

REVISED STAFF REPORT: 02/07/2024 REGULAR MEETING PREPARED BY: J. ROSS

ADDRESS: 4440 E. CANFIELD

APPLICATION NO: HDC2024-00026

HISTORIC DISTRICT: SWEETEST HEART OF MARY ROMAN CATHOLIC PARISH

APPLICANT: LARRY WILK AND AL SEBASTIAN

OWNER: ARCHDIOCESE OF DETROIT

DATE OF STAFF SITE VISIT: 01/25/2024

DATE OF PROVISIONALLY COMPLETE APPLICATION: 01/15/2024

SCOPE: REPLACE SLATE ROOF WITH SYNTHETIC TILES

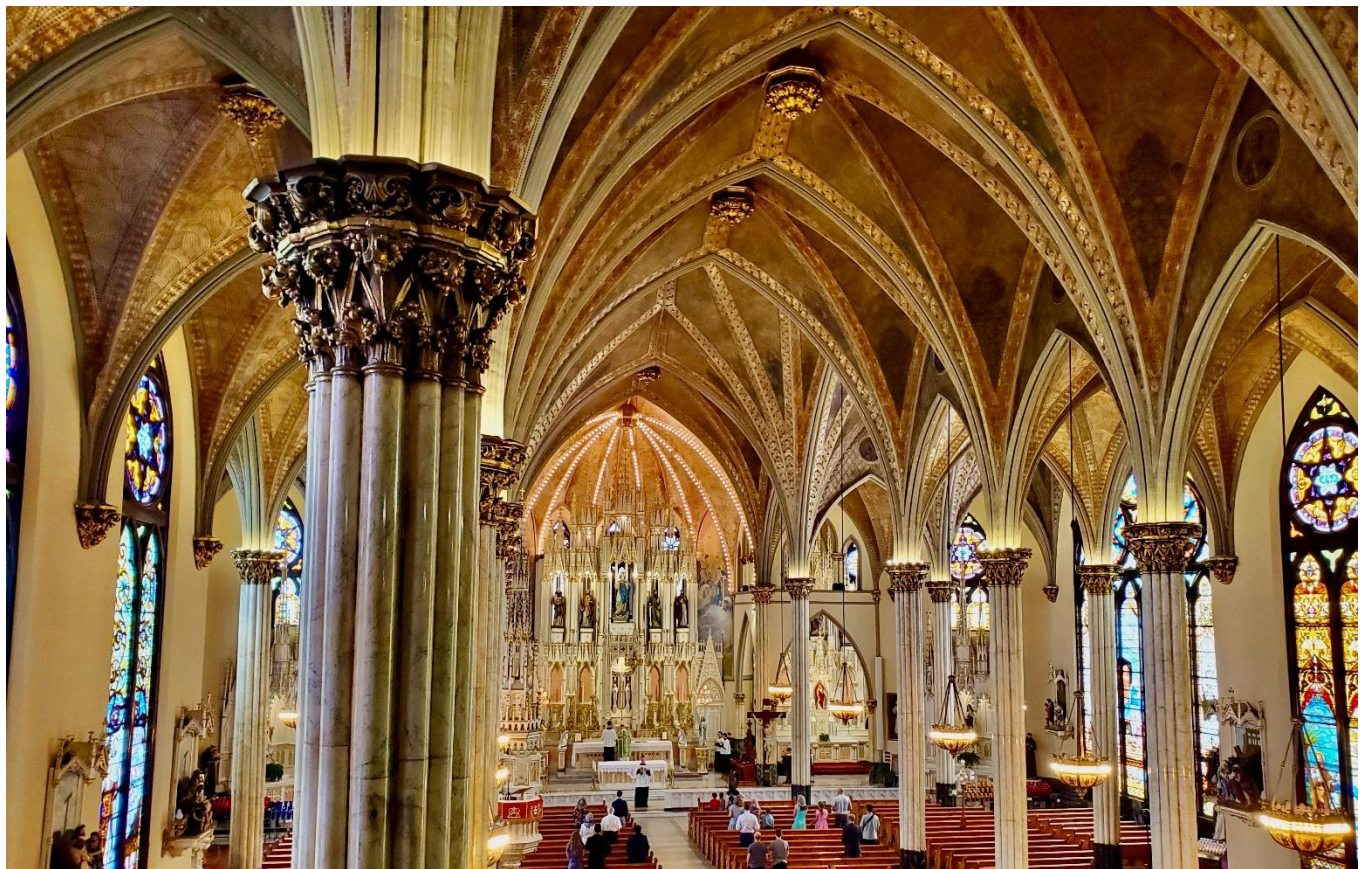
EXISTING CONDITIONS



Current conditions, facing northeast showing primary façade. Staff photo taken 1/25/2024

Sweetest Heart of Mary is a Gothic Revival church that was erected in 1893 and designed by the Detroit architectural firm of Spier and Rohns. The church displays a cruciform plan and is clad with red brick with stone trim at the side and rear elevations and red brick with a high stone base at the front façade. Original full-height, stained glass windows dominate the building's front and side facades. Smaller arched wood windows are present at the rear elevation and the upper level of the building's front facade. The building's main/west façade is distinguished by twin buttressed towers, each surmounted by a tall octagonal spire which is clad with synthetic slate shingles, installed in 2018, and lower spires that are clad with metal. The church's main/central mass features a prominent front-gabled roof with multiple lower gables topped with decorative metal cross finials over its nave, a side-gabled roof over the crossing, and a hipped roof over the apse. Original slate roofing with copper flashing and ridge caps remains at this roof. Multiple, low galvanized metal spires are located at the sides and rear of the roof. A one-story, wing at the rear elevation displays a copper roof. Gutters, downspouts and fascia are also copper. Note that a highly distinctive feature of the roof is the diamond shaped patterning at the ridge line. Specifically, the roof transitions from grey square-edged shingles at the gutters to approximately 10 rows of scalloped shingles topped by two rows of square-edged shingles directly below the ridge. The distinctive diamond shaped patterns are formed via the use of multicolored scalloped shingles.

Please also note that the church's publicly accessible interior space (including the narthex, nave, choir loft, chancel and side altars) is included in the current designation due to its high level of decorative detailing.



Interior, current conditions. Photo by applicant



Interior, detail of painted plaster ceiling. Photo by applicant



Current conditions, facing southwest showing rear and north side. Staff photo taken 1/25/2024



Current conditions, facing southwest showing north side. Photo provided by applicant



Current conditions, facing north showing south. Staff photo taken 1/25/2024. Note decorative diamond pattern directly below ridgeline



Current conditions, facing northeast, detail showing metal fascia with cross-shaped finials, metal spires with trefoil detailing, and copper gutters typical at roof. These elements will be removed in whole/throughout and will be replaced with new copper elements to match the existing. The slate near the ridgeline (i.e. the area of the decorative diamond pattern) is of a scalloped type/shape, while the remainder is a more typical square edged slate Staff photo taken 1/25/2024



Current conditions, facing northwest, detail showing metal fascia with cross-shaped finials, metal spires with trefoil detailing, copper gutters, copper ridge caps typical at roof. These elements will be removed in whole/throughout and will be replaced with new copper elements to match the existing. Staff photo taken 1/25/2024



Scalloped shingles and diamond pattern at roof's ridgeline. Photo provided by applicant.

PROPOSAL

With the current proposal, the applicant is seeking to replace the existing slate roof system with a new synthetic slate tile roof. Specific work items include the following per the submitted scope:

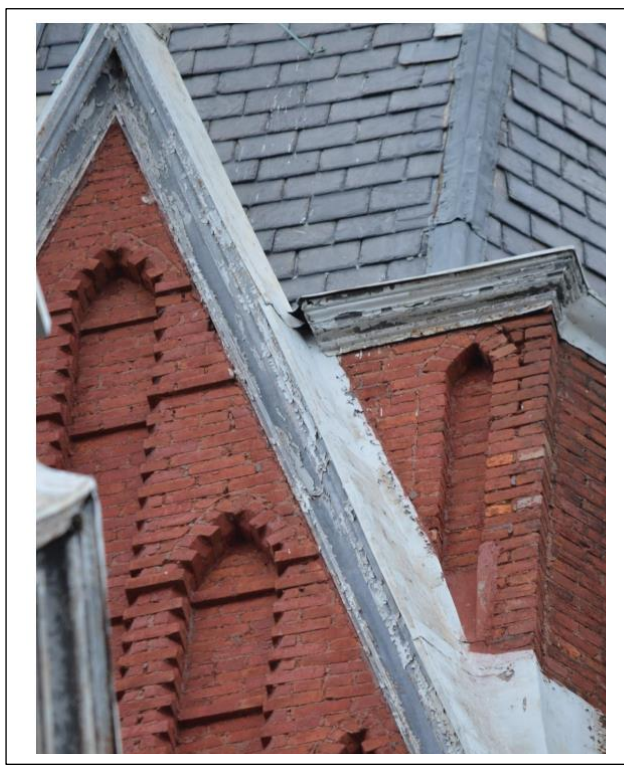
- Completely remove all existing slate roofing, metal, and metal decorative elements
- Install new 16oz. (.0216 thickness) copper valleys at all valley areas
- Install new DaVinci Roofscapes 12”x 18” ~~single-width~~ synthetic slate ~~square-edged~~ tiles, 8” exposure, 1/2” thickness. DaVinci tiles shall be installed in all areas where existing slate tiles are installed. Tiles will be a single color (dark grey) ~~and will provided in two different styles when installed, scalloped and square.~~
- Install new 16oz. copper flashing, counter flashing, coping (fabricated to match existing), ridge caps (fabricated to match existing), and fascia (fabricated to match existing)
- Replace all ornamental metal details to include cross-shaped finials and steeples with new copper elements, replicated to match existing
- Remove all existing flat roofing down to the wood deck. Install new EPDM roof system.
- Replace all existing downspouts with new copper downspouts to include all necessary copper strapping, elbows and anchors. Size of downspouts to match existing.

STAFF OBSERVATIONS AND RESEARCH

- The applicant attended the Commission’s August 12, 2017 meeting and submitted a proposal to demolish the roof’s two primary spires because wind storms which had compromised their structural integrity. After an extensive discussion, the Commission postponed the deliberations to allow the applicant to collect additional data/information on the potential to retain/rebuild the spires. The applicant therefore submitted a new proposal to the Commission for their review at the November 8, 2017 meeting to retain and repair the spires, to include the replacement of the slate shingles with new synthetic slate DaVinci tiles. Per the submitted drawings and scope, the then existing metal caps at each steeple’s ridges would be replaced with new aluminum ridge caps and decorative metal cross finials would be retained and repaired (see 11/8/2017 staff report). ~~The proposal included both squared-edged and scalloped shaped shingles, to match the original. The shingles were primarily grey in color with darker grey/black shingles employed to repeat the diamond patterns that were present.~~ The Commission approved the proposal and the work was completed in 2018. See the below photos for conditions before and after the 2018 steeple repair/replacement of slate shingles at steeples with new synthetic slate DaVinci tiles.



Google Streeview, August 2018, prior to steeple repair



Photos provided by applicant, 2017, prior to steeple repair



Photo provided by applicant, 2017, prior to steeple repair



Spires showing recently installed Davinci synthetic slate roofing, photo provided by applicant

- Note that the same synthetic slate roofing system/tiles, method of installation, and contractor who was employed for the 2018 steeple repair will be used for the current work **with one two exceptions**. Specifically, re: the 2017-2018 steeple repair, the applicant noted that the **contractor created scalloped shingles for the project by hand “clipping” square-edged shingles. They also used multicolored shingles ~~were used in order~~** to replicate the original diamond pattern. However, in the current proposal, the applicant **is not** seeking to use multicolored **or scalloped-shaped** shingles to replicate the distinctive diamond pattern **and/or textural variation** which is visible at the main roof. Rather, the new synthetic slate proposed for installation at the main roof will display **a single uniform color (grey) and shape/size (squared edged, 12”x18”)**. Per the included correspondence, the applicant has stated that the congregation is opting to use a single uniform color and shape of tile primarily due to cost. Specifically, the applicant has noted that the cost “of hand fabricating a diamond pattern in a scalloped slate design... would be an additional \$125,000 in addition to the current cost of \$337,000.00. This price increase is solely due to the extensive additional labor and materials required to hand replicate each tile to match the existing pattern.” He further noted that the in order to replicate the area of scalloped shingles at the current slate roof “...approximately 9,300 tiles ...that would have to be hand clipped...whereas on the spires, there was only 425 tiles per spire (850 for both) that required hand clipping.’
- It is staff’s opinion that the current slate roof system to include the use of multicolored, **scalloped** shingles to create diamond-**shaped** patterns below the ridgeline, decorative metal elements, metal spires, and copper gutters and downspouts are highly distinctive character-defining features of the building, as is the distinction between scalloped and square-edged slate.
- The applicant’s contractor, Pro, Inc. Roofing & Sheet Metal, has provided an estimate of \$1,094,000.00 to replace the existing slate roof with new slate to match existing. The price quote for the proposed synthetic slate roof is \$337,000.00
- The applicant has stated that the congregation is seeking to replace the building’s slate roof because it has reached the end of its serviceable life. He has also noted that the roof’s decorative metal elements (fascia, cross-shaped finials, and spires) have undergone numerous repairs over time to combat corrosion and are currently deteriorated beyond repair. See the following questions posed by staff and answered by the applicant and is contractor re: current conditions at the roof:
 - What is the roof’s age?
 - *The age of the roof is 135 years old.*
 - What type/grade of historic shingle is present? What are the dimensions of the shingles?
 - *The existing slate shingles are approximately 12” wide x 18” long and 1/8” to 3/16” in thickness with an 8” exposure. The grade is considered to be “standard grade/rough texture”*
 - What type/material of underlayment, hangers, flashing, and valleys is present?
 - *The existing underlayment is 30 # felt, however, upon inspection of previously repaired areas, over 50% of the underlayment is either completely missing or severely deteriorated and rotted (photos attached). The remaining existing felt is severely decomposed and is no longer water repellent. The underlayment literally falls apart when trying to be handled. A sample of the existing underlayment will be brought to the hearing should the commission choose to inspect. With respect to the hangers for the slate*

tiles, they are non-galvanized steel nails. Due to the age of the nails, the heads are over 75 % worn off due to corrosion over the past 135 years leaving only a small pin head that allows the slate tiles to lift up and over the nails during high winds thus allowing the tiles to blow off the roof. Additionally, as the slate tiles lift upwards and downwards with the wind, the nail hole in the slate tiles becomes increasingly larger and weaker. The existing valleys and flashing are made out of 16oz. copper and are corroded in many areas and are at the end of their life expectancy. Many valleys have been patched due to holes caused by corrosion. The proposed new valleys and flashing will also be fabricated out of new 16oz. copper to the exact same size and profile as the original (photos attached).

- What type/material of gutters and downspouts is present?
 - *The existing gutters and downspouts are made out of 16oz. copper. Their condition is poor and at the end of their life expectancy. Repairs to the existing downspouts have been made over the years using other materials and painted over to try and match the original copper color. The proposed new gutters and downspouts will be made out of 16oz. Copper, same as the existing original gutters and downspouts, and fabricated to the same dimensions and profile as the original.*
- What is the typical life expectancy of this type of material? Does it appear that this historic roof has been well maintained over time?
 - *Per industry standards, the typical life expectancy of the existing slate tile is approximately 75 to 100 years depending on the climate and environment. Please note that due to the age and delamination, the existing tiles are no longer 3/16" in thickness and in many areas is only 1/8" thick. Yes, the roof has been well maintained. The parish has performed routine inspections, particularly after any severe storms. At such time, repairs are performed on an as-needed basis.*
- What elements of the roof appear to be failing (slates themselves delaminating/breaking, underlayment, hangers, flashing, valleys, etc – be specific and describe how these elements are failing and the location of the failing elements)?
 - *The slate tiles are severely delaminating and breaking in many areas throughout the entire roofing area. Due to the delamination, the slate is absorbing water as opposed to repelling it. The water ingress into the slate causes it to be soft inside and results in weakening the strength of the tiles. The slate is no longer as thick as it once was due to the delamination. As mentioned above, the underlayment is severely deteriorated and is missing in many areas due to rot. Underlayment is meant to act as a secondary barrier of protection to prevent water infiltration. However, the existing underlayment is absorbent as opposed to being waterproof and is not repelling water (photos attached).*
- How is the roof failure manifesting itself (i.e. leaking at the building's interior, rotted roof framing, corroded flashings, broken slates, slates sliding off the roof, etc – be specific)
 - *The frequency of repairs to the roofing system has become more and more numerous. In addition to slate tiles being blown off, the bare roof framing is being exposed and subjected to rain, ice and snow to the extent of causing*

possible future damage to the wood under structure. The slate tiles that have blown off are broken, weak in strength, and are non-useable for re-attachment. Previous attempts to re-install any unbroken slate tiles have been unsuccessful due to delamination and other reasons here mentioned. The slate, as well as the nail hole areas, are soft and the nail holes are over enlarged due to constant upward and downward pressure by wind against the nail heads thus preventing secure re-attachment of the tile.

- What percentage of slates/# of squares need to be removed in order to address/fix the roof failure? Note the location(s) of the slates which need to be removed Is it possible to reinstall the slates that are removed? If not, explain why?
 - *Due to the age (135 years) and the wear throughout the entire roofing system, 100% of the roof is in dire need of replacement. The number of squares is 320 squares. It is just a matter of time before water will infiltrate the roof and leak into the church's interior ceiling and floor structure. Should that occur, the church's interior ceiling would not be able to be repaired to the same condition due to the elaborate hand plastered domed ceiling with hand painted Fresco paintings, mouldings, and gold leaf detail. As mentioned above, the existing slate is severely compromised primarily due to its age and the damage caused by the elements over the past 135 years. Samples of the deteriorated slate will be brought to the hearing should the commission choose to inspect. Damage could occur to the interior ceiling of the church at any time. There has already been water infiltration to the church's attic areas over the years. Attached are several pictures to help evidence and illustrate what is stated in our replies to the questions being presented.*
- The National Park Service's Preservation Brief 29: "The Repair, Replacement and Maintenance of Historic Slate Roofs," [Preservation Brief 29: The Repair, Replacement and Maintenance of Historic Slate Roofs \(nps.gov\)](#) states the following;
 - The replacement rather than repair of slate roofs should be considered when more than 20% of the slate is "damaged or missing."
 - The life span of the slates most commonly used in the US is 60 to 125 years
- The applicant and his contractor have stated that the current slates are delaminating due to age, hangers/nails are corroding throughout which has damaged the underlayment and led to slates blowing off the roof, and flashing has corroded throughout. Also, as previously stated, the roof's decorative metal elements (fascia, cross-shaped finials, and spires) have undergone numerous repairs over time to combat corruptions and are currently deteriorated beyond repair. A visit to the site, review of the submitted photos, and review of Google Streetview images of the roof over time confirm the applicant's analysis of the roof's condition/that it has met the end of its serviceable life and merits replacement.
- As previously noted, the quote to install a new slate roof is \$1,094,000.00 versus \$337,000.00 for the proposed synthetic slate roof system. After an assessment of the synthetic slate and new metal elements installed at the steeples in 2018, staff concluded that the proposed synthetic slate product generally provides an adequate, economically feasible replication of slate.
- The applicant is also proposing to replicate all existing metal elements with copper. The existing coping, ridge caps, flashing, gutters, and downspouts are copper. Also, the fascia and cross-shaped finials are copper which has been painted grey. However, the spires are fashioned out of a galvanized metal which has been finished with a grey colored sealant applied to combat corrosion. Staff supports the replication of the spires in copper because

its use/the use of a higher quality metal will contribute to the longevity of this distinctive feature.

ISSUES

- As previously noted, it is staff's opinion that the current slate roof system, to include the use of multicolored **scalloped-shaped** shingles to create diamond patterns and **textural variation** below the ridgeline, is a distinctive character-defining feature of the building. While the new roof will display ~~both rectangular and scalloped~~ a synthetic, squared-edged synthetic slate product that ~~is in keeping with~~ will provide a close approximation to the square slates at the current roof, the new shingles will only display a single color and will not include the scallop shape shingle type that is present at the roof ridge. Therefore, the existing distinctive diamond patterns created by the current color variation and the textural contrast provided by the current scalloped shingles will not be replicated. It is staff's opinion that the deletion of ~~this feature~~ these features does not meet the Secretary of the Interior's Standards and/or the district's Elements of Design.
- It is staff's recommendation that replacing the original slate in-kind, while the most appropriate historic treatment, may not be economically reasonable at a proposed cost of over \$1 million per 36 CFR67.7(6) which requires that the Standards "are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration both economic and technical feasibility."
- As the application does not include measured drawings to specifically depict how each **decorative metal** historic element of the roof will be replicated, staff reached out to the applicant to request a detailed narrative summary which will outline the manner in which all elements will be fabricated and the installation process. **Although photographs of the recently repaired spires and additional information on the contractor's qualifications have been submitted, staff recommends that a more detailed scope/design document be presented to ensure that the significant roof elements are adequately replicated.**

RECOMMENDATION

Section 21-2-78. Determination of the Historic District Commission – Certificate of Appropriateness (COA)

Staff recommends that the Commission issue a COA for the project as it generally meets the Secretary of the Interior's Standards for Rehabilitation and the district's Elements of Design. However, staff does recommend that the Commission issue the COA with the following conditions:

- The new roof shall replicate the distinctive diamond pattern and **textural variation** through the use of multicolored scalloped shingles.
- The applicant shall provide HDC staff a design document which clearly outlines the manner in which ~~all roof elements, to include the shingles and the~~ decorative metal elements will be fabricated and installed prior to the initiation of the work. If staff determines that any work item does not meet the Secretary of the Interior's Standards for Rehabilitation, the project will be routed to the Commission for review at a future regular meeting.



Photo showing an original finial and a copper replication, provided by applicant