

STAFF REPORT: FEBRUARY 23, 2022 MEETING

PREPARED BY: A. DYE

APPLICATION NUMBER: 22-7660

ADDRESS: 31 ARDEN PARK

HISTORIC DISTRICT: ARDEN PARK - EAST BOSTON

APPLICANT: ADAM HOLLIER

PROPERTY OWNER: ADAM HOLLIER

DATE OF PROVISIONALLY COMPLETE APPLICATION: JANUARY 18, 2022

DATE OF STAFF SITE VISIT: JANUARY 21, 2022

SCOPE: ERECT REAR/SIDE ADDITION

Note: this staff report was revised on 2/23/22 at 4:30 p.m. to reflect additional scope of work that consists of the erection of a shed and 8' wood privacy fence (work completed without approval). The additional information is visible on pages 2, 6-7.

EXISTING CONDITIONS

Erected circa 1916, the structure at 31 Arden Park was constructed for Dr. Henry Albert and Julia Steinbrecher. It is reminiscent of an Italian villa and is clad in buff-colored brick and features cast stone detailing. The hipped roof is covered in red clay tile and includes two chimneys in addition to a small dormer at the east end of the roof and a larger dormer at the north (rear) side of the roof. The main body of the house is flanked to the east and west by single story wings. The front elevation of the main body of the house is symmetrical with the front entrance centered on the façade. The entryway projects from the main body of the house and is articulated with an arch of cast stone with iron detailing at the second floor. The house sits on a large lot located just inside the Arden Park gates. The west property line runs parallel with Woodward Avenue.



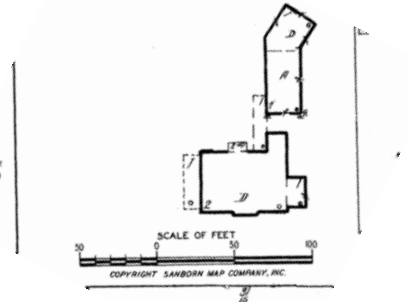
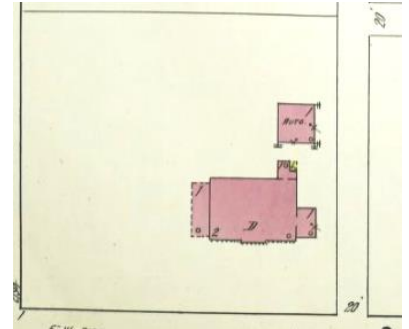
HDC staff photo, January 21, 2022

The house sits on a raised earthwork terrace; a sloping embankment is bisected by stairs leading from the sidewalk to the front entrance. A single-width concrete driveway at the east end of the property leads from the street to the rear detached garage.

The balusters within the parapet atop the east and west wings have been removed and iron rails/spindles installed. The house is fully obscured in the 1981 designation photos, so staff doesn't know if the cast stone balusters were present at time of designation. The photo at right, from the National Automotive History Collection of the Detroit Public Library, circa 1921, shows the balusters intact, as well as the now-missing decorative collector boxes within the gutter/downspout system.



The 1916 image offers a clear illustration of the original design of the house, garage, and alley. Note the west wing is different than the present design, and was likely a screened-in porch.



Above: 1916 issue of *Western Architect*

Top right: 1915 Sanborn map; Bottom right: Post- 1951 Sanborn map.

The 1915 map shows the original alley and two-car garage to the east of the house.

Both maps show the original footprint of the west wing which is partially visible in the above image.

Adjacent the rear, northeast corner of the sunroom, sits a free-standing shed. With a gambrel roof and T1-11 siding, it is a non-compatible structure in a highly visible location. The fence, covered with ivy, can be seen in the bottom right corner of the lower right photograph. The shed can be seen in additional photos within this report.

PROPOSAL

Per the submitted documents, the applicant proposes to erect an addition (27'-10" long x 11'6" wide) to the side/rear of the house to increase the size of the kitchen.

The applicant also proposes to retain a previously erected garden shed (19' long x 9' wide x 9' high) and wood privacy fence (8' high x 13' long). Both are located immediately behind and to the east of the sunroom (and are immediately adjacent the location of the proposed addition).

STAFF OBSERVATIONS AND RESEARCH

- The Arden Park-East Boston Historic District was established in 1981.



HDC staff photos, January 2020



- The sunroom is an integral component of the original house design. Character-defining features include the rectangular footprint; mulled windows, wood knee walls and cast-stone lintels filling each façade; continuous stone band and balusters (no longer in place).

- The main body of the house rising to a hip roof covered in dimensional red clay tile is the dominate form. The single-story wings with flat roofs, tall parapets, and recessed slightly from the front façade are supporting elements to the main body of the house. The proposed addition's flat roof with lower parapet and rectangular footprint compatible with the historic structure's massing.
- Behind the sunroom, the east elevation becomes utilitarian in character and operation (i.e., large, unarticulated opening to raised semi-enclosed porch), befitting its alley-facing location and close proximity to the garage.

Applicant photo of area where addition is planned. (This was submitted as part of a previously approved project.)



- The proposed addition will not be visible when directly looking at the house from the sidewalk; it will be fully hidden by the house when viewed from the west. The addition would be visible from the right-of-way when traveling west on Arden Park (toward Woodward Avenue), and this is mostly due to the expanse created by side-by-side driveways (for 39 and 55 Arden Park). As the house sits near the eastern edge of the large lot, the wall behind the sunroom is the least visible area on either side elevation.
- The addition's northeast location will cause it to be in the shade for much of the day, helping reduce its visual impact when seen from the east and south-east.
- The addition's parapet will remain below the sunroom's continuous stone band. The new walls will be inset from the existing structure's walls, giving the overall appearance of the addition as being tucked into the corner.



Applicant drawing / HDC staff photo. The area where the addition will be placed is in shadow when this photo was taken on January 21st at 10:45 am. And, due to the angled view from the sidewalk, a portion of the addition will be obscured by the sunroom (this is assuming the fence and shed are no longer in place). You can see the shed's gambrel roof from this vantage point.



ISSUES

- The precedents submitted by the applicant are posted below. While these offer a launching point for the addition's design, it is staff's opinion the proposed design at 31 Arden Park is quite different than these examples.
 - The structure on the far right is very light and airy due to the mostly glass walls. This is probably a three-season room and not daily living space.
 - The other two examples are closer in massing, roof type and color to the proposed addition. However, both examples offer almost floor-to-ceiling windows and equal, or greater, glass-to-wall ratios.
 - All of the window openings offer little-to-no muntins which create expansive, transparent openings.
 - The casement windows in the proposed addition have 2x4 or 2x5 muntin patterns. This closely matches the windows in the adjacent sunroom (they have a 2x5 pattern). However, the windows on the sides and rear of the house are one-over-one double-hung sash. It is typical for windows on the front elevation (and highly visible side elevations, such as the sunroom) to have more detailed window units. Changing the casement sash to clear glass/no muntins would be a positive step in simplifying the facades and creating a more open atmosphere.



Applicant photos

- The width and strong verticality of the proposed mulled window openings matches the sunroom's original openings. The sill height was carried over to the north and north-east elevations window openings. Matching dimensions of existing openings can be a strong design solution for an addition. Staff believes in this instance, the addition's purely modern design may allow for different sill/header heights to create more expansive openings, similar to those shown the precedent images. A wall section was not included with the application, so it isn't clear whether the window heights can be increased.
- The sill height for the openings closest to the sunroom are higher due to a kitchen counter and the wide width of the wall separating these window openings is due to the placement of a television. The inconsistent dimensions, coupled with the vertical and horizontal lines of the standing seam exterior, on a small, monochromatic addition, creates an awkward wall pattern, which is also counter to the precedent images.



This close-up of the rendered elevation shows the vertical panels do not align within the multiple wall sections, creating an even busier, disjointed pattern.



Applicant rendering

- The exterior pattern and proposed installation method of black standing seam metal creates heavy vertical and horizontal lines which create a tremendous contrast to the house's buff brick with a low-relief mortar profile. Staff believes a metal panel can be an appropriate choice for this addition, however wide, flush wall panels (with minimal joints) in a neutral warm color could supply the requested contrast to the brick house. The middle precedent image (previous page), with a flat surface exterior and expansive window and door openings creates a unified plane that allows the eye to focus on the transparency of the windows, as well as the background brick pattern and multiple window openings on the main body of the house.
- Staff's reaction to the submitted standing seam metal examples confirms the opinion that this material is a dominate form and becomes a focal point of a façade. Also, all of the precedent images show additions on houses with red, dark brown, or gray brick. The contrast of a dark addition against a darker exterior wall is more subtle and in keeping with the architectural palette of those houses. Furthermore, the sharpest contrast is against the lightest colored brick exterior (far left precedent image on page 4), but the black on this addition is minimal and mostly structural in nature – similar to mullions. The contrast of the proposed black-clad addition against the buff brick (regardless of its often-shaded location) is too high a contrast in this instance; the addition will become a focal point.



- A rendering supplied by the applicant in the schematic design concept packet shows the same general design but with a dark brown, flat panel metal exterior. The separation between the two differently sized window openings is more like a mullion than a wall, allowing for the wall to the south to be a stand-alone element. The matte, flat finish minimizes, rather than accentuates, the raised sill height of the two window openings and creates a cohesive facade. Staff wonders if the lower-placed eave could be applied to the flat roof. Staff suspects the parapet is needed to cover the height of the proposed skylights shown on the aerial rendering on the last page of the applicants HDC submission packet. A roof plan and wall section were not submitted to clarify possible flexibility for a roof and eave modification. This can be discussed during the Commission's review.



Applicant rendering, Schematic Design Concept packet, page 6.

- The application does not identify where the downspouts (three look to be displaced by the addition) will be relocated.
 - A rendering within the Schematic Design Concept packet shows the cast stone lintel above the sunroom's north facing window opening (that will be turned into a door opening to the new kitchen) will be retained. This is an important feature to the house and must be kept in place. Staff has asked for confirmation of this detail.
 - The applicant stated the shed will remain in its current location. Staff is not clear how the addition will be constructed with the shed in place. The long-term maintenance and durability of the addition's side wall is also a concern as there is very little space between the two structures. The narrative states the shed will remain, but it is not shown on the elevation drawings/page 12. It is, however, shown on the floor plan/page 9, and renderings/pages 13 – 15.
- An architectural cross-section diagram showing the vertical alignment of the house, sunroom, and shed. It includes various height and width measurements in feet and inches. Key labels include 'NEW BEAM', 'NEW FRENCH DOOR', 'EXTERIOR SHED', 'SUNROOM', and 'HOUSE'. A red arrow points from the shed area towards the sunroom.
- The success of the addition relies on a minimally designed structure and applied decorative treatment, as well as the open space surrounding it. The Commission's purview is the exterior impact of the addition which can't be completed without discussing the impact of the existing shed and fence on the addition and property at-large. The placement of a shed at this side of the house, which then precipitated the construction of an 8' wood fence to "hide" the shed, is perplexing. Staff understands these components were erected prior to the applicant's purchasing the property. But as stated earlier, staff didn't locate an approval for these items. Staff isn't clear on why the applicant intends to keep the shed in this location when it can cause physical challenges to the construction and maintenance of the addition, as well as negatively impacting the outward views from the expanded kitchen. At time of this staff report, the applicant didn't submit a request for approval of these components.
 - Staff wasn't able to locate an HDC approval for the shed and 8' fence at the east elevation. It has been in place since at least 2007, based on Google street view.

- It is staff's opinion the location of the shed negatively impacts the character-defining features of the house and site. The historic placement and relationship between the house/sunroom/garage is clearly shown in the 1916 image.



HDC staff photo, January 21, 2022



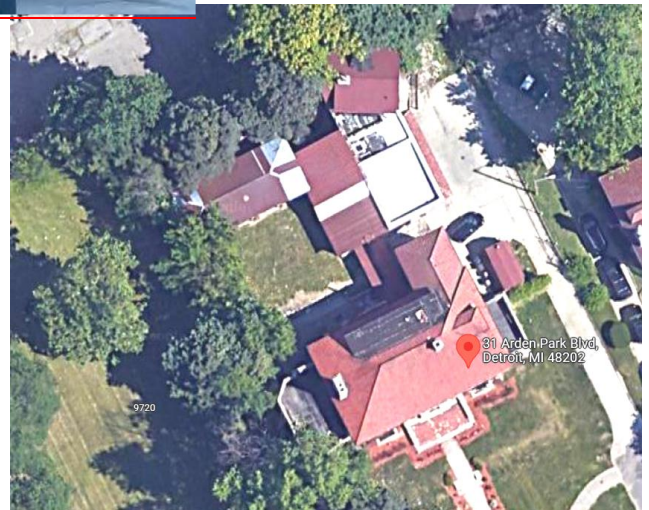
Western Architect, 1916

- Additionally, the shed's design is not compatible with the massing, size and architectural features of the house and garage.



Applicant photo

- A shed could be considered for the rear yard. Such a location, based on the Google aerial image of 31 Arden Park's lot, would not impact the features and spaces that characterize the property.



- The location of the existing 8' wood fence (as seen in the photo at top of page 7) is generally allowable per the Commission's Fence and Hedge Guidelines. Staff's main concerns are with the height (guidelines allow for a 6' height in this location) and finish (it should be painted or stained).
- The wrap-around planter shown on the renderings is not proposed to be an attached component. Staff agrees that a landscaped element in this location can help disguise the required height of the lower wall. Staff wonders if an integrated planter can be designed for this location so that it will remain a part of the addition. Due to its at-grade location and long-term exposure to snow and standing water (staff isn't clear on the pitch of the existing concrete surface), a complementary flush material in the same color as the metal walls, that may better withstand exposure to water, could be considered.

RECOMMENDATION

Section 21-2-78, Determination of Historic District Commission

Recommendation One – Denial – Shed and 8' Wood Fence

It is staff's opinion the location of a garden shed and 8' high solid wood privacy fence, as erected, alters the features and spaces that characterize the property. Staff therefore recommends the Commission deny a Certificate of Appropriateness for the work as proposed because it does not meet the Secretary of the Interior Standards for Rehabilitation and the Elements of Design for the district.

The reason for denial is that the proposed work fails to meet the Secretary of the Interior's Standards, specifically Standards:

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

Recommendation Two – COA – Side/Rear Addition

It is staff's opinion the erection of an addition at the side/rear elevation of the house will not alter the features and spaces that characterize the property. Staff therefore recommends the Commission issue a Certificate of Appropriateness for the work as proposed because it meets the Secretary of the Interior Standards for Rehabilitation and the Elements of Design for the district.

Staff recommends the Certificate of Appropriateness be issued with the following conditions:

- The eave will be lowered so that it is well below the sunroom's stone band and will reduce the height of the wall above the windows.
- The exterior cladding will be a flat, flush metal panel with minimal joints. A warm color that coordinates with, but does not match, the buff brick will be submitted for staff review.
- The casement windows will have clear glass and no muntin patterns.
- The applicant will investigate designing the planters as an integral component of the addition. The planters will extend the length of the visible east wall. Or catalog cuts of the proposed free-standing planters will be submitted for staff review.
- The drawings, including submission of a wall section, roof plan, and catalog cuts of the skylights, shall be revised, and submitted to HDC staff for review.

Audra Dye

From: Adam Hollier <ajclh9@gmail.com>
Sent: Friday, February 4, 2022 8:35 PM
To: Audra Dye
Cc: Carl Bolofer
Subject: [EXTERNAL]Re: 31 Arden Park Blvd. Historic District Submission for February Hearing

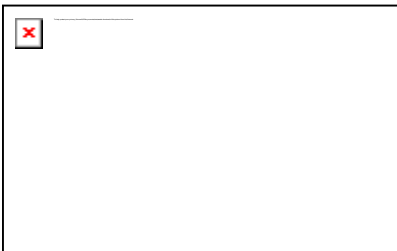
Audra

Thanks for reaching out. sorry for the delay.

Project Narrative:

A century ago when our house was built it was not designed for families to gather and be present during the cooking process. The shape of our home literally isolates the kitchen in a completely separate space in our home that has 4 doorways significantly limiting the functional space of the kitchen. The current design does not allow for our entire family (4 people) to sit in the kitchen and prepare food. The new layout will allow us to manage our busy family and allow the family to grow up and use the space. The kitchen is too small for people to stand and interact. The design was meant to follow the sunroom feel of the existing Florida room while squaring off the Eastern side of the home. The exterior space is currently not particularly useful and by enclosing it will double the size of the kitchen.

Adam Hollier
AdamHollier.com



On Fri, Feb 4, 2022 at 11:47 AM Audra Dye <dyea@detroitmi.gov> wrote:

Good Morning Mr. Hollier,

Upon reviewing the submitted application, I have the following comments and questions:

Audra Dye

From: Carl Bolofer <cbolofer@boldstudiodesign.com>
Sent: Saturday, February 5, 2022 2:03 AM
To: Adam Hollier
Cc: Audra Dye
Subject: [EXTERNAL]Re: 31 Arden Park Blvd. Historic District Submission for February Hearing

Hello Audra,

Adding to Adam's Project Narrative are answers to your questions regarding design below:

Selection of Standing Seam:

Standing Seam was selected for its durability and low maintenance qualities. Visually, the standing seam profile and darker color serves to complement the tan hues and classic architectural details of the facade of the existing home. The darker color also serves to maintain a balance of highlighting the new, while at the same time being understated as to not compete with the historic home. Brick was once considered as the exterior material; however, we decided that the new addition should not mimic the historic home, but to respectfully add to it. The new addition also takes some cues from the adjacent florida room in window sizing and rhythm.

The 4 colors highlighted in the submission all reflect potential selections depending on availability and cost. The stock colors will most likely be more available than the natural metals. Once a final decision is made, we can forward that to you.

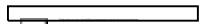
Planter:

The intention of the planter would be a purchased item that can just sit on grade. It would be movable and acts just as an accent to the design with some added greenery. The planter being not a constructed item is the reason it was not in the plans; however, if this should be included for historic submission purposes, we can definitely do that.

Thanks. Let us know if there is anything else we can clarify. Have a good weekend.

Carl Bolofer

Design Consultant
313 506 9877



www.boldstudiodesign.com

On Fri, Feb 4, 2022 at 8:35 PM Adam Hollier <ajclh9@gmail.com> wrote:

Audra

Thanks for reaching out. sorry for the delay.

Project Narrative:

A century ago when our house was built it was not designed for families to gather and be present during the cooking process. The shape of our home literally isolates the kitchen in a completely separate space in our home that has 4 doorways significantly limiting the functional space of the kitchen. The current design does not allow for our entire

Audra Dye

From: Carl Bolofer <cbolofer@boldstudiodesign.com>
Sent: Wednesday, February 23, 2022 12:27 AM
To: Audra Dye
Cc: Adam Hollier
Subject: [EXTERNAL]Re: [EXTERNAL]Re: [EXTERNAL]Re: Questions on 31 Arden Park application

Hi Audra,

Thanks again for being available for a call today.

We would like to add the shed and fence to the current application.

Per our conversation, I've included a description of the existing shed and fence below:

Description: Existing Shed and Fence

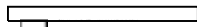
The existing shed and fence were constructed prior to the current owner's purchase of the property. The fence is made up of wood and is 8 feet tall and approximately 13' wide. It blocks the view of the shed from the front elevation. The shed is approximately 18 feet long by 9 feet wide. The peak of the roof is roughly 9' tall. It's construction is of wood studs which sit on a perimeter concrete foundation. The exterior wall is wood siding painted in a tan color. The roof is a gambrel style with reddish/orange asphalt shingles. Double doors open up towards the rear of the property. The owner utilizes the shed for storage of larger outdoor lawn equipment.

We may have some additional images, but I will send that tomorrow morning if we do.

Let me know if you need anything else.

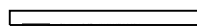
Thanks,

Carl Bolofer
Design Consultant
313 506 9877


www.boldstudiodesign.com

On Tue, Feb 22, 2022 at 10:58 AM Carl Bolofer <cbolofer@boldstudiodesign.com> wrote:
sounds great! thanks.

Carl Bolofer
Design Consultant
313 506 9877


www.boldstudiodesign.com

On Tue, Feb 22, 2022 at 10:57 AM Audra Dye <dyea@detroitmi.gov> wrote:

31 ARDEN PARK BOULEVARD HOUSE ADDITION

HISTORICAL DISTRICT COMMISSION SUBMISSION

JANUARY 2022

Owner

Adam Hollier

Design Consultant

BOLD STUDIO

boldstudiodesign.com

ADDRESS:
31 Arden Park Boulevard









3 | EAST ELEVATION
A00 | Scale: 1/16" = 1'-0"



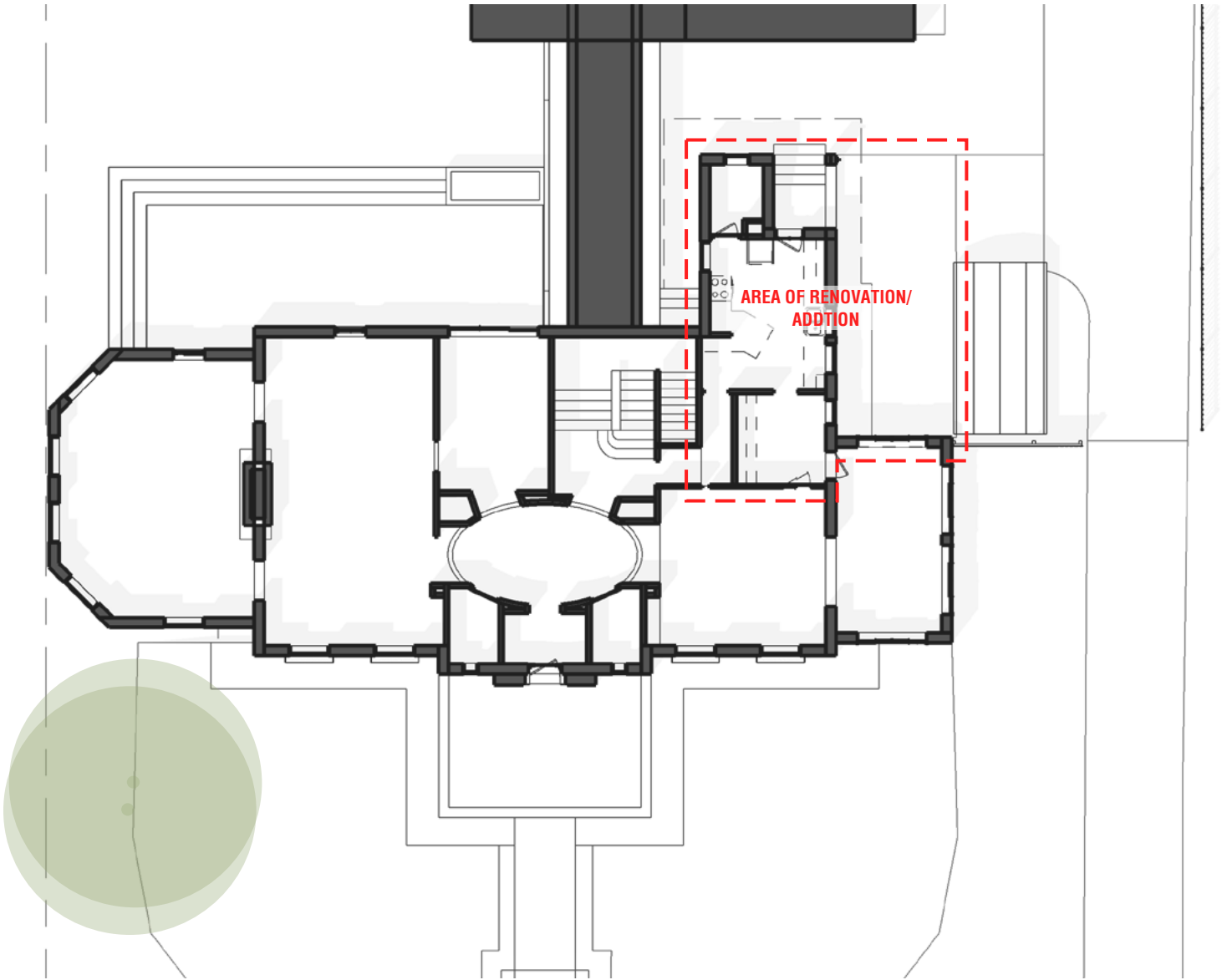
2 | WEST ELEVATION
A00 | Scale: 1/16" = 1'-0"



4 | SOUTH ELEVATION
A00 | Scale: 1/16" = 1'-0"



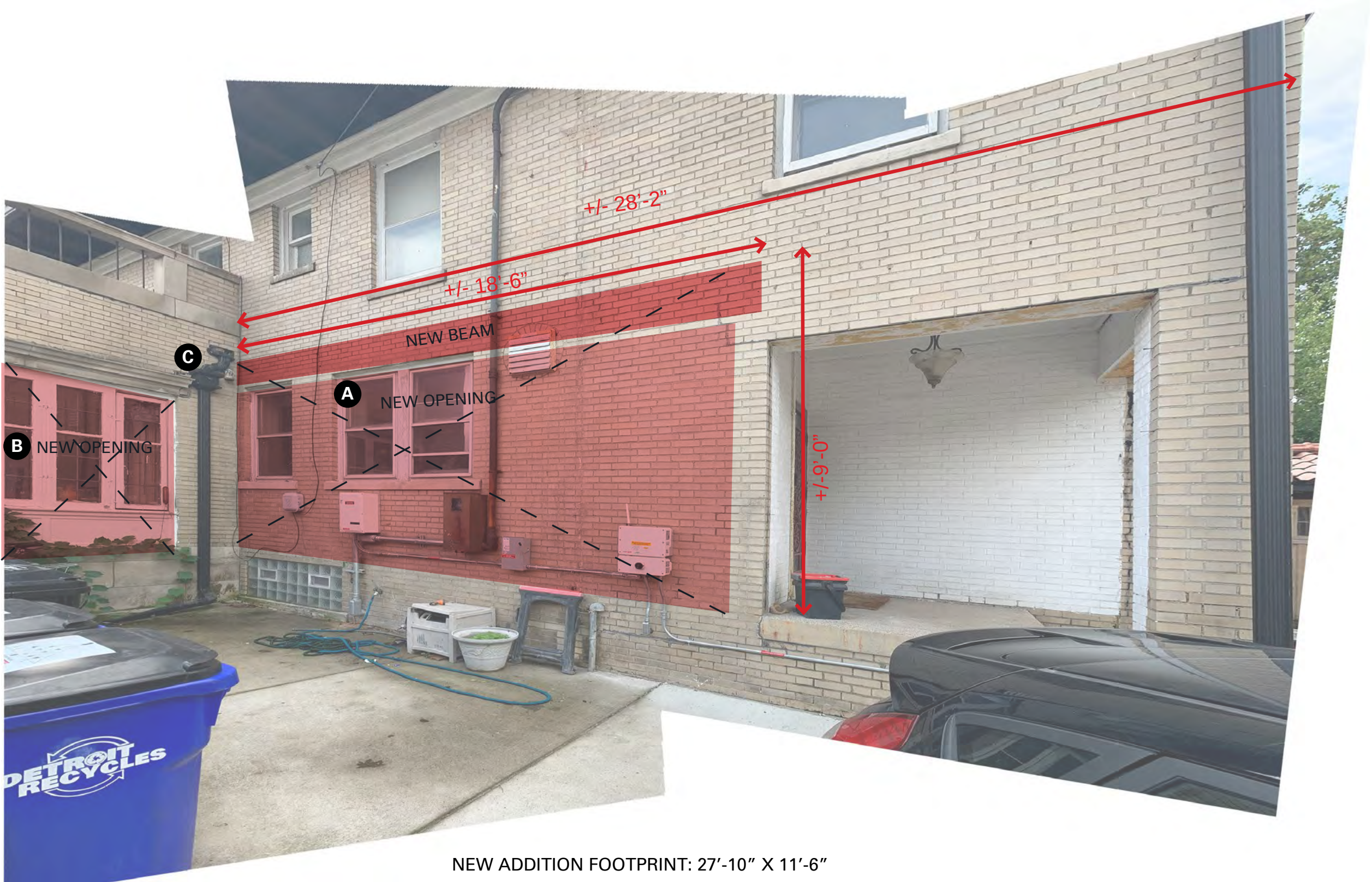
1 | NORTH ELEVATION
A00 | Scale: 1/16" = 1'-0"



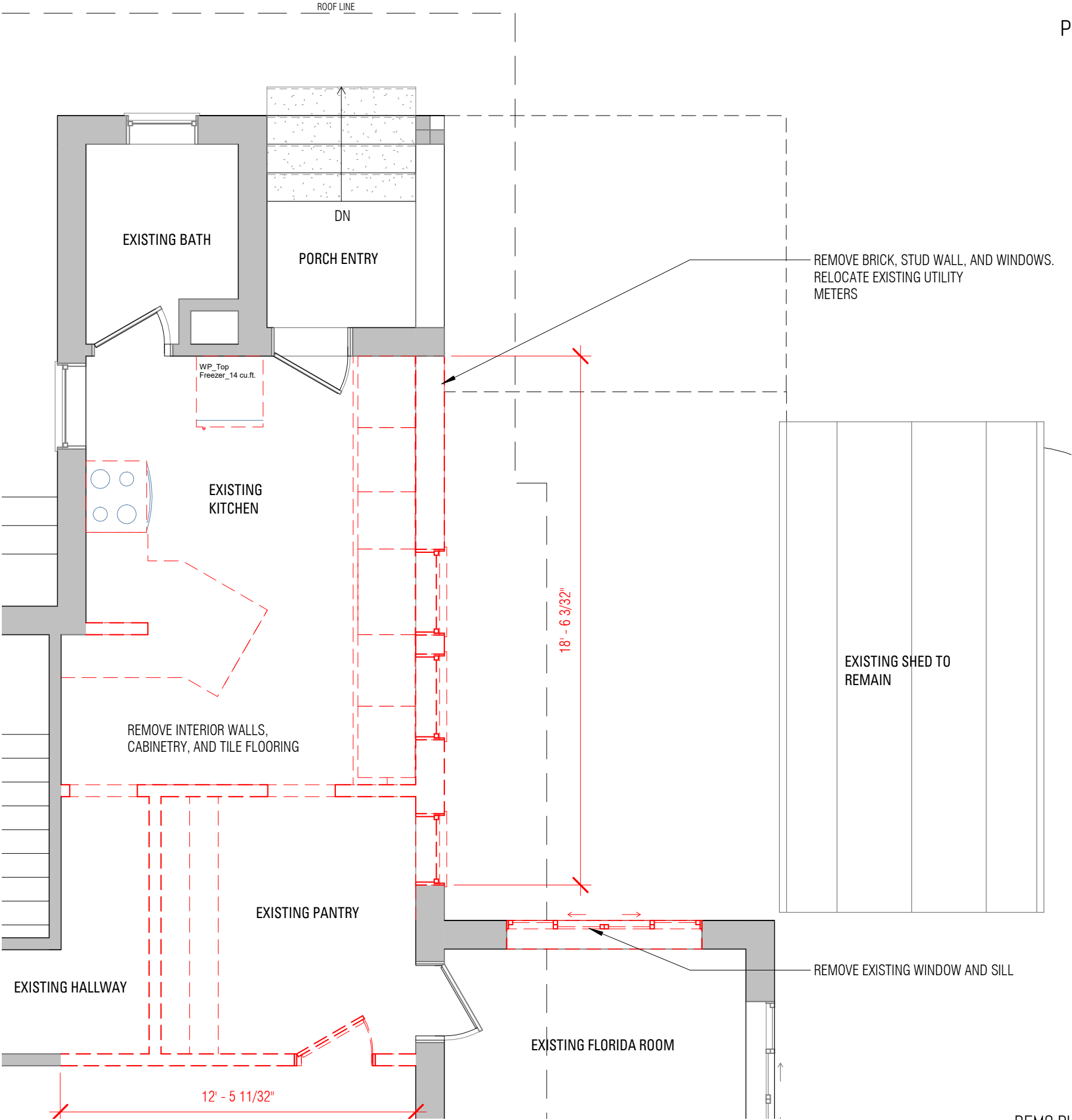
5 | EXISTING FIRST FLOOR PLAN
A00 | Scale: 1/16" = 1'-0"



- A** -REMOVE EXISTING BRICK. STUD WALL, AND WINDOWS FROM THE FLOOR LINE TO THE HEIGHT OF APPROX. 9'-0".
-EXISTING UTILITY METERS, HOSE SPIGOT, ETC WILL BE RELOCATED TO THE NORTHSIDE OF THE HOUSE.
-A NEW STRUCTURAL BEAM WILL SPAN THE NEW OPENING ALLOWING FOR THE EXISTING KITCHEN SQUARE FOOTAGE TO INCREASE BY APROXIMATELY 325 SF.
-THE NEW 1 STORY ADDITION WILL HAVE A FOOTPRINT OF APPROXIMATELY 28'-0" X
- B** -REMOVE EXISTING WINDOW AND SILL TO FLOOR LINE. THIS WILL ALLOW THE NEW ADDTION AND EXISTING FLORIDA ROOM TO BE CONNECTED.
- C** -EXISTING ROOF DOWNSPOUT WILL NEED TO BE REROUTED. TBD.



NEW ADDITION FOOTPRINT: 27'-10" X 11'-6"

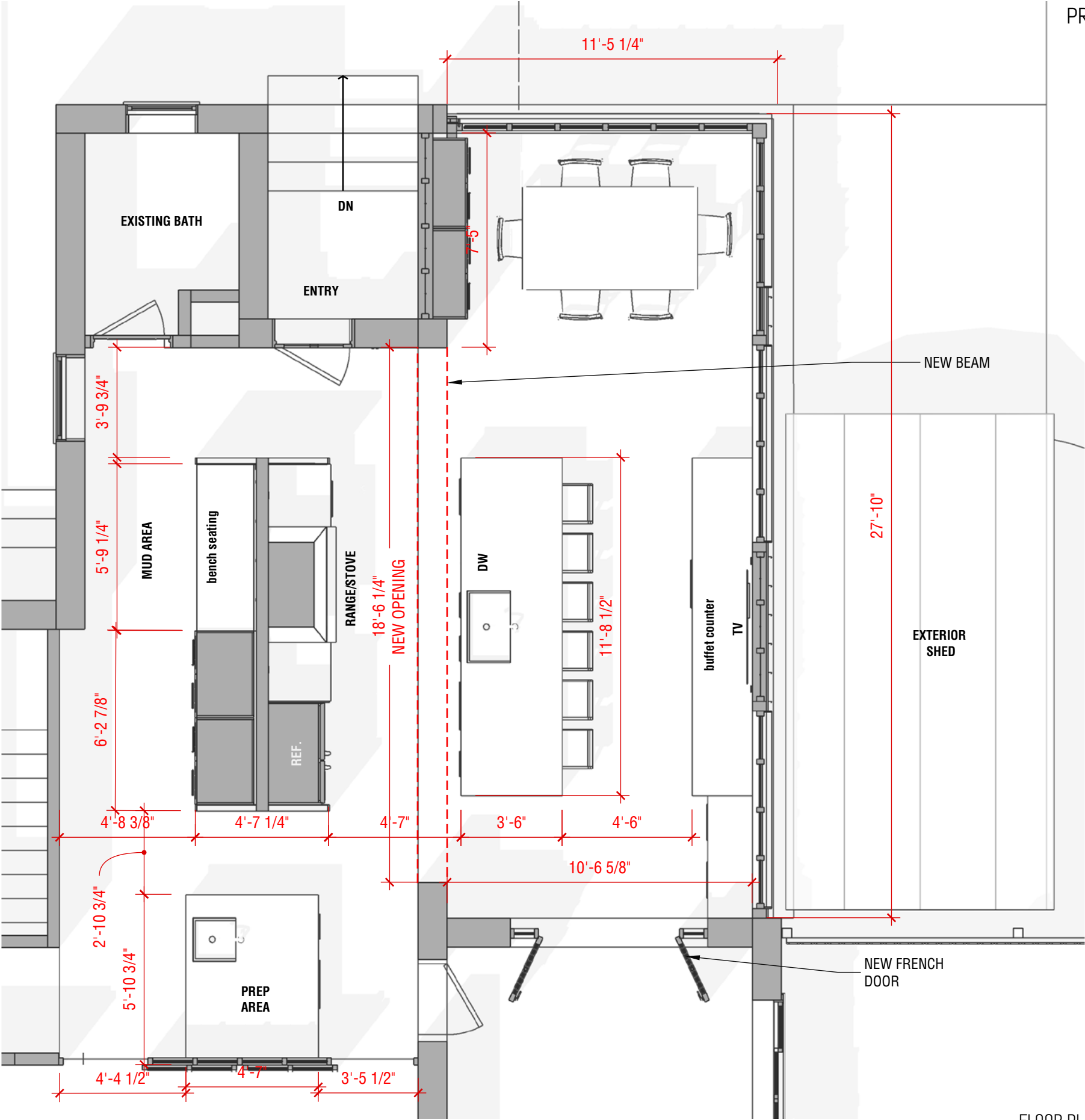


DEMO PLAN | 1/4"=1'-0"



DESIGN CONSIDERATIONS:

- CREATE BETTER FLOW
- CREATE BETTER FUNCTIONALITY
- IMPORTANCE OF NATURAL LIGHT
- SPACE FOR ENTERTAINING LARGE GROUPS
- NATURAL CONNECTION TO ADJACENT ROOMS







DESIGN CONSIDERATIONS:

- DESIGN OF ADDITION DIFFERENTIATES, BUT RESPECTS THE EXISTING ARCHITECTURE
- WINDOW OPENINGS USE SAME DIMENSION AND RYTHM OF EXISTING
- WINDOWS VERTICALLY ALIGN TO EXISTING



2 | EAST ELEVATION
A00 | Scale: 1/8" = 1'-0"



- SKYLIGHTS ON ROOF; MARVIN SKYLIGHT
- STANDING SEAM METAL PANELS
- WINOWS-CASEMENT FIXED. MARVIN SIGNATURE COLLECTION ULTIMATE.
- SHED TO REMAIN



1 | NORTH ELEVATION
A00 | Scale: 1/8" = 1'-0"



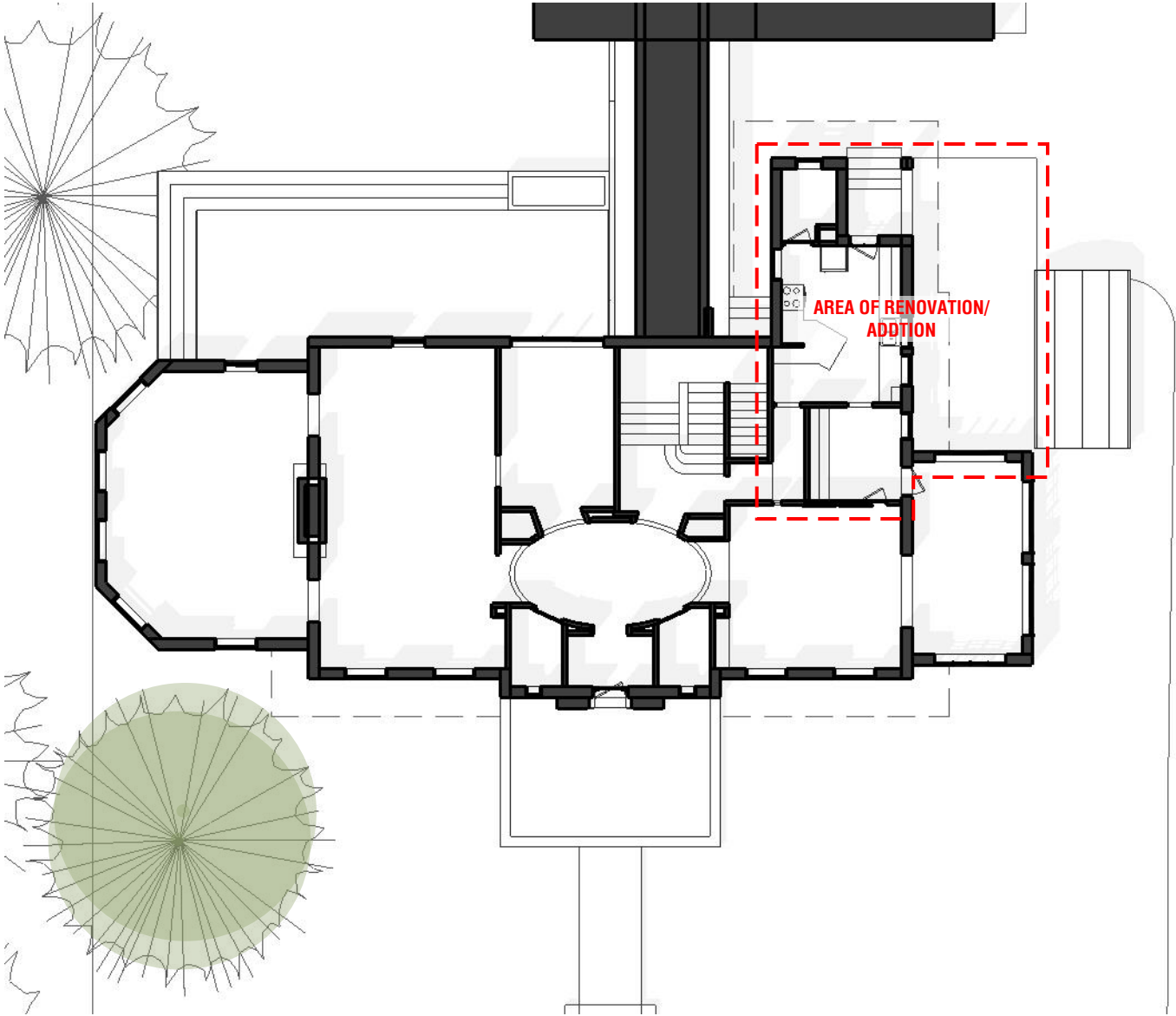




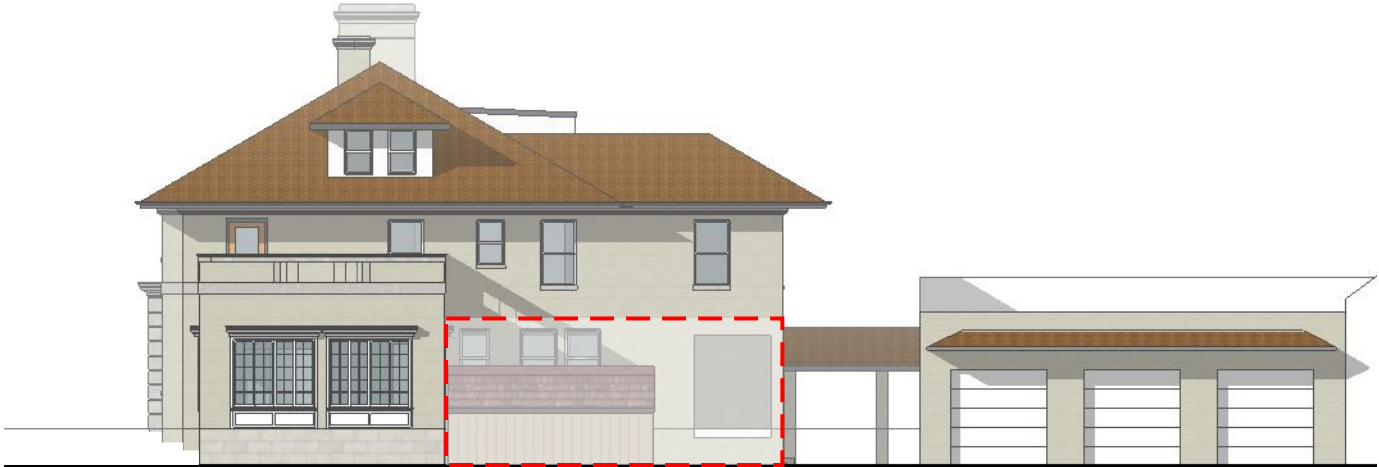
31 ARDEN PARK BOULEVARD HOUSE ADDITION

SCHEMATIC DESIGN CONCEPTS

B O L D S T U D I O | NOVEMBER, 8, 2021



5 | EXISTING FIRST FLOOR PLAN
A00 | Scale: 1/16" = 1'-0"



3 | EAST ELEVATION
A00 | Scale: 1/16" = 1'-0"



2 | WEST ELEVATION
A00 | Scale: 1/16" = 1'-0"



4 | SOUTH ELEVATION
A00 | Scale: 1/16" = 1'-0"



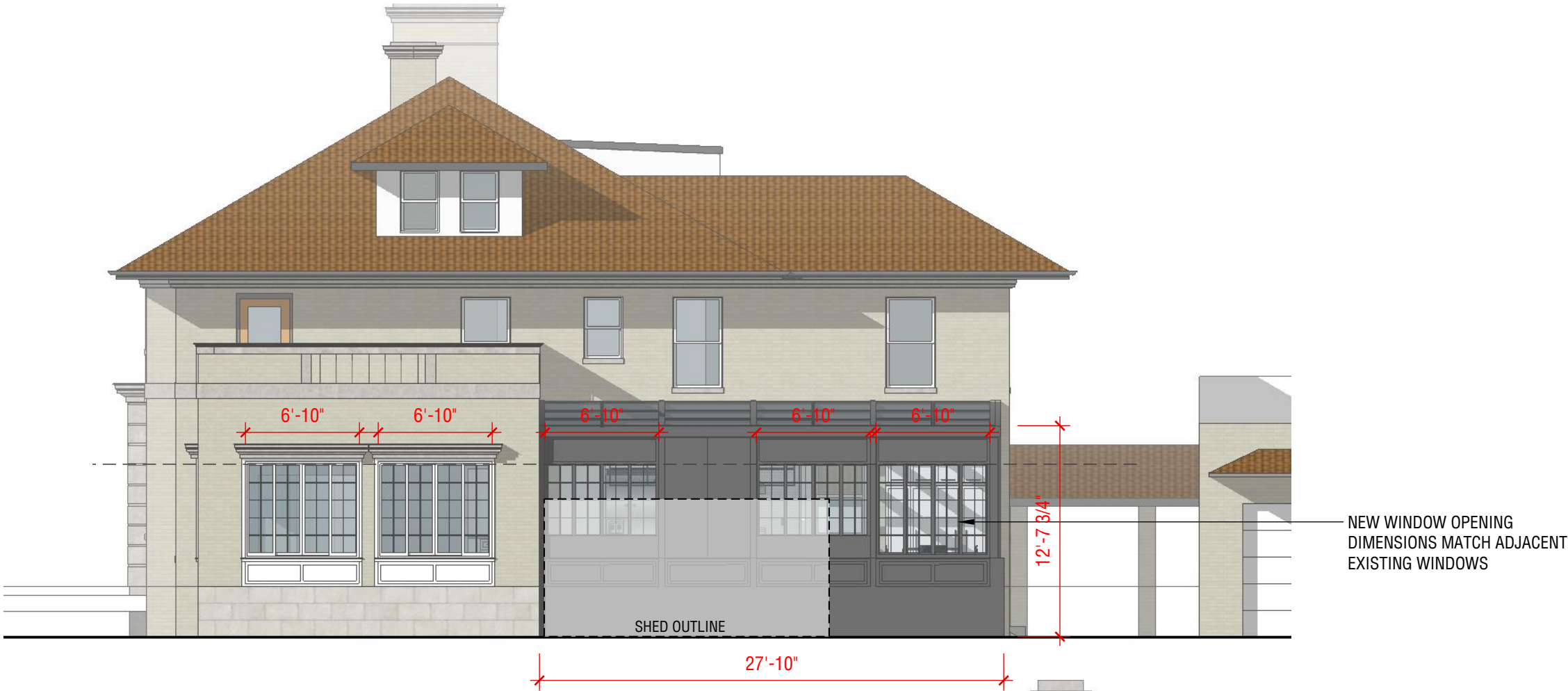
1 | NORTH ELEVATION
A00 | Scale: 1/16" = 1'-0"





DESIGN CONSIDERATIONS:

- DESIGN OF ADDTION DIFFERENTATES, BUT RESPECTS THE EXISTING ARCHITECTURE
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- WINDOWS VERTICALLY ALIGN TO EXISTING



2 | EAST ELEVATION
A00 | Scale: 1/8" = 1'-0"



1 | NORTH ELEVATION
A00 | Scale: 1/8" = 1'-0"



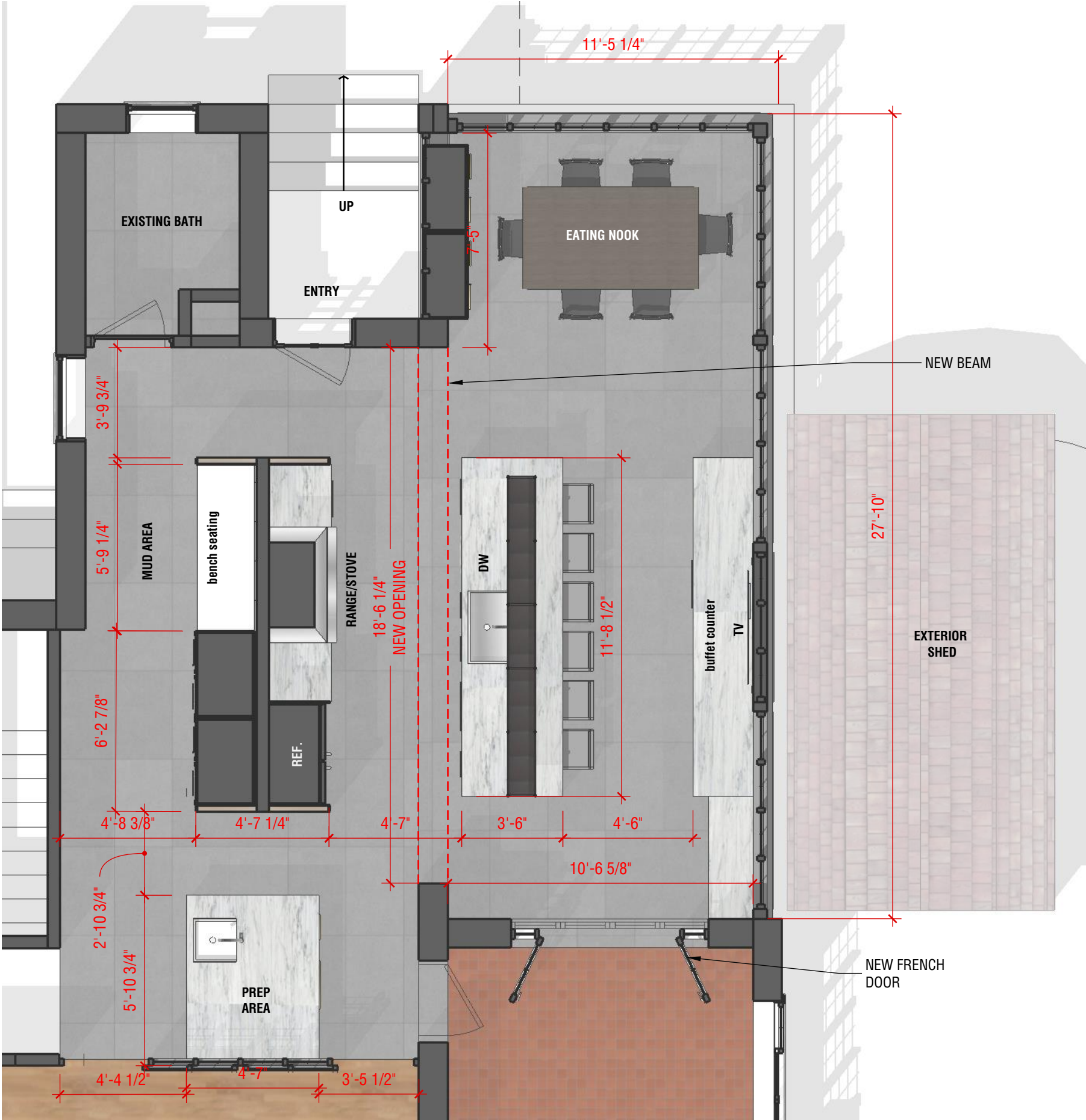


DESIGN CONSIDERATIONS:

- CREATE BETTER FLOW
- CREATE BETTER FUNCTIONALITY
- IMPORTANCE OF NATURAL LIGHT
- SPACE FOR ENTERTAINING LARGE GROUPS
- NATURAL CONNECTION TO ADJACENT ROOMS

NOTE:

1. Dimensions are approximate. Field Verification required.
2. Material and finish selections provided by owner.
3. Code related issues pertaining to mechanical, electrical, plumbing to be verified by engineer, contractor, and/or installer
4. Drawings and images in this package are for planning and diagramatic purposes only. Not for Construction



1 | KITCHEN PLAN
A00 | Scale: 1/4" = 1'-0"







DESIGN CODES AND STANDARDS

2015 MICHIGAN BUILDING CODE 2015 MICHIGAN RESIDENTIAL CODE 2019 DETROIT CITY CODE		
LATERAL LOADS:	WIND - RISK CATEGORY II - BASIC DESIGN WIND SPEED 108 MPH - EXPOSURE CATEGORY B	20 PSF (MAIN LATERAL RESISTING SYSTEM)
SEISMIC	SITE CLASS D S _{0S} = 0.093 S ₀₁ = 0.07 RISK CATEGORY II	DESIGN CATEGORY B S _S = 0.11 S ₁ = 0.049

LIVE LOADS USED IN DESIGN IN LBS. PER SQ. FT. (PSF) ARE AS FOLLOWS:

LIVE LOADS:	SNOW Pg ROOF LIVE LOAD DWELLINGS UNINHABITABLE ATTICS WITH STORAGE HANDRAILS	20 PSF 20 PSF 50 PSF (40PSF + 10 PSF PARTITIONS) 20 PSF VERTICAL & HORIZONTAL 50 lbs./ft. OR 200 lbs. ANY DIRECTION (SEE SPECIFICATIONS)
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EXISTING CONDITIONS

VERIFY ALL FIELD CONDITIONS AT AREAS OF WORK PRIOR TO FABRICATION AND CONSTRUCTION. NOTIFY A/E OF ANY DISCREPANCIES.

WHERE EXISTING CONSTRUCTION IS TO BE ALTERED, OR OTHERWISE DISTURBED, PROVIDE TEMPORARY BRACING AND SHORING AS MAY BE REQUIRED BEFORE AND DURING OPERATIONS AND UNTIL WORK IS SAFELY COMPLETED AND IS NO LONGER REQUIRED.

EXISTING MATERIAL STRENGTH

BASED UPON SIMILAR MATERIAL TESTING, THE FOLLOWING VALUES WERE UTILIZED FOR EXISTING MATERIALS:

Fy = 30 KSI (STRUCTURAL STEEL)
fy = 40 KSI (REBAR)
fc = 3 KSI (CONCRETE)
fm = 1500 PSI (MASONRY)

SOIL CONDITIONS AND FOUNDATIONS

ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED SOILS ENGINEER PRIOR TO PLACING CONCRETE TO ENSURE THE ALLOWABLE SOIL BEARING PRESSURE.

NOTE: PLACEMENT OF ENGINEERING FILL TO ACHIEVE ALLOWABLE SOIL BEARING SHALL BE SPECIFIED BY THE GEOTECHNICAL ENGINEER.

ALL FOOTINGS SHALL BE PLACED ONTO UNDISTURBED VIRGIN SUBGRADE OR COMPACTED ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 3,000 PSF WITH TOTAL LONG-TERM SETTLEMENTS NOT EXCEEDING 1 INCH AND DIFFERENTIAL SETTLEMENTS NOT EXCEEDING 1/2 INCH IN 40 FEET, AS VERIFIED BY A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF ILLINOIS AND RETAINED BY THE OWNER. FOOTING ELEVATIONS SPECIFIED SHALL BE CONSIDERED A MINIMUM DEPTH. IF THE SUBGRADE IS DEEMED UNSTABLE, EXTEND THE EXCAVATION UNTIL A SUITABLE BEARING SURFACE, AS DETERMINED BY THE TESTING AGENCY IS REACHED, BACKFILL WITH COMPACTED ENGINEERED FILL OR PLAIN CONCRETE AS DIRECTED BY THE OWNER OR GEOTECHNICAL ENGINEER.

A REGISTERED GEOTECHNICAL ENGINEER SHOULD OBSERVE THE FOUNDATION BEARING SURFACES AND IS TO BE SOLELY RESPONSIBLE FOR THEIR SUITABILITY TO SUPPORT A SHALLOW FOUNDATION SYSTEM PER THE MAXIMUM ALLOWABLE LOADING AND SETTLEMENT REQUIREMENTS. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED.

DO NOT PLACE BACKFILL AGAINST BASEMENT WALLS UNTIL FIRST FLOOR AND BASEMENT SLAB ARE IN PLACE UNLESS TEMPORARY BRACING IS PROVIDED.

NO FOUNDATIONS SHALL BE PLACED ONTO OR AGAINST SUBGRADES CONTAINING FREE WATER, FROST, OR ICE.

BACKFILLING AGAINST WALLS AND GRADE BEAMS SHALL BE DONE EVENLY ON BOTH SIDES.

AFTER EXCAVATING FOR ALL EARTH-SUPPORTED FLOOR AND STAIR SLABS, THE EXPOSED NATURAL SOIL SHALL BE THOROUGHLY COMPACTED PRIOR TO PLACING FILL.

ALL FILL AND TOP SOIL SHALL BE REMOVED FROM BELOW ALL PROPOSED SLABS-ON-GRADE AND THE SUBGRADE PROOF-ROLLED. AREAS EXHIBITING PUMPING OR WEAKNESS, AS OBSERVED BY A QUALIFIED SOILS TESTING FIRM, SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE COMPACTED FILL.

ALL FILL REQUIRED TO ATTAIN FINAL SUBGRADE FOR SLABS SHALL BE AN ACCEPTABLE MATERIAL, PLACED IN LIFTS NOT EXCEEDING 9" IN LOOSE THICKNESS AND COMPACTED TO A MINIMUM DENSITY (MODIFIED PROCTOR METHOD, ASTM D-1557).

BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 3'-6" BELOW FINAL GRADE FOR FROST PROTECTION.

PROVIDE DOWELS IN FOOTINGS FOR WALLS AND COLUMNS, PILASTER, ETC. TO MATCH REINFORCING ABOVE U.N.O.

STRUCTURAL WOOD

ERECTION OF ALL WOOD FRAMING SHALL CONFORM TO THE NATIONAL FOREST PRODUCTS ASSOCIATION DESIGN SPECIFICATIONS, AMERICAN PLYWOOD ASSOCIATION, LATEST EDITIONS.

MINIMUM LUMBER STRESS GRADE SHALL BE AS FOLLOWS: DOUGLAS-FIR LARCH NO. 2 OR SOUTHERN PINE NO. 2, U.N.O.

MAXIMUM ALLOWABLE MOISTURE CONTENT SHALL BE 19%.

ALL PLYWOOD SHOWN FOR FLOOR/ROOF DECKS AND AS WALL SHEATHING SHALL BE OF THE THICKNESS SHOWN ON THE STRUCTURAL DRAWINGS AND SHALL MEET ALL THE REQUIREMENTS OF THE U.S. PRODUCT STANDARD PS 1, LATEST EDITION, FOR STRUCTURAL 1 GRADE MATERIAL.

STANDARD H-CLIPS ARE REQUIRED MID-SPAN AT BUTT JOINTS OF PLYWOOD ROOF DECK.

UNLESS SPECIFIED ON DRAWINGS, HANGER CONNECTIONS SHALL DEVELOP THE SHEAR STRENGTH OF THE TRUSS, BEAM OR JOIST.

ALL JOISTS SHALL BE POSITIONED WITH THE NATURAL CAMBER TURNED UP.

MASONRY

ALL MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (TMS 402-13/ACI 530-13/ASCE 5-13) AND THE "SPECIFICATIONS FOR MASONRY STRUCTURES" (TMS 602-13/ACI 530.1-13/ASCE 6-13).

MASONRY MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING ASTM SPECIFICATIONS:

BRICK: ASTM C62 (COMMON BRICK) AND C216 (FACE BRICK) AND STONE (AS DETERMINED BY ARCHITECT) MINIMUM COMPRESSIVE STRENGTH = 4000 PSI, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

HOLLOW LOAD BEARING CONCRETE BLOCK: ASTM C 90, GRADE N-I. MORTAR: ASTM C 270, TYPE S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH = 3000 PSI. F'm = 2500 PSI

MASONRY REINFORCEMENT: ASTM A 82 - GALVANIZED.

PRIOR TO DELIVERY OF MASONRY UNITS TO THE JOB SITE, FURNISH THE ARCHITECT/OWNER WITH AFFIDAVITS FROM AN APPROVED TESTING LABORATORY CERTIFYING THAT ALL UNITS CONFORM TO THEIR RESPECTIVE ASTM REQUIREMENTS.

CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING SAME SHALL NOT BE INCLUDED IN MORTAR OR GROUT MIX EXCEPT WHEN APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

NO EXTERIOR MASONRY SHALL BE LAID WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 40 DEGREES F., UNLESS THE RECOMMENDATIONS SPECIFIED BY THE INTERNATIONAL MASONRY INDUSTRY ALL-WEATHER COUNCIL. IN THEIR BOOK "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION" ARE STRICTLY FOLLOWED.

MASONRY WALLS SHALL BE ADEQUATELY BRACED AGAINST WIND DURING THEIR ERECTION, AND UNTIL THEIR DESIGN SUPPORTS ARE IN PLACE.

MORTAR SHALL BE TESTED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH ASTM C780. TWO SETS OF THREE MORTAR CUBES SHALL BE TAKEN AT RANDOM FOR EACH DAY OF MASONRY WORK. TEST ONE CUBE OF EACH SET AT 7 DAYS AND 28 DAYS. THE THIRD CUBE TO BE TESTED AT 56 DAYS ONLY IF REQUIRED BY THE ARCHITECT.

UNLESS NOTED OTHERWISE ON DRAWINGS, ALL MASONRY WALLS SHOWN ON THE STRUCTURAL DRAWINGS HAVING TWO OR MORE WYTHES OF BRICK AND/OR CONCRETE BLOCK SHALL HAVE ALL VERTICAL COLLAR JOINTS FILLED WITH MORTAR FOR FULL HEIGHT OR NATURAL BOND SHALL BE PROVIDED.

PARGING IS NOT ACCEPTABLE. THIS REQUIREMENT DOES NOT APPLY BETWEEN WYTHES OF CAVITY WALLS, UNLESS SHOWN OTHERWISE.

TUCKPOINTING

DETERIORATED MORTAR SHOULD BE REMOVED TO A UNIFORMED DEPTH THAT IS THE MINIMUM OF: - TWICE THE JOINT WIDTH - UNTIL SOUND MORTAR IS REACHED

REMOVE DUST AND DEBRIS FROM THE JOINTS BY BRUSHING, BLOWING WITH AIR OR RINSING WITH WATER. DO NOT RINSE WHEN TEMPERATURE IS BELOW FREEZING.

JOINTS TO BE REPOINTED SHOULD BE DAMPENED, BUT ALLOW MASONRY UNITS TO ABSORB SURFACE WATER BEFORE APPLICATION OF MORTAR.

TIGHTLY PACK MORTAR INTO JOINTS IN THIN LAYERS, 1/4" THICK MAXIMUM.

ALLOW LAYER TO BECOME "THUMBPRINT HARD" BEFORE APPLYING NEXT LAYER.

PACK FINAL LAYER FLUSH WITH SURFACES OF MASONRY UNITS. WHEN MORTAR BECOMES "THUMBPRINT HARD", TOOL JOINTS.

PROVIDE CONCAVED JOINTS.

REPLACEMENT OF BRICK

CUT OUT THE MORTAR JOINTS SURROUNDING MASONRY UNITS THAT ARE TO BE REMOVED AND REPLACED.

UNITS REMOVED MAY BE BROKEN AND REMOVED, PROVIDING SURROUNDING UNITS TO REMAIN ARE NOT DAMAGED.

ONCE UNITS ARE REMOVED, REMOVE OLD MORTAR, DUST AND DEBRIS.

DAMPEN SURROUNDING EXISTING BRICK SURFACES OF THE REPLACEMENT UNITS BEFORE NEW UNITS ARE PLACED.

ALLOW EXISTING MASONRY TO ABSORB SURFACE MOISTURE PRIOR TO STARTING INSTALLATION OF THE NEW REPLACEMENT UNITS.

BUTTER CONTACT SURFACES OF EXISTING MASONRY AND NEW REPLACEMENT MASONRY UNITS WITH MORTAR.

POINT AROUND REPLACEMENT MASONRY UNITS TO INSURE FULL HEAD AND BED JOINTS.

WHEN MORTAR BECOMES "THUMBPRINT HARD", TOOL JOINTS.

PROVIDE CONCAVED JOINTS.

GENERAL NOTES

ALL DIMENSIONS ON STRUCTURAL DRAWINGS TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS BY THE GENERAL CONTRACTOR; ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY.

UNLESS OTHERWISE NOTED, ALL DETAILS, SECTIONS AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE.

THESE DRAWINGS ARE NOT TO BE REPRODUCED FOR THE PURPOSE OF USING THEM AS SHOP DRAWINGS.

ARCHITECT'S/OWNER'S APPROVAL MUST BE SECURED FOR ALL SUBSTITUTIONS.

ARCHITECTURAL'S REVIEW OF SHOP DRAWINGS IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT. CONSTRUCTION SHALL NOT BEGIN WITHOUT SAID REVIEW AND ONLY SHOP DRAWINGS STAMPED BY THE ARCHITECT SHALL BE ALLOWED AT THE JOB SITE.

CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS OR SETS OF DRAWINGS FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES (INCLUDING EXCAVATION, SHORING, SCAFFOLDING, BRACING, ERECTION, FORMWORK, ETC.), FOR COORDINATION OF THE VARIOUS TRADES, AND FOR SAFE CONDITIONS ON THE JOB SITE. VARIATIONS IN FIELD CONDITIONS RELATIVE TO THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT/OWNER. WORK SHALL NOT PROGRESS UNTIL WRITTEN PERMISSION FROM THE ARCHITECT/OWNER IS OBTAINED.

CONCRETE AND REINFORCEMENT

ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), LATEST EDITIONS.

UNLESS OTHERWISE SHOWN OR NOTED ALL CONCRETE WORK SHALL CONTAIN MINIMUM REINFORCEMENT AS REQUIRED BY ACI 318.

REINFORCEMENT GRADES: BAR REINFORCEMENT SHALL CONFORM TO ASTM A 615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.

DETAIL BAR REINFORCEMENT ACCORDING TO ACI 315 - DETAILING MANUAL, LATEST EDITION. DETAIL WELDED WIRE FABRIC IN ACCORDANCE WITH THE WELDED WIRE FABRIC MANUAL OF STANDARD PRACTICE, LATEST EDITION.

PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.

MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:

UNFORMED SURFACE IN CONTACT WITH THE GROUND	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER	
#6 BARS AND LARGER	2"
#5 BARS AND SMALLER	1 1/2"
FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:	
BEAMS, GIRDERS, COLUMNS	1 1/2"
SLABS, WALLS, JOISTS,	
#11 BARS & SMALLER	3/4"
#14 & #18	1 1/2"

NO CHLORIDES SHALL BE ALLOWED IN THE CONCRETE MIX. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED CONCRETE (SEE SPECIFICATIONS).

ALL SLAB-ON-GRADE SHALL BE PLACED ON COMPACTED GRANULAR FILL. PITCH ALL SLABS TO DRAINS WHERE DRAINS ARE INDICATED WITHOUT REDUCING THE THICKNESS OF SLAB.

FOR SLAB-ON-GRADE RECEIVING ARCHITECTURE FINISHES, VERIFY JOINT LOCATIONS WITH ARCHITECT.

CONSTRUCTION JOINTS SHALL BE PROVIDED AS SHOWN ON DRAWINGS AND DETAILS. NO JOINT SHALL BE OMITTED OR ADDED WITHOUT THE APPROVAL OF THE ENGINEER.

PROVIDE VERTICAL CONSTRUCTION JOINTS IN EXPOSED CONCRETE WALLS AT A MAXIMUM OF 35'-0" INTERVAL. ALL JOINTS BELOW GRADE SHALL BE PROVIDED WITH A BENTONITE WATERSTOP.

CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, LAPS, SPACING AND PLACEMENT, SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

CONTINUOUS REINFORCEMENT SHALL BE LAPPED AS FOLLOWS: TOP BARS NEAR MIDSPANS, BOTTOM BARS DIRECTLY OVER SUPPORTS. ADDITIONAL LAPS REQUIRED FOR CONSTRUCTION SHALL BE CLASS B.

MINIMUM CONCRETE STRENGTH SHALL BE AS FOLLOWS:

ITEM	CONCRETE STRENGTH:	UNIT WEIGHT:
FOUNDATION WALLS, MATS, FOOTINGS, GRADE BEAMS	4000 PSI	150 PCF
SLABS ON GRADE	3000 PSI	150 PCF

ALL EMBEDMENT LENGTHS AND LAPS SHALL BE AS REQUIRED BY ACI 318. UNLESS OTHERWISE NOTED, MINIMUM LAP TO BE 36 BAR DIAMETERS.

CORNER BARS SHALL BE PROVIDED AT ALL WALL CORNERS EQUAL TO THE HORIZONTAL WALL REINFORCEMENT.

UNLESS OTHERWISE SHOWN OR NOTED, PLACE 2-#5 (1 EACH FACE) WITH 2'-0" PROJECTION AROUND ALL OPENINGS IN CONCRETE.

NO SLAB, BEAM OR JOIST SHALL HAVE A CONSTRUCTION JOINT IN THE HORIZONTAL PLANE. ANY STOP IN CONCRETE WORK MUST BE MADE AT CENTER OF SPAN WITH A VERTICAL BULKHEAD AND HORIZONTAL KEY AND SPLICED REINFORCEMENT.

CONTROL OR CONSTRUCTION JOINTS FOR SLABS ON GRADE SHALL BE IN A SQUARE PATTERN AND BE NOT MORE THAN 20 FT. X 20 FT.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF ALL INSERTS, HANGERS, SLEEVES, DUCT WORK, PADS AND ANCHOR BOLTS THAT ARE REQUIRED BY THE ARCHITECT AND/OR EQUIPMENT, ETC. SLEEVES GREATER THAN 4" IN DIAMETER AND THE EDGE OF ANY OPENING SHALL BE NOT CLOSER THAN 12" TO ANY COLUMN, UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR SHALL VERIFY ALL OPENINGS THROUGH FLOORS AND WALLS WITH MECHANICAL AND ELECTRICAL CONTRACTOR AND SHALL SUBMIT TO THE STRUCTURAL ENGINEER SHOP DRAWINGS SHOWING OPENINGS IN THE SLABS INCLUDING BUT NOT LIMITED TO SLEEVE SIZES AND LOCATIONS, DUCT SIZE AND LOCATION, ETC.

NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PUMPING THROUGH ALUMINUM PIPE.

ELECTRICAL CONDUIT MUST BE PLACED ABOVE THE BOTTOM REINFORCEMENT AND BELOW THE TOP REINFORCEMENT.

ELECTRICAL CONDUIT EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER.

CONTRACTOR SHALL PROVIDE A DUPLICATE COPY OF ALL READY MIX CONCRETE DELIVERY TICKETS TO THE ARCHITECT/OWNER.

WELDING OF REINFORCING BARS WILL ONLY BE ALLOWED WHEN SHOWN ON THE STRUCTURAL DRAWINGS. IN NO INSTANCE SHALL WELDING BE DONE AT THE BEND OF A BAR NOR SHALL THERE BE ANY TACK WELDING DONE BETWEEN CROSSING BARS. WHEN WELDING IS SHOWN PROCEDURES SHALL BE IN ACCORDANCE WITH AWS D1.4-79, "STRUCTURAL WELDING CODE-REINFORCING STEEL".

TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED IN SECTION 1.6 OF ACI 301.

ALL REINFORCING SHALL BE BENT COLD, DO NOT APPLY HEAT.

UNLESS OTHERWISE SHOWN OR NOTED, ALL MISCELLANEOUS CONCRETE SLABS, FILL CONCRETE AND SIDEWALKS SHALL BE MINIMUM 4" THICK. CONCRETE FOR THE ABOVE AND FOR CURBS AND GUTTERS SHALL CONTAIN 6 % AIR-ENTRAINMENT WITH 6 BAGS OF CEMENT MINIMUM AND 0.55 MAXIMUM WATER CEMENT RATIO, PROPERLY CURED FOR A MINIMUM OF 7 DAYS.

EXPANSION JOINTS OF 1/2" THICKNESS SHALL BE PROVIDED AT UNIFORM INTERVALS OF NOT MORE THAN 40 FEET AND WHERE CONCRETE ABUTS DIFFERING ELEMENTS.

CONTROL JOINTS AT LEAST 1 1/2" DEEP, MINIMUM 1/4" WIDE, PROPERLY CAULKED WITH POLYURETHANE SEALANT, SHALL BE PROVIDED TO LIMIT AREAS OF CONCRETE TO A MAXIMUM OF 400 SQ. FT. FOR INTERIOR SLABS, 300 SQ. FT. FOR SIDEWALKS AND 250 SQ. FT. FOR ALL OTHER SLABS, SQUARE AS FAR AS FEASIBLE.

SEE ARCHITECTURAL DRAWINGS FOR DETAILS, EXTENT AND FINISHING OF THE AFOREMENTIONED.

REINFORCING LAP SPLICE		
CONCRETE - 3000 - 5000 PSI, REINFORCING = GRADE 60 KSI		
BAR SIZE	MINIMUM SPLICE LENGTH	
	TOP BAR	OTHER BAR
#3	2'-0"	1'-7"
#4	2'-8"	2'-1"
#5	3'-4"	2'-7"
#6	4'-0"	3'-1"
#7	5'-10"	4'-6"
#8	6'-8"	5'-2"
#9	7'-7"	5'-10"
#10	8'-6"	6'-7"
#11	9'-5"	7'-3"

ABBREVIATIONS:

ABBREVIATIONS AS APPEAR IN THE DRAWINGS SCHEDULES AND SPECIFICATIONS FOR GENERAL TERMS AND FOR STRUCTURAL TERMS ARE EXPLAINED IN THIS SECTION AS LISTED BELOW.

FOR ALL SYMBOLS AND RELATED ABBREVIATIONS, SEE DRAWINGS.

ABBREVIATIONS: NOTE THAT ALL ABBREVIATIONS HEREIN LISTED NECESSARILY APPEAR IN THESE DRAWINGS AND SPECIFICATIONS.

ADDL ADJ ALT AP ARCH AUTO	ADDITIONAL ADJACENT ALTERNATE ACOUSTICAL PANEL ARCHITECTURAL AUTOMATIC	IF INT JF JT LLH	INSIDE FACE INTERIOR JOINT FILLER JOINT LONG LEG HORIZONTAL
B B/ BD BIT BLDG BM BOT	BOTTOM BOTTOM OF BOARD BITUMINOUS BUILDING BEAM BOTTOM	LLV LP LT LT WT MAS MATL MAX	LONG LEG VERTICAL LOW POINT LIGHT LIGHTWEIGHT MASONRY MATERIAL MAXIMUM
CB CC CFLG CI CJ CL CLR CLG CMT CMJ COL CONC CONSTR CONT CENTRD CONTR	CATCH BASIN CENTER TO CENTER COUNTERFLASH (ING) CAST IRON CONTROL JOINT CENTERLINE OR COLUMN LINE CLEAR CEILING CERAMIC MOSAIC TILE CONCRETE MASONRY UNIT COLUMN CONCRETE CONSTRUCTION CONTINUOUS CENTERED CONTRACTOR	MFR/MANUF MIN MISC NIC NOM NTS OC OD OF OH OPNG OPP PL PLY PSF PSI PT	MANUFACTURER MINIMUM OR MINUTE MISCELLANEOUS NOT IN CONTACT NOMINAL NOT TO SCALE ON CENTER OUTSIDE DIAMETER OF OUTSIDE FACE OVERHEAD OPENING OPPOSITE PLATE PLYWOOD POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PRE TREATED
DET DIA OR Ø DIM DR DS DWG EA EF EL ELEV EMBED EQP EXIST EXP EXP-JT EXT FD FDN FIN FLG FLR FT FTG GA HORIZ HP HT	DETAIL DIAMETER DIMENSION DOOR DOWNSPOUT DRAWING EACH EACH FACE ELEVATOR ELEVATOR EMBEDMENT EQUIPMENT EXISTING EXPANSION EXPANSION JOINT T EXTERIOR FLOOR DRAIN FOUNDATION FINISH FLANGE FLOOR FEET FOOTING GAUGE HORIZONTAL HIGH POINT HEIGHT	PVC RD REIN REQD REV RSD SECT SIM SPEC SQ SS STL STD STRUCT SYM T TOP T&B T/CONC TYP UNO VERT VIF WI W/O WP WS WWF	POLYVINYL CHLORIDE ROOF DRAIN REINFORCEMENT OR REINFORCING REQUIRED REVISION OR REVISED ROUGH OPENING SECTION SIMILAR SPECIFICATION SQUARE STAINLESS STEEL STEEL STANDARD STRUCTURAL SYMMETRICAL TOP TOP OF TOP & BOTTOM TOP OF CONCRETE TYPICAL UNLESS NOTED OTHERWISE VERTICAL VERIFY IN FIELD WITH WITHOUT WORK POINT WATERSTOP WELDED WIRE FABRIC

TOP OF STRUCTURAL ELEMENT NOTATION U.N.O.

(+XX'-X")	INDICATES TOP OF BEAM OR GIRDER
+XX'-X"	INDICATES TOP OF CONCRETE SLAB
[+XX'-X"]	INDICATES TOP OF CONCRETE WALL

STRUCTURAL STEEL

STRUCTURAL STEEL DETAILS, FABRICATION AND ERECTION SHALL CONFIRM TO THE LATEST EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION" ALLOWABLE STRESS DESIGN.

ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS: WIDE FLANGE SHAPES: A992 (Fy = 50 ksi) TUBE SHAPES: A500 STEEL PIPE: A53 OR A501 MISCELLANEOUS ANGLES & BASE PLATES: A36

ALL SIMPLE SHEAR CONNECTION SHALL BE CAPABLE OF END ROTATION AS PER THE REQUIREMENTS OF THE AISC CODE, SECTION ON UNRESTRAINED MEMBERS, SECTION J1.2.

ALL FIELD CONNECTIONS, EXCEPT WHERE SHOWN TO BE WELDED, SHALL BE BOLTED WITH 3/4" DIA HIGH STRENGTH BOLTS CONFORMING TO ASTM SPECIFICATION A490 AND AISC SPECIFICATIONS FOR ASSEMBLY OF STRUCTURAL JOINTS USING HIGH STRENGTH STEEL BOLTS.

GROUT UNDER BEAM BEARING PLATES AND COLUMN BASE PLATES SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS IN ACCORDANCE WITH ASTM C109.

ALL WELDERS SHALL HAVE EVIDENCE THAT THEY HAVE PASSED THE A.W.S. STANDARD QUALIFICATION TESTS.

ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP.

THE ABOVE DRAWINGS AND SPECIFICATIONS AND IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN THE CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS: CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.

Three Pillar

STRUCTUAL ENGINEERING GROUP

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No.	Description	Date
	ISSUE FOR REVIEW	12/07/21

PROJECT NAME AND ADDRESS

HOUSE ADDITION

31 ARDEN PARK BLVD,
DETROIT, MI 48202

STRUCTURAL

GENERAL NOTES

Project Number	21-019
Date	12/07/2021
Drawn by	SP
Checked by	MW

S-000

ScaleAs indicated



WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.

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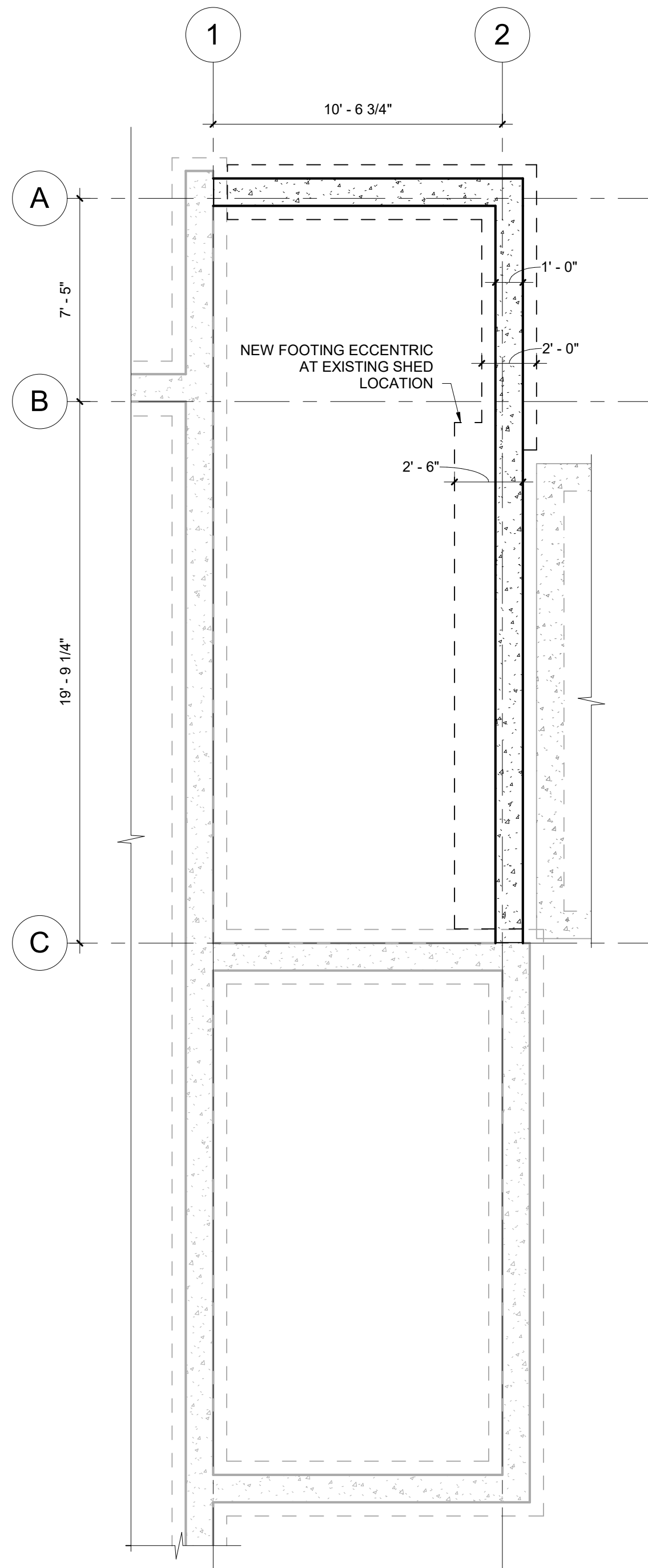
PROJECT NAME AND ADDRESS

HOUSE ADDITION

31 ARDEN PARK BLVD,
DETROIT, MI 48202

Project Number	21-019
Date	12/07/2021
Drawn by	SP
Checked by	MW

Scale	1/2" = 1'-0"
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1 FOUNDATION FRAMING PLAN
1/4" = 1'-0"

FOUNDATION PLAN NOTES:

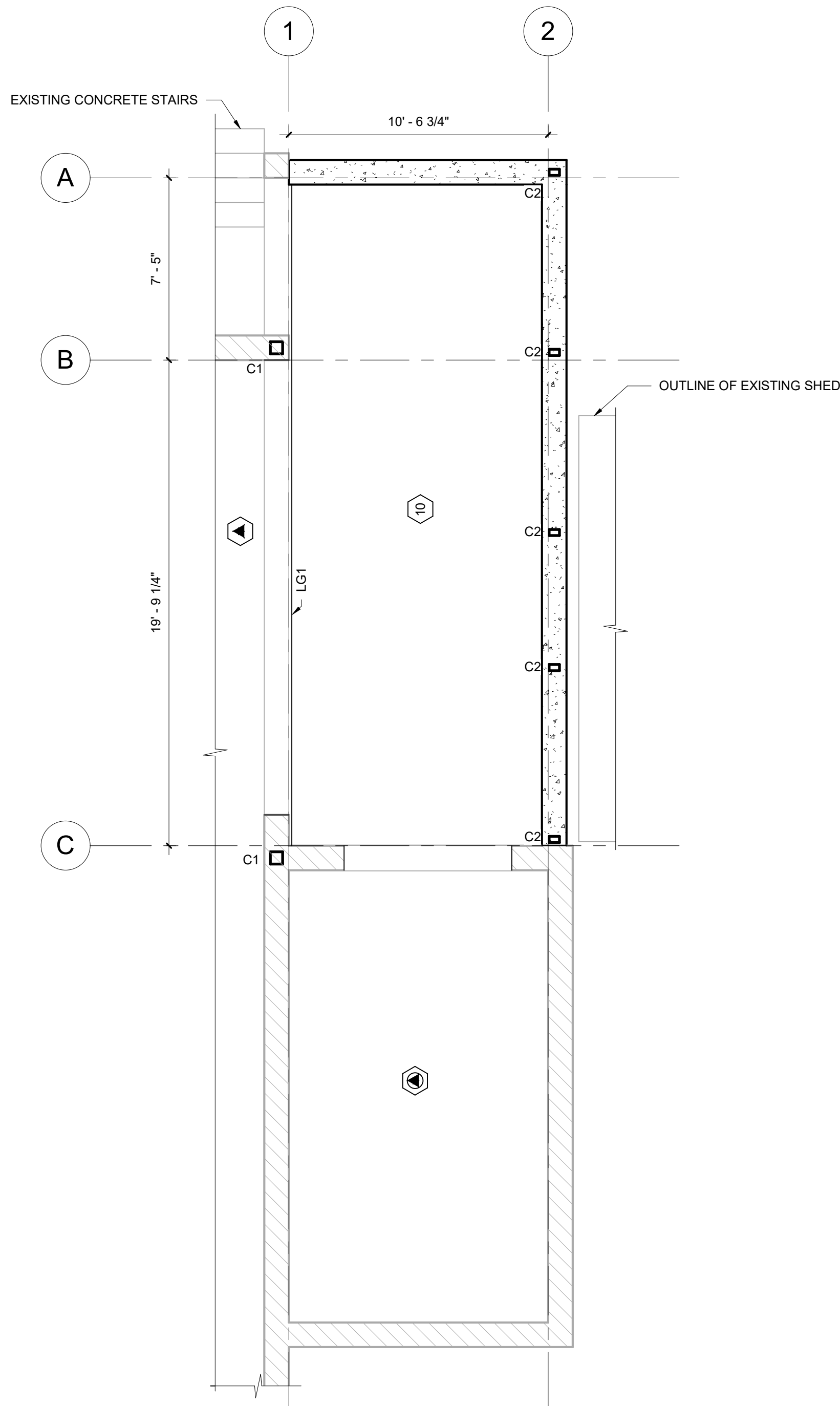
SEE ARCHITECTURAL PLANS FOR ELEVATIONS

SYMBOLS:

- INDICATES EXISTING CONCRETE FOUNDATION WALL.
- INDICATES NEW CONCRETE FOUNDATION WALL. SEE PLAN FOR SIZE AND REINFORCING.

NOTES:

- ALL BOTTOM OF EXTERIOR FOOTING SHALL BE 42" MINIMUM BELOW FINISH GRADE.
- FIELD LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, etc. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
- DOWEL NEW FOUNDATION TO EXISTING FOOTING WITH #4@12. EMBED 6" WITH HILTI HY200 ADHESIVE.



2 FIRST FLOOR FRAMING PLAN
1/4" = 1'-0"

FIRST FLOOR FRAMING PLAN NOTES:

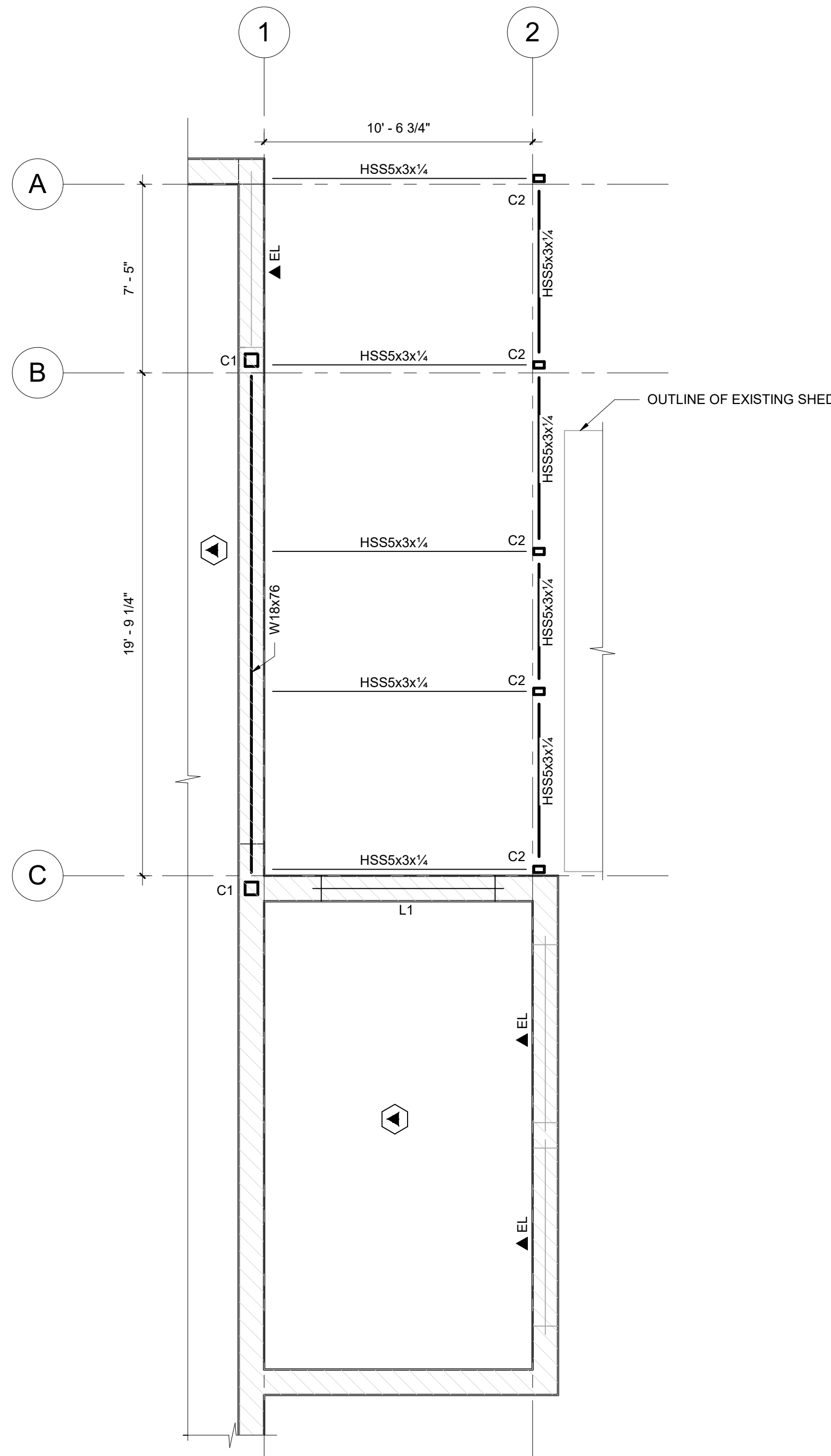
SEE ARCHITECTURAL PLANS FOR ELEVATIONS

SYMBOLS:

- INDICATES EXISTING MASONRY WALL.
- INDICATES NEW CONCRETE FOUNDATION WALL. SEE FOUNDATION FRAMING PLAN FOR SIZE AND REINFORCING.
- INDICATES EXISTING FRAMING.
- INDICATES EXISTING FRAMING TO BE REINFORCED. SISTER EXISTING JOIST WITH NEW SAME SIZE JOIST.
- INDICATES SPAN OF 2x10 WOOD JOISTS AT 12" OC WITH 3/4" T&G PLYWOOD.
- LG1 INDICATES NEW 2x10 PT WOOD LEDGER.
- C1 INDICATES NEW STEEL COLUMN ABOVE. SEE SECOND FLOOR FRAMING PLAN FOR SIZE.
- C2 INDICATES NEW STEEL COLUMN ABOVE. SEE SECOND FLOOR FRAMING PLAN FOR SIZE.

NOTES:

- CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL TEMPORARY SHORING.
- PROVIDE BRIDGING FOR JOIST AT INTERVALS NOT TO EXCEED 8 FEET.
- JOIST SHALL BE SUPPORTED Laterally AT THE ENDS BY FULL-DEPTH SOLID BLOCKING.
- JOIST SHALL BE MINIMUM SOUTHERN PINE #2.
- COORDINATE ALL MECHANICAL OPENINGS SIZE WITH ARCHITECTURAL & MECHANICAL DRAWINGS.



3 SECOND FLOOR FRAMING PLAN
1/4" = 1'-0"

SECOND FLOOR FRAMING PLAN NOTES:

SEE ARCHITECTURAL PLANS FOR ELEVATIONS

SYMBOLS:

- INDICATES EXISTING MASONRY WALL.
- ▲EL INDICATES EXISTING LINTEL.
- ▲ INDICATES EXISTING FRAMING.
- L1 INDICATES NEW W8x15 STEEL LINTEL WITH 4" BEARING AT EACH END. WELD 3/8"-THICK STEEL PLATE TO BOTTOM FLANGE OF W-STEEL AT NEW WALL OPENING.
- C1 INDICATES NEW HSS6x6x1/4" STEEL COLUMN.
- C2 INDICATES NEW HSS5x3x1/4" STEEL COLUMN.

NOTES:

- CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL TEMPORARY SHORING.
- COORDINATE ALL MECHANICAL OPENINGS SIZE WITH ARCHITECTURAL & MECHANICAL DRAWINGS.

THE ABOVE DRAWINGS AND SPECIFICATIONS AND IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER, AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN THE CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS: CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION.

Three Pillar
STRUCTURAL ENGINEERING GROUP

6610 OLD M 11
SAWYER, MI 49125
STRUCTURAL ENGINEERING DESIGN FIRM
0184001047
INFO@3PSEG.COM
(773) 520-6027

No.	Description	Date
	ISSUE FOR REVIEW	12/07/21

PROJECT NAME AND ADDRESS

HOUSE ADDITION

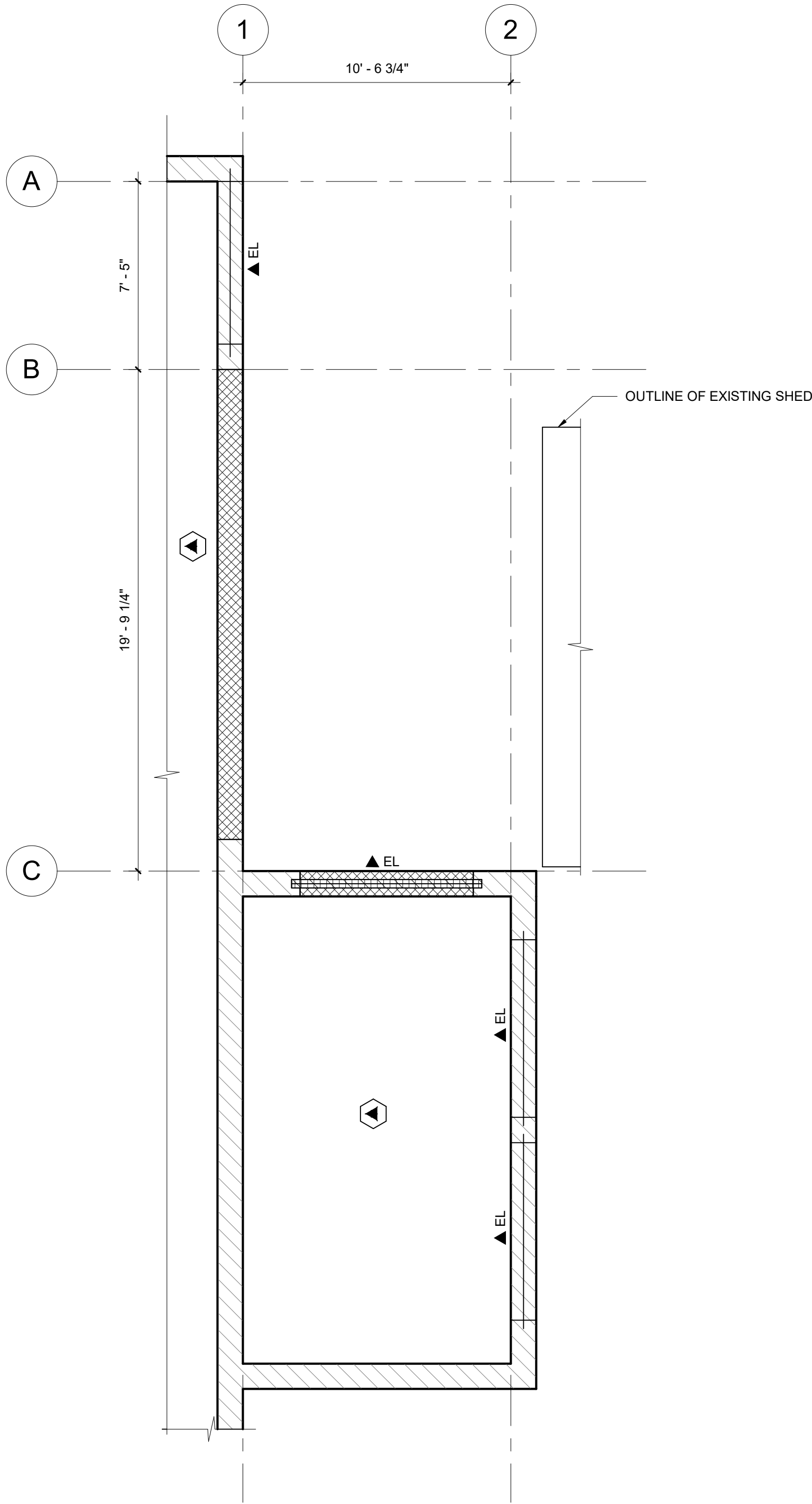
31 ARDEN PARK BLVD,
DETROIT, MI 48202

**STRUCTURAL
FRAMING PLANS**

Project Number	21-019
Date	12/07/2021
Drawn by	SP
Checked by	MW

S-200

Scale As indicated



- ① SECOND FLOOR DEMO PLAN
1/4" = 1'-0"
- SECOND FLOOR DEMOLITION PLAN NOTES:**
- SYMBOLS:**
- INDICATES EXISTING MASONRY WALL.
 - INDICATES WALL TO BE DEMOLISHED.
 - INDICATES EXISTING LINTEL TO BE DEMOLISHED.
 - INDICATES EXISTING JOIST AND SUBFLOOR FRAMING TO REMAIN.
 - ▲ EL INDICATES EXISTING LINTEL TO REMAIN.
- NOTES:**
- VERIFY ALL EXISTING STRUCTURAL MEMBERS IN FIELD.
 - CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL TEMPORARY SHORING.

THE ABOVE DRAWINGS AND SPECIFICATIONS AND IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER, AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN THE CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

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SAWYER, MI 49125
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(773) 520-6027
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No.	Description	Date
	ISSUE FOR REVIEW	12/07/21

PROJECT NAME AND ADDRESS
HOUSE ADDITION
31 ARDEN PARK BLVD,
DETROIT, MI 48202

STRUCTURAL DEMO PLANS

Project Number	21-019
Date	12/07/2021
Drawn by	SP
Checked by	MW

SD-200

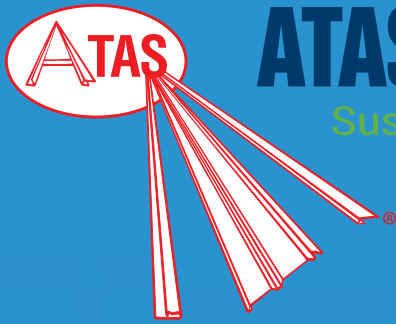
Scale As indicated

31 ARDEN PARK BOULEVARD HOUSE ADDITION

HISTORICAL DISTRICT COMMISSION SUBMISSION

JANUARY 2022

APPENDIX



ATAS International, Inc.

Sustainable Building Envelope Technology



STANDING SEAM • BATTEN SEAM

VERTICAL SEAM
ROOF SYSTEMS

Private Residence
Santa Ysabel, CA
Dutch Seam in Acrylic Coated Galvalume®





STIFFENING RIBS†



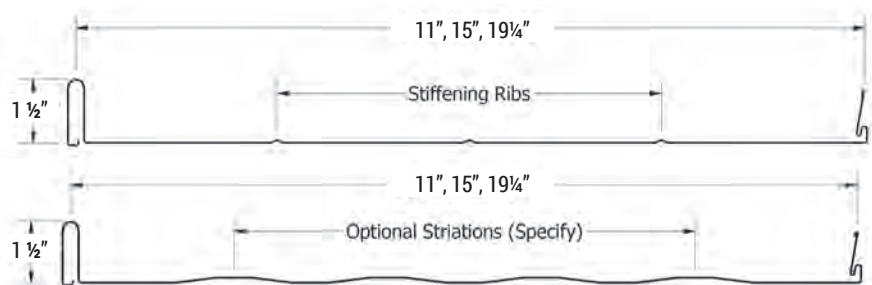
STRIATIONS†



SMOOTH



EMBOSSED



Optional Sealant Available

†Stiffening ribs or striations reduce the potential of visible oil canning

SKU:

MRD110, MRD150, MRD194

Material:

.032, .040 aluminum;
24, 22* ga. metallic coated steel;
24 ga. 55% Al-Zn alloy coated steel with
acrylic coating;
16, 20 oz. copper*;
.8 mm zinc* (MRD110 only)

Panel Coverage:

11", 15", 19 1/4"
(stiffening ribs standard, specify without ribs or
with striations)

Minimum Panel Length:

2'-0"

Seam Height:

1 1/2"

Texture:

Smooth or Embossed

Minimum Slope:

2:12

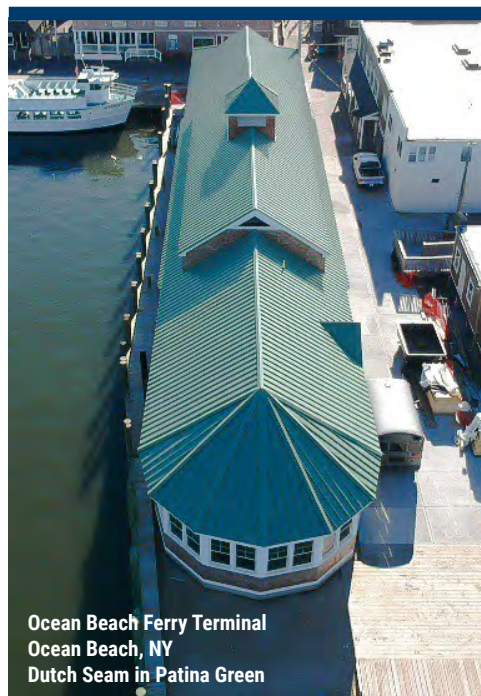
* Subject to minimum quantities and longer lead time.
Inquire for availability.

Application:

- Lock and seam are an integral part of the panel with no seam caps to install
- Can be fastened directly to purlins or solid substrate
- Does not require mechanical field seaming
- After completing panel interlock, panels can be easily moved into cleats at valley and eave conditions
- Precision leveling prior to forming
- Fasteners and clips allow panels to float without causing stress
- Crating for job site handling/staging

Performance Standards:

- Tested in accordance with UL 790/ASTM E 108, UL 580, TAS 125, ASTM E 1592, ASTM E 330, ASTM E 283, ASTM E 331, TAS 100, AAMA 501.1, UL 2218, ASTM E 84 Flame Spread, ICBO AC 166 Penetration
- FBC Approval
- High reflectivity of panels which increases energy efficiency



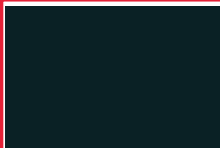
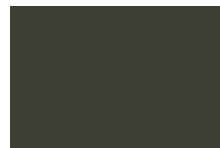
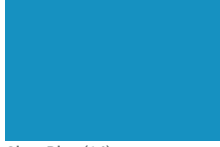
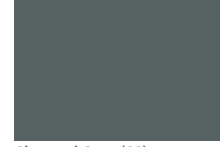
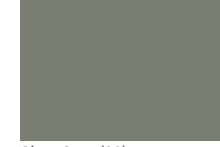
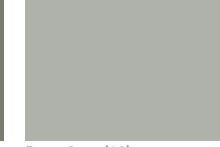
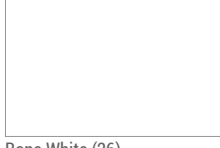
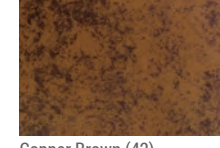
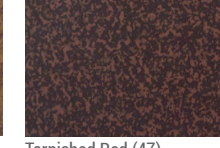
Ocean Beach Ferry Terminal
Ocean Beach, NY
Dutch Seam in Patina Green



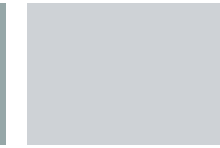
For more information: Visit www.atas.com/dutchseam

COLOR CHART

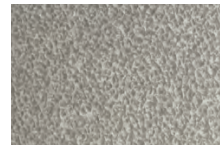
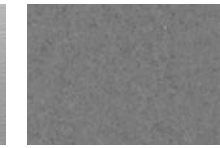
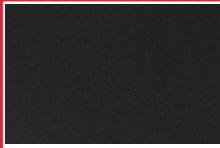
Stock Colors | 70% PVDF Finish

					
Black (02)	Classic Bronze (01)	Medium Bronze (03)	Hartford Green (27)	Forest Green (11)	Teal (19)
					
Hemlock Green (30)	Patina Green (12)	Chocolate Brown (04)	Boysenberry (25)	Redwood (07)	Mission Red (08)
					
Sierra Tan (09)	Rawhide (15)	Concord Cream (05)	Almond (36)	Sandstone (06)	Regal Blue (18)
					
Slate Blue (21)	Siam Blue (14)	Rocky Grey (16)	Charcoal Grey (62)	Slate Grey (20)	Dove Grey (13)
		Oxide Series			
Ascot White (10)	Bone White (26)				
		Copper Brown (42)			
					
		Tarnished Red (47)			

Premium Colors | 70% PVDF Finish

					
Antique Patina (24)	Brite Red (17)	Champagne (31)	Coppertone (23)	Silversmith (28)	Titanium (35)

Natural Metals

					
Clear Satin Anodized (70)	Dark Bronze Anodized (71)	Acrylic Coated Galvalume® (97)	Copper (49)*	Classic Stainless Steel (40)*	Terme Coated Stainless Steel (41)*
					
Grey Zinc (91)*	Dark Zinc (92)*	Brown Zinc (89)*	Blue Zinc (94)*	Red Zinc (95)*	Green Zinc (96)*

For additional color offerings, visit www.atas.com/colors. For current SRI values and agency listings refer to our Color and Reference Guide: www.atas.com/sri.
*Special material. Pricing and availability dependent upon project specifics. Color chips available upon request.

www.atas.com | ATAS International, Inc.
800.468.1441 | Allentown, PA | Mesa, AZ

*Subject to minimum quantities and extended lead time. Inquire for material and panel width availability. Dutch Seam® is a registered trademark of ATAS International, Inc. Colors are as close to the actual colors as modern printing allows. Exact color chips on request; this is a requirement for all premium colors. If you have requirements or preference for colors or finishes other than shown, contact ATAS. Color availability varies by material, gauge and profile. ATAS is not responsible for colors selected from color chart. ATAS reserves the right to modify, eliminate and/or change its products without prior notification. Contact ATAS for more information. Every project is different. To the full extent permissible by law, ATAS disclaims all warranties, express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. A qualified engineer, architect or contractor should review suitability of use. Please visit www.atas.com for the most up-to-date information.

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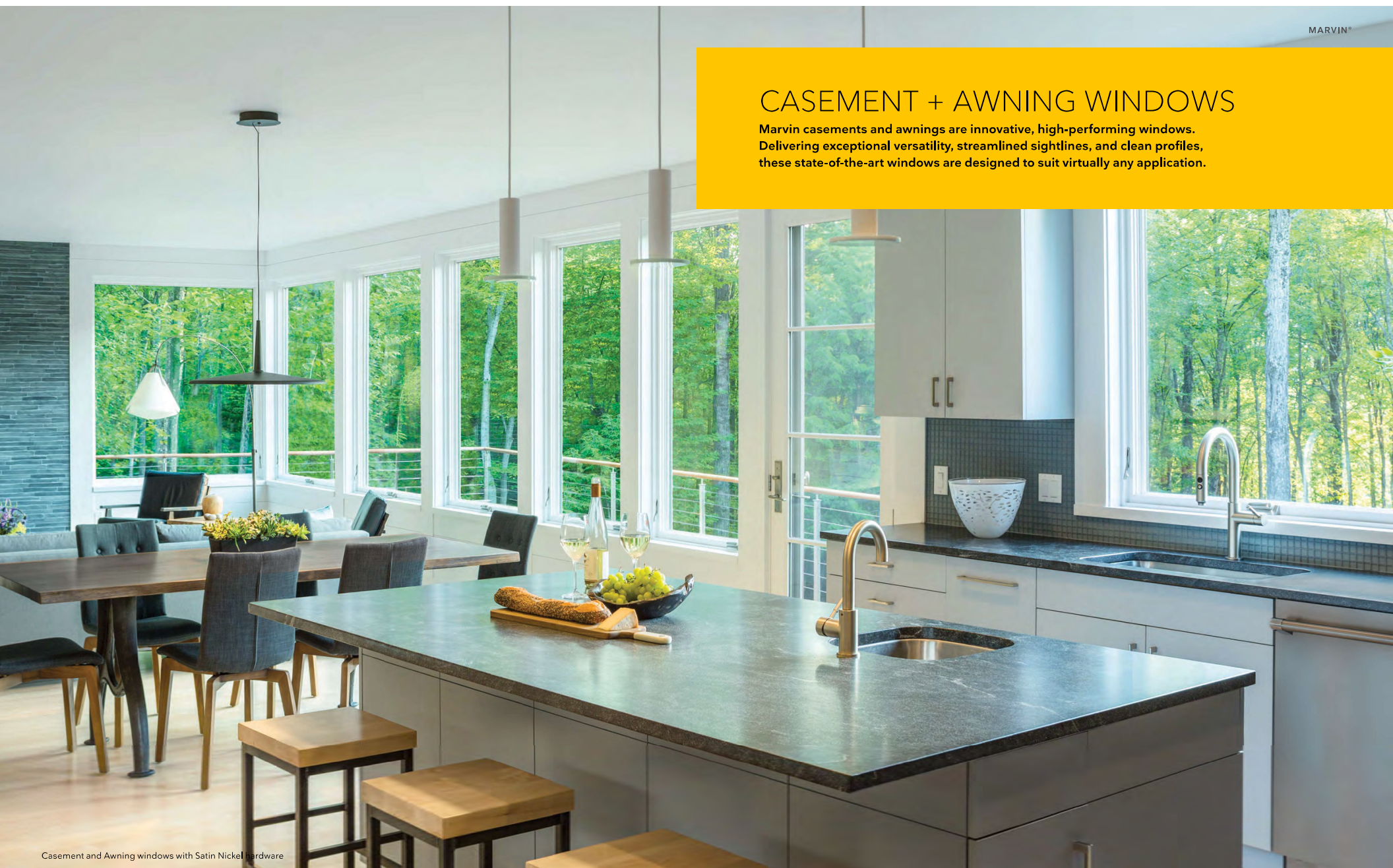
ULTIMATE

MARVIN SIGNATURE™ COLLECTION



CASEMENT + AWNING WINDOWS

Marvin casements and awnings are innovative, high-performing windows. Delivering exceptional versatility, streamlined sightlines, and clean profiles, these state-of-the-art windows are designed to suit virtually any application.



Casement and Awning windows with Satin Nickel hardware

ULTIMATE CASEMENT STYLES



Casement and Picture windows with Satin Nickel hardware

FULL FRAME OR NARROW FRAME

The Ultimate Casement and Ultimate Casement Narrow Frame windows are the most versatile and innovative casement windows ever produced. Featuring concealed multi-point locks, a patented Wash Mode, and durable hardware that operates smoothly even at the largest sizes.



ULTIMATE CASEMENT

A recessed sash for a traditional look, plus a full jamb offers design flexibility for new construction or full frame replacement.



ULTIMATE CASEMENT NARROW FRAME

A flush sash to the exterior and narrow jamb depth make this window an easy choice for frame-in-frame replacement or more contemporary new construction applications.



ULTIMATE CASEMENT
4 5/8" FULL JAMB



ULTIMATE CASEMENT NARROW FRAME
2 5/8" NARROW JAMB

JAMBS + PROFILES

The Ultimate Casement has a recessed sash for a traditional or historic look. The Ultimate Casement Narrow Frame has a flush-to-frame sash for a contemporary look.

ULTIMATE CASEMENT NARROW FRAME



Casement Narrow Frame windows with Oil Rubbed Bronze hardware



Casement Narrow Frame windows in Ebony

ULTIMATE CASEMENT NARROW FRAME

The Ultimate Casement Narrow Frame window is a contemporary option with a flush exterior and narrow jamb ideal for frame-in-frame replacement—allowing quick and easy installation without disturbing the existing frame or interior wall. With its sleek design and square profiles, this window is a great fit for new construction or remodeling projects that call for slim lines and maximum views.



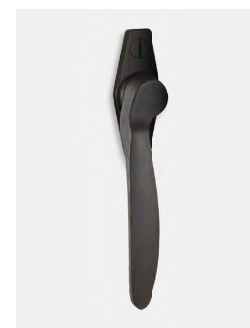
ULTIMATE CASEMENT
NARROW FRAME INTERIOR
WITH FOLDING HANDLE



ULTIMATE CASEMENT
NARROW FRAME EXTERIOR
WITH FOLDING HANDLE



ULTIMATE CASEMENT PUSH OUT NARROW FRAME WITH PUSH OUT HANDLE



CE THIS PRODUCT IS CE CERTIFIED
(ULTIMATE CASEMENT PUSH-OUT NARROW FRAME - CLAD ONLY)

INTERIOR FINISH OPTIONS

PINE

VERTICAL GRAIN
DOUGLAS FIR

DOUGLAS FIR

CHERRY

WHITE OAK

MAHOGANY

MAPLE
Custom option

BLACK WALNUT
Custom option

WOOD SPECIES

Offering a rich, warm look, many custom options, and design versatility, wood is a premium choice. Wood can be used on both the interior and exterior of a window or door. As a lower maintenance option, wood can also be used on only the interior with an extruded aluminum cladding exterior. Marvin offers both options, leading the industry in sourcing, processing, and utilizing high quality wood.

STAIN + PAINT

When compared to painting or staining on the job site, factory-stained finishes offer consistent quality and performance resulting from our expertise with wood as a material and years of perfecting our staining process. Painting on the job site or scheduling off-site finishing is an extra step that takes time and coordination. Choose our painted interior finish option on any Marvin windows and doors with a wood or clad exterior for a factory-painted option that arrives ready to install.



EXTERIOR FINISH OPTIONS

STONE WHITE
COCONUT CREAM
SIERRA WHITE
CASHMERE
PEBBLE GRAY
HAMPTON SAGE
CADET GRAY
CLAY
CASCADE BLUE
SUEDE
GUNMETAL
WINEBERRY
BRONZE
BAHAMA BROWN
EVERGREEN
EBONY
BRIGHT SILVER (PEARLESCENT)
COPPER (PEARLESCENT)
LIBERTY BRONZE (PEARLESCENT)

CUSTOM COLOR: ANY COLOR YOU WANT

EXTRUDED ALUMINUM

Extruded aluminum is an extremely tough cladding that protects wood windows, mimics the profiles of wood, and provides superior durability. It is the most commonly ordered Marvin material.

Select a color from our palette of 19 durable extruded aluminum colors, including a spectrum of rich hues and three pearlescent finishes. If you have more specialized needs, we can also work with you to create a custom color.

WOOD SPECIES

Wood is a premium material for windows and doors, offering classic aesthetic appeal, many options for customization, and design versatility.

We treat exposed millwork with a water repellent wood preservative to help it last longer. Choose from one of the four options below. Each is ready to be finished to match your project's exacting requirements.

PINE
VERTICAL GRAIN DOUGLAS FIR
MAHOGANY
WESTERN RED CEDAR Exterior trim package only



Ultimate Double Hung G2 window in Ebony



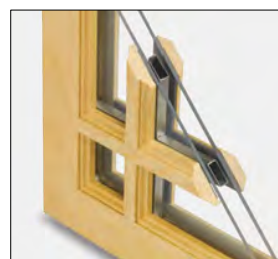
Ultimate Double Hung G2 window in Suede

DIVIDED LITES



DIVIDED LITES

The look of multiple, individual panes of glass in a window sash is popular in a wide range of architectural styles—from historic replications to modern farmhouses. For those who seek historical accuracy, authentic divided lites utilize many individual glass panes in a single window. Simulated divided lites, available in a number of different styles, mimic the look of individual panes of glass in a window sash without sacrificing the energy efficiency of a single pane of glass. Our custom capabilities allow us to create almost any divided lite pattern to match your design style.



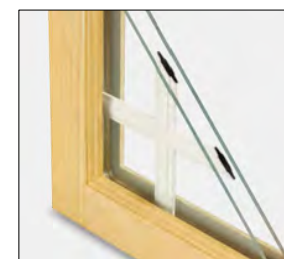
SIMULATED DIVIDED LITE (SDL)

SDL bars are permanently adhered to both sides of the glass. Simulated Divided Lites with Spacer Bars (SDLs) are an energy-efficient way to create the look of authentic divided lites.



AUTHENTIC DIVIDED LITE (ADL)

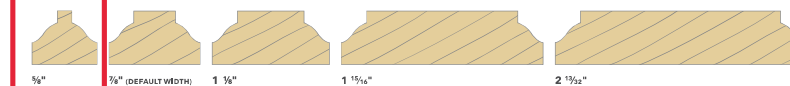
Separate panes of glass are glazed between bars—the way windows have been made since the beginning. Available exclusively with wood exterior units.



GRILLES-BETWEEN-THE-GLASS (GBG)

Grilles are permanently installed between the glass panes. This low-maintenance grille offers the look of a divided lite pattern with the ease of cleaning just one pane of glass. Available with different interior and exterior colors.

FIVE STANDARD BAR WIDTHS



STICKING AND PROFILES

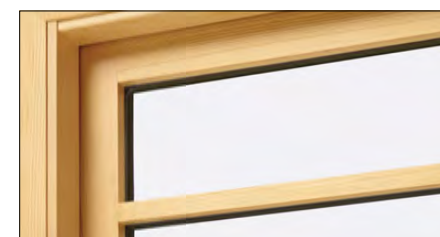
Sticking refers to the interior profiles of your wood window. Choose from the standard Ogee profile (used on traditional projects) or the optional clean, contemporary Square sticking.



OGEE



SQUARE

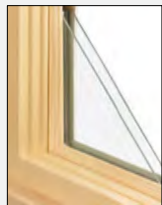


SQUARE STICKING

GLASS + GLAZING



Awning and Picture windows and Outswing French door

**DUAL PANE GLAZING**

Our standard glazing is dual pane: two panes of glass with Low E coatings and insulated with argon gas. Compared to a single glass pane, dual pane glass cuts energy costs significantly because of low emissivity coating and the gas filled insulating space between the glass layers.

**TRIPLE PANE GLAZING**

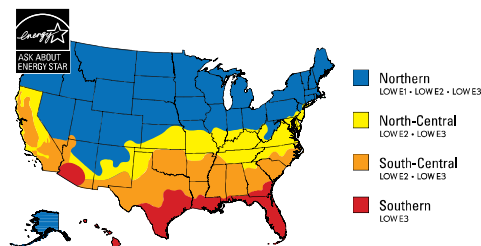
Triple pane glazing consists of three panes of glass with Low E coatings applied to the surface. Two glass spaces are insulated with argon gas between the panes. Available in products where glazing thickness can be wider than ¾ inch.

GLASS + GLAZING

The thermal and structural properties of wood combined with the right glazing make Marvin wood and clad-wood products an optimal choice for energy efficiency. We offer thousands of window and door options with two or three panes of glass and a range of glazing options to meet the performance challenges of any climate.

GLASS COATINGS

Low E coatings are microscopically thin, essentially invisible coatings on the glass surface that help manage the amount of light and heat conducted through a window pane or reflected away from it, reducing a home's dependence on heat and air conditioning. The national ENERGY STAR® program recognizes products that meet strict energy-efficiency guidelines to suit climates in different areas of the country, and Marvin offers products to meet climate and code requirements in every region.

**LOW E1**

Low E1 coating is a good choice when you want maximum solar heat gain and radiant heating properties. This type of coating is generally used in Northern climates where heating is prioritized over cooling. You'll reap maximum benefits when windows with this type of coating are positioned to receive direct sun exposure.

LOW E2

The most common Low E coating since it works well across most geographic regions and climates. Low E2 with two metallic coatings balances less solar heat gain and improved radiant heating properties.

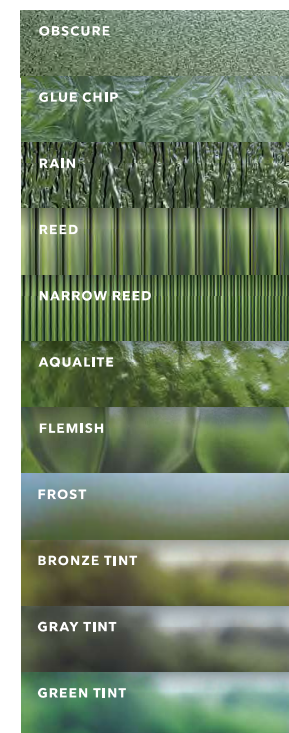
LOW E3

Used in applications where solar heat gain may be a concern, low E3 coating uses multiple metallic layers for radiant properties similar to Low E2. This type of coating is most commonly used in Southern, sunny climates where cooling is prioritized over heating.

SPECIALTY GLASS

Our specialty options include glass for unique project needs like sound abatement (STC/OITC), high altitudes, Sea Turtle Conservation Codes, and California fire zones. We also offer laminated glass on certain products that's designed specifically for hurricane zones.

A variety of decorative glass options are available to meet the unique needs of each project. Laminated glass is also available in clear, bronze, gray, or green with tinted interlayers.



CASEMENT / CASEMENT PUSH OUT

MO (mm)	1 - 4 1/2 (419)	1 - 6 1/2 (469)	1 - 8 1/2 (520)	2 - 1/2 (622)	2 - 2 1/2 (673)	2 - 4 1/2 (723)	2 - 6 1/2 (774)	2 - 8 1/2 (825)	3 - 1/2 (927)	3 - 4 1/2 (1028)
RO (mm)	1 - 5 (431)	1 - 7 (482)	1 - 9 (533)	2 - 1 (635)	2 - 3 (685)	2 - 5 (736)	2 - 7 (787)	2 - 9 (838)	3 - 1 (939)	3 - 5 (1041)
FS (mm)	1 - 4 (406)	1 - 6 (457)	1 - 8 (508)	2 - 0 (609)	2 - 2 (660)	2 - 4 (711)	2 - 6 (762)	2 - 8 (812)	3 - 0 (914)	3 - 4 (1016)
DLO (mm)	0 - 10 13/64 (259)	1 - 0 13/64 (310)	1 - 2 13/64 (361)	1 - 6 13/64 (462)	1 - 8 13/64 (513)	1 - 10 13/64 (564)	2 - 0 13/64 (615)	2 - 2 13/64 (666)	2 - 6 13/64 (767)	2 - 10 13/64 (869)
1 - 1 3/8 (339)										
1 - 1 5/8 (346)										
1 - 1 7/8 (353)										
1 - 3 3/8 (390)										
1 - 3 5/8 (396)										
1 - 3 7/8 (403)										
1 - 5 3/8 (441)										
1 - 5 5/8 (447)										
1 - 5 7/8 (454)										
1 - 5 1/8 (461)										
0 - 11 21/64 (288)										
1 - 7 3/8 (492)										
1 - 7 5/8 (498)										
1 - 7 7/8 (505)										
1 - 1 21/64 (339)										
1 - 11 3/8 (593)										
1 - 11 5/8 (600)										
1 - 11 7/8 (587)										
1 - 5 21/64 (440)										
2 - 3 3/8 (695)										
2 - 3 5/8 (701)										
2 - 3 7/8 (688)										
1 - 9 21/64 (542)										
2 - 7 3/8 (796)										
2 - 7 5/8 (803)										
2 - 7 7/8 (790)										
2 - 1 21/64 (643)										
2 - 11 3/8 (898)										
2 - 11 5/8 (904)										
2 - 11 7/8 (892)										
2 - 5 21/64 (745)										
3 - 3 3/8 (1000)										
3 - 3 5/8 (1006)										
3 - 3 7/8 (993)										
2 - 9 21/64 (847)										

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Awnnings, Ultimate Casement Round Tops or Ultimate Casement Windows less than 20" in width.
- Ultimate Casement Push Out not available in frame size heights less than 15 1/8"
- For units with a tall bottom rail, reduce the DLO height by 1 1/2".

E These windows meet national Egress codes for fire evacuation.
Local codes may differ.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with a frame size of 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Casement: UCA

Ultimate Casement Push Out: UCAPO

CASEMENT / CASEMENT PUSH OUT

MO (mm)	1 - 4 1/2 (419)	1 - 6 1/2 (469)	1 - 8 1/2 (520)	2 - 1/2 (622)	2 - 2 1/2 (673)	2 - 4 1/2 (723)	2 - 6 1/2 (774)	2 - 8 1/2 (825)	3 - 1/2 (927)	3 - 4 1/2 (1028)
RO (mm)	1 - 5 (431)	1 - 7 (482)	1 - 9 (533)	2 - 1 (635)	2 - 3 (685)	2 - 5 (736)	2 - 7 (787)	2 - 9 (838)	3 - 1 (939)	3 - 5 (1041)
FS (mm)	1 - 4 (406)	1 - 6 (457)	1 - 8 (508)	2 - 0 (609)	2 - 2 (660)	2 - 4 (711)	2 - 6 (762)	2 - 8 (812)	3 - 0 (914)	3 - 4 (1016)
DLO (mm)	0 - 10 13/64 (259)	1 - 0 13/64 (310)	1 - 2 13/64 (361)	1 - 6 13/64 (462)	1 - 8 13/64 (513)	1 - 10 13/64 (564)	2 - 0 13/64 (615)	2 - 2 13/64 (666)	2 - 6 13/64 (767)	2 - 10 13/64 (869)
1 - 1 3/8 (339)										
1 - 1 5/8 (346)										
1 - 1 7/8 (353)										
1 - 3 3/8 (390)										
1 - 3 5/8 (396)										
1 - 3 7/8 (403)										
1 - 5 3/8 (441)										
1 - 5 5/8 (447)										
1 - 5 7/8 (454)										
1 - 1 21/64 (339)										
1 - 11 3/8 (593)										
1 - 11 5/8 (600)										
1 - 11 7/8 (587)										
1 - 5 21/64 (440)										
2 - 3 3/8 (695)										
2 - 3 5/8 (701)										
2 - 3 7/8 (688)										
1 - 9 21/64 (542)										
2 - 7 3/8 (796)										
2 - 7 5/8 (803)										
2 - 7 7/8 (790)										
2 - 1 21/64 (643)										
2 - 11 3/8 (898)										
2 - 11 5/8 (904)										
2 - 11 7/8 (892)										
2 - 5 21/64 (745)										
3 - 3 3/8 (1000)										
3 - 3 5/8 (1006)										
3 - 3 7/8 (993)										
2 - 9 21/64 (847)										

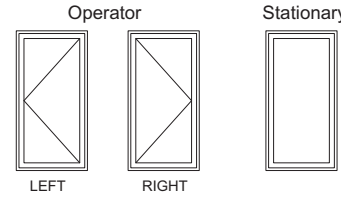
CASEMENT / CASEMENT PUSH OUT

MO (mm)	1 - 4 1/2 (419)	1 - 6 1/2 (469)	1 - 8 1/2 (520)	2 - 1/2 (622)	2 - 2 1/2 (673)	2 - 4 1/2 (723)	2 - 6 1/2 (774)	2 - 8 1/2 (825)	3 - 1/2 (927)	3 - 4 1/2 (1028)
RO (mm)	1 - 5 (431)	1 - 7 (482)	1 - 9 (533)	2 - 1 (635)	2 - 3 (685)	2 - 5 (736)	2 - 7 (787)	2 - 9 (838)	3 - 1 (939)	3 - 5 (1041)
FS (mm)	1 - 4 (406)	1 - 6 (457)	1 - 8 (508)	2 - 0 (609)	2 - 2 (660)	2 - 4 (711)	2 - 6 (762)	2 - 8 (812)	3 - 0 (914)	3 - 4 (1016)
DLO (mm)	0 - 10 13/64 (259)	1 - 0 13/64 (310)	1 - 2 13/64 (361)	1 - 6 13/64 (462)	1 - 8 13/64 (513)	1 - 10 13/64 (564)	2 - 0 13/64 (615)	2 - 2 13/64 (666)	2 - 6 13/64 (767)	2 - 10 13/64 (869)
6 - 5 3/8 (1965)										
6 - 5 5/8 (1971)										
6 - 5 7/8 (1988)										
5 - 11 21/64 (1812)										
6 - 11 3/8 (2117)										
6 - 11 5/8 (2124)										
6 - 11 1/8 (2111)										
6 - 5 21/64 (1964)										
7 - 7 3/8 (2320)										
7 - 7 5/8 (2327)										
7 - 7 1/8 (2314)										
7 - 1 21/64 (2167)										
7 - 11 3/8 (2422)										
7 - 11 5/8 (2428)										
7 - 11 1/8 (2416)										
7 - 5 21/64 (2269)										

Construction Details

Casements available as an operator or stationary.

L or R handing determined from exterior.

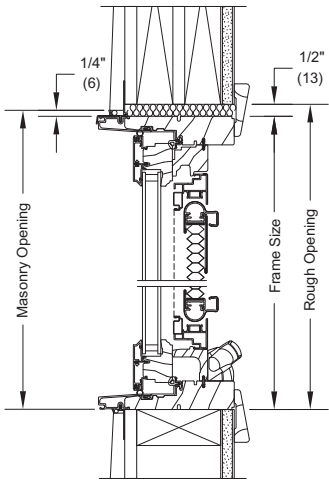


CASEMENT STANDARD OPERATION AS VIEWED FROM THE OUTSIDE

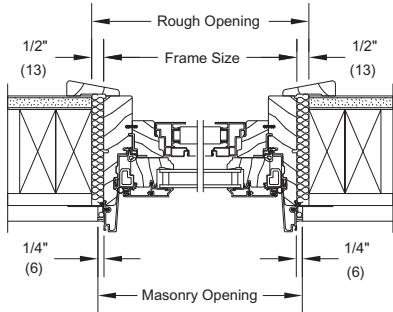


CASEMENT / CASEMENT PUSH OUT

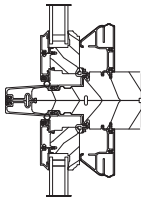
CONSTRUCTION DETAILS



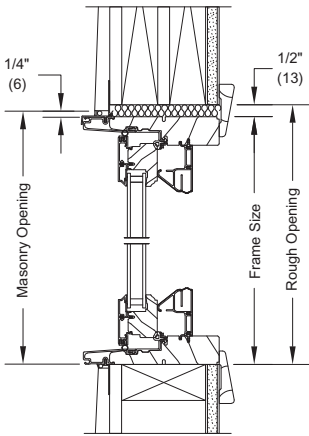
HEAD JAMB AND SILL - OPERATOR WITH OPTIONAL INTERIOR SHADES



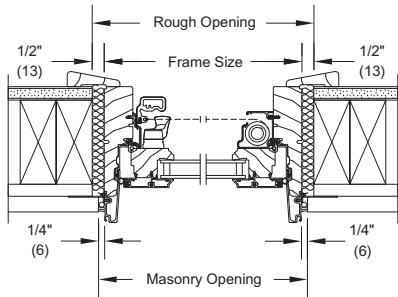
JAMB - OPERATOR WITH SHADE



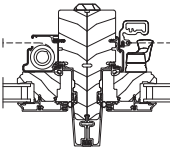
HORIZONTAL MULLION OPERATOR



PUSH OUT HEAD JAMB AND SILL - OPERATOR



PUSH OUT JAMB - OPERATOR WITH RETRACTABLE SHADE



VERTICAL MULLION OPERATOR WITH OPTIONAL RETRACTABLE SCREEN

Unit Features: Marvin Skylights

Marvin Skylight: SKLT

Frame and Sash:

- Fiberglass reinforced pultrusion exterior sash
 - Available exterior colors: Ebony, Gunmetal.
- Fiberglass reinforced pultrusion interior with fiberglass and polymer reinforced frame covers
 - Available interior color: White
- Indoor air quality sensor measures interior temperature, humidity, and air quality

Glass and Glazing:

- 7/8" insulating glass with gas fill and thermal edge spacer bar technology
- Tempered exterior pane and an annealed laminated interior pane
- Glazing seal: Black silicone beading, exterior
- Black Stainless Steel Spacer Bar
- Glass Coatings: Low E3
- Gas fill: Argon
 - Capillary tubes are required for high altitude. Argon gas is not available for units that require capillary tubes.

LED Lighting (optional):

- Optional integrated LED system contains tunable cool and warm white LEDs (2200 K - 5500 K)
- Controlled by wall switch or Marvin app

Interior Shade (optional):

- Optional roller shade is attached to the interior of the frame
 - Available in blackout or sheen, white in color

Weather Strip:

- All weather strip is black.
- Foam filled bulb weather strip on all four sides between the frame and the sash, barbing into the sash
- A closed-cell TPV foam-wrapped weather strip compresses between the frame and the glass.

Hardware (Awaken Venting Skylight only):

- Hinges
 - Stainless Steel, 4 bar parallel hinges are installed on each jamb (2x) and sill (1x)
 - Hinges open to 3 3/4", controlled by hard stop on each hinge
- Venting Motor
 - Two chain drive motors are installed in the jambs
 - The motors lock the sash closes or open when not in operation
 - Each motor operates at 24VDC
- Manual operation is not available

Screen (Awaken Venting Skylight only):

- A pleated screen makes a continuous hoop between the sash and the frame and is minimally visible from the interior or exterior when the unit is open
- The screen does not impede upon the daylight opening (DLO) of the unit
- The screen is barbed into the sash and frame using a PVC clasp and ribbed barb

Installation:

- The unit features a reversible mounting flange, allowing for a deck or curb mount installation.
 - an optional flashing kit is available for shingle, metal roof coverings.
- 14 degree minimal angle of installation.

Electric Ratings (specific to units with venting, LEDs or shades):

- Input voltage: 120VAC +/- 10%, 1A max
- Output voltage: 24 VDC, 4A max
- UL Certified

Minimum and Maximum Guidelines

- Dimensions below refer to Frame Overall (Basic Frame) Dimension (see figure on page 8).

Marvin Skylight

Minimum Width		Minimum Height		Maximum Width		Maximum Height	
in	mm	in	mm	in	mm	in	mm
18.66	(474)	38.66	(982)	50.66	(1287)	92.66	(2354)

Skylight Awaken Venting

Minimum Width		Minimum Height		Maximum Width		Maximum Height	
in	mm	in	mm	in	mm	in	mm
18.3	(465)	38.3	(973)	50.3	(1278)	92.3	(2344)

Skylight Awaken Stationary

Minimum Width		Minimum Height		Maximum Width		Maximum Height	
in	mm	in	mm	in	mm	in	mm
18.3	(465)	38.3	(973)	50.3	(1278)	92.3	(2344)

NOTE: Custom Sizes not available.

Refer to standard size charts on the following pages for specific size availability.

Standard Size Chart: Marvin Skylight

Skylight	Frame Size Width		RO Width		Daylight Opening Width		Glass Size Width	
Call Number Widths	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
16	1-6 21/32	(474)	1-2 1/2	(368)	1-0 13/16	(325)	1-4 57/64	(429)
24	2-2 21/32	(677)	1-10 1/2	(572)	1-8 13/16	(529)	2-0 57/64	(632)
32	2-10 21/32	(880)	2-6 1/2	(775)	2-4 13/16	(732)	2-8 57/64	(835)
48	4-2 21/32	(1287)	3-10 1/2	(1181)	3-8 13/16	(1138)	4-0 57/64	(1242)

Skylight	Frame Size Height		RO Height		Daylight Opening Height		Glass Size Height	
Call Number Heights	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
36	3-2 21/32	(982)	2-10 1/2	(876)	2-8 13/16	(833)	3-0 57/64	(937)
48	4-2 21/32	(1287)	3-10 1/2	(1181)	3-8 13/16	(1138)	4-0 57/64	(1242)
60	5-2 21/32	(1592)	4-10 1/2	(1486)	4-8 13/16	(1443)	5-0 57/64	(1547)
90	7-8 21/32	(2354)	7-4 1/2	(2248)	7-2 13/16	(2205)	7-6 57/64	(2309)

Refer to standard size charts for specific size availability.

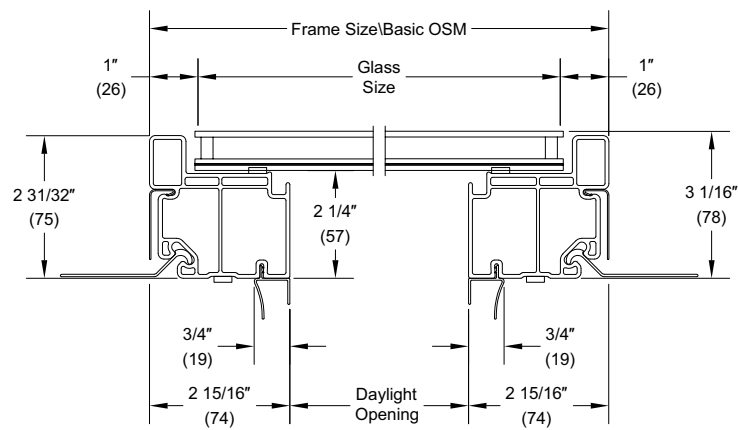
Available Sizes

Available configurations				
CN	36	48	60	90
16	x	x	x	x
24	x	x	x	x
32	x	x	x	x
48	x	x	x	x

Section Details: Marvin Skylight

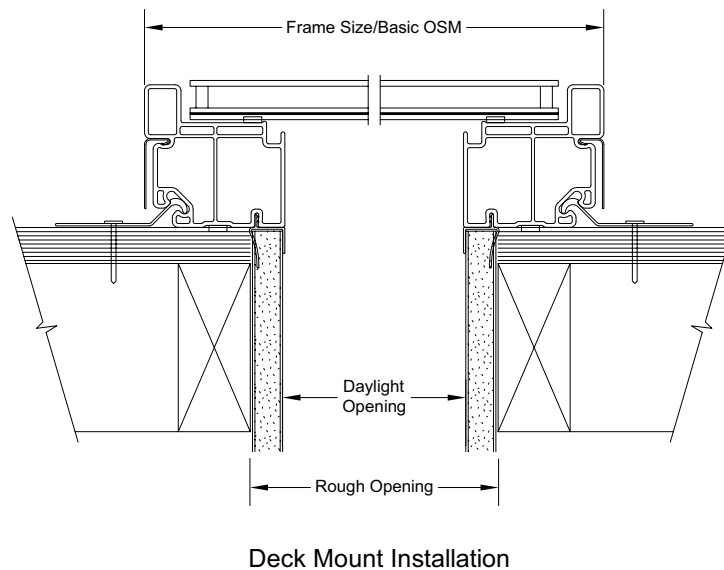
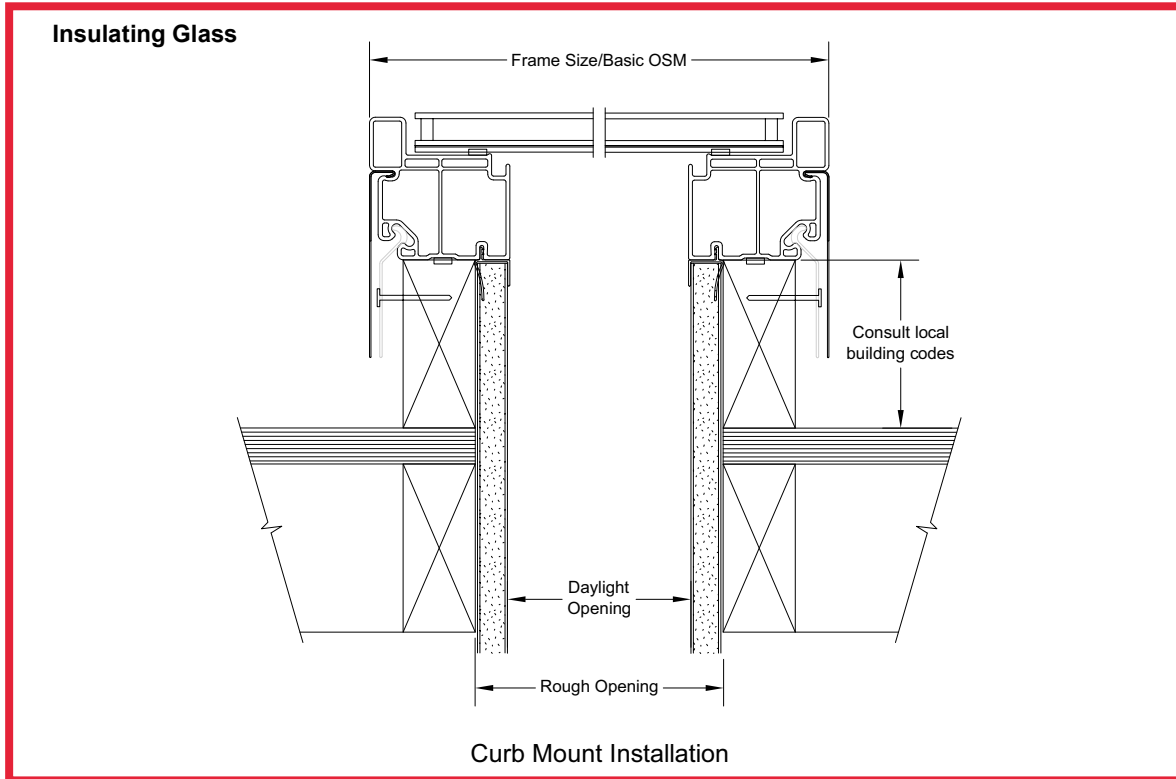
Scale: 3' = 1' 0"

Insulating Glass



Section Details: Marvin Skylight

Scale: 3' = 1' 0"



NOTE: Work with your local building code to verify methods based on pitch/etc.
 14 degree minimum angle of installation. 80 degree maximum angle.
 Optional flashing system not shown