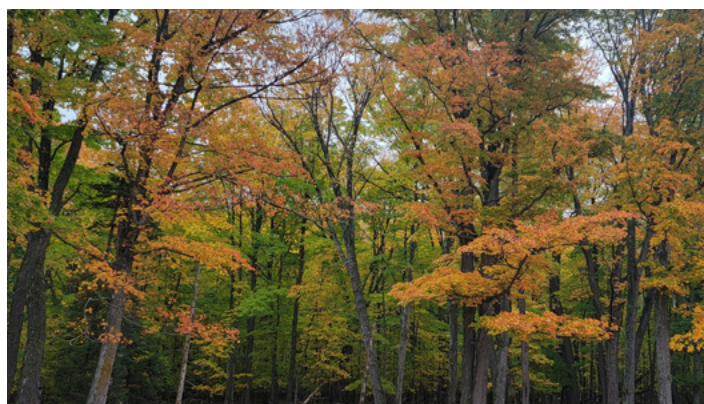
## Historic Restoration with Western Red Cedar Shingles

The current owners purchased the Bungalow in 1994. One objective was to restore the property to its original condition, which meant installing a new Certigrade Number 1 Blue Label cedar shingle roof. Besides the aesthetic qualities of western red cedar shingles, it is also a good choice because of the weather on the south shore of Lake Superior. The cold winds are severe in this area and a cedar shingle roof is perfect since it is wind resistant and provides insulation.

## What is a Bungalow?

The word “bungalow” generally refers to a single-storied house with a sloping roof, usually small and often surrounded by a veranda. The Bungalow Style is characterized by high ceilings, large doors and windows, and shade-giving eaves or verandas. The Bungalow style is sometimes interchangeable with Craftsman style, which is associated with the Arts & Crafts movement in the United States.

Although the original usage of the word “bungalow” generally referred to small one-story homes, the Bungalow Style of architecture also applies to larger multistory residences. The Hebard-Ford Bungalow has nine bedrooms and six full bathrooms.





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## High Winds and Heavy Snow

The Upper Peninsula (UP) in general and the shores of Lake Superior are subject to heavy snowfall and high winds. The “lake effect” climate from Lake Superior results in an annual snowfall that ranks amongst the highest in the country. It is not unusual for the UP to get 200 inches of snow in one season. Snowfalls of 30 inches are considered ordinary.

The heavy snow fall explains the steep-sloped roofs as well as the long, shallow shed dormers on the front and the back of the Bungalow. The veranda is covered by an extended roof line that is supported by eight cement columns.

## Number 1 Blue Label Perfection

Western red cedar shingles are classified by length and grade. Lengths are Fivex, Perfection or Royal, which are 16, 18, and 24 inches, respectively. Grades are Blue, Red and Black, or Certigrade® Numbers 1, 2 and 3, respectively.

The Bungalow uses Certigrade Blue Label Perfection with Certi Last preservative treatment. “Perfection” means the shingles are 18 inches in length. The “Blue Label” Certigrade Shingles (supplied by woodroof.com and manufactured by Olympic Cedar Forest Products, both members of the CSSB) signifies the highest grade available, according to the criteria defined by the Cedar Shake & Shingle Bureau grading criteria. The thickness is such that 5 butts equal 2

¼ inches. The widths are random, although the Blue Label allows for no more than 10 percent of the bundle to be less than 4 inches wide with a minimum width of 3 inches. There is no maximum width for the shingles. The shingles are supplied in bundles such that four bundles will provide one square of coverage (i.e., 100 sf).

Certigrade Number 1 Blue Label shingles are clear heartwood. “Clear” means free from knots. Blue Label shingles are 100 percent edge grain and have no defects. These are also referred to as Certigrade No 1 shingles.

For comparison, the Red Label (Certigrade No 2) allows limited sapwood and flat grain as well as limited knots and defects above the clear portion. The Black Label (Certigrade No 3) allows unlimited sapwood and flat grain as well as limited knots and defects above the clear portion.

Red Label and Black Label shingles can be used where an economy product is acceptable. Blue Label is the highest grade and consequently commands the highest price in the marketplace. These grades are determined by inspection and are certified by the manufacturer according to the rules established by the Cedar Shake & Shingle Bureau. Details are given in Product Grades section of the CSSB website [www.cedarbureau.org/product-grades/](http://www.cedarbureau.org/product-grades/).





## Steep Slope Coverage

**Figure 1** shows the Bungalow from the south with the sun shining overhead. This broad, steep-sloped gable roof is clearly seen from this angle. This large gable roof is open on the south side, which has five double hung, sets of casement windows facing towards the south. This wall of windows allows plenty of sunlight into the second story of the Bungalow as well as excellent ventilation. The veranda is covered by an extended roof line that is supported by cement columns. The south view shows the steep slopes of the gable roof.

**Figure 2** shows the completely installed cedar shingle roof from the southeast on a cloudy day. It shows the gable roof that faces east as well as the shed dormer coming out of the eastern slope of the gable roof. The Bungalow has two such shed dormers, which are not as broad as the gable roof but are larger in area.

The shed dormers on the gable roof provide additional space to the second story because of their lower slope. Nonetheless these shed dormers have steep slopes. A steep slope is a slope of more than 8 inches per 12 inches of depth, which can be written as 8:12.

**Figure 2** also shows the two chimneys that penetrate the north dormer only. Copper flashing can be seen around the chimneys and where the dormer meets the gable. An example of the Craftsman aspects of the Bungalow are the many east-facing windows recessed into the gable roof.

Shingles overlap in such a manner that only a portion of the shingle is exposed. The longer the shingle and the steeper the slope, the greater the exposure can be. The slope or incline of a roof is defined as the number of inches a roof rises per 12 inches of depth.



Figure 1



Figure 2

The recommended maximum exposure for a Blue Label Perfection shingle on a steep slope is 5 ½ inches. This amount of exposure is the maximum exposure recommended for roofs. For this exposure, a nominal one square of shingles covers 100 percent of one square of the roof. As the exposure length decreases, this percentage can drop as low as 70 percent. Coverage and exposure tables are found in the “New Roof Construction Manual” and a digital version (PDF) is available from CSSB at no charge.





Figure 3

## View from the Veranda

The west side faces the Keweenaw Bay. The spacious veranda is the crowning glory of the Bungalow and shows the seven columns that hold up the gable roof hanging over the veranda. The columns endow a stateliness to the veranda. One can only imagine Henry Ford and his guests rocking on the veranda as the sun sets over Keweenaw Bay. They would later enter the living room through one of the two sets of French doors that open onto the veranda. As seen in **Figure 2**, there is an eighth column on the southeast corner, next to a back door entrance. The second story of the Bungalow also has recessed windows, although there are fewer windows than the wall of windows on the side facing east.

## Restoration of Craftsmanship

The Bungalow beckons to an age when custom craftsmanship still played a role in home building. The original construction had a cedar shingle roof sawn at the town's own mills. Once Ford sold the property and closed the sawmill, the Bungalow roof was eventually replaced with an asphalt shingle roof as can be seen in **Figure 1**.

When the current owners purchased the Bungalow in 1994, one key objective was to restore the original bucolic character to the residence. Ironically, the western red cedar shingles used in the renovation were not made in Pequaming but rather they were made at a sawmill near Vancouver, British Columbia an area famous for its forest products, and delivered to Pequaming. Western red cedar shingles are seldom handcrafted but that can help to increase their wider use in construction because they can be made in volume. Western red cedar shingles offer a longevity and elegance that other types of shingles can only strive to imitate. They are not just for historic restorations but point to a new era of craftsmanship and elegance. This is evident in the work done by Krajnak Construction, led by Scott Krajnak and his crew.

**Figure 3** shows one final photograph of the Bungalow, capturing its beauty as seen from the southeast. This angle showcases the east-facing wall of windows that quietly greets the sunrise amidst thousands of trees.

Photography by Tony Hyatt.



*The Cedar Shake and Shingle Bureau (CSSB) is a non-profit trade association founded in 1915 as the Shingle Branch of the West Coast Lumbermen's Association. It represents cedar shake and shingle manufacturers and affiliate members, including wholesalers, distributors, brokers, retailers, installers and business associates. The organization is focused on promoting its members' Certi-label® products around the world, but primarily in the United States and Canada.*

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