



Staff Report
City of Richmond, Virginia



Commission of Architectural Review

3. COA-113062-2022	Final Review	Meeting Date: 7/26/2022
Applicant/Petitioner	Sub Rosa Bakery	
Project Description	Replace existing wood siding with a substitute material.	
Project Location		
Address: 620 N. 25 th St.		
Historic District: Church Hill North		
High-Level Details: <p>The applicant proposes to replace existing pine siding with 6" exposure, 7 1/4" Hardi Plank on a ca. 1880 Italianate mixed-use property.</p> <p>The scope of replacement includes all facades except for the rear façade of the property.</p>		
Staff Recommendation	Approval, with Conditions	
Staff Contact	Alex Dandridge, (804) 646-6569, alex.dandridge@rva.gov	
Previous Reviews	The Commission deferred this application at the June 2022 meeting. Subsequently, two commissioners, planning staff, and the property owner's contractor met on-site 7/15/2022 to discuss the condition of the existing pine siding, and to compare samples of substitute materials including Hardi Plank and Boral.	
Conditions for Approval	Existing wood siding be removed, and a substitute siding (Hardi Plank or Boral, as determined by the Commission) be installed in a way that does not damage any other historic material, and does not alter or obscure any character defining features of the building such as decorative wooden cornices, trim work, and openings.	

Overview

The applicant is requesting permission to replace existing deteriorated pine siding with a substitute material. The *Guidelines* state that, “the use of substitute materials within a designated Old and Historic District is subject to Commission review” and that, “The use of synthetic materials that will alter the appearance, proportion and/ or details of an historic structure is strongly discouraged. However the Guidelines give the Commission guidance, and ultimately the authority, to approve substitute materials, stating that, “substitute materials may be appropriate and economical replacements” in the following circumstances:

1. *Unavailability of Historic Materials*
2. *Unavailability of Skilled Craftsman*
3. *Replacement of poor quality materials.*

After reviewing the application, the cost comparisons of wood and substitute siding material, and meeting with the owner’s contractor and two commissioners on-site, Staff determined that #'s 1 & 3 of the circumstances listed above are present in this case, and that the replacement of the wood siding with a substitute material is an appropriate and economical solution.

The Staff analysis will first focus on the circumstances listed above, and how they are present in this request, and will then discuss the characteristics of Hardi Plank and Boral, the two substitute materials that were compared and reviewed on-site as viable options, both which resemble wood siding in appearance, however it should be noted that both materials have advantages and disadvantages economically and dimensionally that the Commission should take into consideration.

Staff Analysis

City of Richmond’s Old and Historic District’s Guidelines

Guideline Reference	Reference Text	Analysis
Substitute Materials, pg. 61	<i>There are three generally accepted circumstances under which substitute materials may be appropriate and economical replacements:</i> Staff Believes two circumstances that allow for the use of substitute materials are present:	
	1. UNAVAILABILITY OF HISTORIC MATERIALS	One of the most critical parts of a building is its envelope, which defends it from the elements, consequently requiring a durable cladding material. 620 N. 25 th Street is clad in horizontal wood siding. Some of the existing siding is the original old growth timber, which is dense and durable, featuring tight growth rings making it fairly resistant to water intrusion, decay, and pests. Old growth timber is known to last well over 150 years when properly maintained. The existing, original wood siding is showing signs of decay, and is deteriorated beyond repair. Many sections of the

		<p>existing siding are buckling, and even falling off, exposing the framing underneath to the elements.</p> <p>Staff believes that the original siding could be failing, due to an extended period of time in the latter half of the 20th century when it was covered by novelty, faux brick siding which could have trapped moisture which accelerated decay.</p> <p>While 620 N. 20th Street was originally clad in old growth horizontal wood siding, staff finds a substitute material would be appropriate and more economical for the owner given the extent of siding that must be replaced. While wood is available, old growth timber is not common and significantly more expensive than new growth wood which makes up most of modern day replacement wood siding.</p> <p>New growth timber doesn't match the density and durability of old growth timber, having growth rings that are more widely spaced, making it more susceptible to pests, decay, and water intrusion.</p> <p>Replacing the existing siding with new growth wood at such an extent would cost upwards of \$130,000. Based on the city assessor's records, that is nearly 1/3 of the assessed improvement value of the property.</p> <p>Staff finds that the new growth timber that is used for wood siding today is costly and overall less durable than the old growth timber originally used, and that durable old growth timber that matches the characteristics of the original wood siding is not readily available, and may not be economically viable as a replacement.</p>
	<p>3. REPLACEMENT OF POOR QUALITY ORIGINAL MATERIALS</p>	<p>On a site visit and through images submitted by the applicant, Staff has determined that there are poor quality materials that have been installed on the building, and it appears that there is a mixture of original wood siding and newer wood siding, including Masonite and new growth timber boards. Staff believes that it is appropriate to replace these materials with a durable substitute material.</p>
<p>Substitute Materials, pg. 61</p>	<p><i>Fiber cement siding is a siding option that has limited application for use on historic properties. Advertised as an alternative to vinyl or wood products, the application of these products in City Old and Historic Districts should be restricted to new freestanding buildings, secondary elevations with limited visibility from the public right-of-way, new additions with limited visibility from the public right-of-way, and new outbuildings.</i></p>	<p>Often times, the Commission has denied substitute siding on primary elevations, but has allowed its installation on minimally visible secondary elevations. A condition of approval for this type of alteration is generally <i>that any new or salvageable wood siding be located on the primary façade.</i></p> <p>620 N. 25 St. may have enough salvageable wood siding to be relocated on the primary façade, however, given its orientation on the parcel, the secondary elevations are also very visible from the public right of way. Staff believes that this case differs from other requests reviewed by the Commission due to the buildings highly-visible orientation, making the consolidation of original material on the front façade alone an inadequate solution.</p> <p>Firstly, Staff finds that denying the use of substitute materials completely would create a cost burden for the owner strictly due to the orientation of their building, a</p>

		<p>burden that other property owners may not have with a similar request.</p> <p>Secondly, Staff finds that requiring the applicant to relocate salvageable wood siding to the primary façade, and allowing substitute siding on secondary facade would create a noticeable ununiformed appearance that would impact the overall character, and how the building is experience by passerby.</p> <p>For this reason, staff finds that the allowance of the use of substitute materials on the primary and secondary elevation of 620 N. 25th street is the most economical solution for the owner while maintaining the character of the building.</p>
<p>Substitute Materials, pg. 61</p>	<p><i>Repair damaged elements instead of replacing them. Use materials that match the original in type, or use physically and chemically compatible substitute materials that convey the same appearance as the surviving elements or sections. Use available documentation when reconstructing missing elements. Pictorial, historical or physical documentation can be helpful.</i></p>	<p>Two substitute materials have been identified and assessed by Staff, as well as two Commission Members: Hardi/Plank and Boral.</p> <p>Both materials match the existing wood siding in type, being horizontal lap siding, and generally resemble the existing wood siding in appearance. Staff notes that the Hardi Plank siding is thinner than the existing wood siding, while the Boral is thicker than the existing siding.</p> <p>On the 7/15/2022 site-visit, it was observed that there are boards of varying dimensions existing on the building as a result of piecemeal replacement over the years.</p> <p>Staff finds that both Hardi Plank and Boral are appropriate substitute materials for the existing wood siding. However, both materials have advantages and disadvantages that the Commission should consider, which are explained in the second half of the Staff analysis.</p>

Appropriate Substitute Materials

<p>HardiPlank/ Fiber Cement Siding</p>	<p>Hardi Plank siding has been available as a substitute cladding material since the early 1900's. Fiber Cement siding consists of a mixture of wood pulp and cement, bonded together using cellulose, which replaced asbestos as the bonding agent in the 1970's</p> <p>Advantages:</p> <p>When compared to Boral as a cladding material, Hardi Plank is the most economical material, being cheaper to install up front, and requires less-frequent maintenance over time.</p> <p>Fiber Cement is available pre-painted, eliminating the expense of priming and painting.</p> <p>Fiber Cement tends to be a bit less bendable than Boral, which could reduce the chance of the material breaking during the installation process.</p> <p>Fiber Cement siding is a material that has already been approved on numerous buildings within City Old and Historic Districts, being approved by the Commission on new construction, additions, and secondary elevations as a substitute material that maintains the character and appearance of horizontal wood siding.</p> <p>Disadvantages:</p> <p>Fiber Cement has a thinner profile than wood or Boral planks.</p> <p>Installation:</p>
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	<p>Install over Tyvek and 7/16 plywood board attached to the existing framing of the building. No alteration to window and door trim required.</p> <p>Cost:</p> <p>Approx. 77,000\$ (wood approx. 130,000\$)</p>
Boral	<p>Boral is a newer composite material that is a combination of recycled coal ash and polymers.</p> <p>Advantages:</p> <p>Boral has a thicker dimension than Fiber Cement siding and is closer to the dimension of the existing wood siding, although is a bit thicker.</p> <p>Disadvantages:</p> <p>Boral is more flexible than Fiber Cement siding, increasing the chance of breaking during installation.</p> <p>Boral is much more expensive than Fiber Cement siding, and it is not a siding material that has been approved or required by the Commission in the past.</p> <p>Boral will require priming and painting after installation, adding an additional cost to the owners.</p> <p>While Boral matches the dimension of the existing wood siding more closely than fiber cement, it is thicker in dimension, and its installation will require back bracing existing window and door trim, adding additional cost and increasing the width of all existing trim by approximately $\frac{3}{4}$ and inch, according to the owner's contractor. The installation of Boral may resemble the wood siding more closely in dimension, but may require the disturbance of other existing historic material, which is discouraged when considering if a substitute material is appropriate.</p> <p>Installation:</p> <p>Install over Tyvek and 7/16 plywood board attached to the existing framing of the building. No alteration to window and door trim required.</p> <p>Cost:</p> <p>Approx. 145,000\$ (wood approx. 130,000\$)</p>

Figures



Figure 1. Existing conditions of front elevation.



Figure 2. Existing conditions of Jefferson Ave. elevation



Figure 3. Existing conditions of N. 25th St. elevation.



Figure 4. Historic photo from Assessor's office showing N. 25th St. frontage.



Boral comparison to existing wood siding



Fiber cement, HardiPlank, comparison to existing wood siding.



Novelty siding, faux brick, present on 620 N. 25th approx 2000