



City of Franklin

Mailing Address:
109 3rd Ave S
Franklin, TN 37064
(615) 791-3217

Meeting Agenda

Design Review Committee

Monday, July 20, 2026

4:00 PM

Eastern Flank Event Facility

MEETING LOCATION

Eastern Flank Event Facility
1368 Eastern Flank Circle

Notice is hereby given that a meeting of the Design Review Committee will be held on the date and time listed above. You may call 615.791.3212 for additional information. For accommodations due to disabilities or other special arrangements, please contact the Human Resources Department at 615.791.3216 at least 24 hours prior to the meeting. The typical process for discussing an item in this meeting setting is as follows: 1. Applicant / staff presentation, and 2. DRC comments. Accommodations have been made to ensure that the public is able to view the meeting. The public may view the meeting in the following ways:

- Watch the meeting on FranklinTV or the City of Franklin website.
- Watch the live stream through the City of Franklin Facebook and YouTube accounts.
- Attend in person at the meeting location.

CALL TO ORDER

APPLICATIONS

1. Discussion Of A Window Alteration At 113 2nd Ave. S.; Carlos Zarraga Jr., Applicant.
2. Discussion of Alterations (Principal Building) At 908 W. Main St.; Tyler LeMarinel, Applicant.
3. Discussion Of An Addition (Principal Building) At 109 7th Ave. S.; Jacob Layne Applicant.
4. Discussion Of An Addition (Accessory) At 3201 Herbert Dr.; Christina James, Applicant.
5. Discussion Of Construction (Accessory Structure) At 109 Everbright Ave.; Asher Paxton, Applicant.
6. Discussion of Site Alterations At 115 Winslow Rd.; Jason Shapiro, Applicant.
7. Discussion Of New Construction (Accessory) At 344 Franklin Rd.; Elliot Franklin, Applicant.
8. Discussion Of Partial Demolition (Principal) And New Construction (Addition) At 132 3rd Ave. S.; Michael Hathaway, Applicant.
9. Discussion Of Bridge St. Sidewalk Connection At 140, 144 1st Ave. N.; City Of Franklin, Applicant.

ADJOURN

Anyone needing accommodations due to disabilities please contact the ADA Coordinator at 615-791-3277 at least 24 hours prior to the meeting.

St Philip Catholic Church

113 2nd Ave S
Franklin Tn
37064



Proposed Alteration(s):

- The project proposes the installation of a single new window on the side facade of an existing building.
- The addition of this window will improve natural light and functionality to the interior space while maintaining the overall historic character of the property from the street view.

Existing Building/Structure



Aerial photo of property





Existing Conditions

New/proposed window in blue square

Style/look will be as adjacent outlined in yellow

Image/ Rendering/
Inspiration of what is
being proposed



Signed Affidavit

OWNER AFFIDAVIT City of Franklin, Tennessee

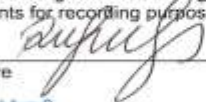
We/I St Philip Catholic Church/ Rev Gervan Menezes
(Please print Name/Names in Full)
being duly sworn, depose and say(s) that (I am)/(we are) the owner(s) of the
property described as:

078C-F01300/62-0656087
(Property Parcel/Tax ID Number)

and located at:
113 2nd Ave S Franklin, TN 37064
(Street Address)

am fully aware of the request for development approval in the City of Franklin,
Tennessee. Furthermore, (I) (we) hereby appoint

Carlos M Zarraga Jr
(Please print Name/Names in Full)
to act as my/our authorized agent on my/our behalf on all matters pertaining to
the processing and obtaining the application with the exception of legal
documents for recording purposes.

Signature 

113 2nd Ave S

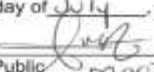
Property Owner Mailing Address

Franklin, TN 37064

City, State & Zip

Subscribed and sworn to before me this

07 day of July, 2026

Notary Public  Mariana Apascana

My Commission Expires: May 2, 2027





ALLARD WARD ARCHITECTS LLC

May 20, 2026

City of Franklin Design Review Committee
109 Third Ave. S.
Franklin, Tennessee 37064
Re: Application for Design Review Committee (DRC)

Dear Committee Members,

Please accept this letter as an introduction to the additional work being considered at 908 West Main Street, a property within the Hincheyville Historic District.

908 West Main Street is a two-story brick home built in 1881 and is known as "Mapledene." This home has undergone several renovations and additions since that time and is scheduled for additional renovation work in 2026. In addition to several previously approved exterior improvements, the new proposed work includes:

1. Swapping locations of windows on the rear, second floor.
2. Removing three windows from the rear façade and replacing with three new double hung windows.
3. Replacing one window on the rear façade recess sidewall (not visible from street) with shorter double hung.
4. Replacing pair of windows in recess with double doors.
5. Removal of door and sidelights from rear façade (modern addition), insert new double hung window o match existing size. Remove associated steps.
6. New Rear Door at center of main mass.(TBD on design)
7. New rear stoop and steps w/ iron railing.
8. New Rear Stoop Canopy (to replace existing)
9. Infill Exterior Basement Stairwell
10. New Exterior Lighting on Rear (Selection TBD)

The intent of this work is to expand the livability of the interior space which were constructed at a time when the home was sub-divided into four apartments. The original house was designed with important axial relationships (symmetry and the window changes will help re-establish some of those relationships while improving the space efficiency of that interior layout. All of these changes are located at the rear of the house and have no visibility from any public vantage point.

Thank you for your consideration of this project. Please let us know if any additional information or documentation is needed.

Sincerely,

Tyler LeMarinel, AIA, NCARB
Allard Ward Architects
Partner

OWNER AFFIDAVIT

City of Franklin, Tennessee

When an application is not filed by the owner of the property, the City requires documentation that the owner of the property is aware of an application being filed on their behalf.

I/We TIMOTHY ROBERT LLOYD AND MELISSA BINKLEY LLOYD
(please print name(s) as listed on deed; if property owner is a company, provide full company name plus specific name(s) of representative)

being duly sworn, depose and say(s) that (I am)/(we are) the owner(s) of the property described as:

0786-J01500
(Property Parcel/Tax ID Number)
and located at:

908 W. MAIN STREET FRANKLIN TN 37064
(Street Address)

I am/We are fully aware of the request for development approval in the City of Franklin, Tennessee. Furthermore, (I)/ (we) hereby appoint

TYLER LOMARINEZ
(Please print name(s) in Full - This should be the applicant listed in IDT)

to act as my/our authorized agent on my/our behalf on all matters pertaining to the processing and obtaining the application with the exception of legal documents for recording purposes.

[Signature]
Owner Signature

Melissa Binkley Lloyd
Additional Owner Signature, if applicable

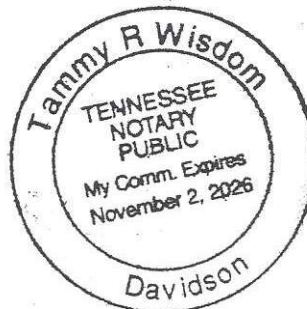
908 W. MAIN ST FRANKLIN TN 37064
Property Owner Mailing Address

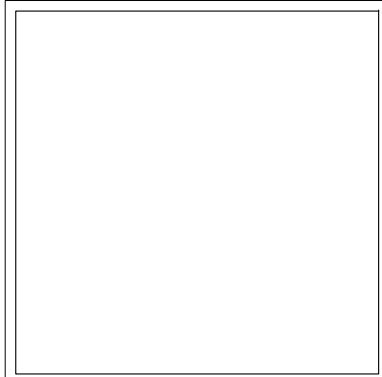
City, State & Zip

Subscribed and sworn to before me this

11 day of May, 2026.
[Signature]
Notary Public

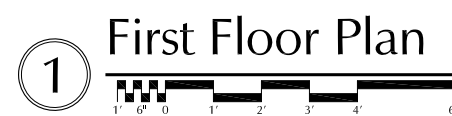
My Commission Expires: 11/2/2026



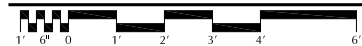


Drawings:

First Floor Plan



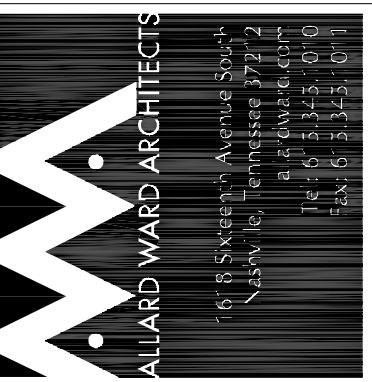
1 Second Floor Plan



Scale: 1/4"=1'-0"



An As-Built for the:
Lloyd Residence
908 W Main Street
Franklin, TN 37064



Plot Date:	10 July, 2026	
Description...		
No.	Date	Description

Drawings:
Second Floor Plan

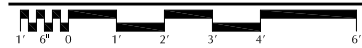


A1.2





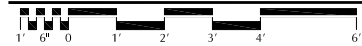
① Front Elevation (East Side)



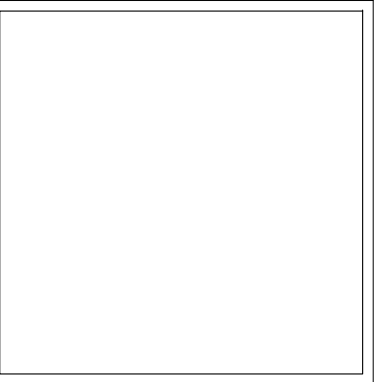
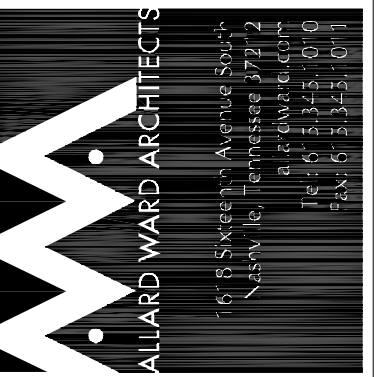
Scale: 1/4"=1'-0"



② Left Elevation (South Side)



Scale: 1/4"=1'-0"



Plot Date: 21 May, 2026	
Description...	
No.	Date
Description	

Drawings:	
Exterior Elevations	



① West Elevation (Rear)



Scale: 1/4"=1'-0"



② North Elevation (Right Side)

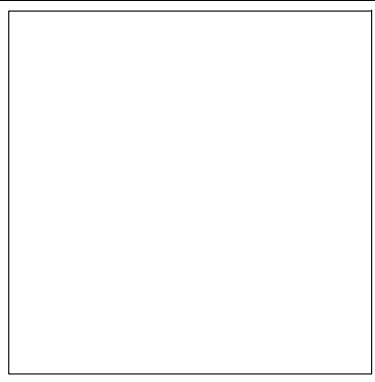
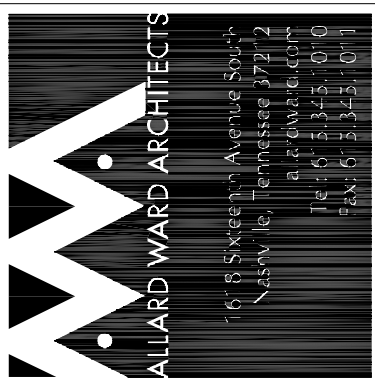


Scale: 1/4"=1'-0"

An As-Built for the:

Lloyd Residence

908 W Main Street
Franklin, TN 37064

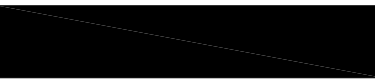


Plot Date: 21 May, 2026	
Description...	
No.	Date
Description	

Drawings:	
Elevations	



A2.2











906 STUDIO, PLLC
249 4TH AVENUE N
SUITE 200
FRANKLIN, TN 37064
615.988.9065
906studio.com

CLIFF AND LINDA WHITMORE WHITMORE RESIDENCE

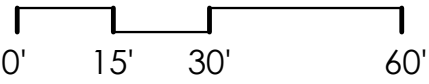
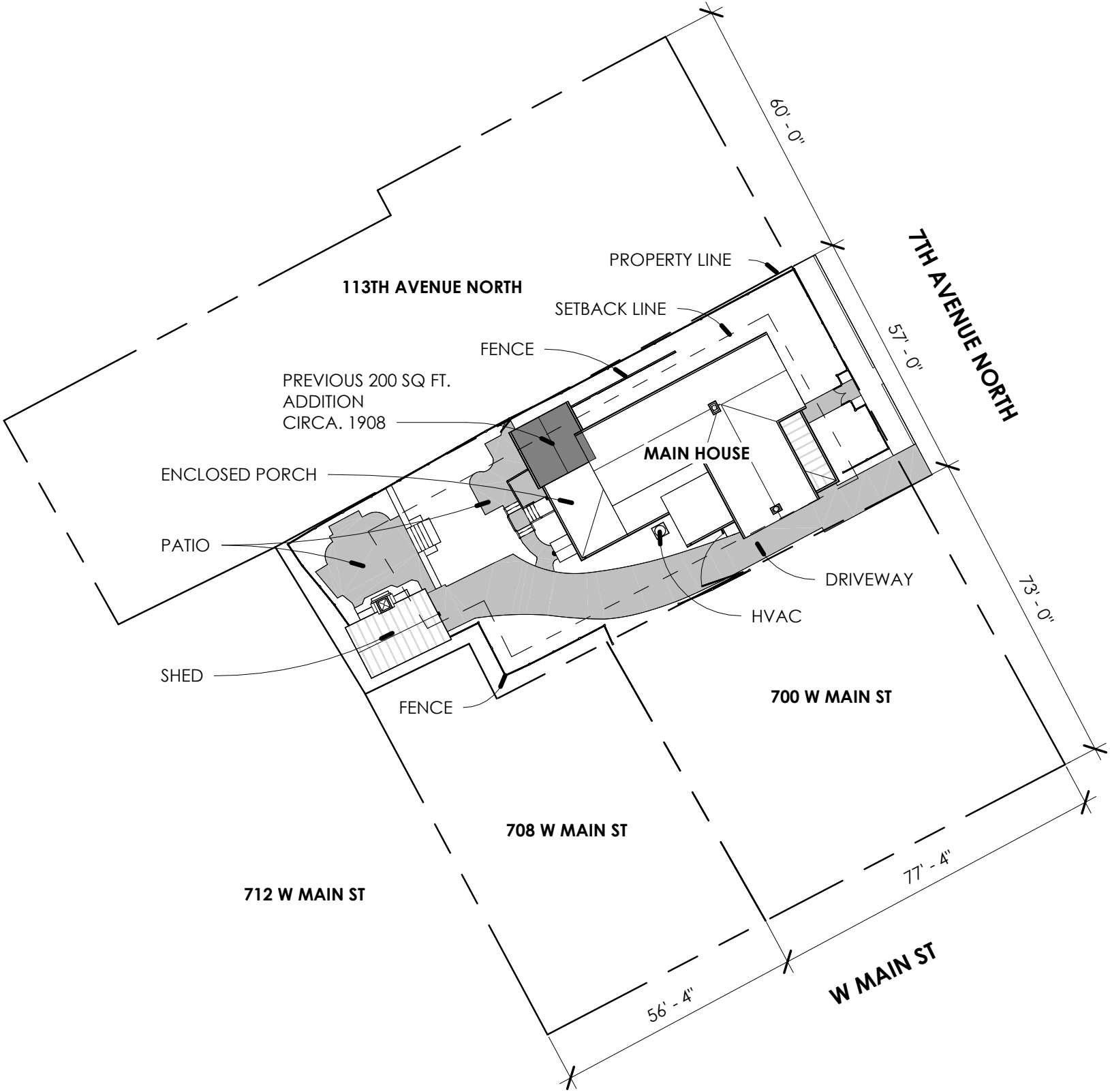
109 7th Ave N, Franklin, TN 37064

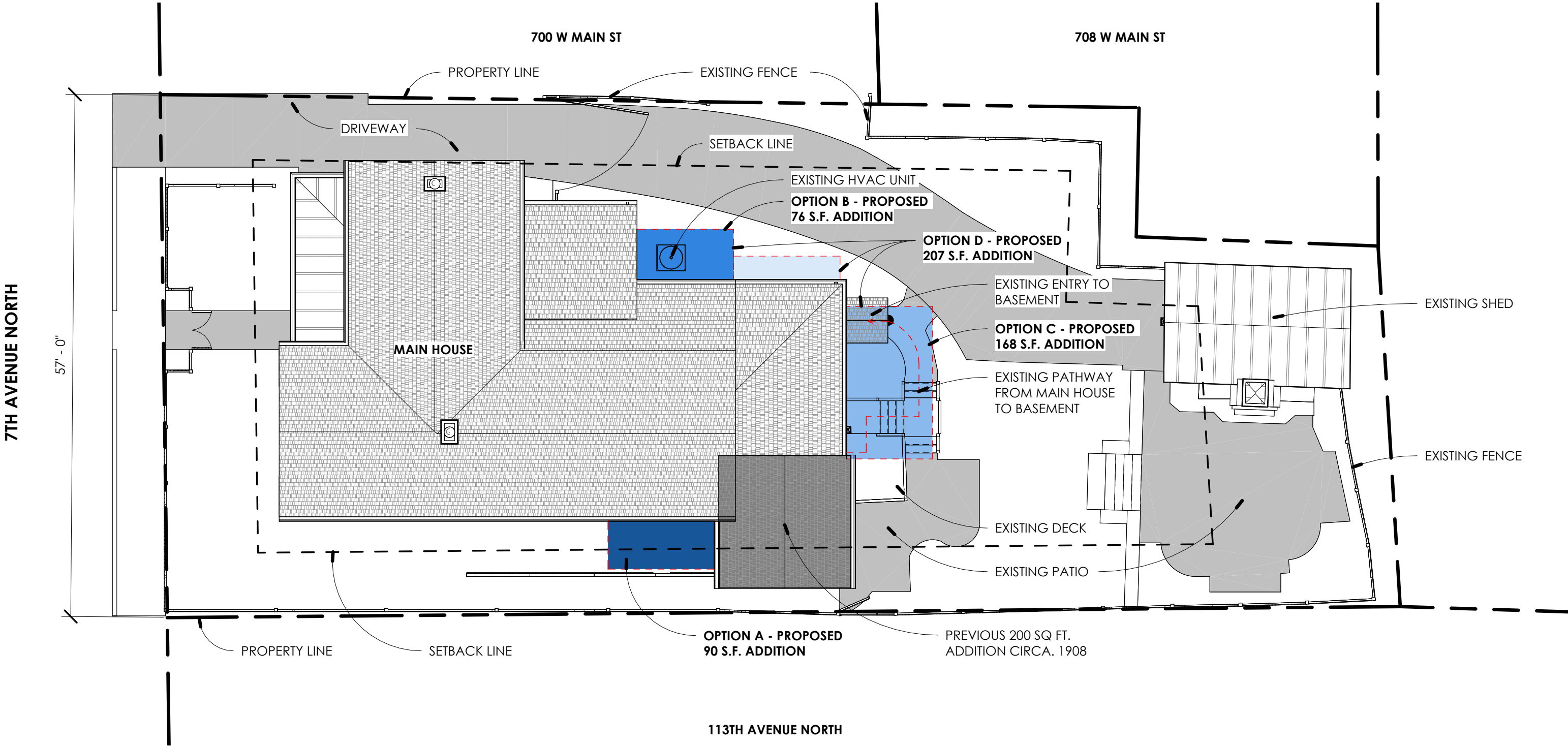
07/20/26

PROPERTY INFORMATION:

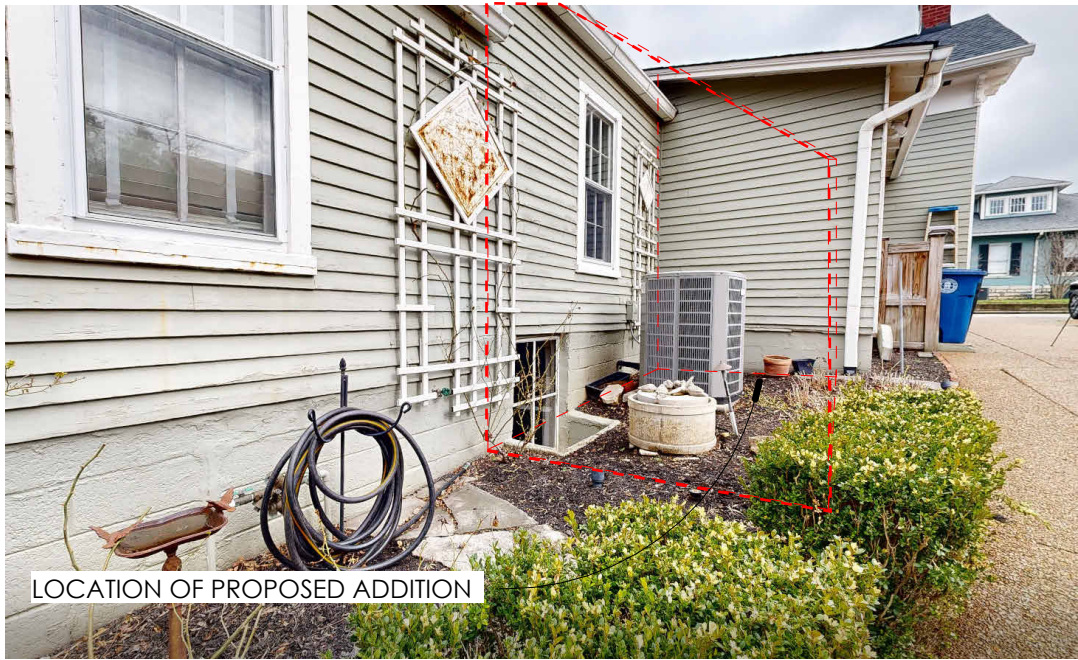
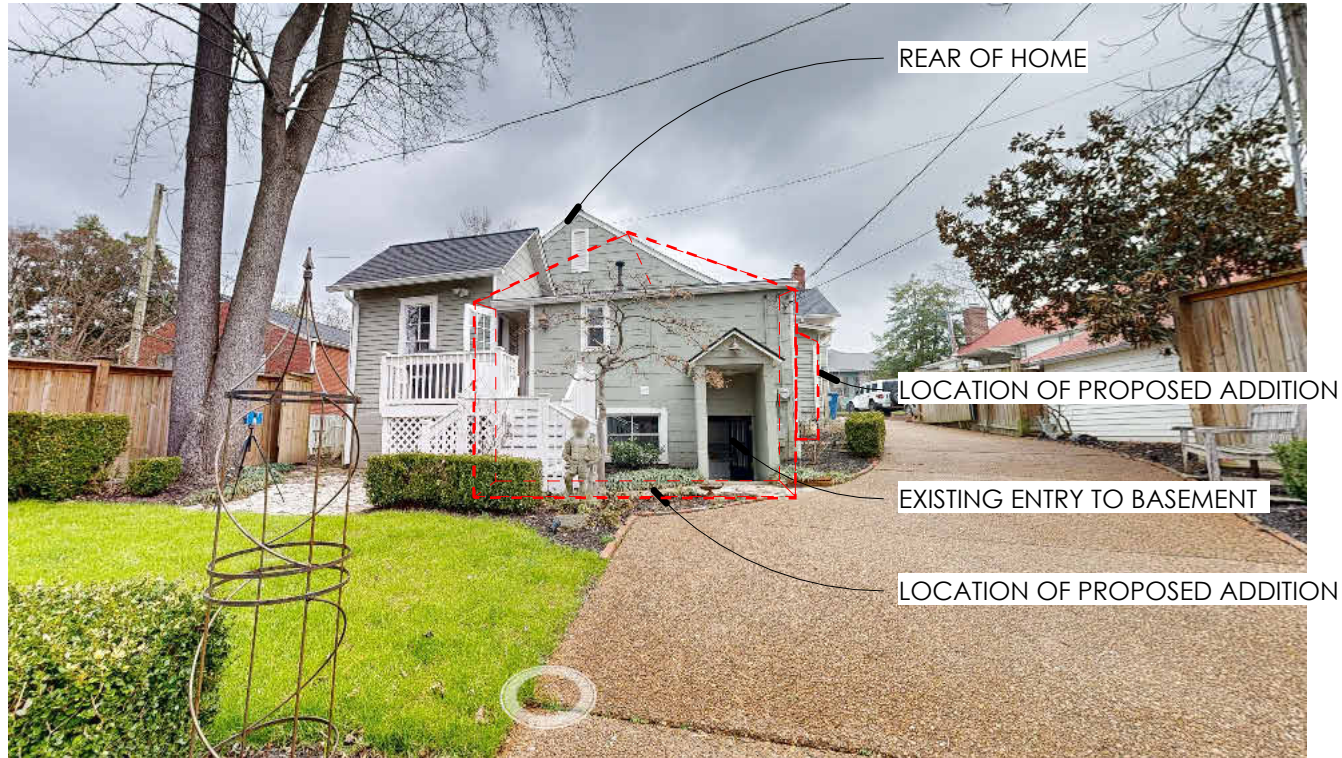
- BUILT IN 1892
- R-4 ZONING, CENTRAL FRANKLIN OVERLAY, HISTORIC PRESERVATION OVERLAY
- 7,029 S.F. LOT
- EXISTING IMPERVIOUS: 4,492 S.F. (63.91%)
- PROPOSAL TO REPLACE PATIO AND/OR DRIVEWAY WITH PERMEABLE PAVERS TO REDUCE IMPERVIOUS S.F.

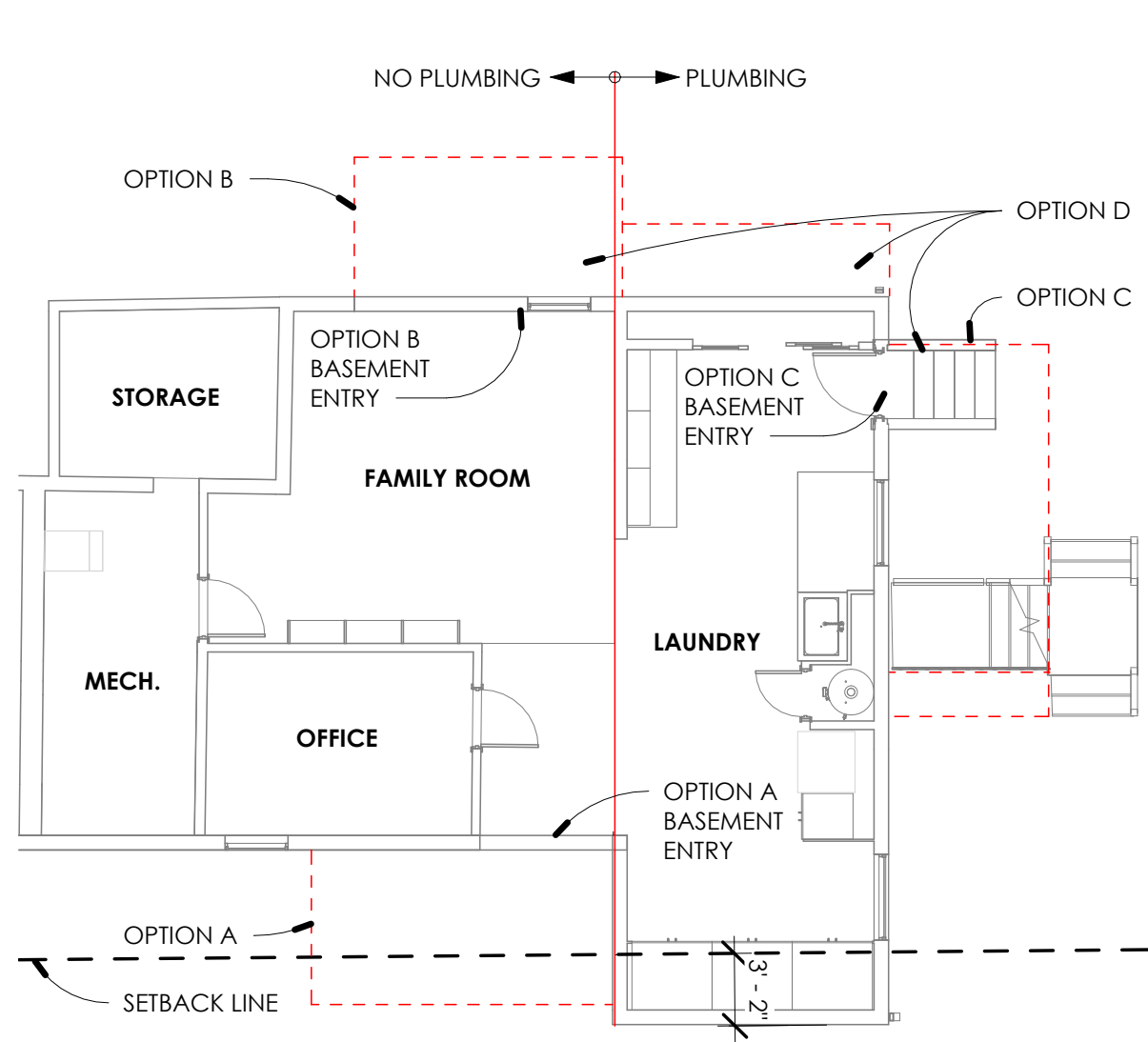
- APPROX. 200 SQ FT ADDITION
ADDED TO REAR OF HOME PRIOR
TO 1908



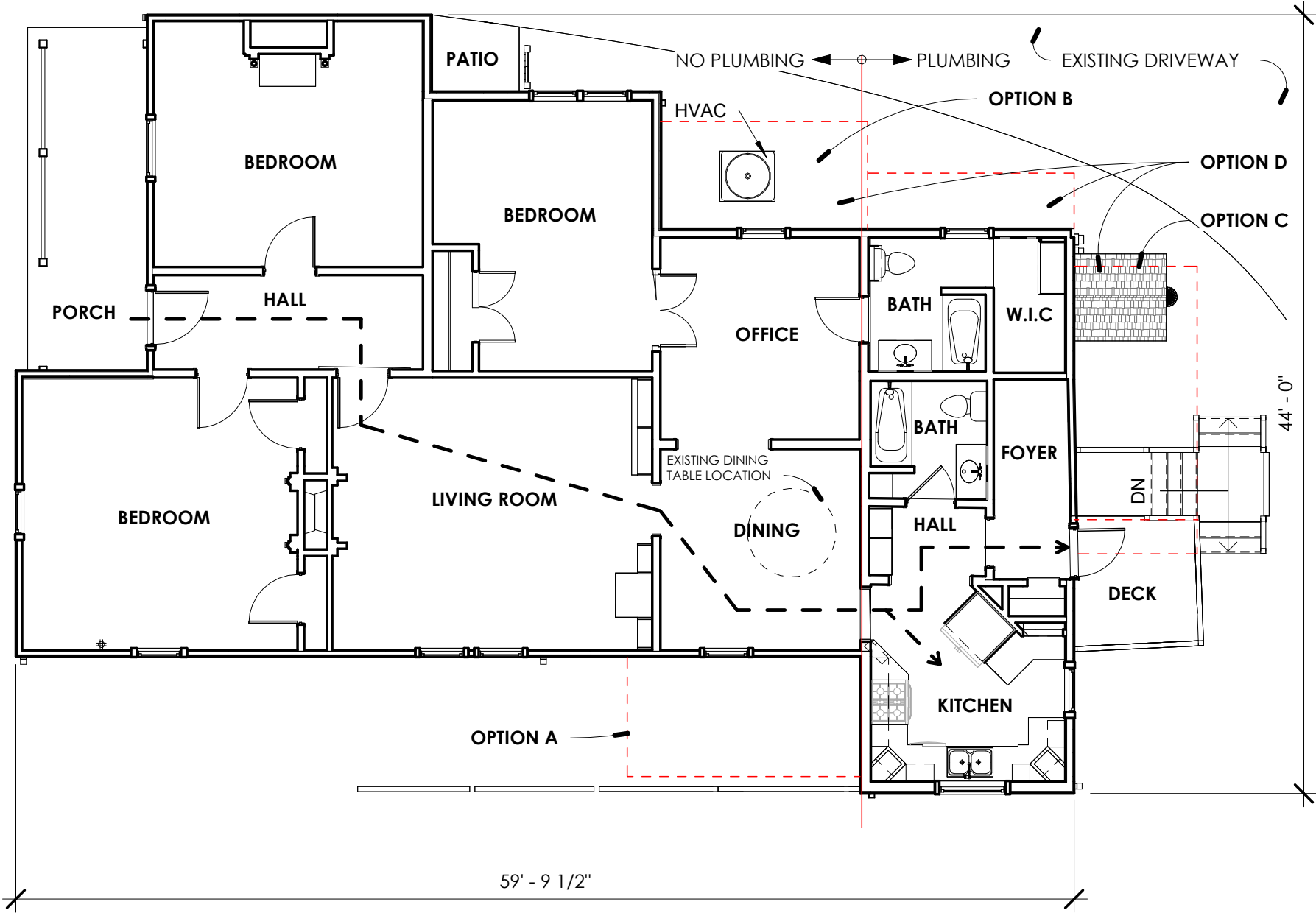


ENLARGED SITE PLAN
3/32" = 1'-0"





EXISTING BASEMENT FLOOR PLAN



EXISTING FIRST FLOOR PLAN

WHITMORE RESIDENCE

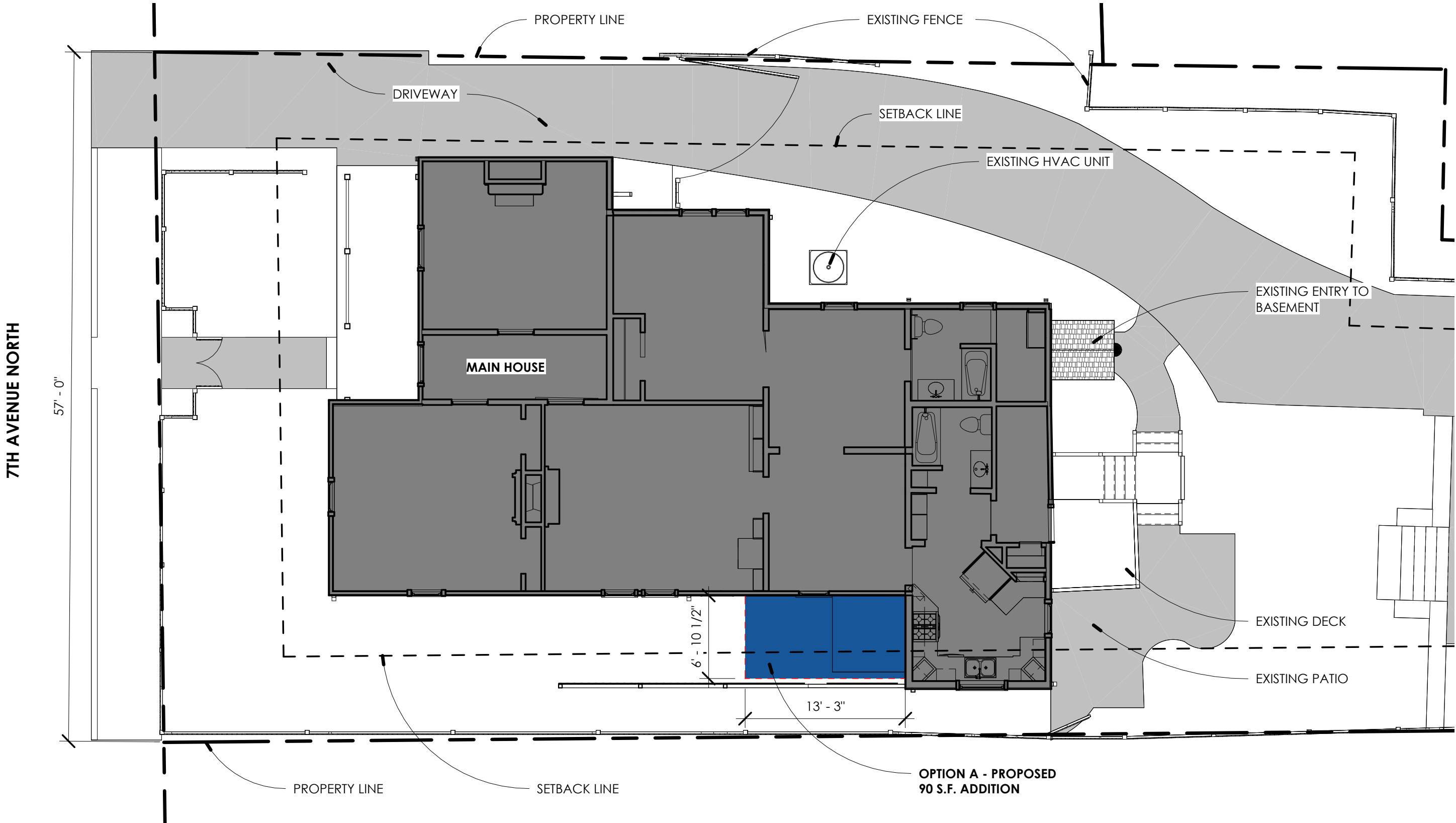
OPTION A FLOOR PLAN
CLIFF AND LINDA WHITMORE
OPTION A: 90 S.F. ADDITION

EXISTING MAIN HOUSE FOOTPRINT: 1,774 S.F.
PROPOSED ADDITION: 90 S.F. (887 MAX. ALLOWED)

LOT SIZE: 7,029 S.F.
IMPERVIOUS: 4,582 S.F. (65%)

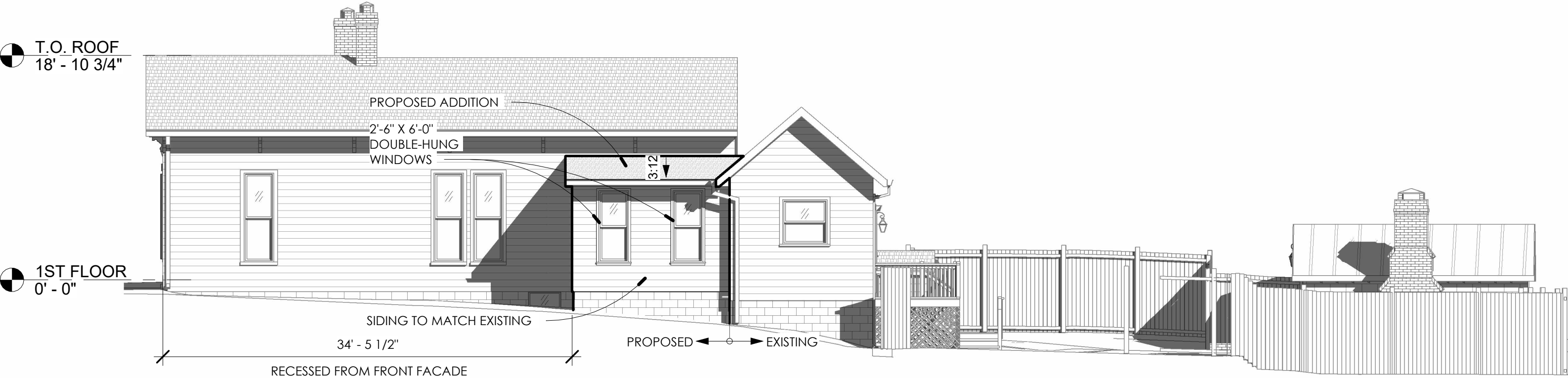
*PROPOSAL TO REPLACE PATIO AND/OR DRIVEWAY WITH PERMEABLE PAVERS TO REDUCE IMPERVIOUS S.F.

- OPTION A PROS:**
- MOST COST EFFECTIVE
 - LEAST INVASIVE
 - MAKES SENSE FROM EXISTING CIRCULATION POINT OF VIEW
- OPTION B CONS:**
- VISIBLE FROM STREET
 - NEEDS VARIANCE

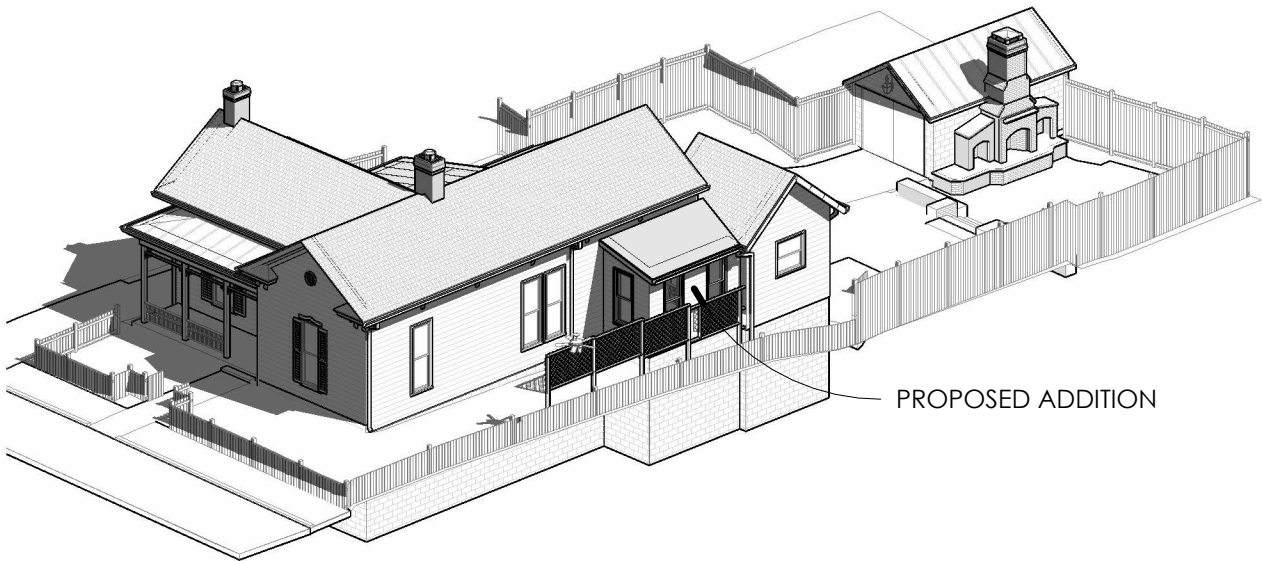


WHITMORE RESIDENCE

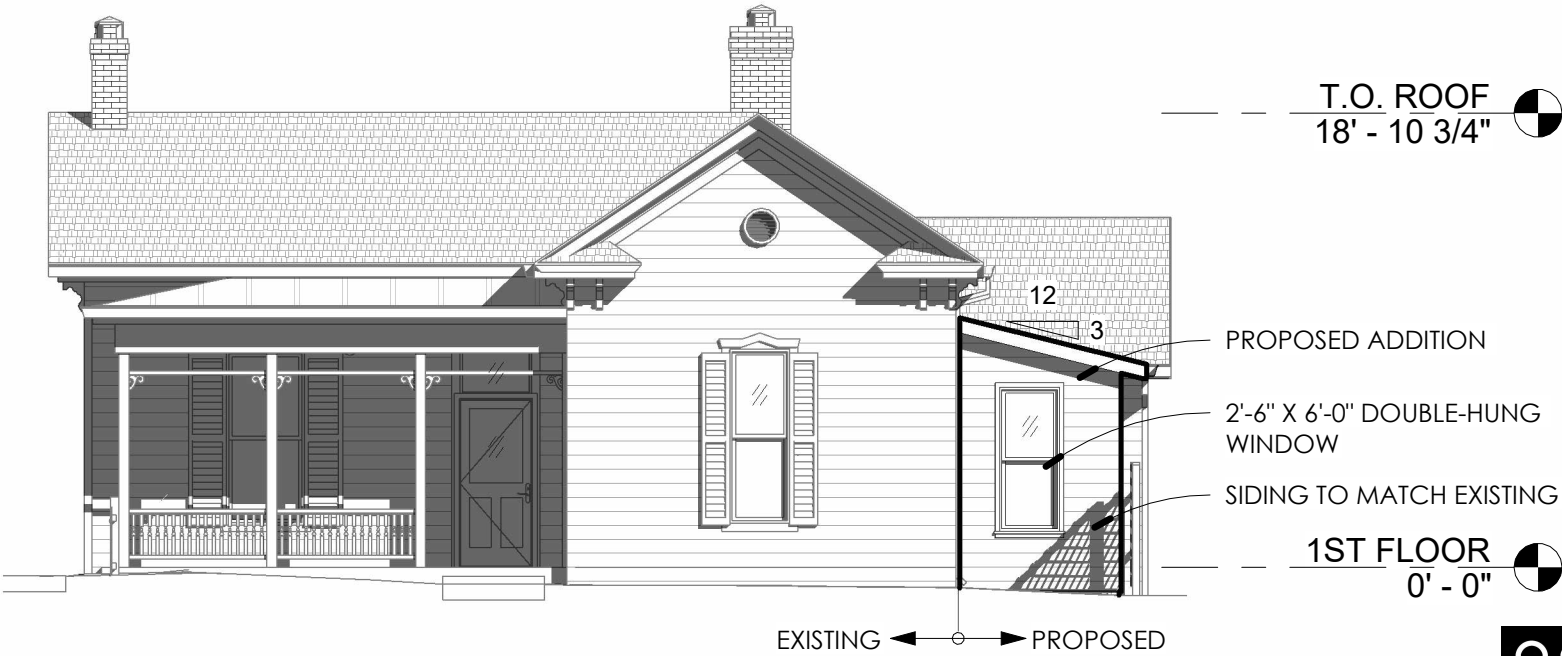
OPTION A ELEVATIONS
CLIFF AND LINDA WHITMORE
OPTION A: 90 S.F. ADDITION



OPTION A RIGHT ELEVATION
1/8" = 1'-0"



OPTION A PERSPECTIVE



OPTION A FRONT ELEVATION
1/8" = 1'-0"

WHITMORE RESIDENCE

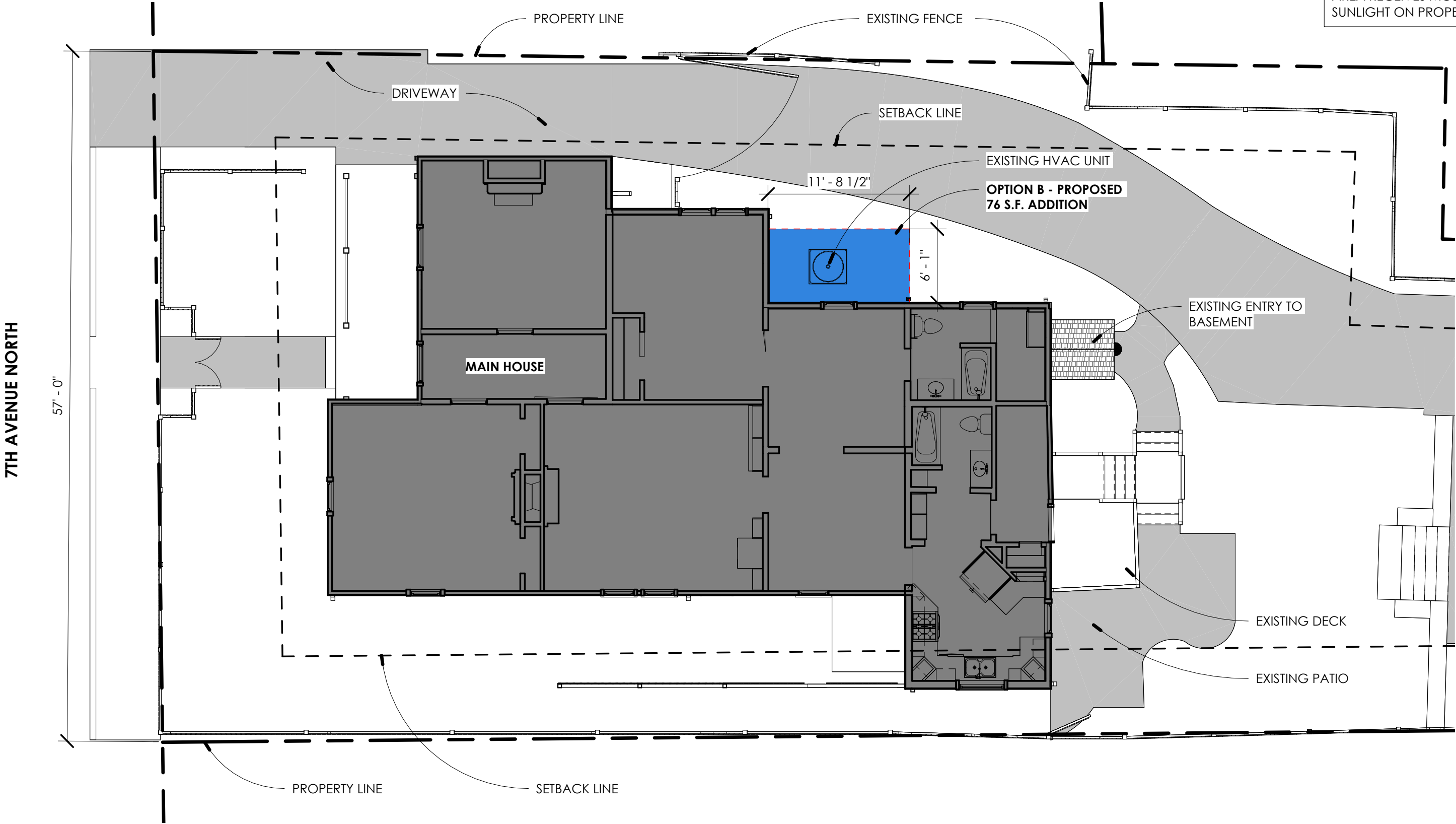
OPTION B FLOOR PLAN
CLIFF AND LINDA WHITMORE
OPTION B: 76 S.F. ADDITION

EXISTING MAIN HOUSE FOOTPRINT: 1,774 S.F.
PROPOSED ADDITION: 76 S.F. (887 MAX. ALLOWED)

LOT SIZE: 7,029 S.F.
IMPERVIOUS: 4,568 S.F. (65%)

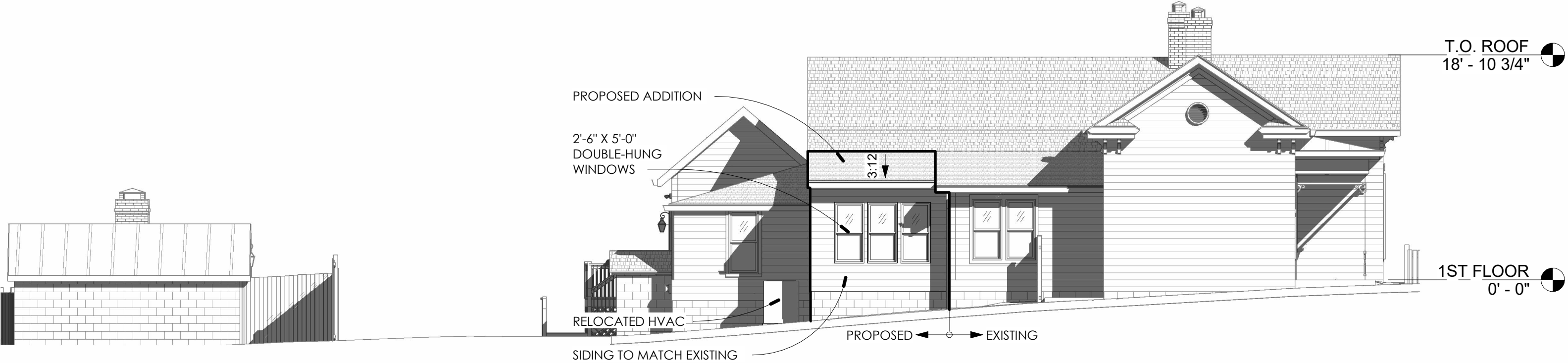
*PROPOSAL TO REPLACE PATIO AND/OR DRIVEWAY WITH PERMEABLE PAVERS TO REDUCE IMPERVIOUS S.F.

- OPTION B PROS:**
- RECESSED FROM MAIN HOUSE
- OPTION B CONS:**
- MUST RELOCATE HVAC, 3 IRRIGATION LINES, WATER MAIN, AND 2 DRAIN LINES
 - LOSE SPACE FOR LANDSCAPING (PROPOSED AREA RECEIVES MOST SUNLIGHT ON PROPERTY)

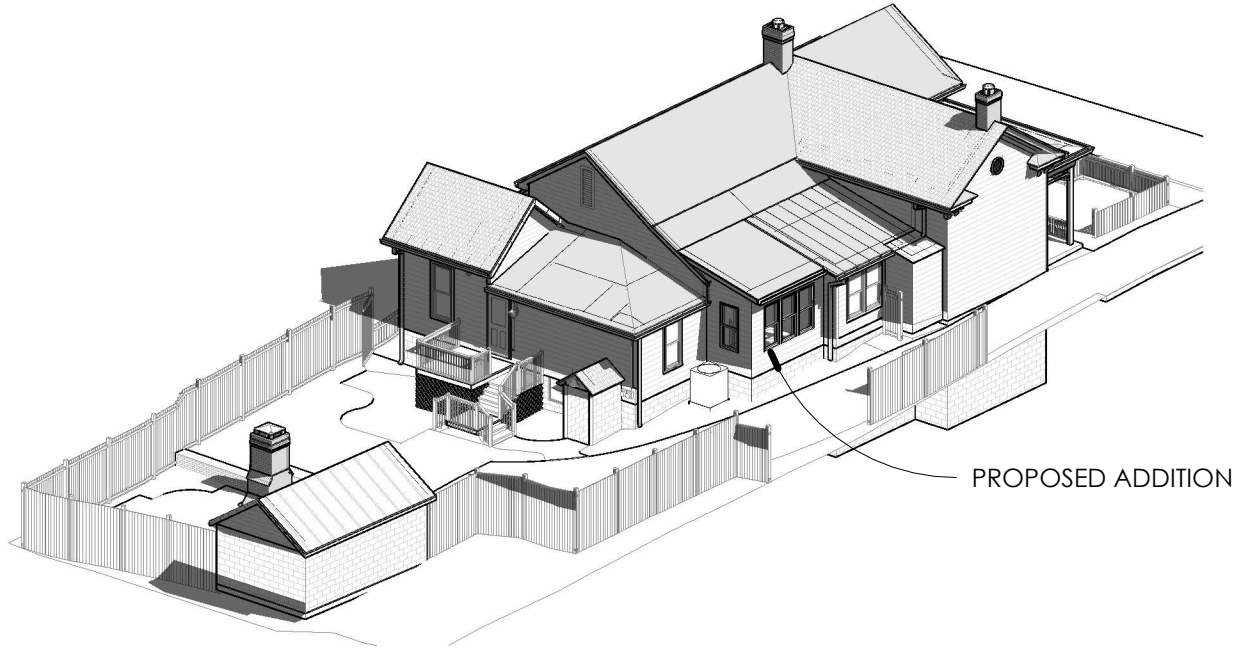


WHITMORE RESIDENCE

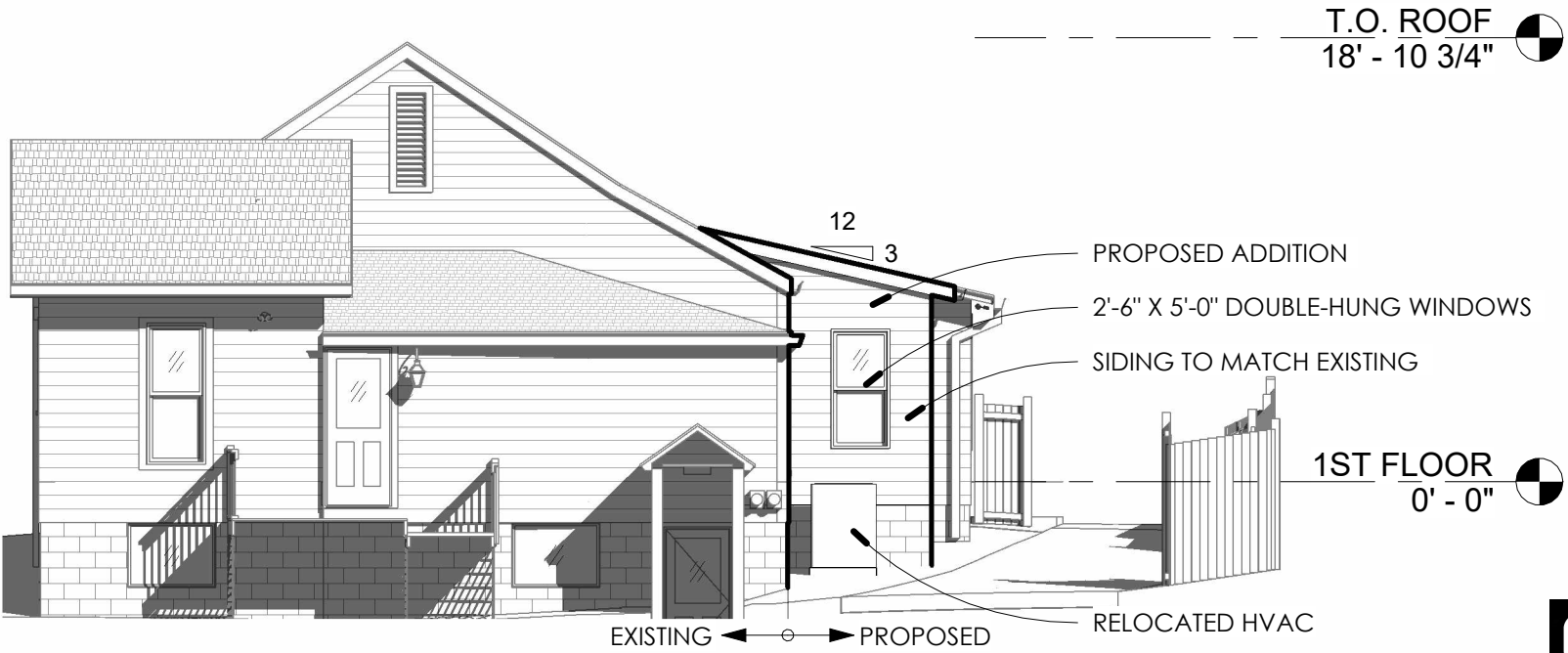
OPTION B ELEVATIONS
CLIFF AND LINDA WHITMORE
OPTION B: 76 S.F. ADDITION



OPTION B LEFT ELEVATION
1/8" = 1'-0"



OPTION B PERSPECTIVE

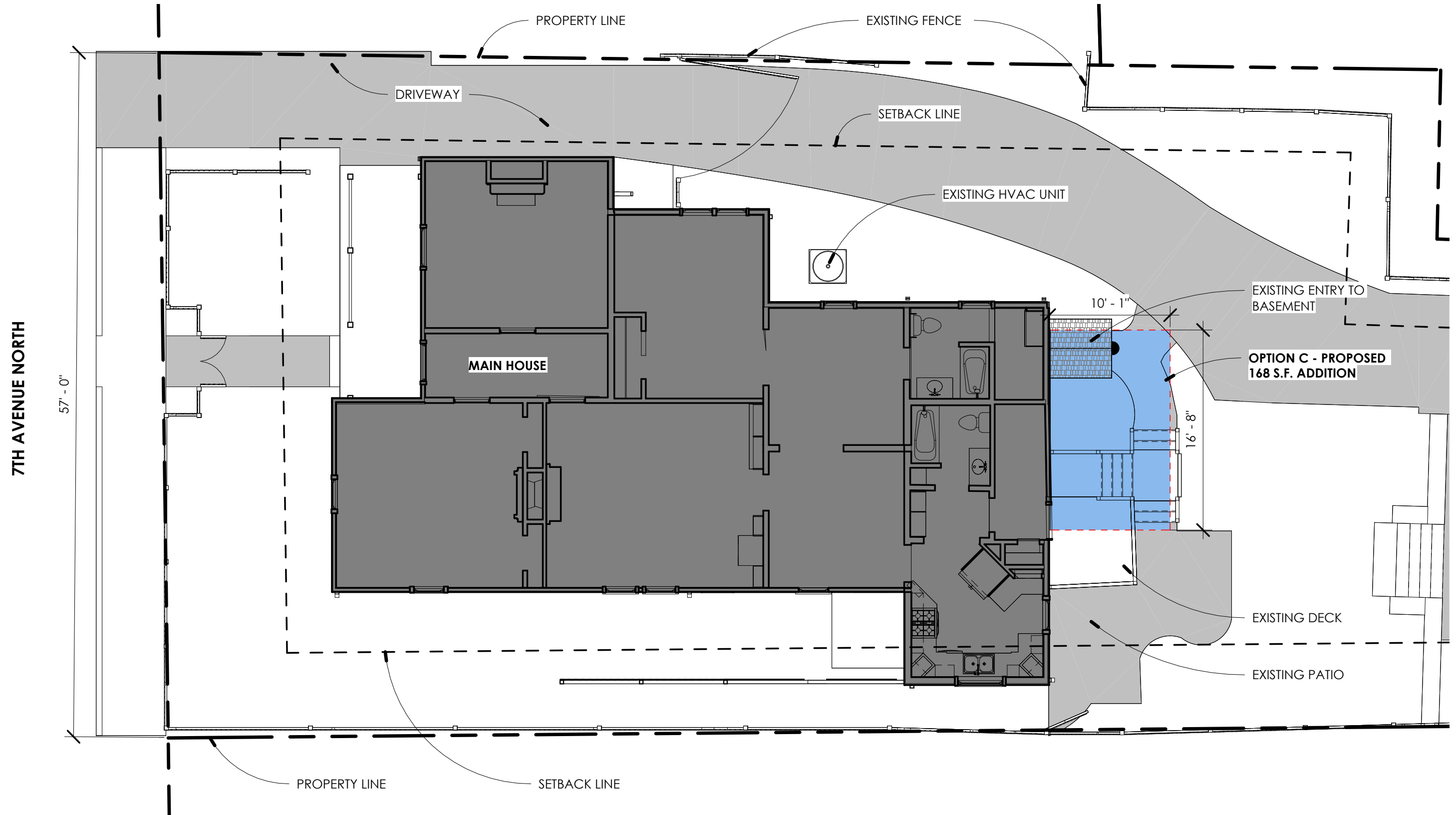


OPTION B REAR ELEVATION
1/8" = 1'-0"

OPTION C FLOOR PLANS
CLIFF AND LINDA WHITMORE
OPTION C: 168 S.F. ADDITION

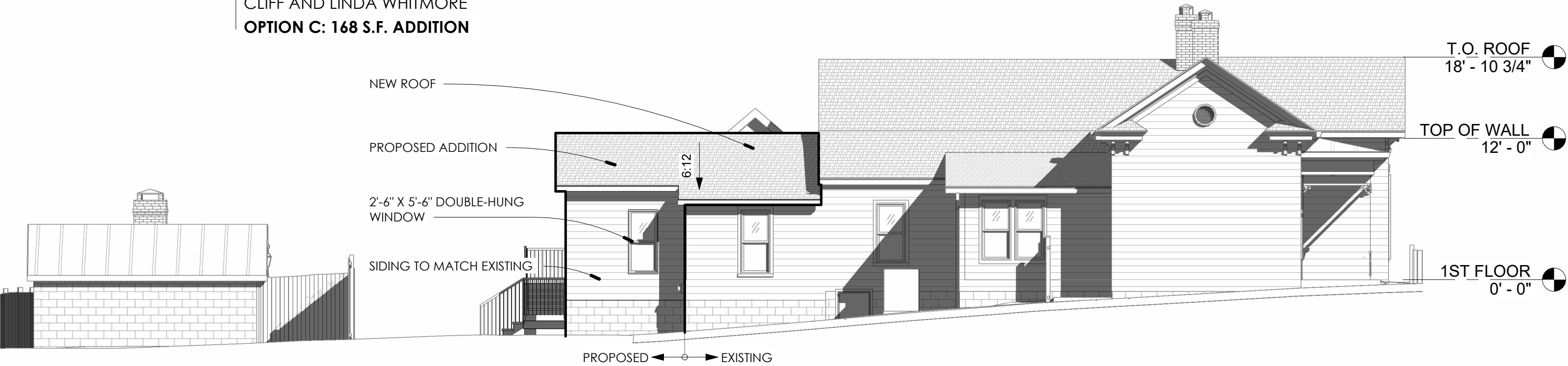
OPTION C CONS:

- REQUIRES NEW ROOF IN REAR OF HOME
- REQUIRES NEW DECK IN REAR OF HOME

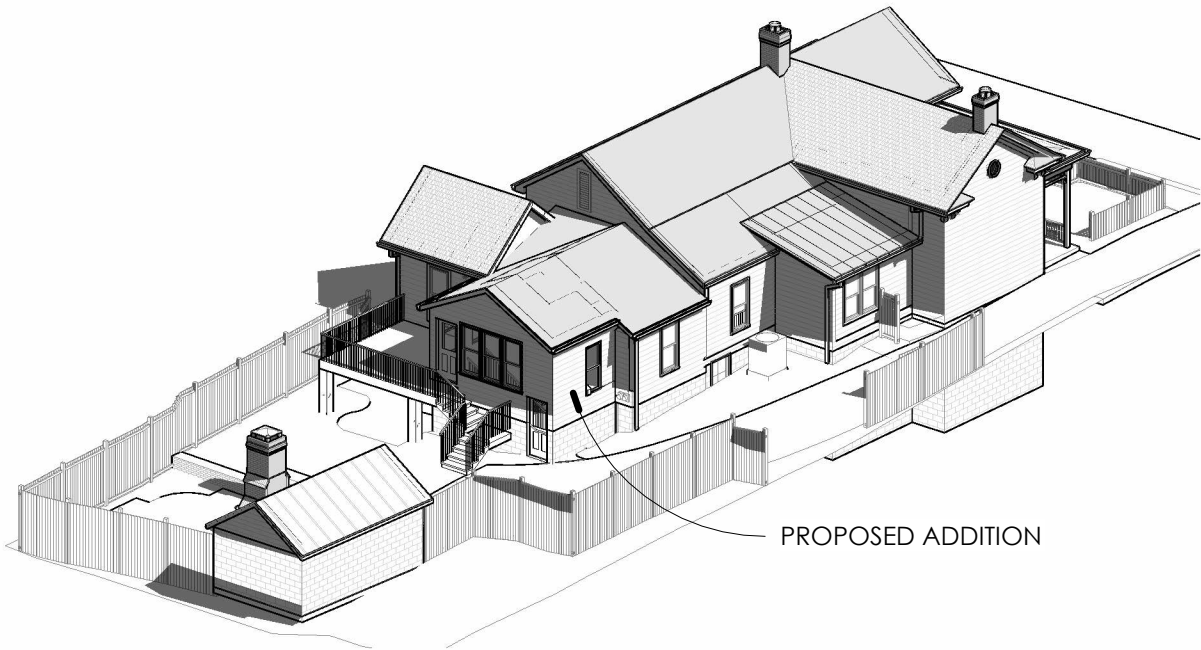


WHITMORE RESIDENCE

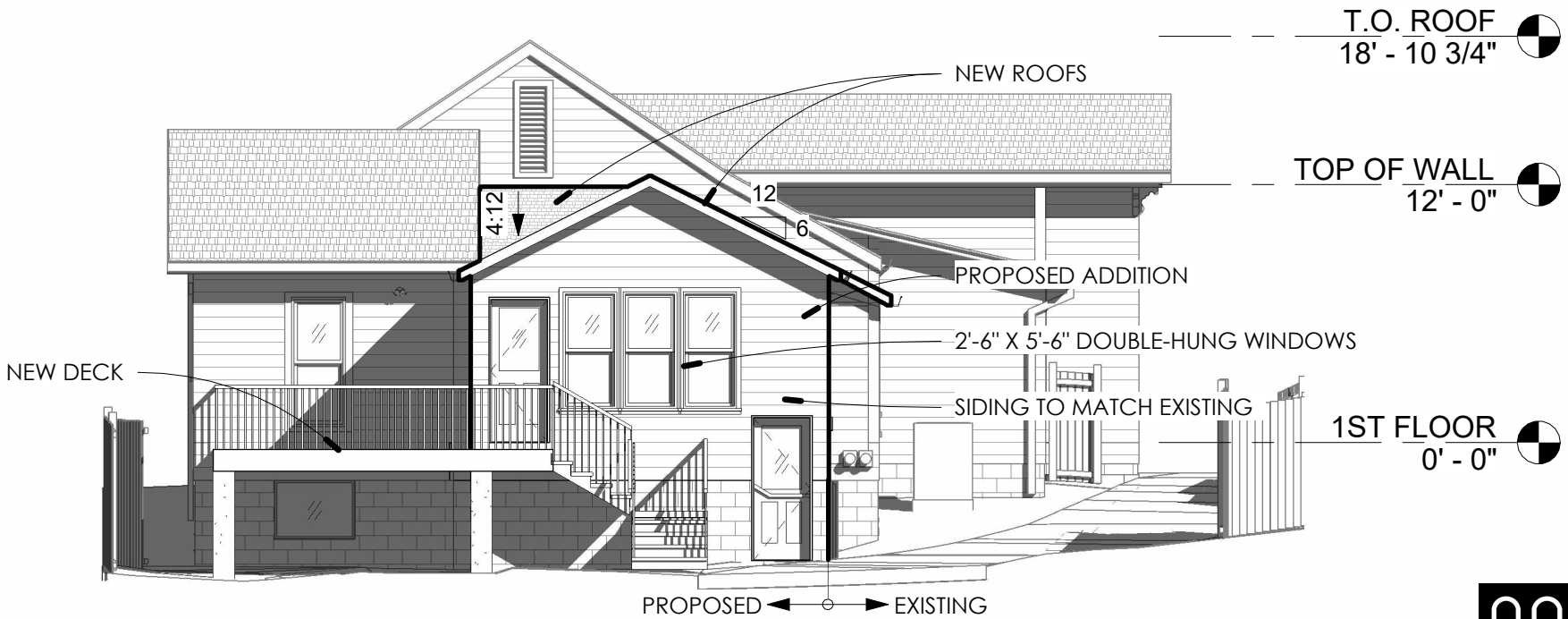
OPTION C ELEVATIONS
CLIFF AND LINDA WHITMORE
OPTION C: 168 S.F. ADDITION



OPTION C LEFT ELEVATION
1/8" = 1'-0"



OPTION C PERSPECTIVE



OPTION C REAR ELEVATION
1/8" = 1'-0"

WHITMORE RESIDENCE

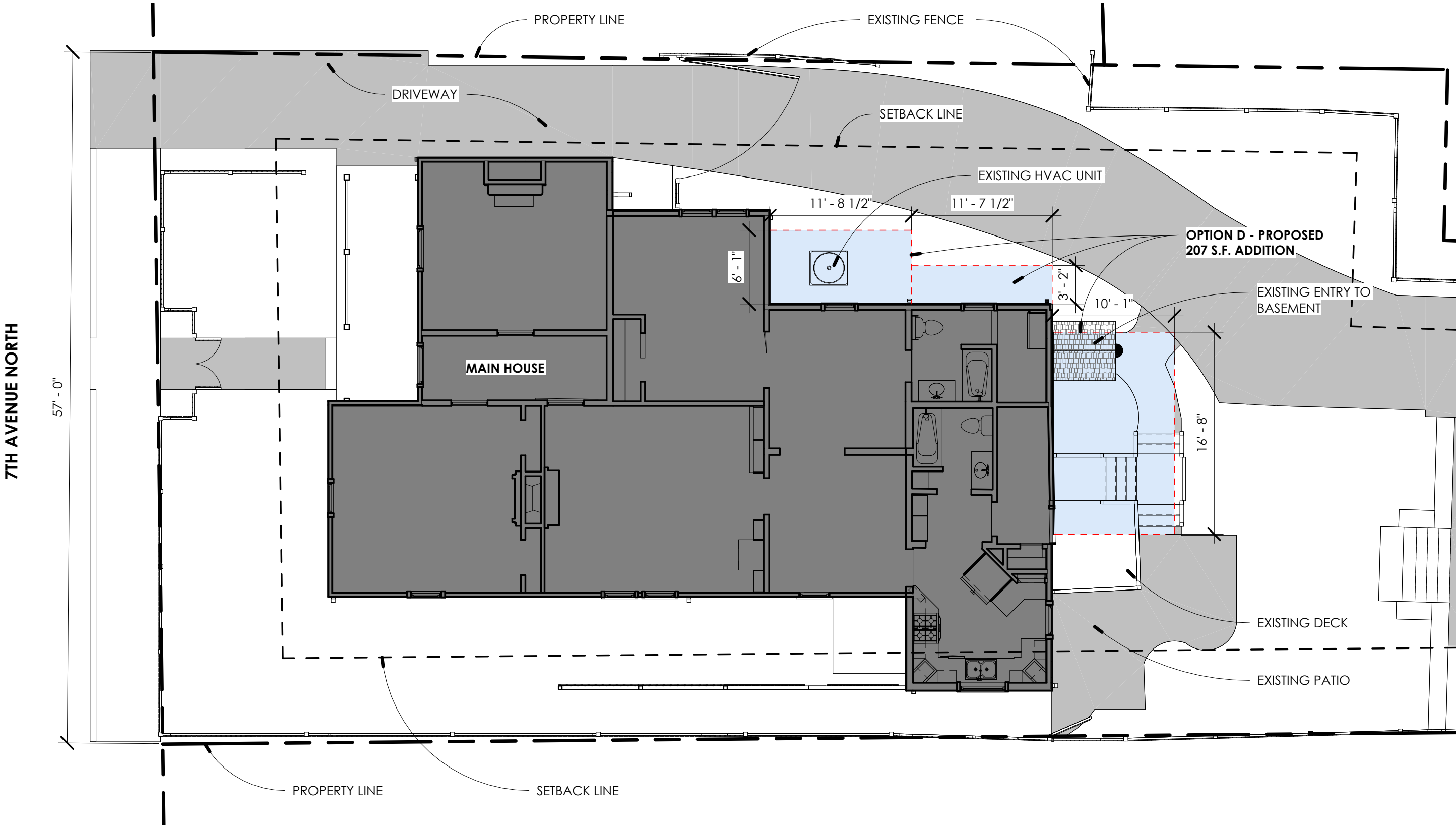
OPTION D FLOOR PLANS
CLIFF AND LINDA WHITMORE
OPTION D: 207 S.F. ADDITION

EXISTING MAIN HOUSE FOOTPRINT: 1,774 S.F.
PROPOSED ADDITION: 207 S.F. (887 MAX. ALLOWED)

LOT SIZE: 7,029 S.F.
IMPERVIOUS: 4,699 S.F. (67%)

*PROPOSAL TO REPLACE PATIO AND/OR DRIVEWAY WITH PERMEABLE PAVERS TO REDUCE IMPERVIOUS S.F.

- OPTION D PROS:**
- ALLOWS ROOM FOR HOMEOWNERS TO UPDATE INTERIOR SPACE AS DESIRED
- OPTION D CONS:**
- MOST INVASIVE/EXPENSIVE

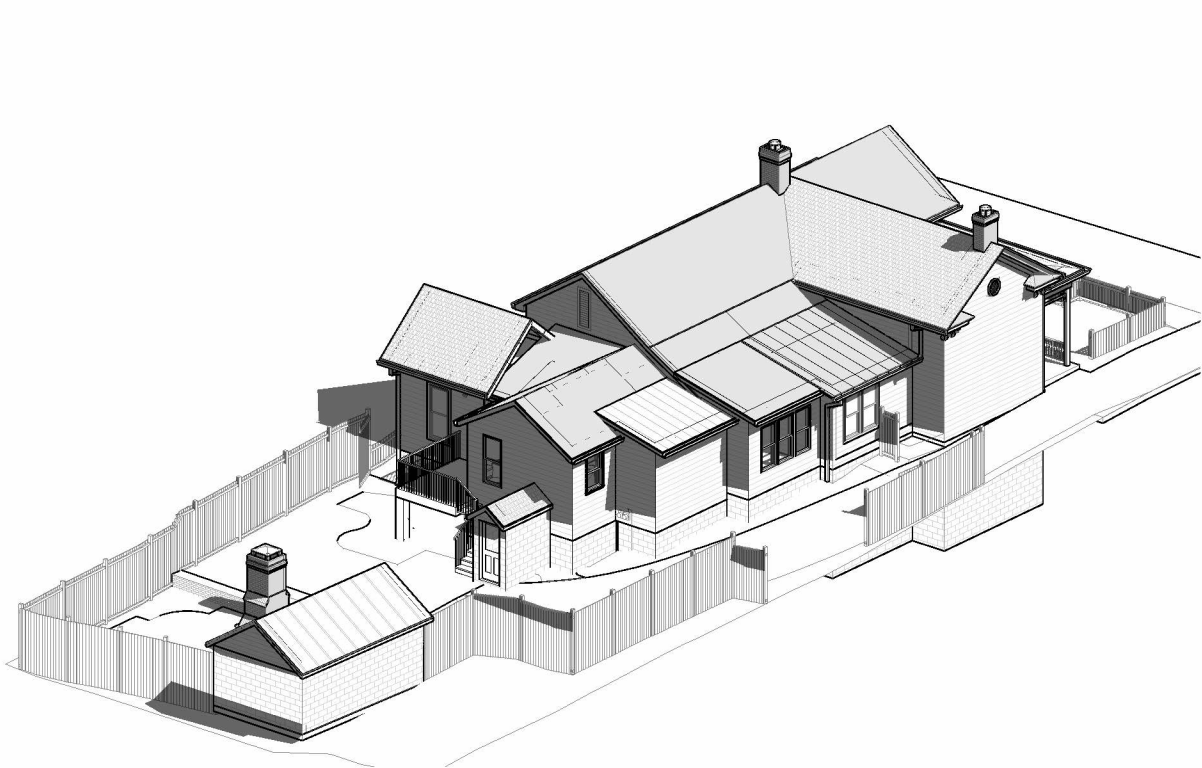


WHITMORE RESIDENCE

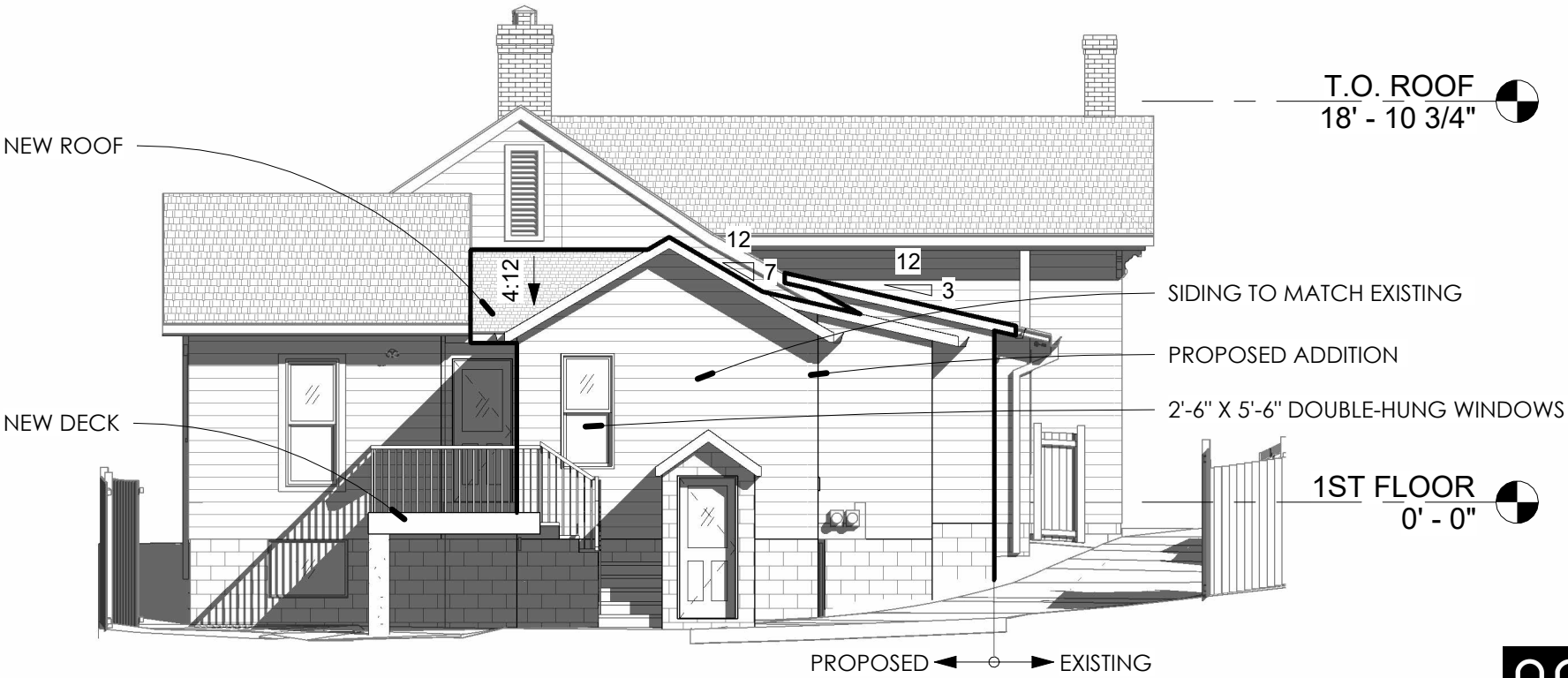
OPTION D ELEVATIONS
CLIFF AND LINDA WHITMORE
OPTION D: 207 S.F. ADDITION



OPTION D LEFT ELEVATION
1/8" = 1'-0"

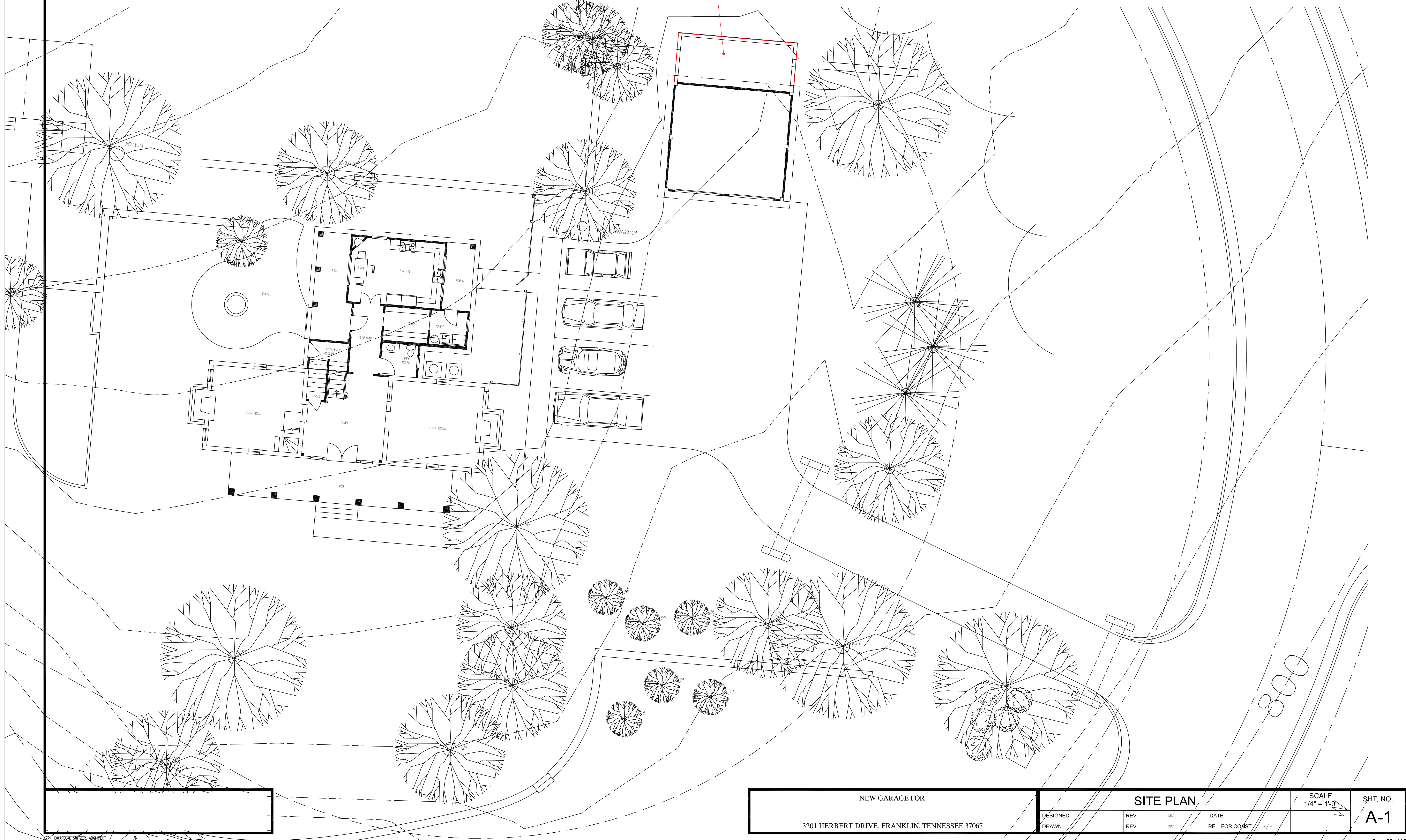


OPTION D PERSPECTIVE



OPTION D REAR ELEVATION
1/8" = 1'-0"

ADD 10' TO REAR OF
EXISTING CARPORT
FOR STORAGE AREA



HOWARD M. SWITZER, ARCHITECT

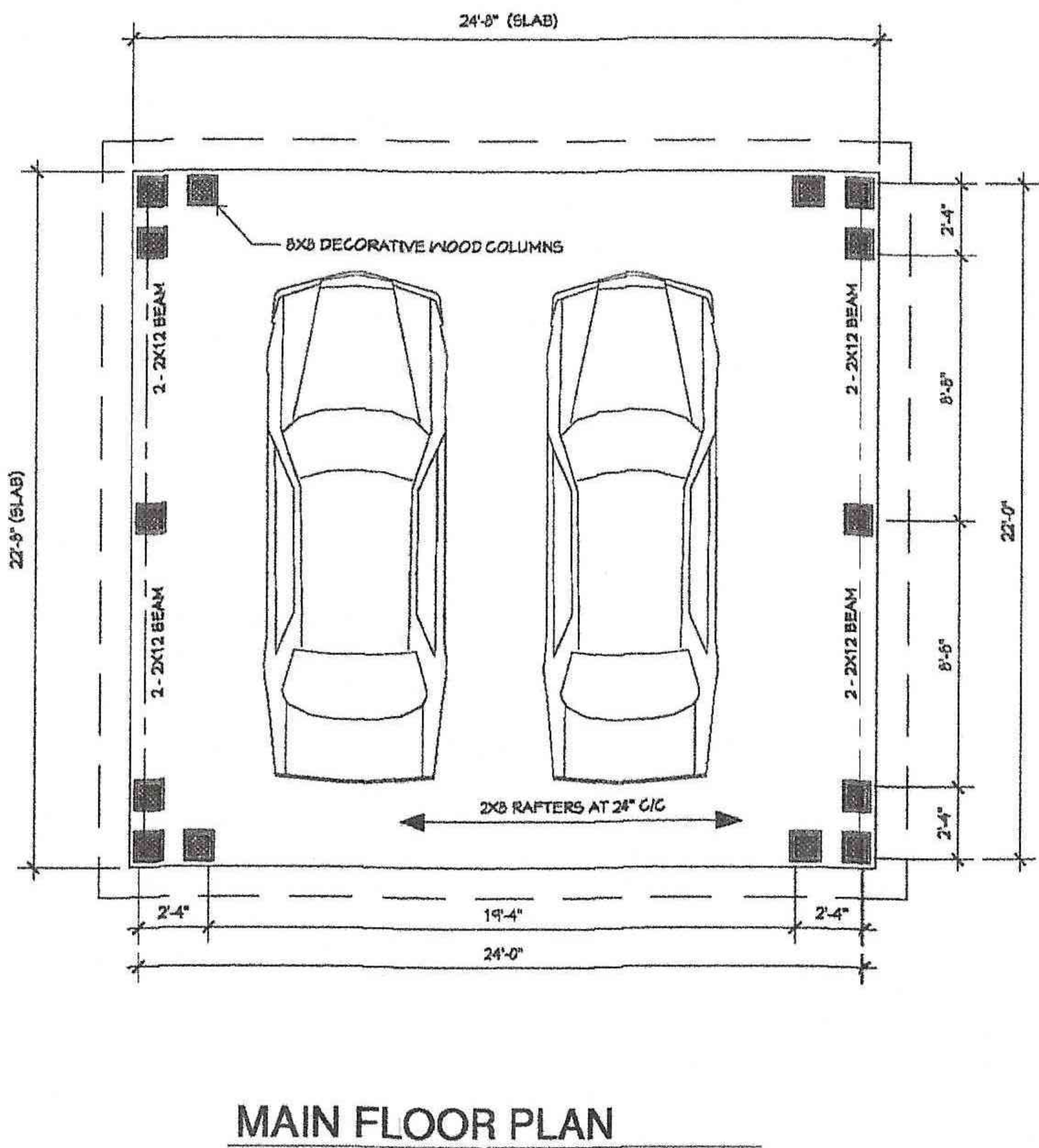
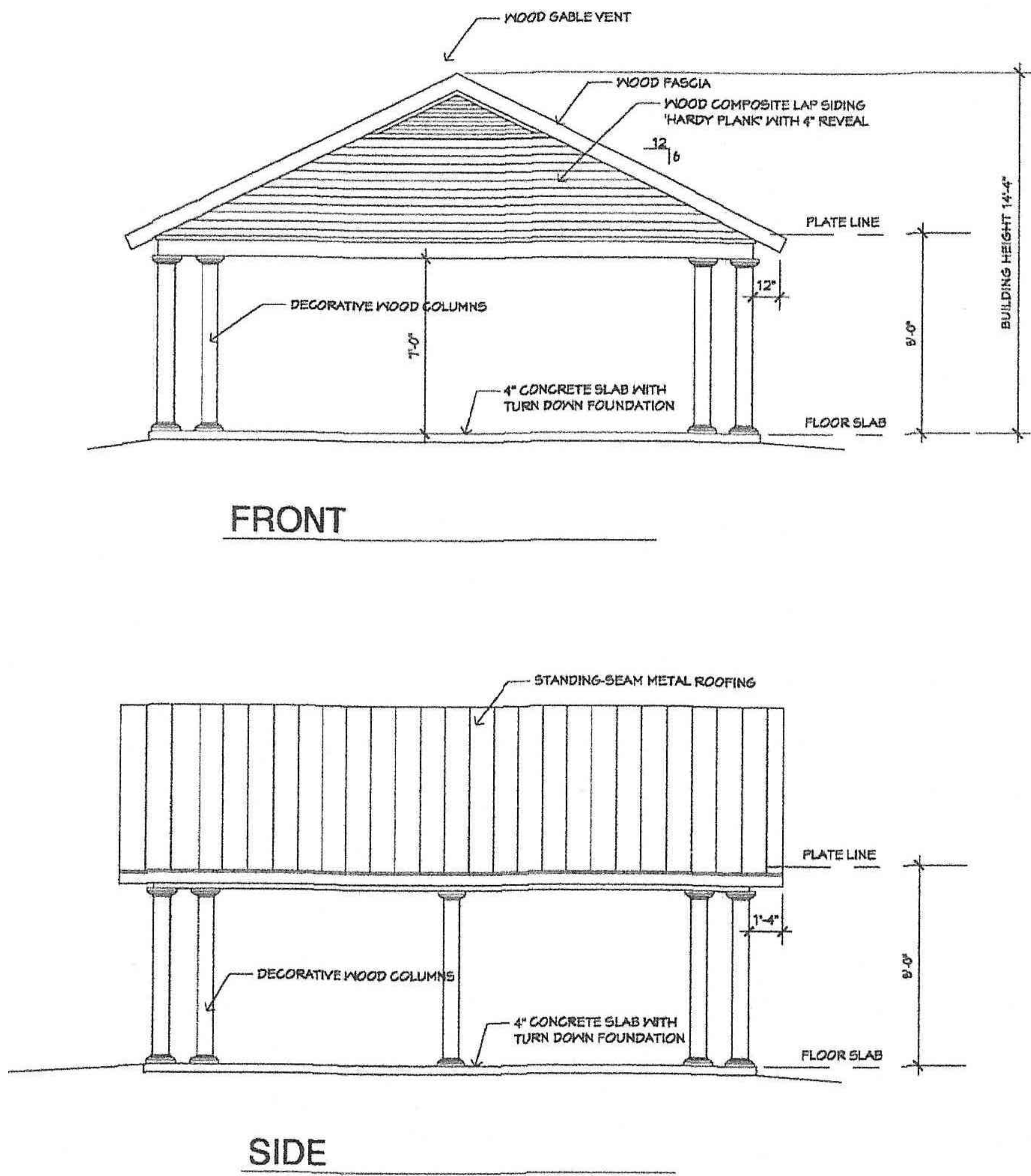
NEW GARAGE FOR
3201 HERBERT DRIVE, FRANKLIN, TENNESSEE 37067

SITE PLAN			
DESIGNED	REV.	10/02	DATE
DRAWN	REV.	10/02	REL. FOR CONST.

SCALE
1/4" = 1'-0"

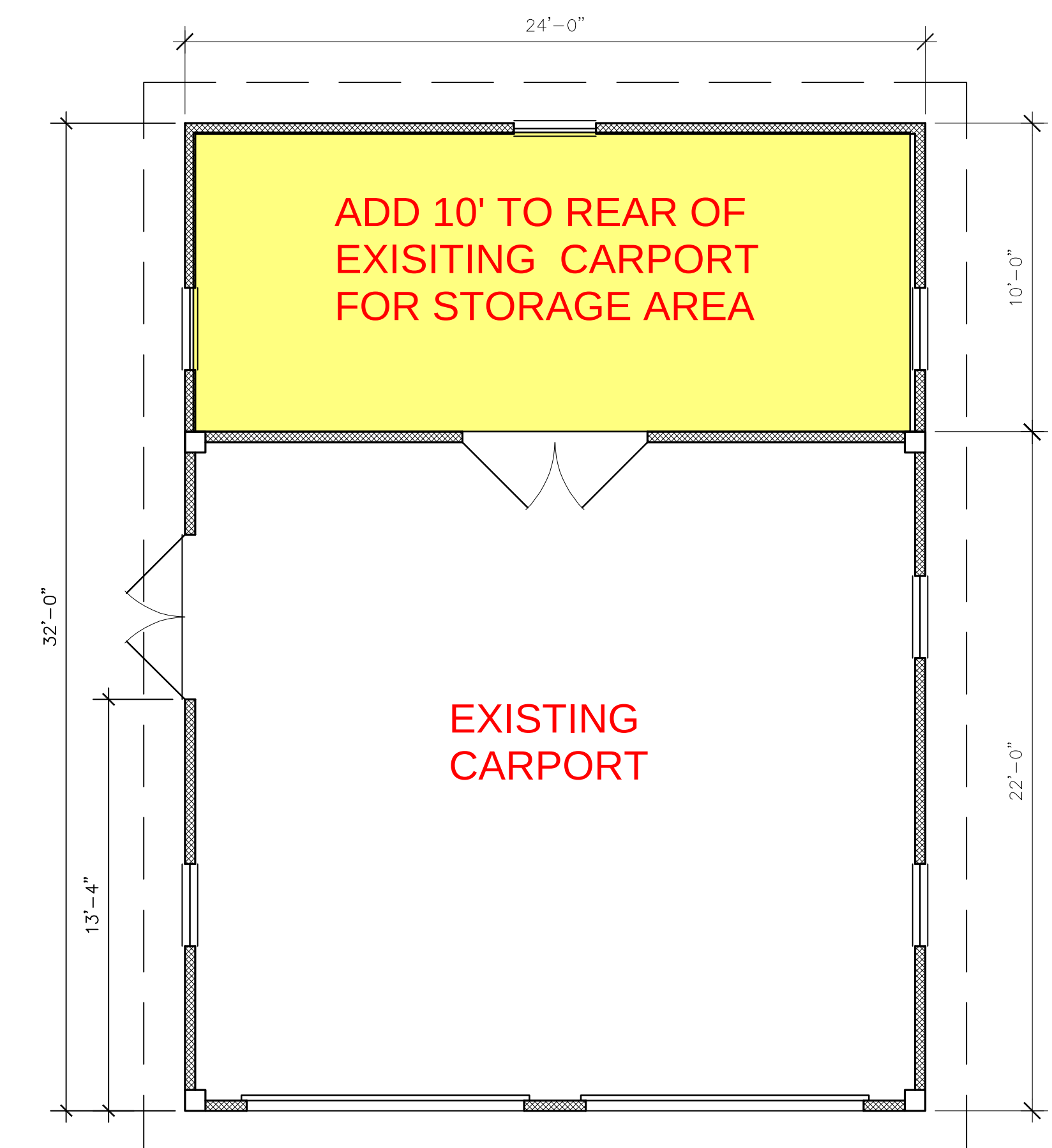
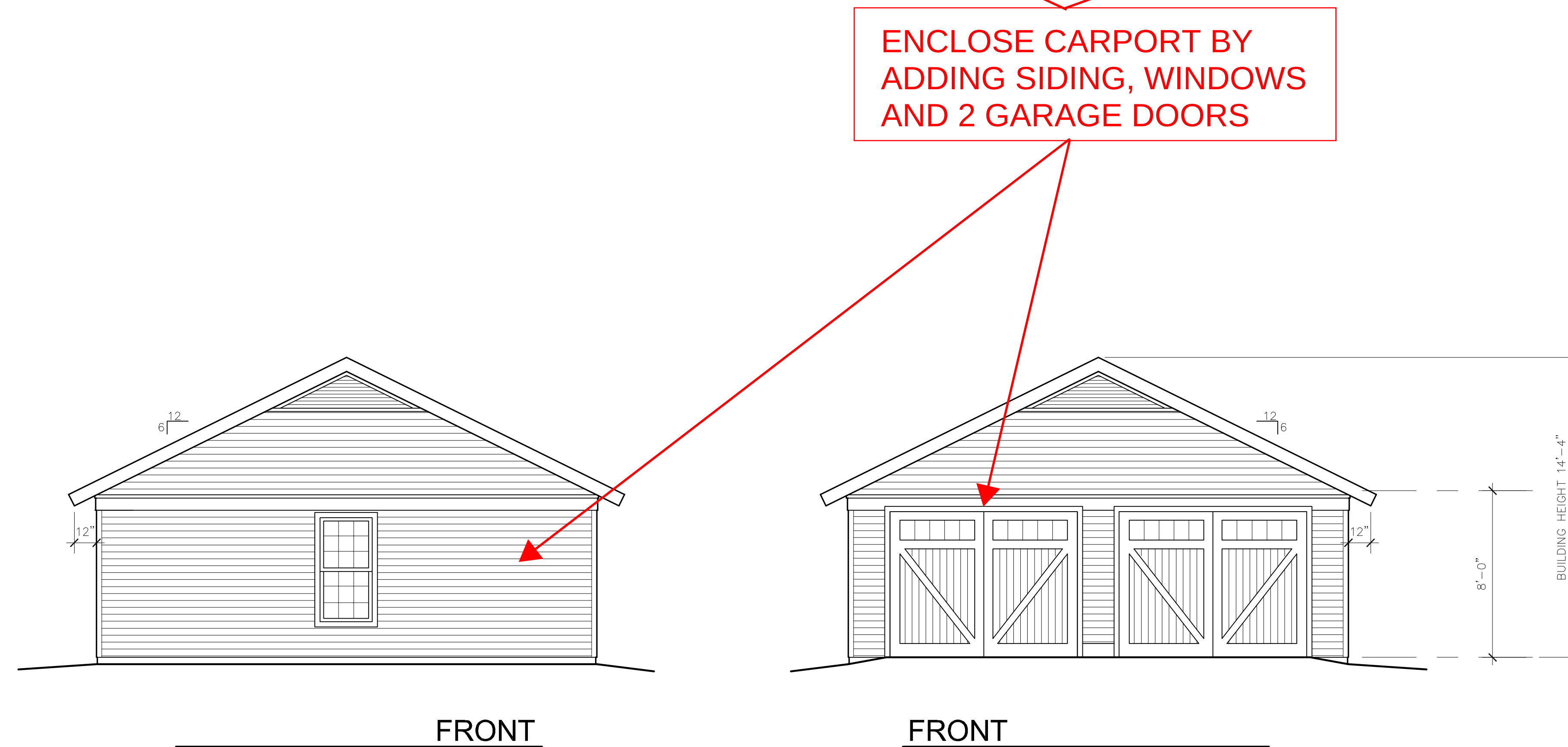
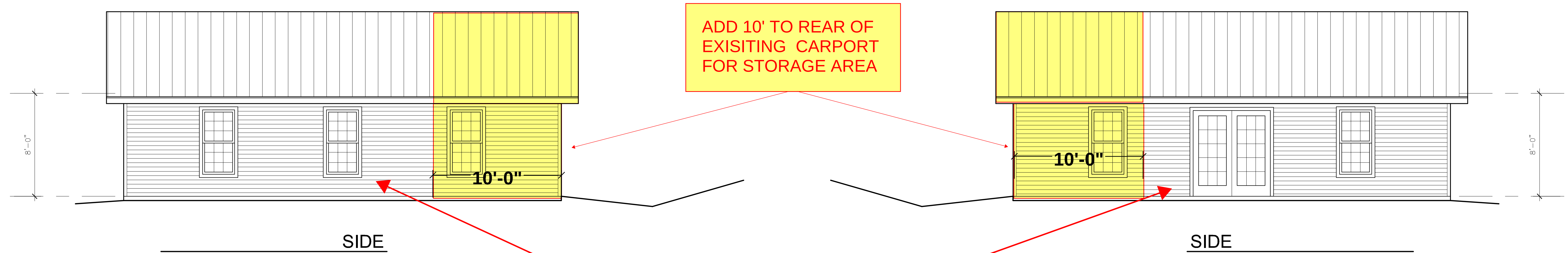
SHT. NO.
A-1

CURRENT CARPORT DESIGN

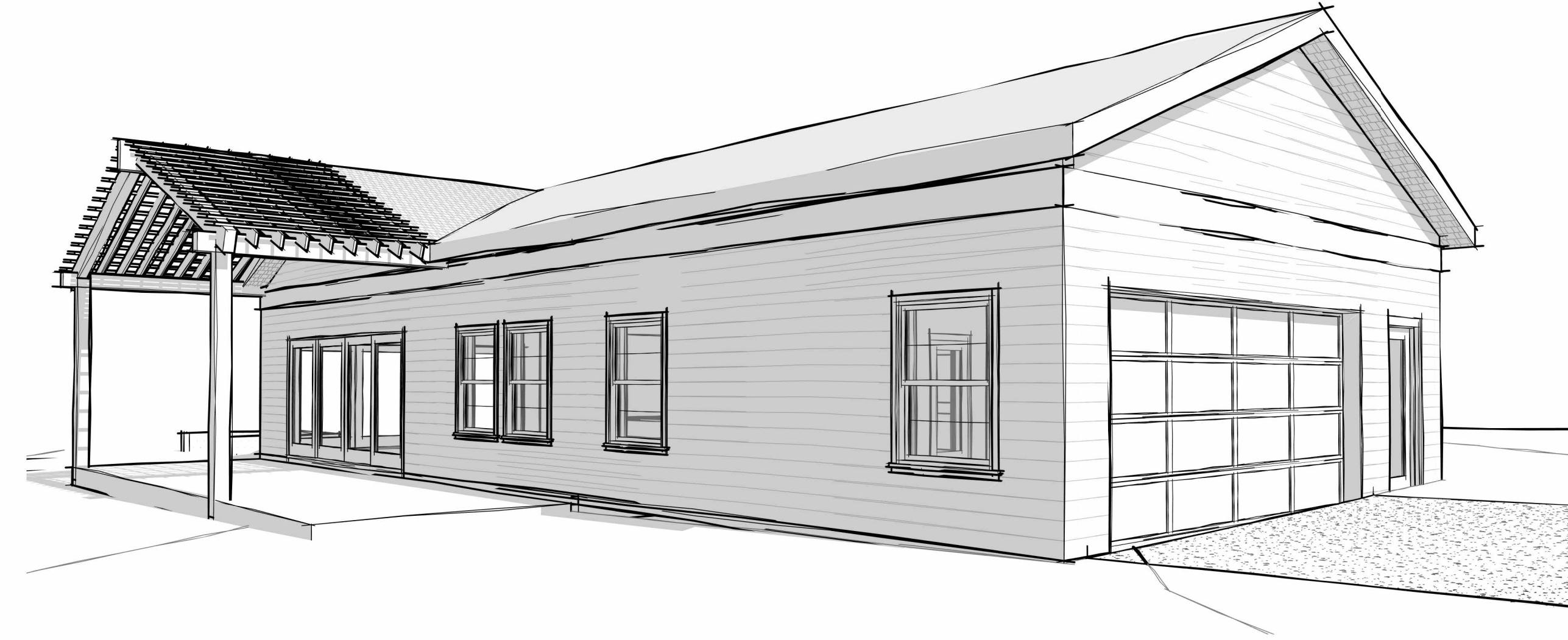
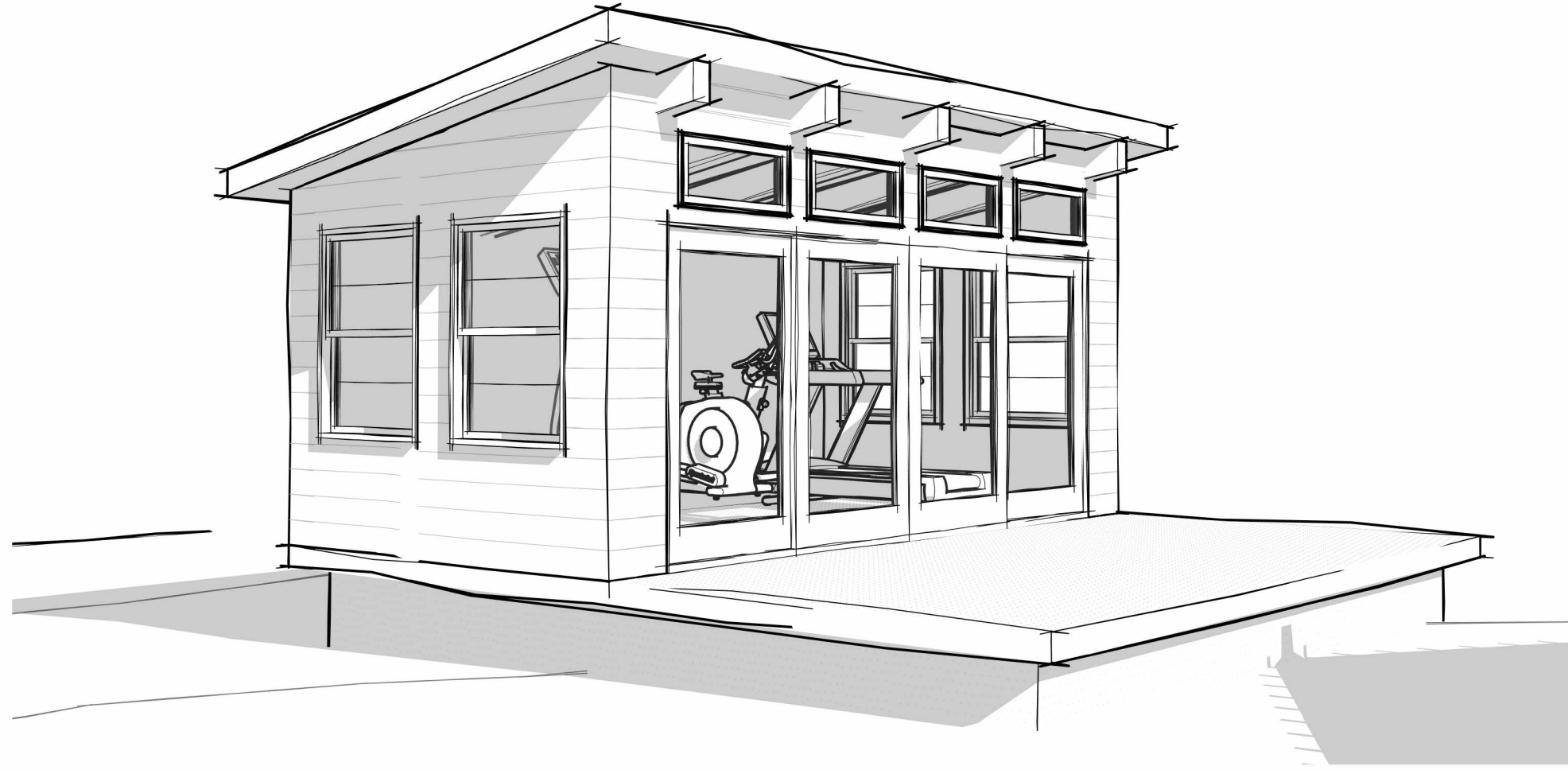


NEW GARAGE FOR MELANIE COLLETTI 3201 HERBERT DRIVE, FRANKLIN, TENNESSEE 37067				GARAGE		SCALE 1/4" = 1'-0"	SHT. NO.
DESIGNED	HMS	REV.	none	DATE	---	JOB NO.	A-1
DRAWN	HMS	REV.	none	REL. FOR CONST.	N/A	1734	

PROPOSED CONVERSION OF CARPORT TO ENCLOSED GARAGE WITH ADDED STORAGE AREA



MAIN FLOOR PLAN



07.13.2026

ISSUED FOR REVIEW (NOT FOR CONSTRUCTION)

TANDEM

architecture + design

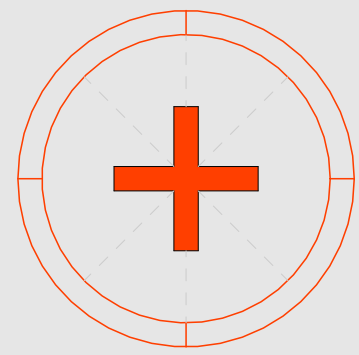
ARCHITECT	CONSULTANT X	CONSULTANT X
TANDEM ARCHITECTURE + DESIGN ASHER PARK 214 OVERLOOK CIRCLE - SUITE 200 BRENTWOOD, TN - 37207 615.878.3871	NAME ADDRESS A ADDRESS B PHONE	NAME ADDRESS A ADDRESS B PHONE
CONTRACTOR	CONSULTANT X	CONSULTANT X
SYNDICATE DESIGN & CONSTRUCTION CALEB SPEARING 214 OVERLOOK CIRCLE - SUITE 200 BRENTWOOD, TN - 37207 256.506.1612	NAME ADDRESS A ADDRESS B PHONE	NAME ADDRESS A ADDRESS B PHONE

the DANIEL RESIDENCE



ZONING:	R4
TOTAL ACREAGE:	0.58 ACR.
TOTAL LOT AREA:	25,306 SF
FRONT SETBACKS:	38'-0" SETBACK AVERAGE
SIDE SETBACKS:	7'-0"
REAR SETBACK:	5'-0" AT REAR ALLEY
LANDSCAPE SURFACE AREA MIN	40% (10,122 SF)
MAX IMPERVIOUS COVERAGE	60% (15,183 SF)
<u>BUILDING COVERAGE "UNDER ROOF" CALCULATION</u>	
PROPOSED TOTAL MAIN HOUSE	2,604 SF
PROPOSED ACCESSORY STRUCTURES	1,760 SF
GRAND TOTAL	4,364 SF (17.25%)

Project No. 25010



Revisions

Notes

1. Your note number one.
2. Your note number two.
- 3.

07.13.2026

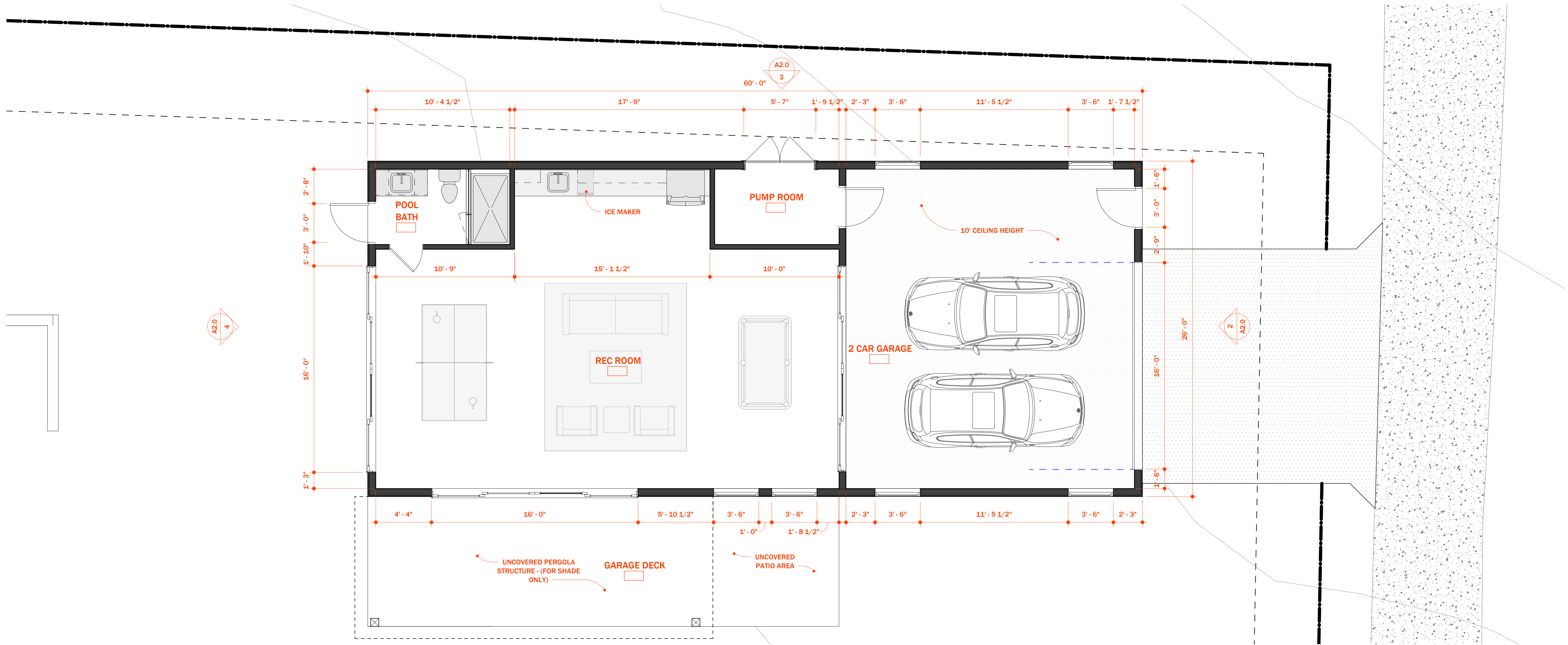
Project North



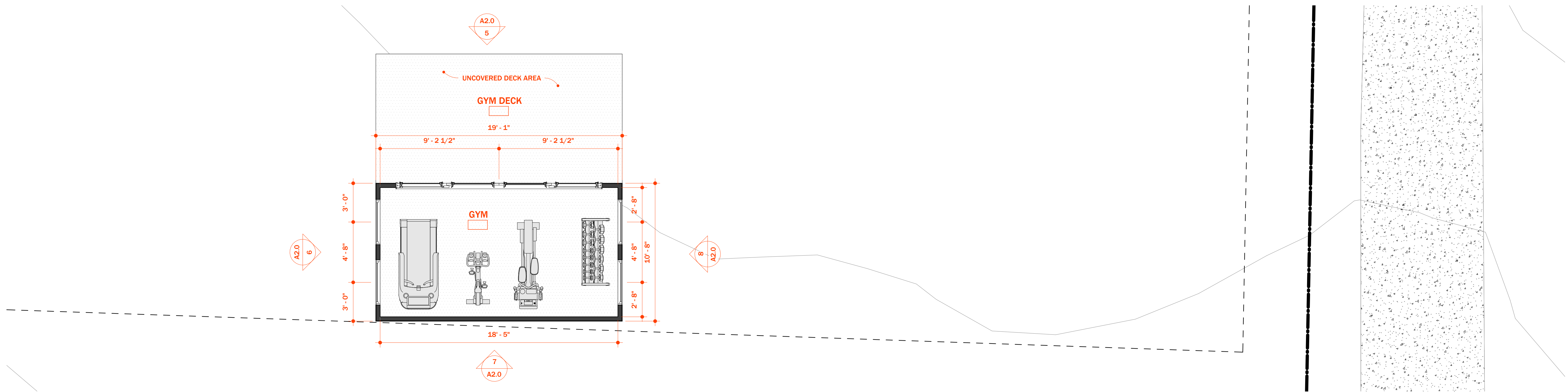
Scale 1/4" = 1'-0"

1ST FLOOR -
PROPOSED

A1.1

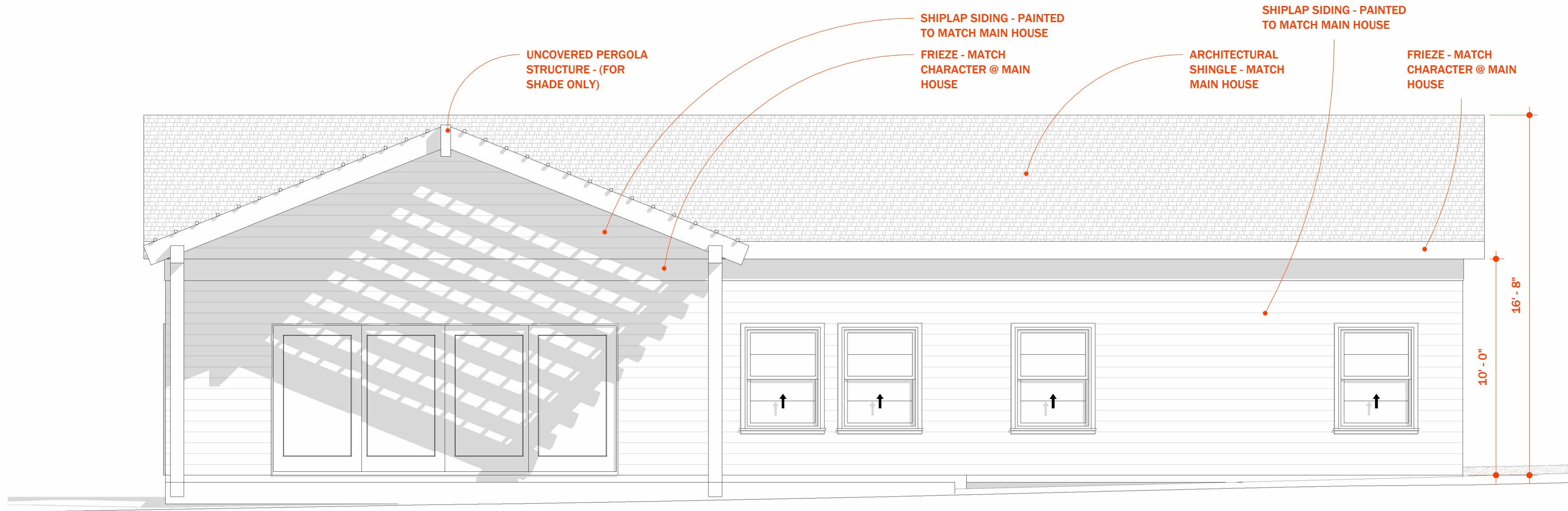
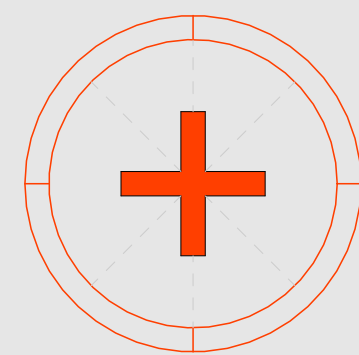


1 FLOOR PLAN - GARAGE & REC
SCALE: 1/4" = 1'-0"



2 FLOOR PLAN - GYM SHED
SCALE: 1/4" = 1'-0"

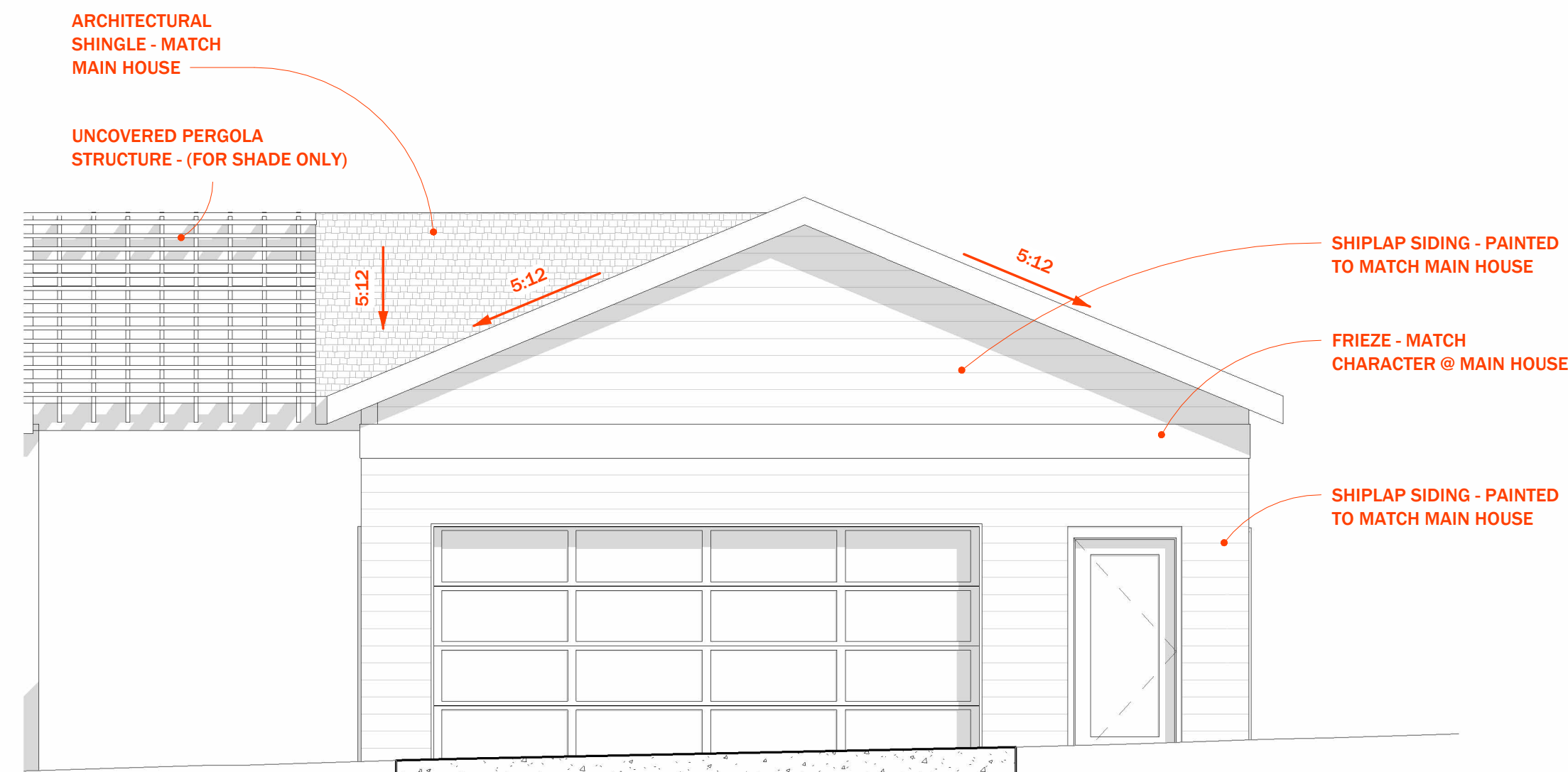




1

ELEVATION - GARAGE SIDE A

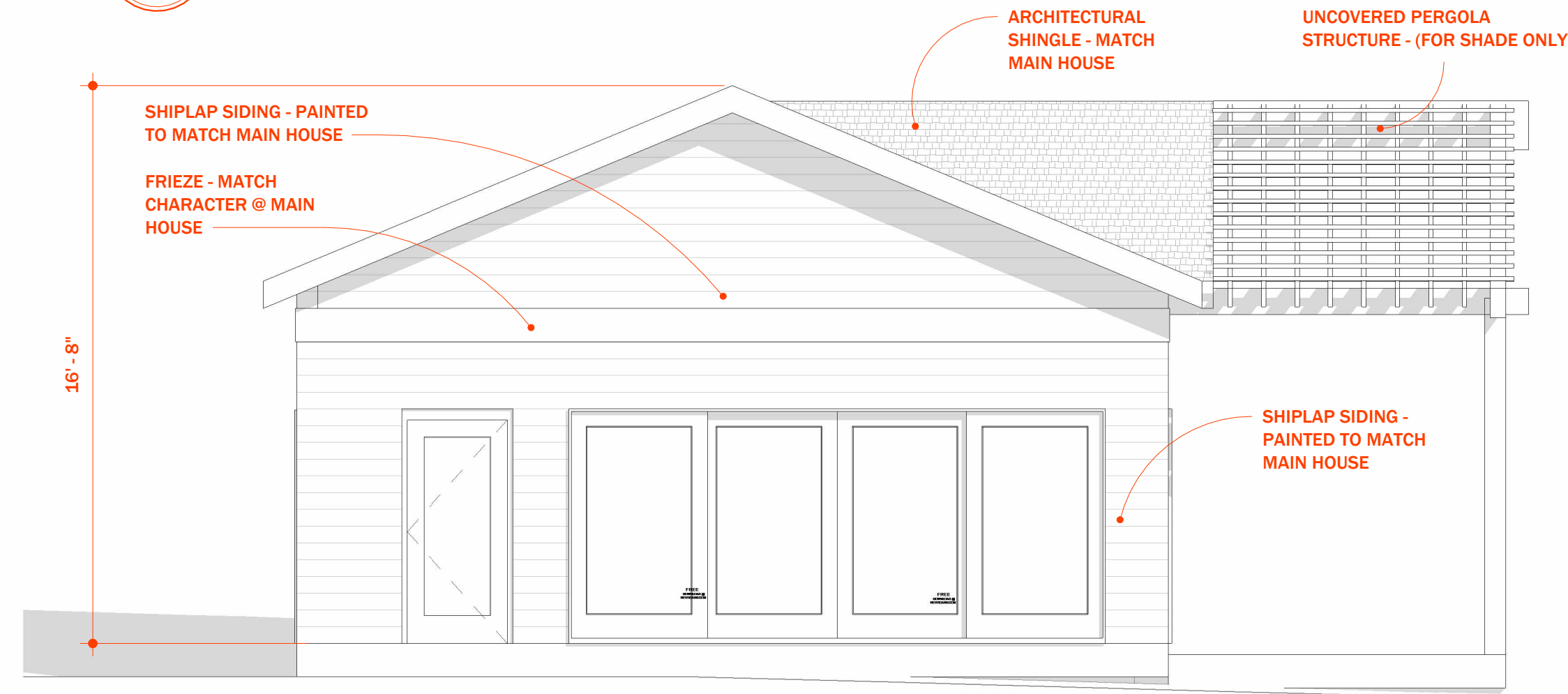
SCALE: 1/4" = 1'-0"



2

ELEVATION - GARAGE @ ALLEY

SCALE: 1/4" = 1'-0"



4

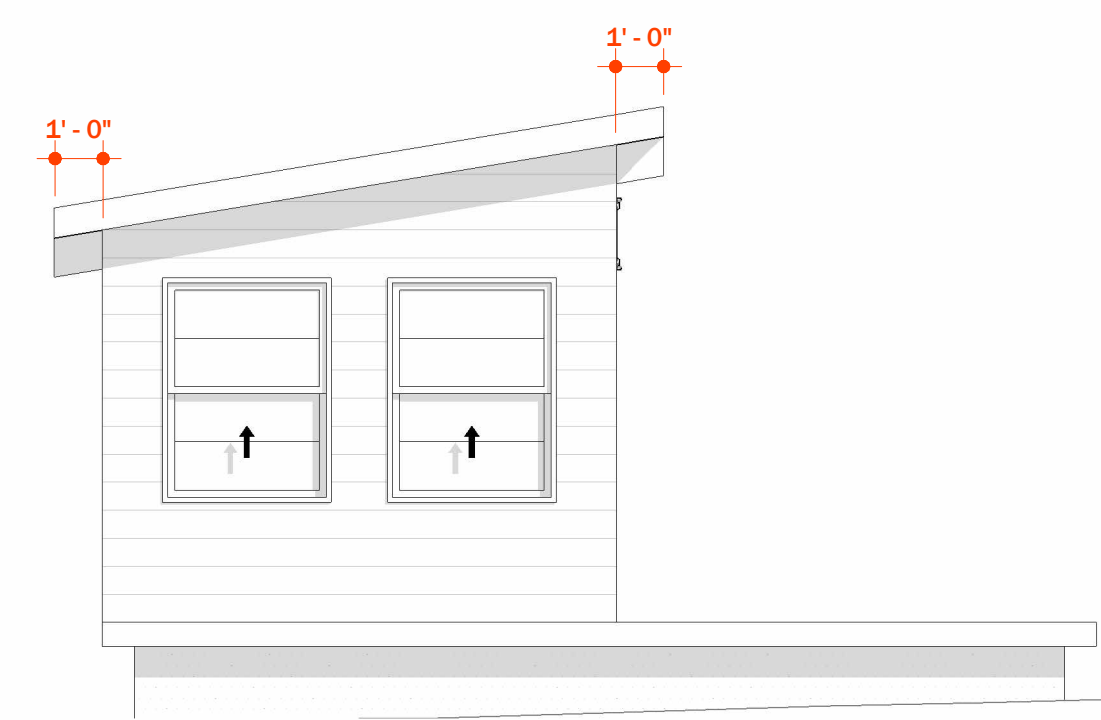
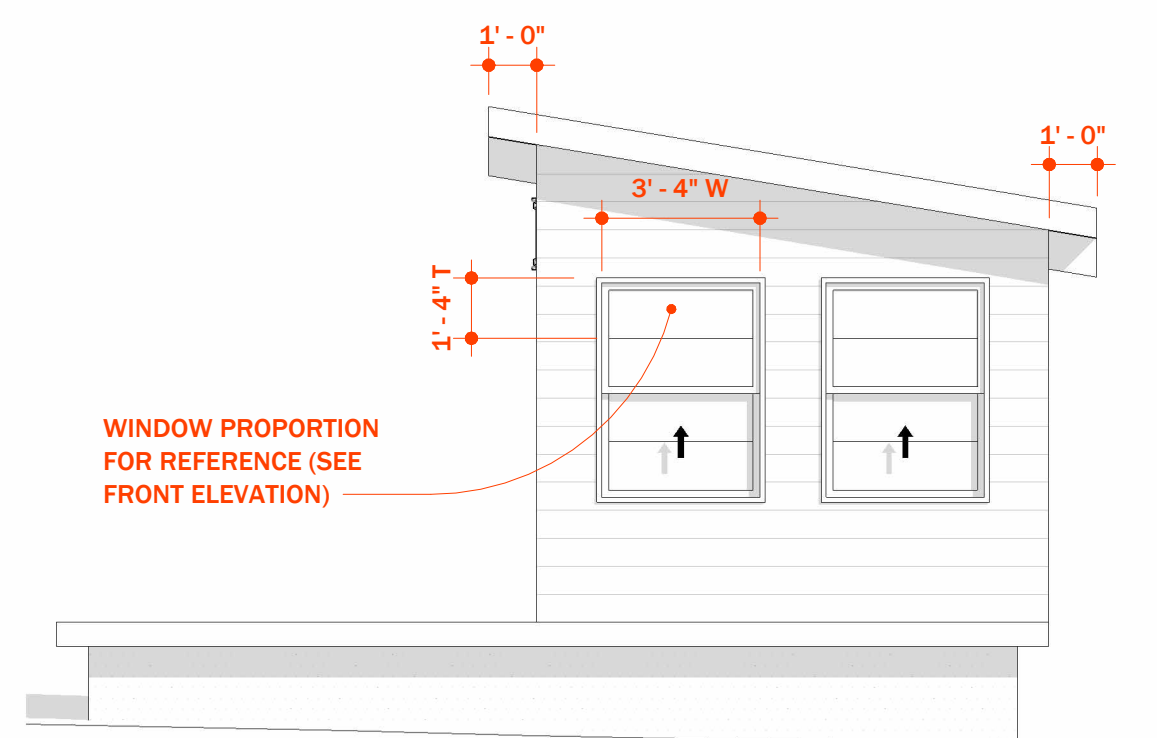
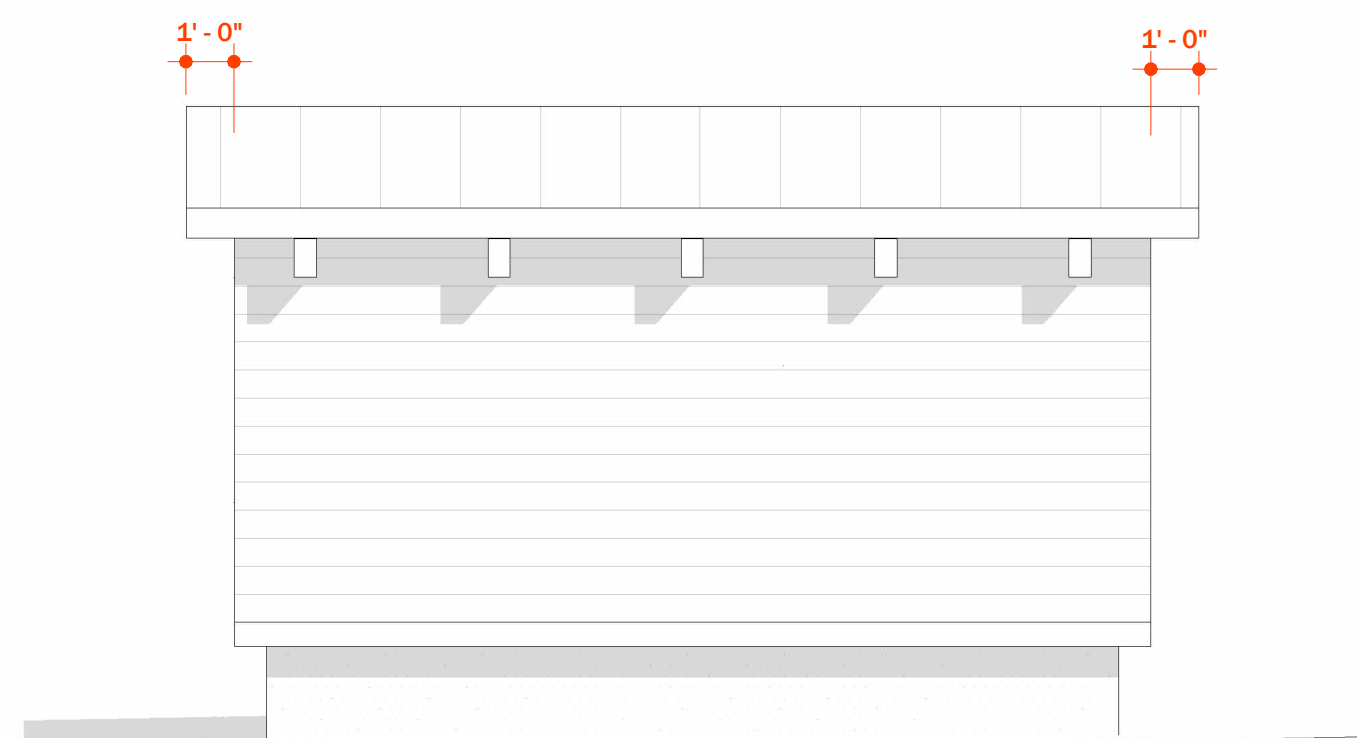
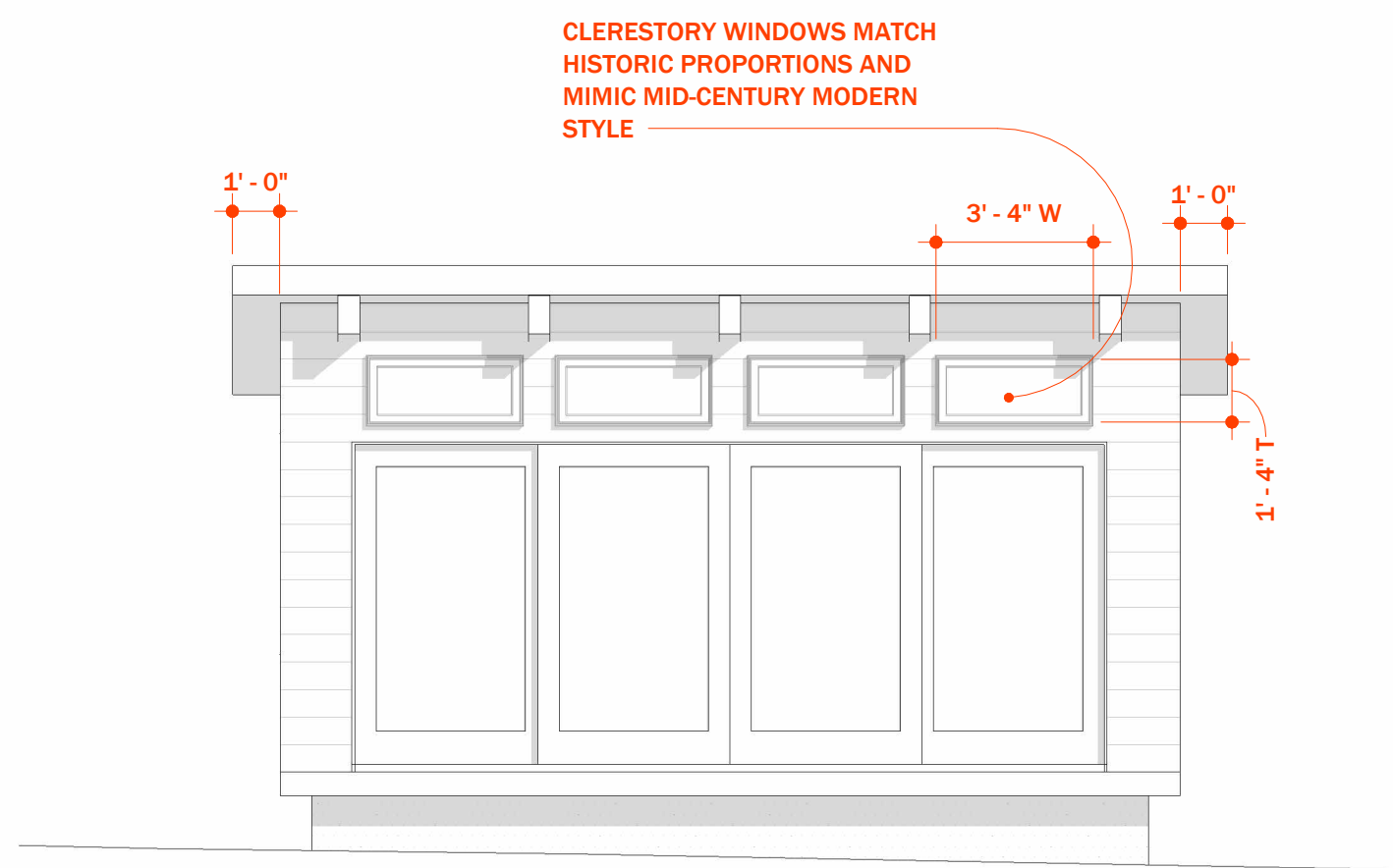
ELEVATION - GARAGE @ YARD

SCALE: 1/4" = 1'-0"

3

ELEVATION - GARAGE SIDE B

SCALE: 1/4" = 1'-0"



5

ELEVATION - SHED FRONT

SCALE: 1/4" = 1'-0"

7

ELEVATION - SHED REAR

SCALE: 1/4" = 1'-0"

6

ELEVATION - SHED SIDE A

SCALE: 1/4" = 1'-0"

8

ELEVATION - SHED SIDE B

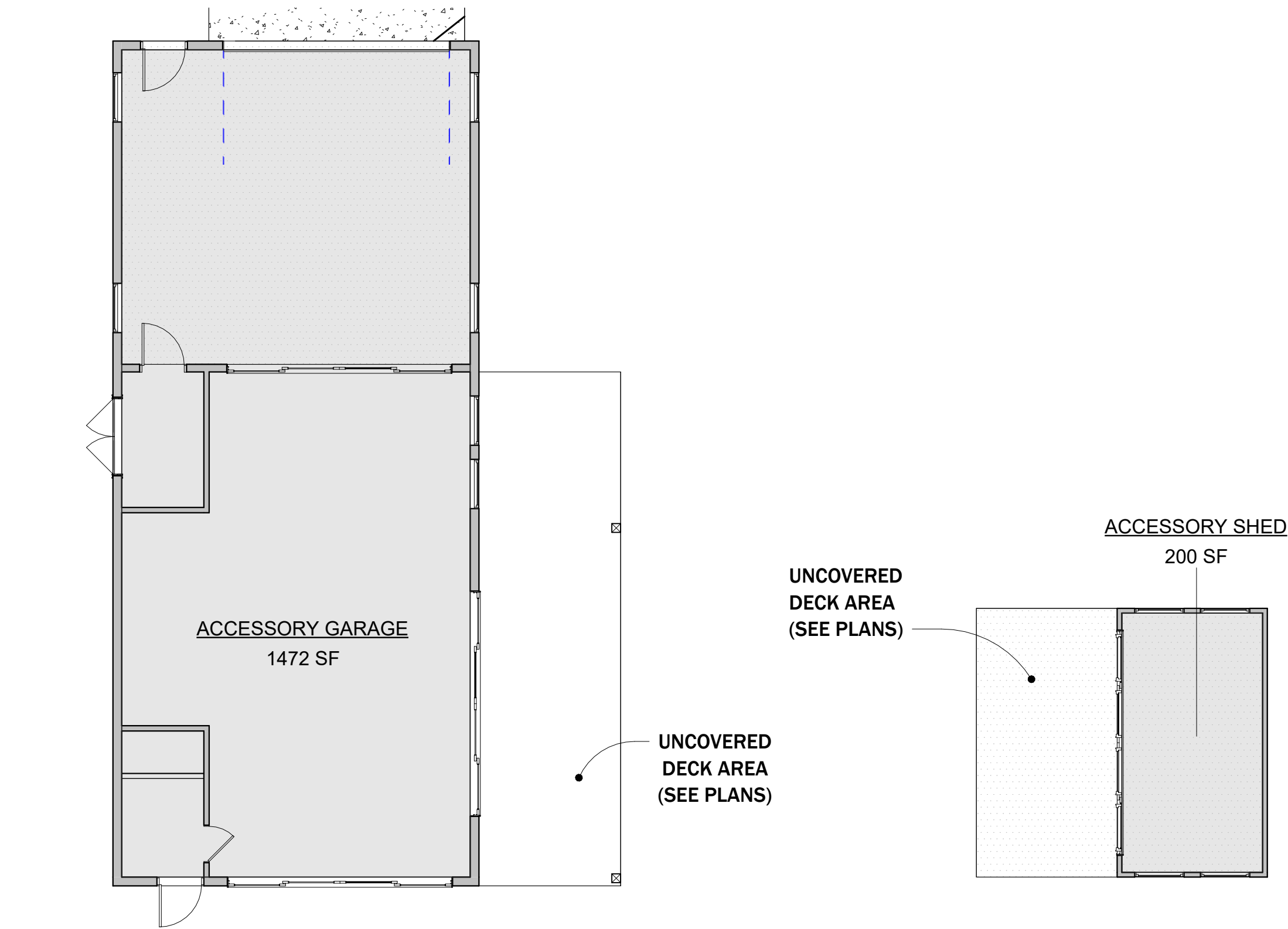
SCALE: 1/4" = 1'-0"

AREA - HISTORIC		
Area	Level	Name
1562 SF	1ST FLOOR	EXISTING RESIDENCE
516 SF	1ST FLOOR	EXISTING PRIMARY WING
2078 SF		

AREA - TOTAL EXISTING		
Area	Level	Name
1562 SF	1ST FLOOR	EXISTING RESIDENCE
516 SF	1ST FLOOR	EXISTING PRIMARY WING
527 SF	1ST FLOOR	PREVIOUS ADDITION
2604 SF		

1302 SF = 50% EXISTING FOOTPRINT

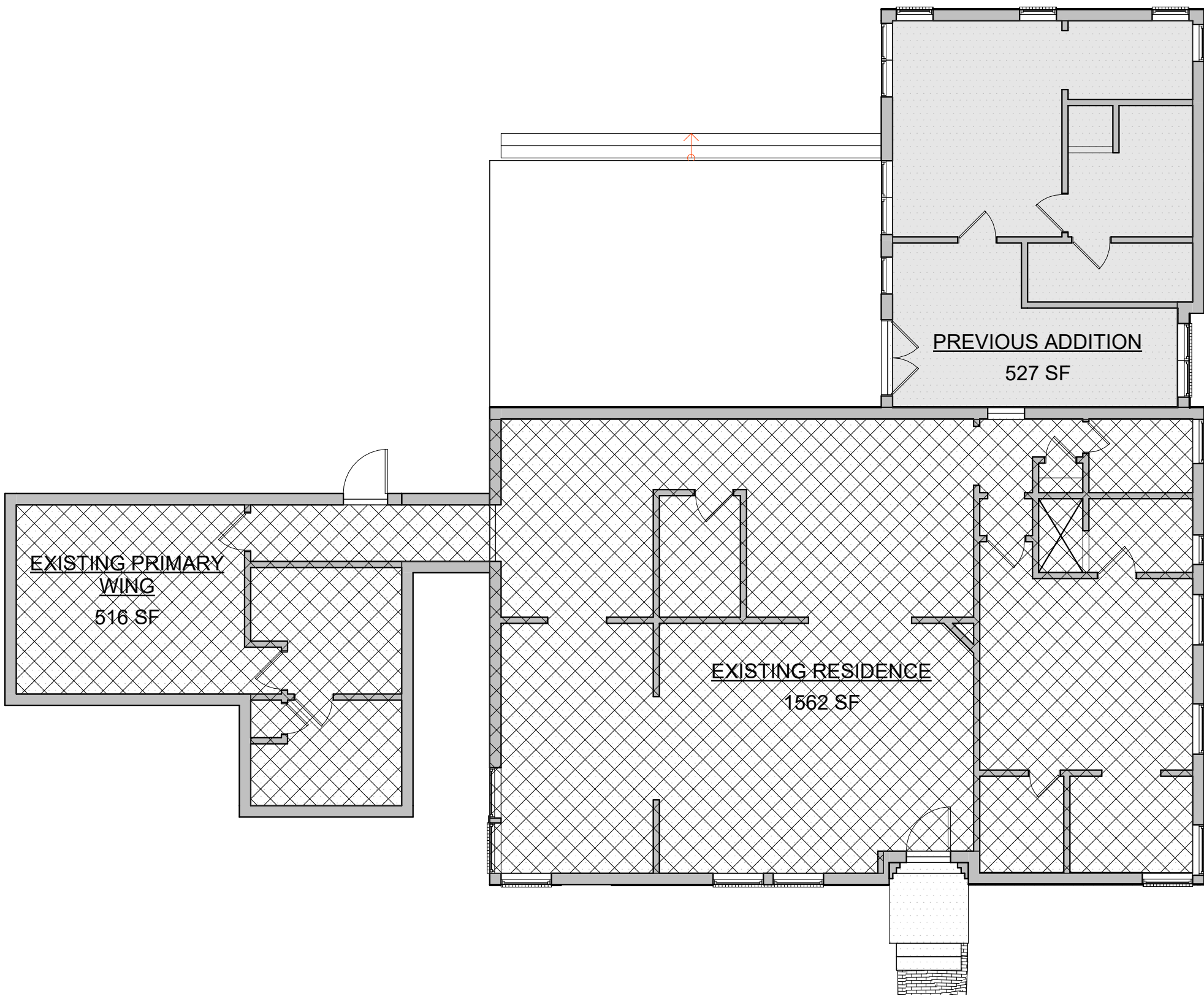
AREA - PROPOSED ACCESSORY		
Area	Level	Name
200 SF	1ST FLOOR	ACCESSORY SHED
1472 SF	1ST FLOOR	ACCESSORY GARAGE
1673 SF		



3

ACCESSORY STRUCTURES

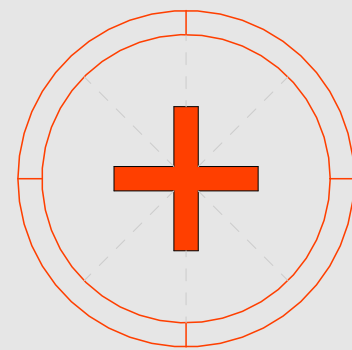
SCALE: 1/8" = 1'-0"



1

1ST FLOOR - EXISTING AREA

SCALE: 1/8" = 1'-0"



July 20th, 2026

Architectural Narrative

City of Franklin Historic Preservation

Franklin, Tennessee

Re:

109 Everbright Ave, Franklin, TN

Historic Overlay District

Hunter and Carma Daniel, Property Owners

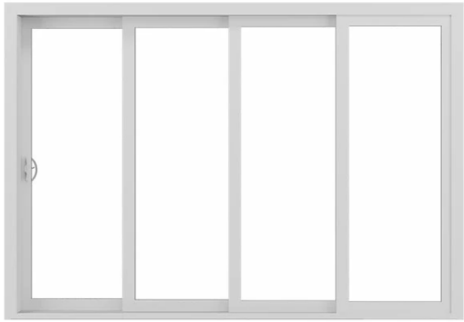
This project encompasses the comprehensive design, technical documentation, and municipal approval of a cohesive property enhancement within the Franklin Historic Overlay District. Situated in one of Franklin's most storied neighborhoods, the work has been carefully conceived to honor the historic character of the area while thoughtfully introducing detached accessory structures designed to meet the needs of contemporary living.

The scope features a primary detached accessory structure that provides a functional garage and versatile footprint. Conceived as a highly considered outbuilding, it intentionally references the traditional material palette and formal vocabulary appropriate to the historic context. Set back appropriately from the street, its massing remains strictly subordinate to the existing primary residence in keeping with historic overlay guidelines, ensuring the neighborhood's historic integrity is preserved.

TANDEM

architecture + design

109 EVERBRIGHT AVE
HISTORIC DISTRICT - FRANKLIN, TN
07.13.2026

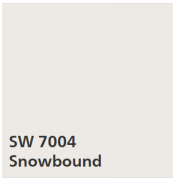


SLIDING DOOR

Pella Reserve Traditional Series
Wood Sliding

4 panel sliding door

Color - White



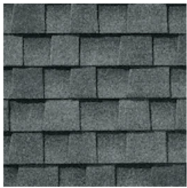
UNCOVERED PERGOLA

Wood - Southern Yellow Pine

Painted - Sherwin Williams
“Snowbound” (SW 7004);



**EXISTING EXTERIOR PHOTO
(FOR REFERENCE)**

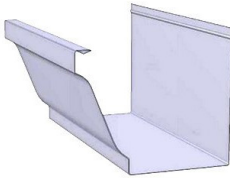


Pewter Gray

ROOFING

Architectural Shingle Roof

Color - Pewter Gray



GUTTERS

Aluminum K-style gutter

Painted — white to match trim

5” K-style aluminum gutter;
3”x4” rectangular downspout.

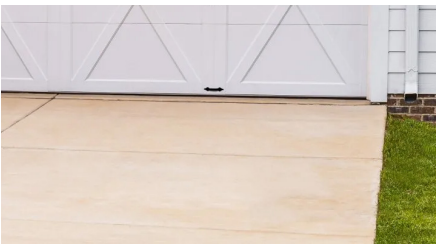


GARAGE DOOR

Double Garage door

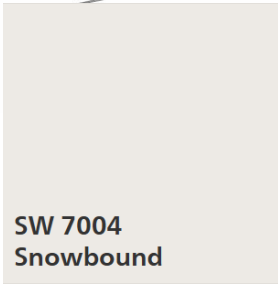
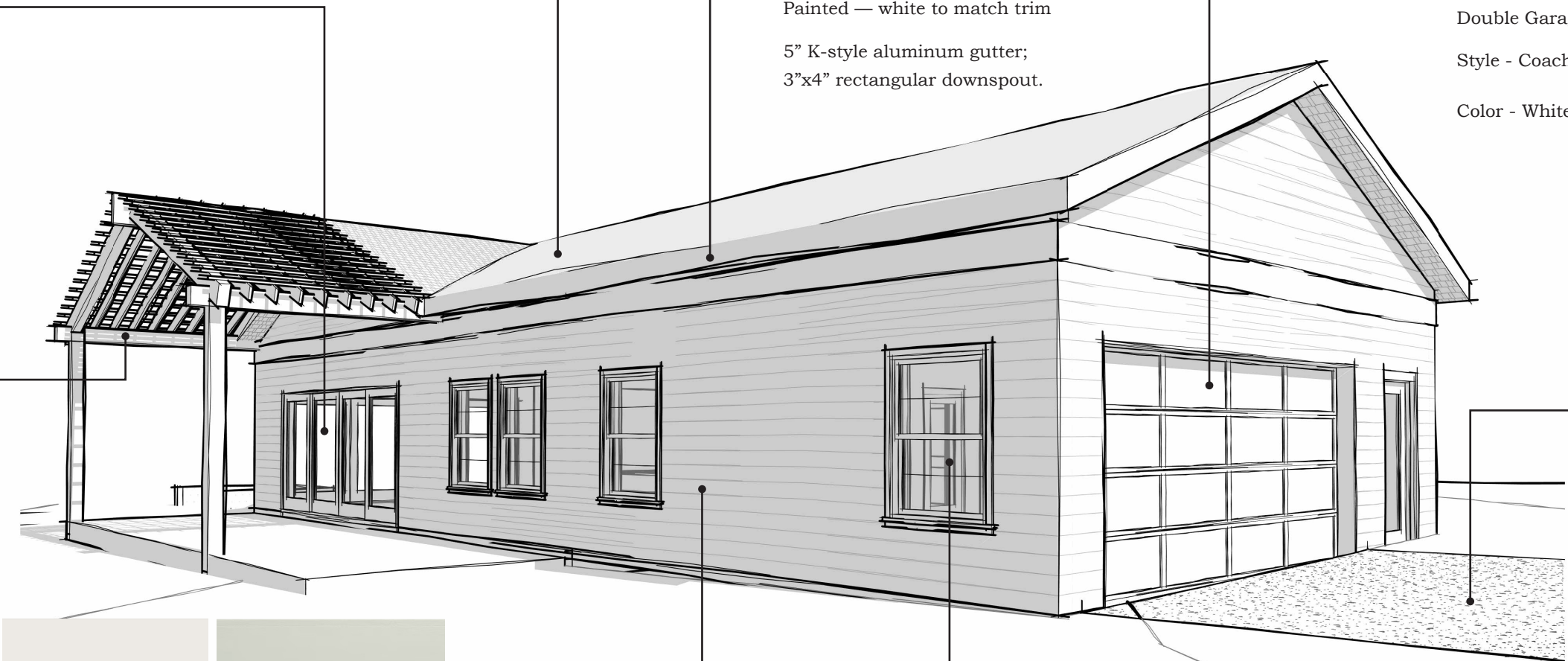
Style - Coachman with upper lites

Color - White



DRIVEWAY

Typ Concrete Drive with alley access



LAP SIDING

Hardie Board plank lap siding

10” to match existing

Smooth Texture

Painted — Sherwin Williams “Snowbound” (SW 7004); semi-gloss sheen

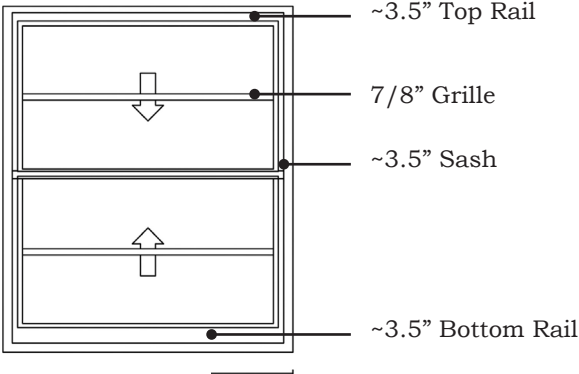
WINDOWS

Single-Hung / Fixed

Pella Reserve Traditional Series -
Aluminum Clad

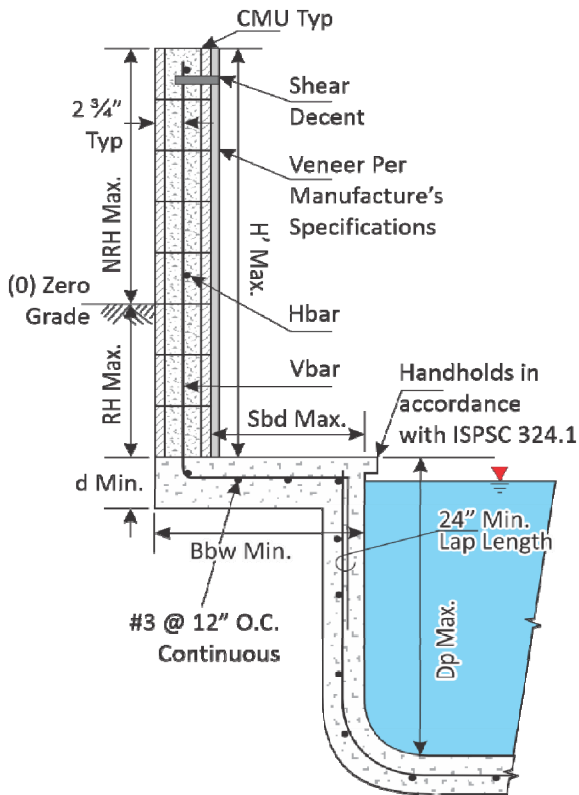
Custom Grill Pattern - Single
Horizontal Grille per window pane
(match existing historic)

Frame: “Classic White” color





POOL DEPTH 6 FEET
SOIL CATEGORY B OR LESS



Height of Wall (H) ft = 3 ft
 Retaining Height of Wall (RH) ft = 0 ft
 Non Retaining Height of Wall (NRH) ft = 3 ft
 Vertical Reinforcement Vbar
 Above Zero Grade #4 @ 32" O.C.
 Below Zero Grade N/A
 Horizontal Reinforcement #4 @ 32" O.C.

Maximum Setback Distance (Sbd) ft = 3 (Can Be Zero)
 Maximum Depth of Pool (Dp) ft = 6

Typ of CMU (CMU typ) = 8" Fully Grouted (Below Grade Only) Grouted Reinforced Cells (Above Grade)

Minimum Depth of Bond Beam (d) = 10"

Minimum Width of Bond Beam (BBW) = 12"

For Pool Shell Gunite Thickness (tg) and Reinforcement, see

NOTES:

- * MAINTAIN 3" CLEARANCE ALL SOIL TO STEEL REINFORCEMENT
- * LOCATE VERTICAL EXPANSION JOINT OR PILASTER BLOCK AT INTERVALS NOT TO EXCEED 30 FT.
- * fg = 1,500psi (min)
- * fm = 1,500psi (min)
- * Fy = 40,000psi min, #4 bar or less
- * Fy = 60,000psi min #5 bar or greater.
- * f'c = 2,500psi (min)
- * Special Inspection NOT Required.

* This Wall Has Been Engineered as a NON-Retaining Wall
 * For Pool Shell Gunite Thickness (tg) and Reinforcement, See Schedule below, For All Other Pool Shell Construction Use Standard Plan by AMMTEC

SCHEDULE: Minimum Pool Radius 1 feet

Pool Depth in Feet (As measured from top of pool)	Total shotcrete thickness, Inches (tg)	Vertical Reinforcement	Horizontal Reinforcement
1.0	6.0	#3 @ 6" O.C.	#3 @ 12" O.C.
2.0	6.0	#3 @ 6" O.C.	#3 @ 12" O.C.
3.0	6.0	#3 @ 6" O.C.	#3 @ 12" O.C.
3.5	6.0	#3 @ 6" O.C.	#3 @ 12" O.C.
4.0	6.0	#3 @ 6" O.C.	#3 @ 12" O.C.
4.5	7.0	#3 @ 6" O.C.	#3 @ 12" O.C.
5.0	8.0	#3 @ 6" O.C.	#3 @ 12" O.C.
5.5	8.0	#3 @ 6" O.C.	#3 @ 12" O.C.
6.0	8.0	#3 @ 6" O.C.	#3 @ 12" O.C.

Extend Pool Wall Reinforcement 2 feet Past the Pool Shell Radius

DETAIL 6 SCW

Alan E Money Digitally signed by Alan E Money
 Date: 2026.05.30 17:46:55 -07'00'

AMMTEC CONSULTANTS, PLLC

We Help Ideas Become Reality

RESIDENCE: Spaanstra Residence
Condition: Up to a 6' pool wall supporting 3' high CMU Wall
ADDRESS: 115 Winslow Drive

Designed By: Alan E. Money
 Drawn By: AEM

Date: 05/29/26

2447 West 12th Street Suite 1 Tempe, Arizona 85014

Phone : (480) 927-9696
 Fax : (480) 927-9797

Structural Calculations

for

Spaanstra Residence

6 ft Max. Deep Pool with Up to a 3 ft CMU Wall on Bond Beam

115 Winslow Drive

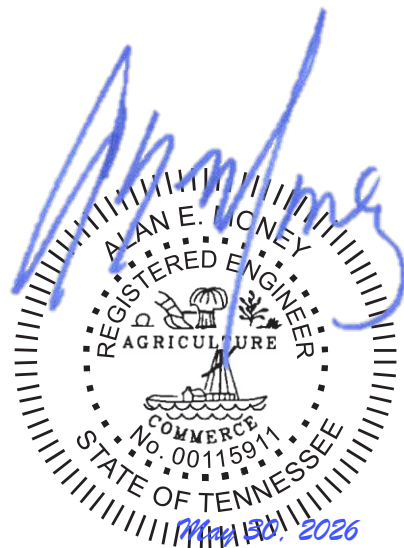
Basis of Design	1
Calculation of Design Wind Loads	2
Calculation of Wall	3
CMU Wall Surcharge on Bond Beam Calculations	4
CMU Stem Wall Calculations	5



AMMTEC CONSULTANTS, PLLC

We Help Ideas Become Reality

May 29, 2026



AMMTEC CONSULTANTS, PLLC

We Help Ideas Become Reality

1. BUILDING CODE **IBC 2024**
2. GRAVITY DESIGN: CMU Wall on BB
- WIND EXPOSURE **C**
- 3 SECOND WIND GUST **115** (mph)
- | | | | |
|-----------------------|-------|-----------------------|-------|
| Live Load: N/A | (psf) | Dead Load: N/A | (psf) |
|-----------------------|-------|-----------------------|-------|
- Maximum Depth of Pool = **6.0**
- Maximum Height of Wall = **3.0**
- Retained Height of Wall = **0**
- Seismic Design Category = **D**
- Risk Category = **II**
- I = **1.0**
- Radius = **1**
3. SOILS:
- Soil bearing pressure **1,000** psf
- Minimum footing depth..... **10** (inches) Unless local conditions are greater
- Wall Type = **CMU**
- Soil lateral bearing pressure **100** psf

CONCRETE

1. CODES AND STANDARDS. Comply with the following Codes:
- A. ACI 318, "Building Code Requirements for Reinforced Concrete".
- B. ACI 347, "Recommended Practice for Concrete Form Work".
2. MATERIALS shall conform to the following:
- A. Cement; ASTM C150, Type V, Portland Cement.
- B. Hard rock aggregates: ASTM C33
- Lightweight aggregates: ASTM C330
- C. Water shall be potable.
- D. Air entrainment: ASTM C260
- E. Fly ash: ASTM C618
- F. Calcium chloride SHALL NOT be used.
3. MIX DESIGNS:
- A. The maximum slump shall be 4" w/o plasticizer added.
- B. Use pea gravel and/or plasticizer in congested areas.
- C. Limit fly ash to 20% of the total cement.
- D. Concrete mixes shall conform to the following:

Type of Concrete Member		28 Day Strength (psi)*	W/C Ratio	Dry Weight (pcf)	Max Aggregate Size (inches)	Entrained Air (%)	Min Cement Per CY (lbs)
Footings & Slabs on Grade		2500	0.45	150	3/4	3 ±1	517

*(Special Inspection not required)

4. CONSTRUCTION: A. Mechanically vibrate concrete during placement.
5. FOOTINGS: B. Center footings on structure above, UNO.
- C. Exterior footings to be embedded a minimum depth.

STEEL

1. CODES AND STANDARDS. Comply with:
- A. CRSI "Manual of Standard Practice".
- B. ACI "Detailing Manual", ACI 315 (or SP-66).

Reinforcing: 60 ksi A-615 - Grade 60 HSS Tube: 46 ksi A -500

Roof Decking: 50 ksi A-792 - Grade 50 Pipe: 36 ksi A-501

Bolts ASTM A36, ASTM A307 as specified on details

3. CONSTRUCTION: A. Detail, bolster, and support all rebar. Tie bars securely with proper clearances before casting concrete.
- B. Use rebar free flaky rust, grease, dirt, and other materials, which affect bond.

C. Minimum lap splices (inches):

Bar #	#3	#4	#5	#6
Inches	16	20	24	33

D. Make cold bends. DO NOT use heat. DO NOT re-bend a previously bent bar.

E. Minimum concrete cover: (securely position and anchor rebar prior to pour)

Cast against and permanently exposed to earth 3 (inches)

Slabs-On-Grade (SOG) Center of slab, UNO

F. DO NOT weld reinforcing unless specifically noted.

CLIENT:	Jason Shapiro	
PROJECT:	Spaanstra Residence CMU Wall on Bond Beam	Prepared By: AEM
	115 Winslow Drive	Date: 05/29/26

Calculation of Design Wind Loads - Main Force Resisting Systems

ASCE 07-22

Exposure: **C**
Risk Category: **II**
3s Wind Gust (mph): **115**

Eq: $F = q_z * G * C_f * A_f$ Eq 29.4-3

<i>z</i>	<i>Exp</i>
<i>ft</i>	<i>C</i>
15	0.85
20	0.9
25	0.94
30	0.98
35	1.01
40	1.04
50	1.09
60	1.13

Where: $q_h = 0.00256 * k_z * k_{zt} * k_D * V^2 * I$ Eq 26.10-1

$z = 15$ $k_z = 0.85$ Table 26.10-1

$k_{zt} = (1 + k_1 * k_2 * k_3)^2$ Eq 26.8-1

$k_1 = 0.29$ H/LH=0; Figure 26.8-1

$k_2 = 1.0$ H/LH=0; Figure 26.8-1

$k_3 = 0.0$ H/LH=0; Figure 26.8-1

$k_{zt} = 1.0$

$k_D = 0.85$ H/LH=0; Table 26.6-1

$V = 115$ mph

→ $q_h = 0.00256 * 0.85 * (1 + k_1 * k_2 * k_3)^2 * 24.46$

$G = 0.85$ Section 26.11.1

$C_f = 1.4$ Figure 29.4-1

$F = 0.6 * q_h * G * C_f * A_s = 0.6 * 24.46 * 0.85 * 1.4 * A_s = 17.5$ psf * A_s

CLIENT: Jason Shapiro

PROJECT: Spaanstra Residence CMU Wall on Bond Beam
115 Winslow Drive

Prepared By: AEM

Date: 05/29/26

Evaluation of Moment Surcharge Due to Proximity of Residential Structure or Other Structure

DETAIL 6 SCW

RESIDENCE: Spaanstra Residence

Condition: Up to a 6' pool wall supporting 3' high CMU Wall

Input Data

Load Type = P (L = "Line Load", P = "Point Load")

P = - psf (surcharge load)
 R_{eff} = 0.0 ft (effective distance to pool)
 r_{pool} = 1.0 ft (pool radius at p.o.c)
 h = 3.0 ft (height of cmu wall)
 d_p = 6 ft depth of pool wall at point of concern
 d_f = 1 ft depth of footing or applied loading
 M_{St} = 1874 ft-lbs moment capacity of pool wall construction
 EFP = 45 psf equivalent fluid pressure of system
Soil Category (A/B/C): B

NOTES:	P =	P = 1,200 psf conservatively assumed for two story framed stucco residence.	$R_{effective}$ (ft)=
	P =	P = 800 pounds conservatively assumed for canopy or porch footing.	$R_{effective}$ (ft)=
	P = -	For inch wide property line wall feet tall grouted at 4' OC with 12"X12" footing	h (ft) = w (in) = R_{eff} =
	P = -	For soil at to slope; extended to R_{eff} = 0	Rise (ft) = Run (ft) =
	For Retaining Walls:	enter height of wall & soil (ft) =	P= - R_{eff} = -
	For Balcony: Length(ft):	LL (psf):	Equivalent Columns (#):
	Width (ft):	DL(psf)=	Total Factored Load per Column (lbs):
	Footing width(ft):	Ftg Dpth in):	$R_{effective}$ (ft)=
	For natural rock feature or solid gunite (cascading):	Height at back (ft) Depth to back (ft):	$R_{effective}$ (ft)= P = - Soil Pressure (psf): -
	For natural rock feature (grotto / upright falls):	Height (ft) Depth (ft):	$R_{effective}$ (ft)= P = - Soil Pressure (psf): -
	For man made rock feature:	Height (ft) Depth (ft):	Wall Thickness (in): - $R_{effective}$ (ft)= P = -

Equation: Point Loads $s_x = (P/2p)[(3r^2z/R^5) - ((1-2m)/(R(R+z)))]$

Line Loads: $s_x = (4*P/p*H)*[(m^2*n)/(m^2+n^2)^2]$ {for $m>0.4$ }

$s_x = (0.203*P)/H*[(n)/(0.16+n^2)^2]$ {for $m<=0.4$ }

r = 0 ft horizontal component of radial distance from surcharge point to point of evaluation on structure
 $m = x/H = 0$ ft/ft distance to surcharge load to wall height
 z = 5 ft = $n*H$ (varies) vertical depth from surcharge load point to point of evaluation on structure = $d_p - d_f$
 R = varies ft radial distance from surcharge point to point of evaluation on structure
 m = 0.35 Poisson's ratio = $e_h/e_v = 0.3$ to 1.0
 s_x = varies psf pressure from surcharge at point of evaluation on structure
 M_p = varies ft-lbs moment from surcharge of wind at depth of pool = $(17.5 \text{ psf} \times 3' \times 1' \times [3/3 + d])$
 M_s = varies ft-lbs moment from soil at depth of pool
 M_R = varies ft-lbs resiting moment from weight of pool wall
 M_{St} = varies ft-lbs moment capacity of pool wall construction
 SM = varies ft-lbs Sum of all moments = $M_{St} + M_R - M_p - M_s$

POINT LOAD CONDITIONS												
P	r	d	z	R	n	m	s_x	M_p	M_s	M_R	M_{St}	SM
lbs	ft	ft	ft	ft	ft/ft	-	psf	ft-lbs	ft-lbs	ft-lbs	ft-lbs	ft-lbs
-	-	1.0	-	-	-	0.35	-	102	8	-	1,098	988
-	-	2.0	1.0	1.00	0.2	0.35	-	153	60	-	1,098	885
-	-	3.0	2.0	2.00	0.3	0.35	-	221	203	-	1,098	674
-	-	3.5	2.5	2.50	0.4	0.35	-	298	322	-	1,098	479
-	-	4.0	3.0	3.00	0.5	0.35	-	383	480	-	1,098	235
-	-	4.5	3.5	3.50	0.6	0.35	-	476	683	-	1,486	327
-	-	5.0	4.0	4.00	0.7	0.35	-	578	938	-	1,874	359
-	-	5.5	4.5	4.50	0.8	0.35	-	689	1,248	89	1,874	27
-	-	6.0	5.0	5.00	0.8	0.35	-	808	1,620	770	1,874	216
-	-	6.5	-	-	-	0.35	-	-	-	-	-	-
-	-	7.0	-	-	-	0.35	-	-	-	-	-	-
-	-	7.5	-	-	-	0.35	-	-	-	-	-	-
-	-	8.0	-	-	-	0.35	-	-	-	-	-	-
-	-	8.5	-	-	-	0.35	-	-	-	-	-	-
-	-	9.0	-	-	-	0.35	-	-	-	-	-	-
-	-	9.5	-	-	-	0.35	-	-	-	-	-	-
-	-	10.0	-	-	-	0.35	-	-	-	-	-	-
-	-	10.5	-	-	-	0.35	-	-	-	-	-	-
-	-	11.0	-	-	-	0.35	-	-	-	-	-	-

Calculation of Alternative Gunite Thickness and/or Steel Requirements for a Non-Standard Pool Radius

RESIDENCE: Spaanstra Residence

Soil Type: B

DETAIL 6 SCW

Depth of Pool Section (ft): 6.0

Installed Radius of Steel (ft): 1.0

RESISTING MOMENT													MOMENT FROM SOIL						
Pool Wall Radius (ft.) = 1.0						Depth to Radius (ft.) = 5.0							EFP= 30 45 60						
h(ft.)	t	Vp	Vt	Vs	xc	xms	L	Wts	Wtst	Ms	xmc	Mr	h(ft.)	Ms	Vs	Ms	Vs	Ms	Vs
		0																	
1.0	9.00	0.00	0.00	0.00	1.38	0.00	1.00	105	0	0	0.00	0	1.0	5	15	8	23	10	30
2.0	7.00	0.00	0.00	0.00	1.29	0.00	1.00	82	105	0	0.00	0	2.0	40	60	60	90	80	120
3.0	7.00	0.00	0.00	0.00	1.29	0.00	1.00	82	187	0	0.00	0	3.0	135	135	203	203	270	270
3.5	7.00	0.00	0.00	0.00	1.29	0.00	0.50	41	268	0	0.00	0	3.5	214	184	322	276	429	368
4.0	8.00	0.00	0.00	0.00	1.33	0.00	0.50	47	309	0	0.00	0	4.0	320	240	480	360	640	480
4.5	8.00	0.00	0.00	0.00	1.33	0.00	0.50	47	356	0	0.00	0	4.5	456	304	683	456	911	608
5.0	8.00	0.00	0.00	0.00	1.33	0.00	0.50	47	403	0	0.00	0	5.0	625	375	938	563	1250	750
5.5	8.00	0.52	0.00	0.52	1.15	0.13	0.70	65	449	9	0.18	89	5.5	832	454	1248	681	1664	908
6.0	8.00	1.57	0.52	1.05	0.00	0.67	1.40	130	514	87	1.15	770	6.0	1080	540	1620	810	2160	1080
6.5	9.00	#NUM!	1.57	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	645	#NUM!	#NUM!	#NUM!	6.5	1373	634	2060	951	2746	1268
7.0	9.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	7.0	1715	735	2573	1103	3430	1470
7.5	9.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	7.5	2109	844	3164	1266	4219	1688
8.0	9.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	8.0	2560	960	3840	1440	5120	1920
8.5	10.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	8.5	3071	1084	4606	1626	6141	2168
9.0	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	9.0	3645	1215	5468	1823	7290	2430
9.5	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	9.5	4287	1354	6430	2031	8574	2708
10.0	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	10.0	5000	1500	7500	2250	10000	3000
10.5	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	10.5	5788	1654	8682	2481	11576	3308
11.0	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	11.0	6655	1815	9983	2723	13310	3630
11.5	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	11.5	7604	1984	11407	2976	15209	3968
12.0	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	12.0	8640	2160	12960	3240	17280	4320
12.5	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	12.5	9766	2344	14648	3516	19531	4688
13.0	11.00	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	13.0	10985	2535	16478	3803	21970	5070

Resulting Design Moment $M_{RD} = M_s - M_R$				Moment Capacity of Steel $f_y = 40,000 \quad f'_c = 2,500$					Sum (+)
EFP				Gunite	d	a_s	"a"	M _{St}	ΣM
h(ft.)	30	45	60	in.	in.	in. ²	in.	ft-lb	ft-lb
1.0	5	8	10	6	3	0.22	0.35	1098	988
2.0	40	60	80	6	3	0.22	0.35	1098	885
3.0	135	203	270	6	3	0.22	0.35	1098	674
3.5	214	322	429	6	3	0.22	0.35	1098	479
4.0	320	480	640	6	3	0.22	0.35	1098	235
4.5	456	683	911	7	4	0.22	0.35	1486	327
5.0	625	938	1250	8	5	0.22	0.35	1874	359
5.5	743	1159	1575	8	5	0.22	0.35	1874	27
6.0	310	850	1390	8	5	0.22	0.35	1874	216
6.5									
7.0									
7.5									
8.0									
8.5									
9.0									
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									

Where:

a_s = Area of Steel

f_y = Grade of Steel

f'_c = f'_c of Gunite or Concrete

d = Depth to Steel Centroid

"a" = $(a_s \cdot f_y) / (0.85 \cdot b \cdot f'_c)$

M_A = Allowable Moment

= $(0.9 \cdot f_y \cdot a_s \cdot (d - a/2)) / (12 \cdot 1.7)$

SM = Sum of all moments

= $M_{St} + M_R - M_P - M_S$

Prepared By: AEM

Date: 05/29/26

Structural Calculations for Property Line Wall Addition/Extension - Bond Beam

Wind Loading (Per IBC 2024/ASCE07-22)

115 mph [Basic Wind Speed (3 Second Gust)]

II Risk Category

17.5 psf [Calculated]

These Equations Consider the Pool Shell to Act as part of the Foundation 12" Past the Radius

1000 Max Allowable Bearing Capacity

Check Overturning: Equation: $SM_A = 1/2(d+c)^2 \cdot ka + wHb/2 + rdb/2 + PH(H/2 + d + c)$

P	17.47	psf	Design Wind Pressure	r	150	pcf	Concrete Density
H	As Listed	ft	Height of Wall	b	varies	inches	Width of Footing
d	varies	ft	Depth of footing	FS	Calculated		Factor of Safety
w	varies	lbs/ft ³	Weight of wall per vertical foot	P _p	250	psf	Passive earth pressure
				c	4.0	inches	Footing cover
			Soil		Weight	Wind	

H	t	w	d	b	$(1/2(d+c)^2 \cdot P_p)(d+c)/3$	$Ht^2/2 + rd(b+12)d/2$	PH(H/2+d+c)	SM _A	FS
1.0	8.0	55.0	10.0	12.0	66.17	141	-29	178.4	7.1
2.0	8.0	55.0	10.0	12.0	66.17	149	-76	139.9	2.8
3.0	8.0	55.0	10.0	12.0	66.17	162	-140	88.1	1.6
4.0	8.0	55.0	10.0	18.0	66.17	283	-221	128.2	1.6
5.0	8.0	55.0	12.0	20.0	98.77	394	-335	158.5	1.5

Check Sliding - Equation: $S = (d+c) \cdot P_a + 0.4(w \cdot H + r \cdot d) - P \cdot H$ for $S > 0$

H	t	w	d	b	$(d+c) \cdot P_p$	$0.25(wHt + rdb)$	PH	S	FS
1.0	8.0	55.0	10.0	12.0	292	40	-17	314.6	19.0
2.0	8.0	55.0	10.0	12.0	292	50	-35	306.3	9.8
3.0	8.0	55.0	10.0	12.0	292	59	-52.4	298.0	6.7
4.0	8.0	55.0	10.0	18.0	292	84	-69.9	305.3	5.4
5.0	8.0	55.0	12.0	20.0	333	108	-87.3	354.3	5.1

Check Moment Capacity of Wall Section

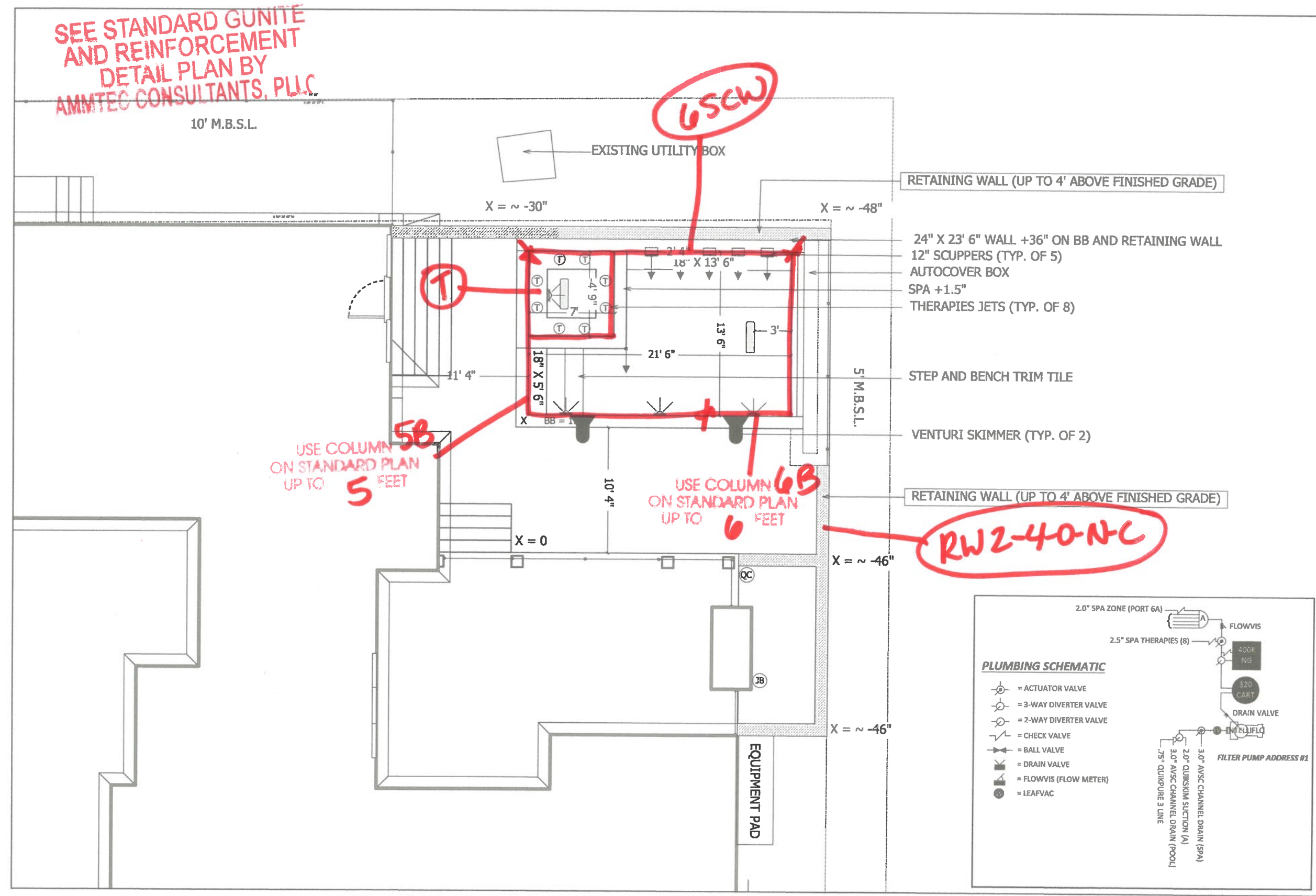
ITEM	QUANT.	UNITS	CALCULATION
Thickness	t	8.0	inches
Depth	b	18	inches
Area of Steel	a _s	0.075	sq inches
Grade of Steel	f _y	40,000	psi
Strength of Wall/Grout	f'm	1,500	psi
Depth to Steel Centroid	d	3.8	inches
"a"	$(a_s \cdot f_y) / (0.85 \cdot b \cdot f'm)$	0.131	inches
Allowable Moment	$(0.9 \cdot f_y \cdot a_s \cdot (d - a/2)) / 12$	843	ft-lb/ft

H	PH(H/2)	M _a	FS
1.0	8.7	843	96.5
2.0	34.9	843	24.1
3.0	78.6	843	10.7
4.0	139.7	1,123	8.0
5.0	218.3	1,123	5.1

Jason Shapiro
Spaanstra Residence, 115 Winslow Drive
CMU Wall on Bond Beam

Prepared By: AEM
Date: 05/29/26

SEE STANDARD GUNITE
AND REINFORCEMENT
DETAIL PLAN BY
AMMTEC CONSULTANTS, PLLC



CONSTRUCTION NOTES:

HOMEOWNER: MUST BE IN COMPLIANCE WITH ALL COUNTY, CITY AND STATE CODE BARRIER REQUIREMENTS; WATERCURE SHOTCRETE SHELL

SUPER: POOL SIDE ALARM ("KATIE BETH'S") CONSTRUCTION FENCE; PORT-O-POTTY BY OTHERS; SEE BOND BEAM (BB) NOTES; SEE DETAIL FOR POOL DEPTH AND STEPS AND TANNING LEDGE

EXCAVATION: BY PERFECT7; TRACKHOE ACCESS; DEPTHS ARE MINIMUM; ALLOW AN EXTRA 18" ON PROPERTY LINE WALLS FOR FOOTINGS; MAINTAIN SILT FENCE;

FORMING: FORM WALLS FOR 12" THICKNESS;

PLUMBING: MAINTAIN CONSTRUCTION FENCE; QUIKCLEAN DISTRIBUTION VALVE, SET TO +2" FROM POOL BB, WATER LEVELER -1" FROM POOL BB, OZONE PER SCHEMATIC; (2) QUIKSIMS, 2" SUCTION LINE TO FIRST QUIKSKIM, 1.5" VENTURI LINE TO BOTH; KEEP THERAPY AIR LINE HIGH AND LEVEL AROUND SPA; WATER LEVELER SUPPLY MIN -12" BELOW GRADE;

STEEL: 188 TOTAL BARS; SEE DETAIL & BOND BEAM NOTES, STEP ELEVATIONS, SEE DETAIL; DOUBLE CURTAIN IN DAMWALL AND BACK AND SIDE WALL OF POOL; KNIFE EDGE SPA DAMWALL PER PLAN DETAIL.

GAS: 1.5" GAS LINE FROM MAIN TO HEATER.

ELECTRIC: HOLD ELECTRIC MIN 24" FROM FOUNDATION OF HOUSE; EQUIPOTENTIAL BONDING; INTELLICENTER 15PS AUTOMATION PANEL AT EQUIPMENT LOCATED ON PLAN; PUMP WIRED DIRECTLY TO BREAKER; MICROBRITE POOL / SPA LIGHT (S) WIRE TO AUTOMATION PANEL; SET ALL MICROBRITES T.O.L. AT -10"; 110v GFCI OUTLET LOCATED ON PLAN; OUTLETS MUST BE AT LEAST 10', BUT NO FURTHER THAN 20' AWAY FROM WATER'S EDGE; WIRE E.I. ON HEATER; WIRE OXONE TO FILTER RELAY

SHOTCRETE: 38 YARDS; SEE BOND BEAM NOTES; STEP ELEVATIONS SHOWN ON DETAIL; TAPER BOND BEAM FOR COPING PER DETAIL; CUSTOM KNIFE EDGE FOR SPA SPILLWAY PER PLAN & ENGINEERING.

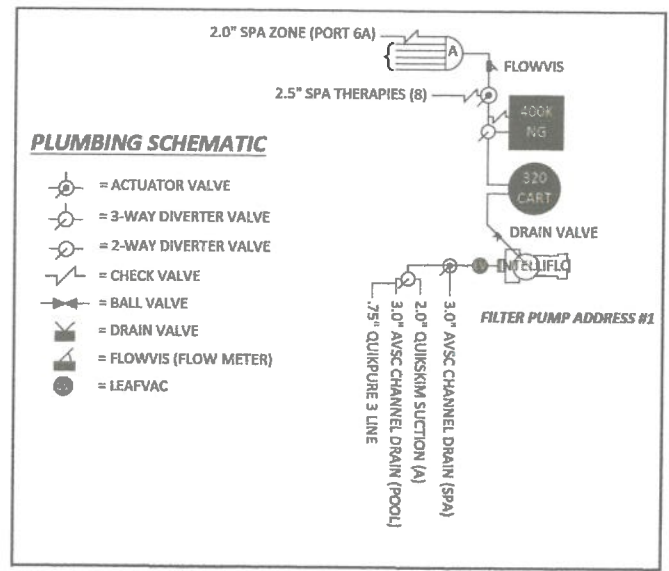
MASONRY: RAISED WALL +18" ABOVE POOL; COPING WITH TRAVERTINE CAP & STONE VENEER.

DECK: 5CM TRAVERTINE COPING AROUND POOL; 2.5" MIN CANTELEVER; SEE SELECTION FORM FOR TRAVERTINE COLOR; FIELD PAVERS NOT IN CURRENT CONTRACT WITH PERFECT7, LLC.

INTERIOR FINISH: PEBBLE-SHEEN; SEE SELECTION FORM FOR COLOR; INSTALL (1) 1.5" SLEEVE IN SHELF, AS NOTED ON PLAN

STARTUP: MECHANICAL STARTUP & OPERATIONAL INSTRUCTIONS TO OWNER.

[Signature]
STATE OF TENNESSEE
JUN 01 2026

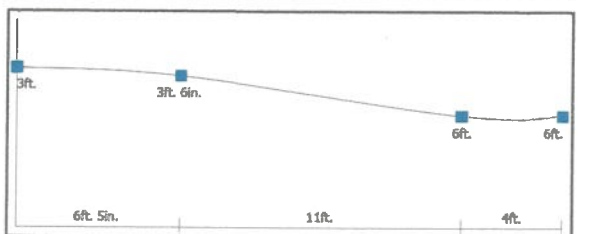


CUSTOMER INFO

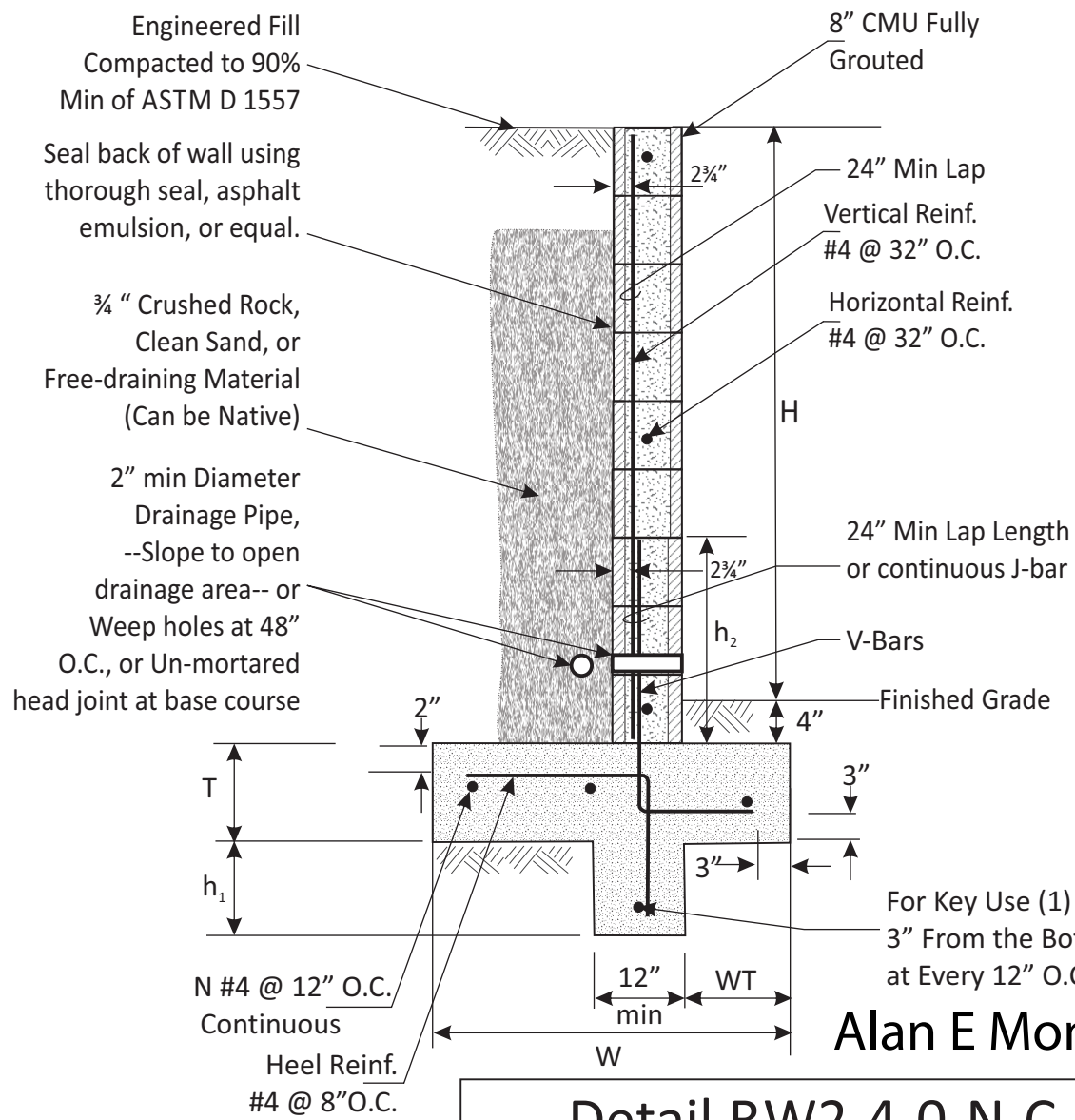
Name: TODD & AUDREY SPAANSTRA TODD: (616) 822-9844
Address: 115 WINSLOW DRIVE AUDREY:
City: FRANKLIN State: TN Zip: 37064 email: todd.spaanstra@crowe.com

Customer Signature _____ Date _____
I have reviewed and I give my approval to proceed with the construction of this project.

POOL		SPA		DECK	
Area:	235	Area:	49	Area:	474
Per:	72	Per:	28	Per:	0
IA:	559	IA:	112	Riser:	0
Gal:	7,931	Gal:	828		



G:\AMMTec Consultants PLLC NEW\Projects\Special Engineering\Retaining Walls\Arizona\Variable Height\Arizona Variable Height



RETAINING WALL SCHEDULE

H	W	WT	T	h1	h2	N	V-Bars
≤ 2'	2'-6"	6"	12"	-	-	4	#4 @ 32" O.C.
2'-3'	2'-9"	9"	12"	8"	-	4	#4 @ 32" O.C.
3'-4'	3'-1"	9"	12"	14"	24"	4	#4 @ 24" O.C.

- NOTES:
- * MAINTAIN 3 IN. CLEARANCE ALL SOIL TO STEEL REINF.
 - * LOCATE VERTICAL EXPANSION JOINT OR PILASTER BLOCK AT INTERVALS NOT TO EXCEED 30 FT.
 - * fg = 1,500 psi (min)
 - * fm = 1,500 psi (min)
 - * Fy = 40,000 (min) (#4 or less)
= 60,000 (min) (#5 or greater)
 - * f'c = 2,500 psi (min)
 - * Presumptive Type IV Soil
 - Ka = 45 psf
 - Kp = 150 psf
 - Coeff. of Friction = 0.25
 - Bearing = 1,000 psf
 - * Basis of Design: IBC 2024
 - * Special Inspection REQUIRED.
 - Soil. Repl. Placement, Masonry

Alan E Money Digitally signed by Alan E Money
Date: 2026.05.30 17:45:45 -07'00'

This Project Shall Comply with the 2024 International Residential Code, which Adopts the 2024 IBC, 2024 IMC, 2024 IPC, 2024 ISPSC and the 2023 NEC and Amendments of the Phoenix Building Construction Code. Section R106.1.

Detail RW2-4-0-N-C
2 to 4ft Variable Height Retaining Wall
115 Winslow Drive

SPAANSTRA RESIDENCE
RETAINING WALL DETAILS

AMMTec CONSULTANTS, PLLC
CONSULTING ENGINEERING SERVICES
2447 West 12th Street, Ste #1 Phone: 480 927-9696
Tempe, Arizona 85281 Fax: 480 927-9797
E-Mail: ammttec@ammttec.com www.ammttec.com

Prepared By: ARO
Reviewed By: AEM
Date: 5/29/26
Revision: N/A



AMMTec CONSULTANTS, PLLC

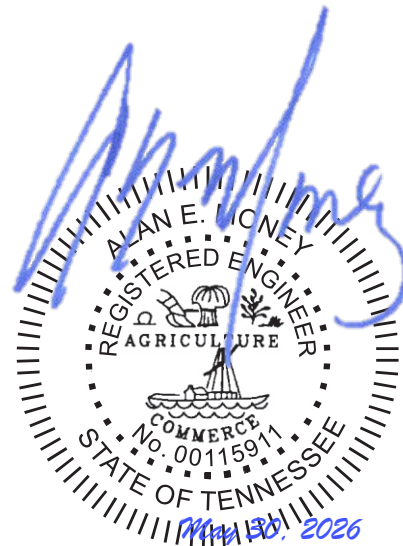
CONSULTING ENGINEERING SERVICES

Structural Calculations Prepared

For
Spaanstra Residence Retaining Walls
115 Winslow Drive
2 – 4 ft High Variable Height Retaining Walls

Up to 2ft		Pgs	1–4
Up to 3ft		Pgs	5–8
Up to 4ft		Pgs	9–12

May 29, 2026



Cantilevered Retaining Wall

Project File: COP MAS.EC6
(c) ENERCALC, LLC 1982-2026

LIC# : KW-06017526, Build:20.25.06.05 AMMTEC

DESCRIPTION: RW2-0-N-C (2024 Type IV)

Code Reference:

Calculations per IBC 2024, ACI 318-19, TMS 402-22

Criteria

Retained Height	=	2.33 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	4.00 in
Water table above bottom of footing	=	0.0 ft

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0
Used for Sliding & Overturning		

Axial Load Applied to Stem

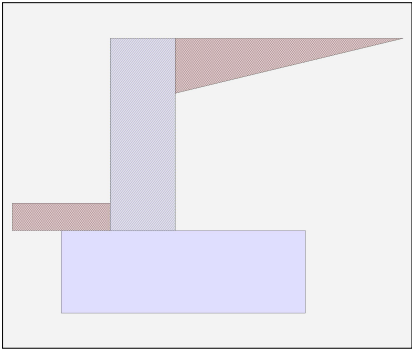
Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Soil Data

Allow Soil Bearing	=	1,000.0 psf
Equivalent Fluid Pressure Method		
Active Heel Pressure	=	45.0 psf/ft
	=	
Passive Pressure	=	150.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Footing Soil Friction	=	0.250
Soil height to ignore for passive pressure	=	0.00 in

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)
Wind on Exposed Stem (Service Level)	=	13.5 psf



Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type	=	Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Project Title:
Engineer:
Project ID:
Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC#: KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW2-0-N-C (2024 Type IV)

Design Summary

Wall Stability Ratios

Overtuning	=	5.33	OK
Sliding	=	1.53	OK
Global Stability	=	2.92	

Total Bearing Load	=	992 lbs
...resultant ecc.	=	0.46 in

Eccentricity within middle third

Soil Pressure @ Toe	=	433 psf	OK
Soil Pressure @ Heel	=	360 psf	OK
Allowable	=	1,000 psf	

Soil Pressure Less Than Allowable

ACI Factored @ Toe	=	550 psf	
ACI Factored @ Heel	=	457 psf	
Footing Shear @ Toe	=	1.3 psi	OK
Footing Shear @ Heel	=	1.3 psi	OK
Allowable	=	75.0 psi	

Sliding Calcs

Lateral Sliding Force	=	250.0 lbs
-----------------------	---	-----------

Vertical component of active lateral soil pressure
IS considered in the calculation of soil bearing
pressures.

Load Factors

Building Code	
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.300
Seismic, E	1.000

Stem Construction

Design Height Above Ftg

ft =	0.00
Wall Material Above "Ht"	= Masonry
Design Method	= ASD
Thickness	= 8.00
Rebar Size	= # 4
Rebar Spacing	= 32.00
Rebar Placed at	= Edge

Design Data

fb/FB + fa/Fa	=	0.156
---------------	---	-------

Total Force @ Section

Service Level	lbs =	122.5
Strength Level	lbs =	

Moment....Actual

Service Level	ft-# =	95.2
Strength Level	ft-# =	

Moment.....Allowable	=	608.4
----------------------	---	-------

Shear.....Actual

Service Level	psi =	1.3
Strength Level	psi =	

Shear.....Allowable	psi =	44.2
---------------------	-------	------

Anet (Masonry)	in2 =	91.50	139.50
----------------	-------	-------	--------

Wall Weight	psf =	78.0
-------------	-------	------

Rebar Depth 'd'	in =	5.25
-----------------	------	------

Masonry Data

f'm	psi =	1,500
Fs	psi =	20,000
Solid Grouting	=	Yes
Modular Ratio 'n'	=	25.78
Equiv. Solid Thick.	in =	7.63
Masonry Block Type	=	Medium Weight
Masonry Design Method	=	ASD

Concrete Data

f'c	psi =	
Fy	psi =	

Summary of Sliding Forces

	FS = 1.0	FS = 1.5
Lateral Force @ Base of Footing	249.95 lbs	374.93 lbs
less 100% Passive Force	- 133.333 lbs	- 133.333 lbs
less 100% Friction Force	- 248.00 lbs	- 248.00 lbs
Added Resisting Force Required	0.0 lbs	
Added Resisting Force Required for 1.5 Factor of Safety		0.00 lbs

Sliding Factor of Safety = 1.526: 1.00

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW2-0-N-C (2024 Type IV)

Footing Data

Toe Width	=	0.50 ft
Heel Width	=	2.00
Total Footing Width	=	2.50
Footing Thickness	=	12.00 in

f'c = 2,500 psi Fy = 40,000 psi
 Footing Concrete Density = 150.00 pcf
 Min. As % = 0.0018
 Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		<u>Toe</u>	<u>Heel</u>	
Factored Pressure	=	550	457	psf
Mu' : Upward	=	68	421	ft-#
Mu' : Downward	=	47	740	ft-#
Mu: Design	=	21	319	ft-#
φ Mn	=	2,500	2,500	ft-#
Actual 1-Way Shear	=	1.26	1.30	psi
Allow 1-Way Shear	=	40.00	40.00	psi
Toe Reinforcing	=	None Spec'd		
Heel Reinforcing	=	None Spec'd		
Key Reinforcing	=	None Spec'd		
Footing Torsion, Tu	=		0.00	ft-lbs
Footing Allow. Torsion, φ Tn	=		0.00	ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Other Acceptable Sizes & Spacings

Toe: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Heel: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Key: No key defined

Min footing T&S reinf Area 0.65 in2
 Min footing T&S reinf Area per foot 0.26 in2 /ft

If one layer of horizontal bars:

#4@ 9.26 in
 #5@ 14.35 in
 #6@ 20.37 in

If two layers of horizontal bars:

#4@ 18.52 in
 #5@ 28.70 in
 #6@ 40.74 in

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW2-0-N-C (2024 Type IV)

Summary of Overturning & Resisting Forces & Moments

Item	OVERTURNING.....			RESISTING.....			
	Force lbs	Distance ft	Moment ft-#	Force lbs	Distance ft	Moment ft-#	
HL Act Pres (ab water tbl)	250.0	1.11	277.7	Soil Over HL (ab. water tbl)	342.2	1.83	627.3
HL Act Pres (be water tbl)				Soil Over HL (bel. water tbl)		1.83	627.3
Hydrostatic Force				Water Table			
Buoyant Force	=			Sloped Soil Over Heel	=		
Surcharge over Heel	=			Surcharge Over Heel	=		
Surcharge Over Toe	=			Adjacent Footing Load	=		
Adjacent Footing Load	=			Axial Dead Load on Stem	=		
Added Lateral Load	=			* Axial Live Load on Stem	=		
Load @ Stem Above Soil	=	3.33		Soil Over Toe	=	0.25	
	=			Surcharge Over Toe	=		
				Stem Weight(s)	=	182.0	151.6
				Earth @ Stem Transitions	=		
				Footing Weight	=	375.0	468.8
				Key Weight	=		
				Vert. Component	=	92.8	232.1
Total	=	250.0	O.T.M. = 277.7	Total =	992.0 lbs	R.M. =	1,479.8
Resisting/Overturning Ratio		=	5.33				
Vertical Loads used for Soil Pressure =		992.0	lbs				

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

Vertical component of active lateral soil pressure IS considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus 250.0 pci

Horizontal Defl @ Top of Wall (approximate only) 0.011 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

Cantilevered Retaining Wall

Project File: COP MAS.EC6
(c) ENERCALC, LLC 1982-2026

LIC# : KW-06017526, Build:20.25.06.05 AMMTEC

DESCRIPTION: RW3-0-N-C (2024 Type IV)

Code Reference:

Calculations per IBC 2024, ACI 318-19, TMS 402-22

Criteria

Retained Height	=	3.33 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	4.00 in
Water table above bottom of footing	=	0.0 ft

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0
Used for Sliding & Overturning		

Axial Load Applied to Stem

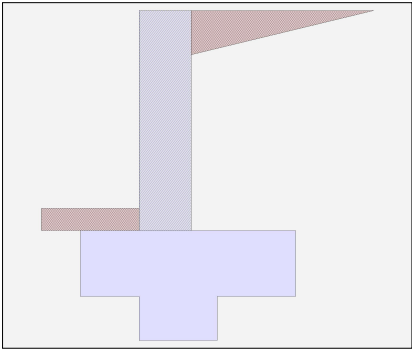
Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Soil Data

Allow Soil Bearing	=	1,000.0 psf
Equivalent Fluid Pressure Method		
Active Heel Pressure	=	45.0 psf/ft
	=	
Passive Pressure	=	150.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Footing Soil Friction	=	0.250
Soil height to ignore for passive pressure	=	0.00 in

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)
Wind on Exposed Stem	=	13.5 psf (Service Level)



Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type	=	Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Project Title:
Engineer:
Project ID:
Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW3-0-N-C (2024 Type IV)

Design Summary

Wall Stability Ratios

Overtuning	=	3.97	OK
Sliding	=	1.55	OK
Global Stability	=	2.16	

Total Bearing Load	=	1,418	lbs
...resultant ecc.	=	1.15	in

Eccentricity within middle third

Soil Pressure @ Toe	=	624	psf	OK
Soil Pressure @ Heel	=	407	psf	OK
Allowable	=	1,000	psf	

Soil Pressure Less Than Allowable

ACI Factored @ Toe	=	777	psf
ACI Factored @ Heel	=	507	psf
Footing Shear @ Toe	=	3.1	psi OK
Footing Shear @ Heel	=	2.6	psi OK
Allowable	=	75.0	psi

Sliding Calcs

Lateral Sliding Force	=	422.4	lbs
-----------------------	---	-------	-----

Vertical component of active lateral soil pressure
IS considered in the calculation of soil bearing
pressures.

Load Factors

Building Code	
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.300
Seismic, E	1.000

Stem Construction

Design Height Above Ftg

ft =	0.00
Wall Material Above "Ht"	= Masonry
Design Method	= ASD
Thickness	= 8.00
Rebar Size	= # 4
Rebar Spacing	= 32.00
Rebar Placed at	= Edge

Design Data

fb/FB + fa/Fa	=	0.456
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Total Force @ Section

Service Level	lbs =	250.0
Strength Level	lbs =	

Moment....Actual

Service Level	ft-# =	277.7
Strength Level	ft-# =	

Moment.....Allowable	=	608.4
----------------------	---	-------

Shear.....Actual

Service Level	psi =	2.7
Strength Level	psi =	

Shear.....Allowable	psi =	44.4
---------------------	-------	------

Anet (Masonry)	in2 =	91.50	139.50
----------------	-------	-------	--------

Wall Weight	psf =	78.0
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Rebar Depth 'd'	in =	5.25
-----------------	------	------

Masonry Data

f'm	psi =	1,500
Fs	psi =	20,000
Solid Grouting	=	Yes
Modular Ratio 'n'	=	25.78
Equiv. Solid Thick.	in =	7.63
Masonry Block Type	=	Medium Weight
Masonry Design Method	=	ASD

Concrete Data

f'c	psi =	
Fy	psi =	

Summary of Sliding Forces

	FS = 1.0	FS = 1.5
Lateral Force @ Base of Footing	422.44 lbs	633.65 lbs
less 100% Passive Force	- 300.0 lbs	- 300.0 lbs
less 100% Friction Force	- 354.55 lbs	- 354.55 lbs
Added Resisting Force Required	0.0 lbs	
Added Resisting Force Required for 1.5 Factor of Safety		0.00 lbs

Sliding Factor of Safety = 1.549: 1.00

Project Title:
Engineer:
Project ID:
Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW3-0-N-C (2024 Type IV)

Footing Data

Toe Width	=	0.75 ft
Heel Width	=	2.00
Total Footing Width	=	2.75
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	8.00 in
Key Distance from Toe	=	0.75 ft
f'c =	2,500 psi	Fy = 40,000 psi
Footing Concrete Density	=	150.00 pcf
Min. As %	=	0.0018
Cover @ Top	2.00	@ Btm.= 3.00 in

Footing Design Results

		Toe	Heel	Key	
Factored Pressure	=	777	507		psf
Mu' : Upward	=	212	490		ft-#
Mu' : Downward	=	91	1,024		ft-#
Mu: Design	=	121	534	226	ft-#
φ Mn	=	2,500	2,500	2,500	ft-#
Actual 1-Way Shear	=	3.13	2.62	3.94	psi
Allow 1-Way Shear	=	40.00	40.00	40.00	psi
Toe Reinforcing	=	None Spec'd			
Heel Reinforcing	=	None Spec'd			
Key Reinforcing	=	None Spec'd			
Footing Torsion, Tu	=		0.00		ft-lbs
Footing Allow. Torsion, φ Tn	=		0.00		ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Other Acceptable Sizes & Spacings

Toe: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Heel: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Key: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Min footing T&S reinf Area 0.71 in²
Min footing T&S reinf Area per foot 0.26 in² /ft

If one layer of horizontal bars:

#4@ 9.26 in
#5@ 14.35 in
#6@ 20.37 in

If two layers of horizontal bars:

#4@ 18.52 in
#5@ 28.70 in
#6@ 40.74 in

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW3-0-N-C (2024 Type IV)

Summary of Overturning & Resisting Forces & Moments

.....OVERTURNING.....				RESISTING.....			
Item	Force lbs	Distance ft	Moment ft-#		Force lbs	Distance ft	Moment ft-#
HL Act Pres (ab water tbl)	422.4	1.44	610.1	Soil Over HL (ab. water tbl)	488.8	2.08	1,018.4
HL Act Pres (be water tbl)				Soil Over HL (bel. water tbl)		2.08	1,018.4
Hydrostatic Force				Water Table			
Buoyant Force	=			Sloped Soil Over Heel	=		
Surcharge over Heel	=			Surcharge Over Heel	=		
Surcharge Over Toe	=			Adjacent Footing Load	=		
Adjacent Footing Load	=			Axial Dead Load on Stem	=		
Added Lateral Load	=			* Axial Live Load on Stem	=		
Load @ Stem Above Soil	=	4.33		Soil Over Toe	=	0.38	
	=			Surcharge Over Toe	=		
				Stem Weight(s)	=	260.0	1.08
				Earth @ Stem Transitions	=		281.6
				Footing Weight	=	412.5	1.38
				Key Weight	=	100.0	1.25
				Vert. Component	=	156.9	2.75
Total	=	422.4	O.T.M.		Total =	1,418.2 lbs	R.M.=
			=				2,423.7
			610.1				
Resisting/Overturning Ratio		=	3.97				
Vertical Loads used for Soil Pressure =		1,418.2	lbs				
		</					

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

Vertical component of active lateral soil pressure IS considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus 250.0 pci

Horizontal Defl @ Top of Wall (approximate only) 0.021 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

Cantilevered Retaining Wall

Project File: COP MAS.EC6
(c) ENERCALC, LLC 1982-2026

LIC# : KW-06017526, Build:20.25.06.05 AMMTEC

DESCRIPTION: RW4-0-N-C (2024 Type IV)

Code Reference:

Calculations per IBC 2024, ACI 318-19, TMS 402-22

Criteria

Retained Height	=	4.33 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	4.00 in
Water table above bottom of footing	=	0.0 ft

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
Used for Sliding & Overturning		

Axial Load Applied to Stem

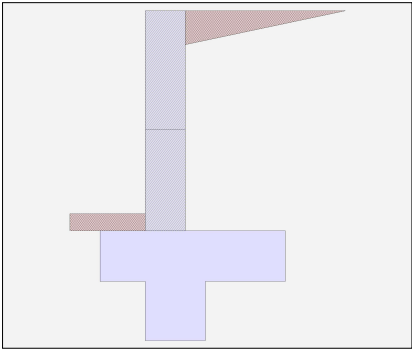
Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Soil Data

Allow Soil Bearing	=	1,000.0 psf
Equivalent Fluid Pressure Method		
Active Heel Pressure	=	45.0 psf/ft
Passive Pressure	=	150.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Footing Soil Friction	=	0.250
Soil height to ignore for passive pressure	=	0.00 in

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)
Wind on Exposed Stem	=	13.5 psf (Service Level)



Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type	=	Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW4-0-N-C (2024 Type IV)

Design Summary			Stem Construction		2nd	Bottom	
Wall Stability Ratios			Design Height Above Ftg	ft =	Stem OK 2.00	Stem OK 0.00	
Overtuning	=	3.35 OK	Wall Material Above "Ht"	=	Masonry	Masonry	
Sliding	=	1.52 OK	Design Method	=	ASD	ASD	ASD
Global Stability	=	1.85	Thickness	=	8.00	8.00	
			Rebar Size	=	# 4	# 4	
			Rebar Spacing	=	32.00	24.00	
			Rebar Placed at	=	Edge	Edge	
Total Bearing Load = 2,005 lbs			Design Data				
...resultant ecc.	=	2.48 in	fb/FB + fa/Fa	=	0.156	0.760	
Eccentricity within middle third			Total Force @ Section				
Soil Pressure @ Toe	=	914 psf OK	Service Level	lbs =	122.5	422.4	
Soil Pressure @ Heel	=	389 psf OK	Strength Level	lbs =			
Allowable	=	1,000 psf	Moment....Actual				
Soil Pressure Less Than Allowable			Service Level	ft-# =	95.2	610.1	
ACI Factored @ Toe	=	1,128 psf	Strength Level	ft-# =			
ACI Factored @ Heel	=	480 psf	Moment.....Allowable	ft-# =	608.4	802.6	
Footing Shear @ Toe	=	5.1 psi OK	Shear.....Actual				
Footing Shear @ Heel	=	4.5 psi OK	Service Level	psi =	1.3	4.6	
Allowable	=	75.0 psi	Strength Level	psi =			
Sliding Calcs			Shear.....Allowable	psi =	44.2	44.7	
Lateral Sliding Force	=	639.9 lbs	Anet (Masonry)	in2 =	91.50	91.50	139.50
			Wall Weight	psf =	78.0	78.0	
			Rebar Depth 'd'	in =	5.25	5.25	
Vertical component of active lateral soil pressure			Masonry Data				
IS considered in the calculation of soil bearing pressures.			f'm	psi =	1,500	1,500	
Load Factors			Fs	psi =	20,000	20,000	
Building Code			Solid Grouting	=	Yes	Yes	
Dead Load		1.200	Modular Ratio 'n'	=	25.78	25.78	
Live Load		1.600	Equiv. Solid Thick.	in =	7.63	7.63	
Earth, H		1.600	Masonry Block Type	=	Medium Weight		
Wind, W		1.300	Masonry Design Method	=	ASD		
Seismic, E		1.000	Concrete Data				
			f'c	psi =			
			Fy	psi =			

Summary of Sliding Forces

	FS = 1.0	FS = 1.5
Lateral Force @ Base of Footing	639.92 lbs	959.88 lbs
less 100% Passive Force	- 468.750 lbs	- 468.750 lbs
less 100% Friction Force	- 501.36 lbs	- 501.36 lbs
Added Resisting Force Required	0.0 lbs	
Added Resisting Force Required for 1.5 Factor of Safety		0.00 lbs

Sliding Factor of Safety = 1.516: 1.00

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW4-0-N-C (2024 Type IV)

Footing Data

Toe Width	=	0.75 ft
Heel Width	=	2.33
Total Footing Width	=	3.08
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	14.00 in
Key Distance from Toe	=	0.75 ft
f'c =	2,500 psi	Fy = 40,000 psi
Footing Concrete Density	=	150.00 pcf
Min. As %	=	0.0018
Cover @ Top	2.00	@ Btm.= 3.00 in

Footing Design Results

		<u>Toe</u>	<u>Heel</u>	<u>Key</u>	
Factored Pressure	=	1,128	480		psf
Mu' : Upward	=	302	825		ft-#
Mu' : Downward	=	91	1,881		ft-#
Mu: Design	=	211	1,056	617	ft-#
φ Mn	=	2,500	2,500	2,500	ft-#
Actual 1-Way Shear	=	5.06	4.52	6.64	psi
Allow 1-Way Shear	=	40.00	40.00	40.00	psi
Toe Reinforcing	=	None Spec'd			
Heel Reinforcing	=	None Spec'd			
Key Reinforcing	=	None Spec'd			
Footing Torsion, Tu	=		0.00		ft-lbs
Footing Allow. Torsion, φ Tn	=		0.00		ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Other Acceptable Sizes & Spacings

Toe: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Heel: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Key: $\phi Mn = \phi * 5 * \lambda * \sqrt{fc} * Sm$

Min footing T&S reinf Area 0.80 in2
 Min footing T&S reinf Area per foot 0.26 in2 /ft

If one layer of horizontal bars:

#4@ 9.26 in
 #5@ 14.35 in
 #6@ 20.37 in

If two layers of horizontal bars:

#4@ 18.52 in
 #5@ 28.70 in
 #6@ 40.74 in

Cantilevered Retaining Wall

Project File: COP.MAS.EC6

LIC# : KW-06017526, Build:20.25.06.05

AMMTEC

(c) ENERCALC, LLC 1982-2026

DESCRIPTION: RW4-0-N-C (2024 Type IV)

Summary of Overturning & Resisting Forces & Moments

Item	OVERTURNING.....			RESISTING.....			
	Force lbs	Distance ft	Moment ft-#	Force lbs	Distance ft	Moment ft-#	
HL Act Pres (ab water tbl)	639.9	1.78	1,137.6	Soil Over HL (ab. water tbl)	792.8	2.25	1,782.5
HL Act Pres (be water tbl)				Soil Over HL (bel. water tbl)		2.25	1,782.5
Hydrostatic Force				Water Table			
Buoyant Force =				Sloped Soil Over Heel =			
Surcharge over Heel =				Surcharge Over Heel =			
Surcharge Over Toe =				Adjacent Footing Load =			
Adjacent Footing Load =				Axial Dead Load on Stem =			
Added Lateral Load =				* Axial Live Load on Stem =			
Load @ Stem Above Soil =		5.33		Soil Over Toe =		0.38	
=				Surcharge Over Toe =			
				Stem Weight(s) =	338.0	1.08	366.1
				Earth @ Stem Transitions =			
Total	= 639.9	O.T.M. =	1,137.6	Footing Weight =	462.0	1.54	711.5
				Key Weight =	175.0	1.25	218.8
Resisting/Overturning Ratio		= 3.35		Vert. Component =	237.7	3.08	732.1
Vertical Loads used for Soil Pressure =		2,005.5 lbs		Total =	2,005.5 lbs	R.M. =	3,810.9

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

Vertical component of active lateral soil pressure IS considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

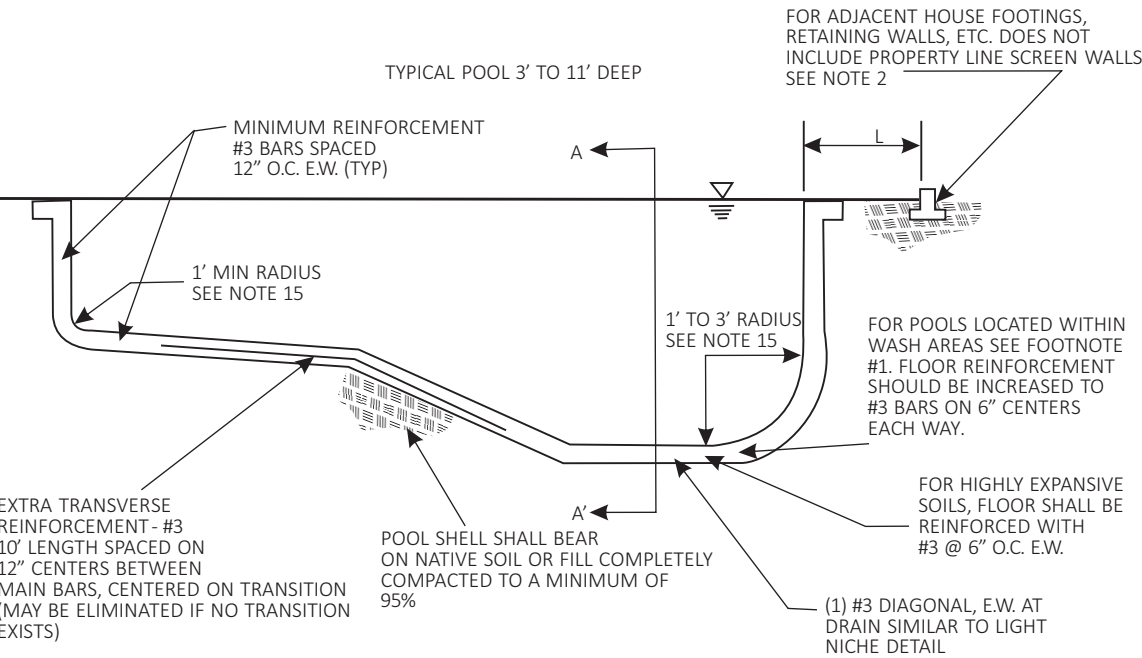
Soil Spring Reaction Modulus 250.0 pci

Horizontal Defl @ Top of Wall (approximate only) 0.036 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

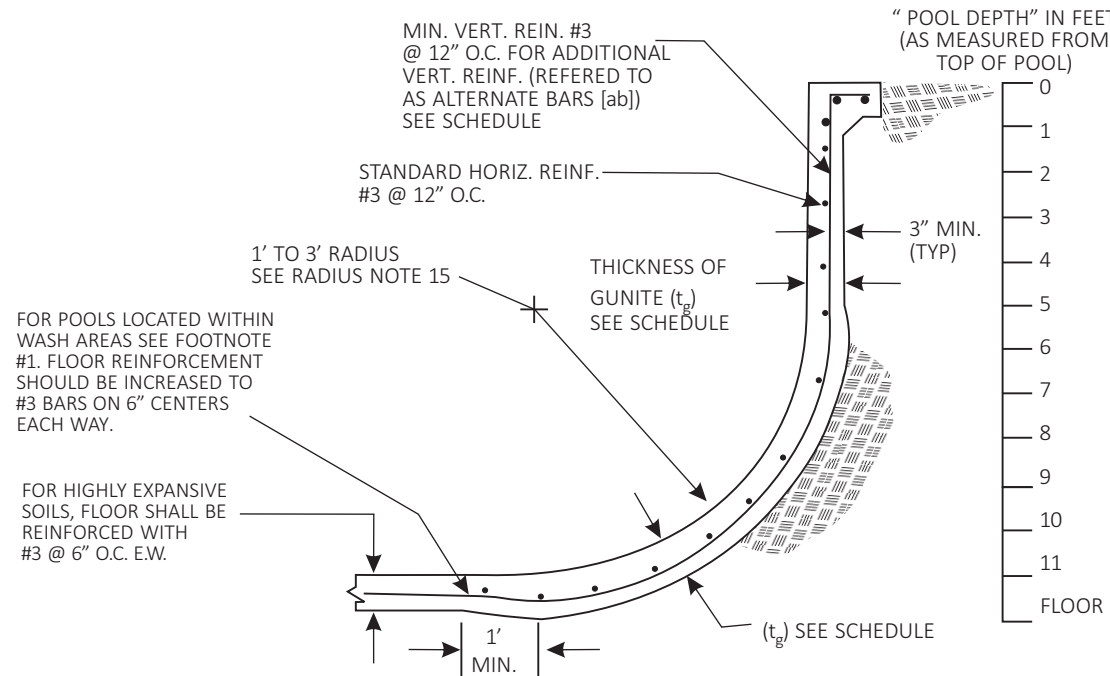
DETAIL A- TYPICAL POOL SECTION

NOTE: ALL POOL, SPA, AND WATER FEATURES SHALL BE BUILT ON FIRM UNDISTURBED NATIVE SOIL OR ENGINEERED FILL COMPACTED TO A MINIMUM OF 95% MAX. DENSITY AS DETERMINED BY ASTM D698



LONGITUDINAL SECTION

NOT TO SCALE



SECTION A-A' DETAIL

NOT TO SCALE

REINFORCEMENT AND GUNITE THICKNESS SCHEDULE

Column	5-A		5-B		5-C		6-A		6-B		6-C		7-A		7-B		7-C		8-A		8-B		8-C		9-A		9-B		9-C		
Soil Category	A ₁		B ₂		C ₃		A ₁		B ₂		C ₃		A ₁		B ₂		C ₃		A ₁		B ₂		C ₃		A ₁		B ₂		C ₃		
Pool Depth	5.0 ft.		5.0 ft.		5.0 ft.		6.0 ft.		6.0 ft.		6.0 ft.		7.0 ft.		7.0 ft.		7.0 ft.		8.0 ft.		8.0 ft.		8.0 ft.		9.0 ft.		9.0 ft.		9.0 ft.		
Depth (ft)	ab ₄	tg ₆	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	ab	tg	Depth (ft)
0.0	0	6	0	6	1	6	0	6	0	6	1	6	0	6	0	6	1	6	0	6	0	6	1	7	0	7	0	7	1	7	0.0
0.5																															0.5
1.0																															1.0
1.5																															1.5
2.0																															2.0
2.5																															2.5
3.0													0		0		1		0		0		1		0		0		1		3.0
3.5													1		1		2		1		1		2		1		1		2		3.5
4.0																															4.0
4.5																															4.5
5.0	0	6	0	7	1	6																									5.0
5.5																															5.5
6.0							0	6	1	6	1	7							7		2										6.0
6.5																															6.5
7.0													1	6	1	8	2														7.0
7.5																															7.5
8.0																															8.0
8.5																															8.5
9.0																															9.0
floor	0	6	0	6	1 ₆	7	0	6	1 ₆	6	1 ₆	7	1 ₆	6	1 ₆	6	2 ₇	7	1 ₆	6	2 ₇	6	2 ₇	7	2 ₇	6	2 ₇	7	2 ₇	7	

Column	10-A	10-B	10-C	11-A	11-B	11-C	FREESTANDING WALL (Both Normal and Expansive Soil) ¹⁴												Column													
Soil Category	A ₁	B ₂	C ₃	A ₁	B ₂	C ₃	H			I			J			K			L			M			Freestanding Depth							
Pool Depth	10.0 ft.	10.0 ft.	10.0 ft.	11.0 ft.	11.0 ft.	11.0 ft.	H = 2.0 ft.			H = 3.0 ft.			H = 4.0 ft.			H = 5.0 ft.			H = 6.0 ft.			H = 7.0 ft.			Depth (ft)							
Depth (ft)	ab ⁴	tg ⁴	ab	tg	ab	tg	ab	T ₁	T ₂	ab	T ₁	T ₂	ab	T ₁	T ₂	ab	T ₁	T ₂	ab	T ₁	T ₂	ab	T ₁	T ₂	ab	T ₁	T ₂	Depth (ft)				
0.0	0	7	0	7	1	7	0	3	4	0	3	4	0	3	4	0	3	4	0	3	4	0	3	4	0	3	4	0.0				
0.5																													0.5			
1.0																													1.0			
1.5																													1.5			
2.0																													2.0			
2.5																													2.5			
3.0	0		0		1		0			0			1			2			2			2			2					3.0		
3.5	1		1		2		1			1			1			4			4			4			4					3.5		
4.0									3							5			5			5			5					4.0		
4.5									4																					4.5		
5.0																															5.0	
5.5						7						3																		5.5		
6.0	1		1		8		1			2		7				5			6			6			8					6.0		
6.5	2		2		9		2			5		8				6			7			7			9					6.5		
7.0		7		8		10					8								6			6								7.0		
7.5		8		9		11*		7			9								7			8								7.5		
8.0		8		10		11*		8			10		1	4	4	1	4	4	1	4	6	2	3	8	2	3				8.0		
8.5		9		11*		11*		9			11*																				8.5	
9.0		9		11*		12*		10			12*																				9.0	
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11.0							2	11*	3	12*	5	12*																			11.0	
floor	2 ₇	7	2 ₇	7	3 ₈	8	2 ₇	7	2 ₇	7	5 ₉	9	1 ₆	3	3	1 ₆	3	3	1 ₆	3	3	2 ₇	3	3	2 ₇	3	3	2 ₇	3	4	floor	

*-Where wall thickness exceeds 10", a second "curtain" of reinforcement consisting of #3 @ 12" O.C. Each way should be placed @ 3" from waterside face of gunite

TENNESSEE
STANDARD GUNITE
& REINFORCEMENT
DETAIL PLAN

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Spaastra
115 Winslow Drive

FOR STATE OF TENNESSEE USE ONLY

ENGINEERED BY: AEM
DATE: 09/30/2018
PLAN IBC 2021TN

REVISED: 4/26/2026

Sheet # 1 OF 2

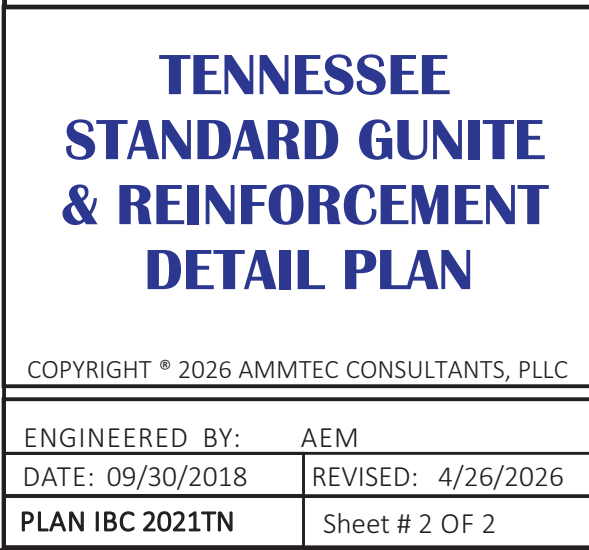
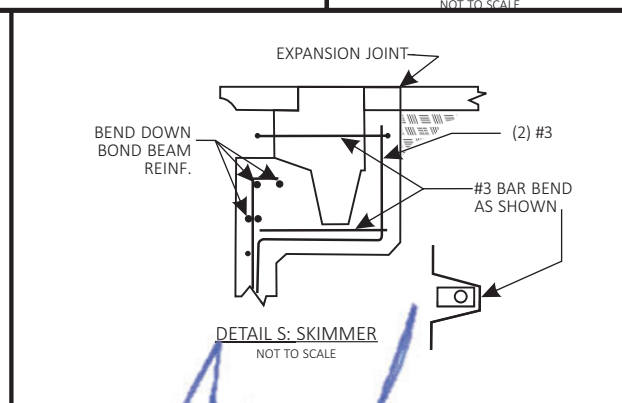
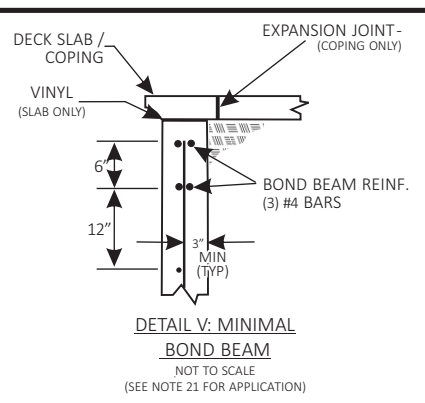
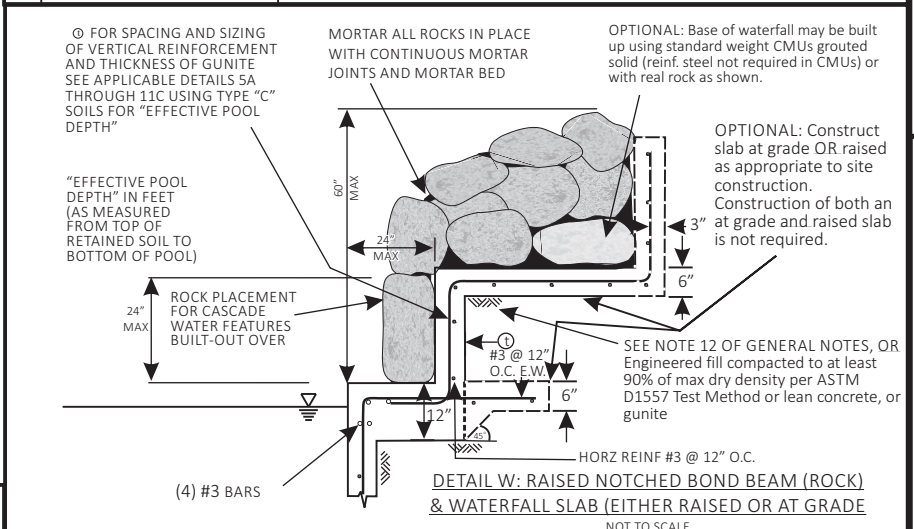
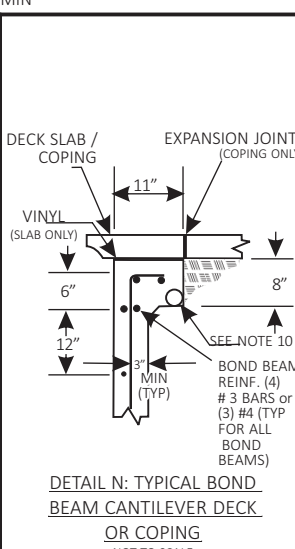
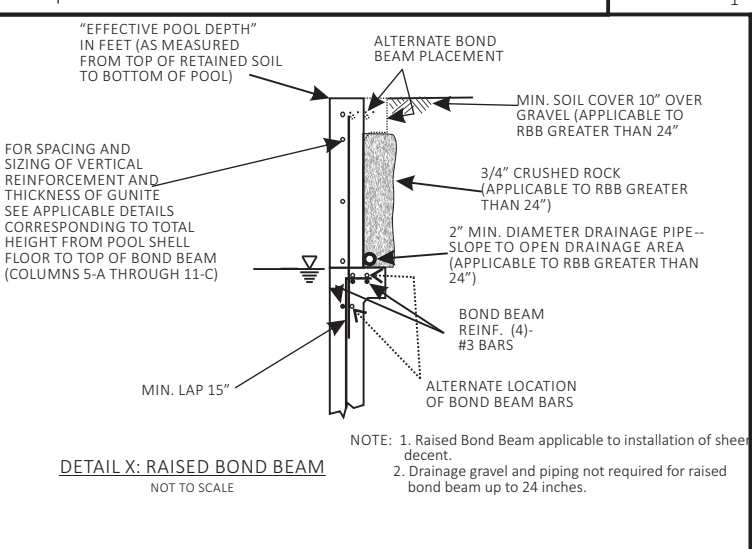
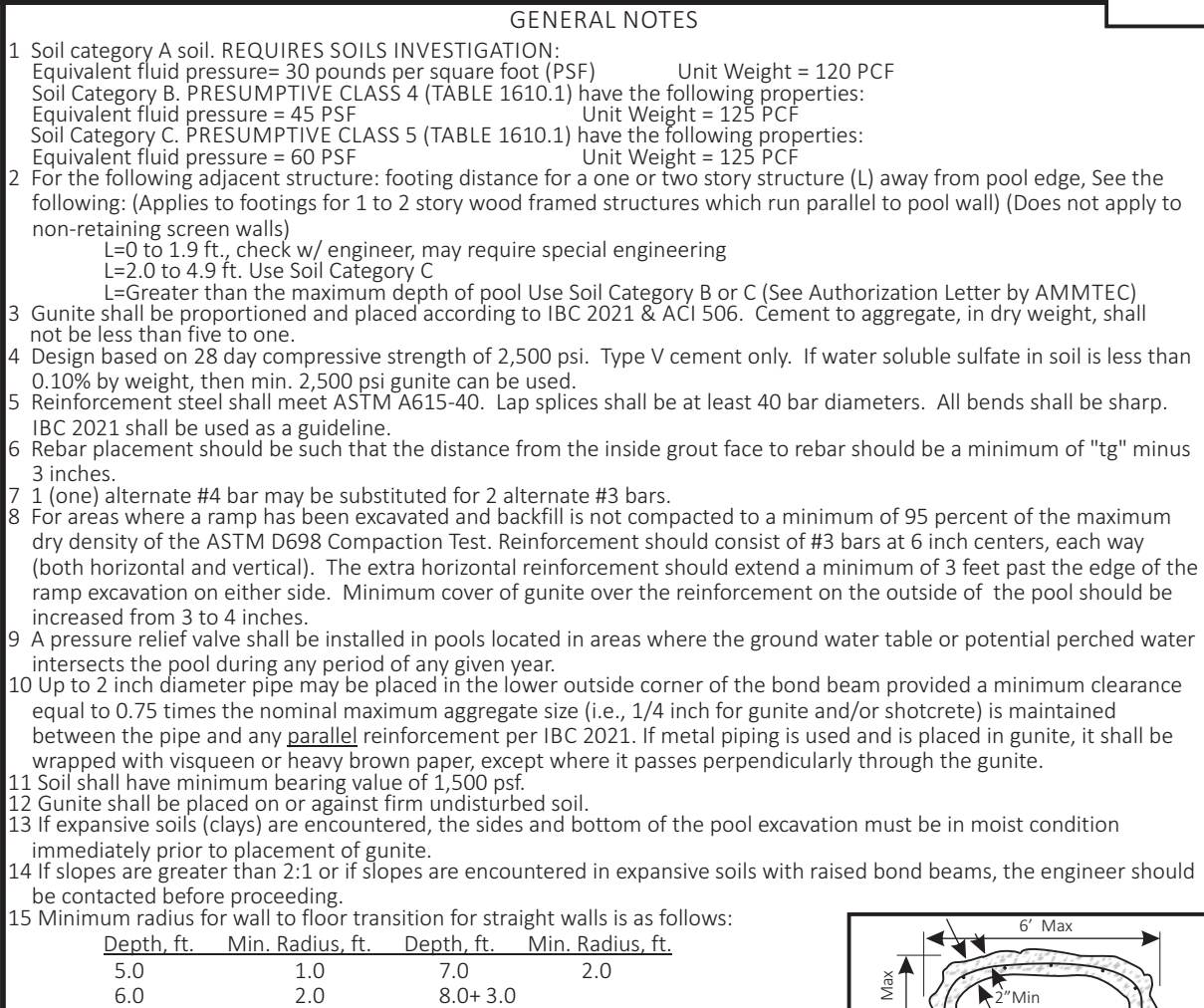
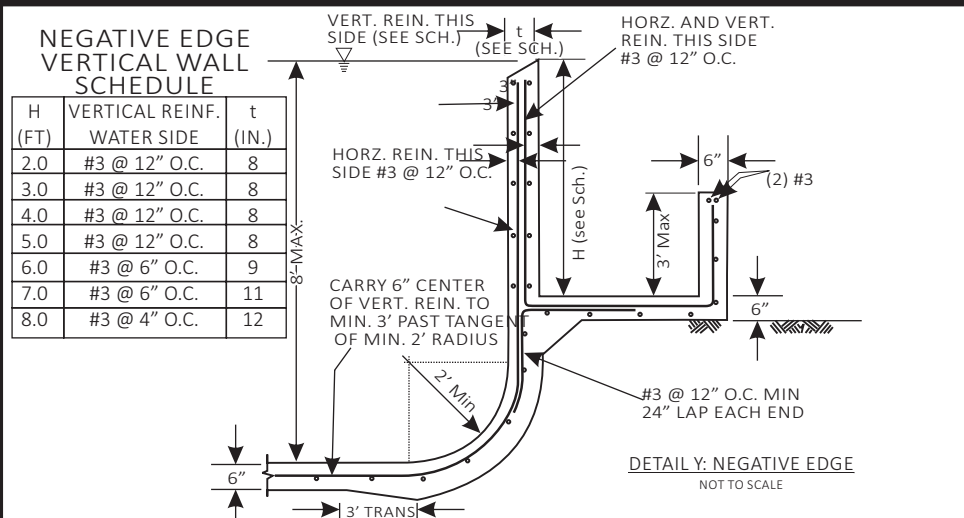
AMMTEC
CONSULTANTS

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Tempe, Arizona 85281
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Fax:(480) 927-9797
ammtec@ammtec.com



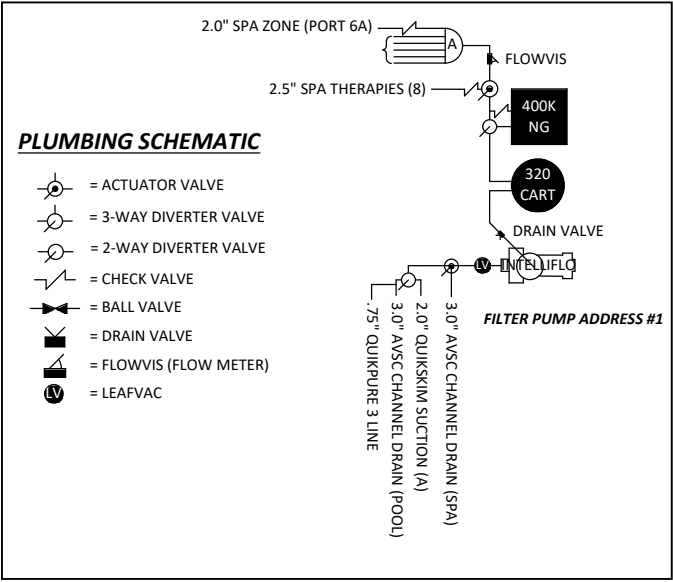
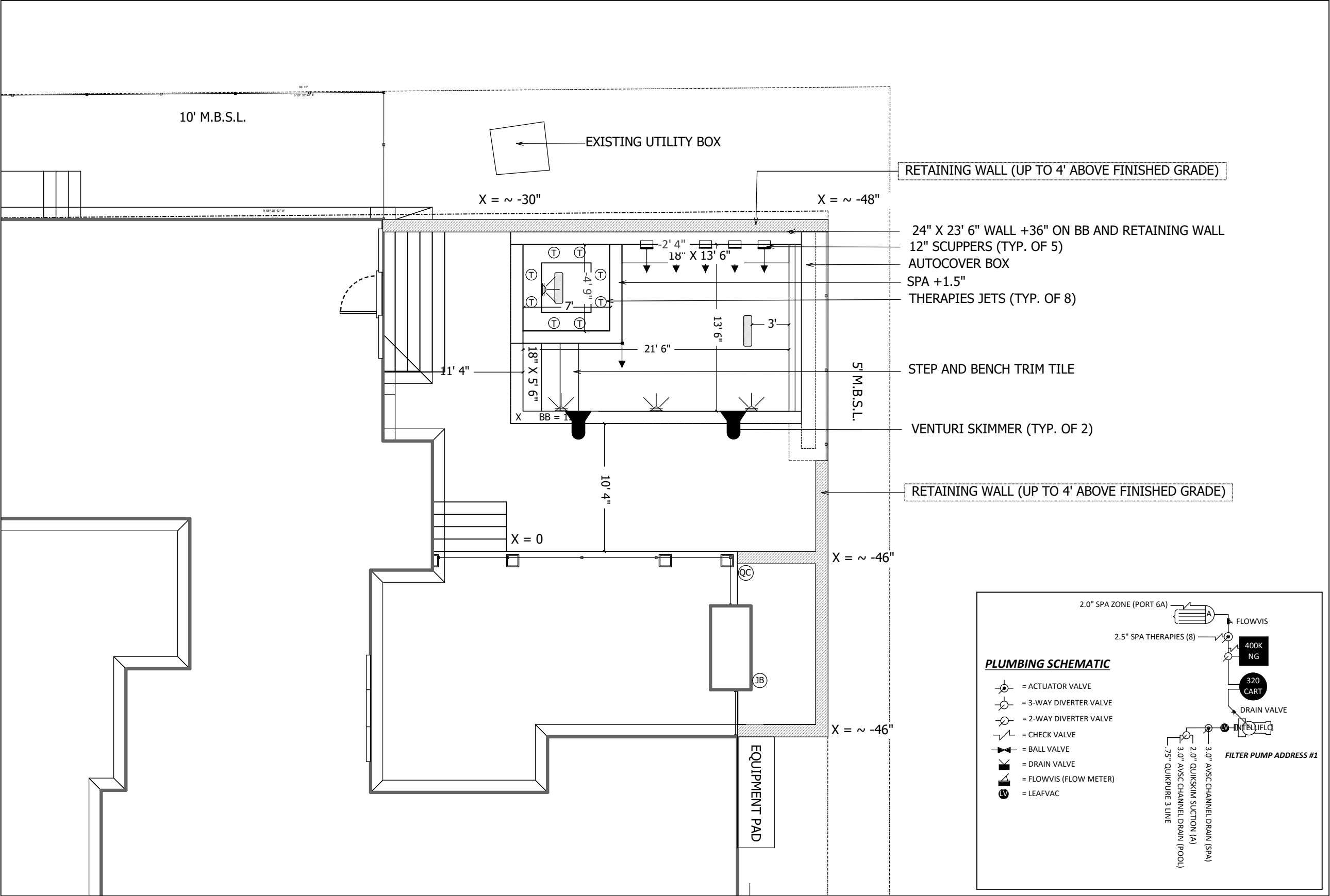
PLAN NOT VALID UNLESS BEARING ORIGINAL
STAMP AND SIGNATURE OR COPIES
INCLUDING MUNICIPALITY APPROVAL STAMP

1. Soil category A considered normal soil GP, GW, SP, SW. Assumed to have the following properties:
Unit Weight = 120 PCF As classified by 2021 IBC Table 1610.1
2. Soil Category B considered expansive soil SM, SC, ML, CL or normal soil with a 2:1 (H:V) slope. Assumed to have the following properties:
Unit Weight = 125 PCF As classified by 2021 IBC Table 1610.1
3. Soil Category C considered critically expansive soil or expansive soil with a 2:1 slope. Assumed to have the following properties: Unit Weight = 125 PCF As classified by 2021 IBC Table 1610.1
4. ab, Alternate Bars (# of vertical alternate reinforcing bars in addition to #3 @ 12" o.c.)
5. tg, Thickness of Gunite (minimum gunite thickness, inches).
6. Continue alternate reinforcement 1.0 ft. past end of radius into pool floor.
7. Continue alternate reinforcement 2.0 ft. past end of radius into pool floor.
8. Continue alternate reinforcement 3.0 ft. past end of radius into pool floor.
9. Continue alternate reinforcement 4.0 ft. past end of radius into pool floor.
10. Site Conditions that require the use of a freestanding wall usually involve construction of the pool on or near a slope. If the toe of the freestanding wall is within 10 feet of a slope greater than 5:1 (horizontal to vertical) or if the excavation for the pool is not carried through the generally looser surface soils, the engineer should be contacted to determine in writing if a site specific soil investigation is warranted.



NOT TO SCALE	
FOR STATE OF TENNESSEE USE ONLY	
 AMMTEC^{PLLC} CONSULTANTS	2447 West 12th Street Ste #1 Tempe, Arizona 85281 Ph:(480) 927-9696 Fax:(480) 927-9797 ammtec@ammtec.com





CONSTRUCTION NOTES:

HOMEOWNER: MUST BE IN COMPLIANCE WITH ALL COUNTY, CITY AND STATE CODE BARRIER REQUIREMENTS; WATERCURE SHOTCRETE SHELL

SUPER: POOL SIDE ALARM ("KATIE BETH'S) CONSTRUCTION FENCE; PORT-O-POTTY BY OTHERS; SEE BOND BEAM (BB) NOTES; SEE DETAIL FOR POOL DEPTH AND STEPS AND TANNING LEDGE

EXCAVATION: BY PERFECT7; TRACKHOE ACCESS; DEPTHS ARE MINIMUM; ALLOW AN EXTRA 18" ON PROPERTY LINE WALLS FOR FOOTINGS; MAINTAIN SILT FENCE;

FORMING: FORM WALLS FOR 12" THICKNESS;;

PLUMBING; MAINTAIN CONSTRUCTION FENCE; QUICKCLEAN DISTRIBUTION VALVE, SET TO +2" FROM POOL BB, WATER LEVELER -1" FROM POOL BB, OZONE PER SCHEMATIC; (2) QUIKSKIMS, 2" SUCTION LINE TO FIRST QUIKSKIM, 1.5" VENTURI LINE TO BOTH; KEEP THERAPY AIR LINE HIGH AND LEVEL AROUND SPA; WATER LEVELER SUPPLY MIN -12" BELOW GRADE;

STEEL: 169 TOTAL BARS; SEE DETAIL & BOND BEAM NOTES, STEP ELEVATIONS, SEE DETAIL ; DOUBLE CURTAIN IN DAMWALL AND BACK AND SIDE WALL OF POOL; KNIFE EDGE SPA DAMWALL PER PLAN DETAIL.

GAS: 1.5" GAS LINE FROM MAIN TO HEATER.

ELECTRIC: HOLD ELECTRIC MIN 24" FROM FOUNDATION OF HOUSE; EQUIPOTENTIAL BONDING; INTELLICENTER I5PS AUTOMATION PANEL AT EQUIPMENT LOCATED ON PLAN; PUMP WIRED DIRECTLY TO BREAKER; MICROBRITE POOL / SPA LIGHT (S) WIRE TO AUTOMATION PANEL; SET ALL MICROBRITES T.O.L. AT -10"; 110v GFCI OUTLET LOCATED ON PLAN; OUTLETS MUST BE AT LEAST 10', BUT NO FURTHER THAN 20' AWAY FROM WATER'S EDGE; WIRE E.I. ON HEATER; WIRE OXONE TO FILTER RELAY

SHOTCRETE: 36 YARDS; SEE BOND BEAM NOTES; STEP ELEVATIONS SHOWN ON DETAIL; TAPER BOND BEAM FOR COPING PER DETAIL; CUSTOM KNIFE EDGE FOR SPA SPILLWAY PER PLAN & ENGINEERING.

MASONRY: RAISED WALL +18" ABOVE POOL; COPING WITH TRAVERTINE CAP & STONE VENEER.

DECK: 5CM TRAVERTINE COPING AROUND POOL; 2.5" MIN CANTELEVER; SEE SELECTION FORM FOR TRAVERTINE COLOR; FIELD PAVERS NOT IN CURRENT CONTRACT WITH PERFECT7, LLC.

INTERIOR FINISH: PEBBLE-SHEEN; SEE SELECTION FORM FOR COLOR; INSTALL (1) 1.5" SLEEVE IN SHELF, AS NOTED ON PLAN.

STARTUP: MECHANICAL STARTUP & OPERATIONAL INSTRUCTIONS TO OWNER.



Your Vision... Built with Precision.

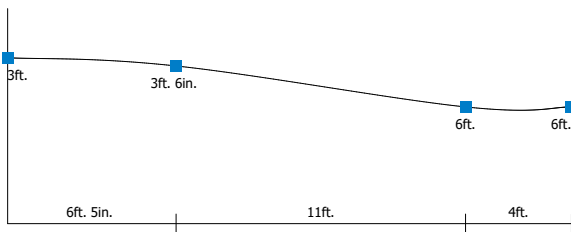
CUSTOMER INFO

Name: TODD & AUDREY SPAANSTRA TODD: (616) 822-9644
Address: 115 WINSLOW DRIVE AUDREY:
City: FRANKLIN State: TN Zip: 37064 email: todd.spaanstra@crowe.com

Customer Signature Date
I have reviewed and I give my approval to proceed with the construction of this project.

SCALE: 1" = 8'

POOL	SPA	DECK
Area: 235	Area: 49	Area: 474
Per: 72	Per: 28	Per: 0
IA: 559	IA: 112	Riser: 0
Gal: 7,931	Gal: 828	



- 1) ALL DISTANCES WERE MEASURED WITH E.D.M. EQUIPMENT AND HAVE BEEN ADJUSTED FOR TEMPERATURE.
- 2) UTILITIES HAVE SCALED FROM MAPS OF RECORD ONLY AND NOT FIELD LOCATED. THERE MAY BE OTHER UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THIS SURVEYOR. SIZE AND EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES MUST BE VERIFIED BY THE APPROPRIATE UTILITY COMPANY.
- 3) THIS SURVEY PREPARED FROM CURRENT DEED OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR A GUARANTEE OF TITLE, AND IS SUBJECT TO ANYTHING AN ACCURATE TITLE REPORT WOULD REVEAL.
- 4) THE PROPERTY IS CURRENTLY ZONED "R4" RESIDENTIAL 4 DISTRICT AVERAGE SETBACK OF EXISTING BUILDINGS ON THE SAME BLOCK FACE, BUT NO CLOSER TO THE FRONT LOT LINE THAN THE CLOSET ADJACENT BUILDING, AND IN NO CASE LESS THAN 10 FEET. SIDE YARD 7 FEET, REAR YARD 20 FEET.
- 5) THE PROPERTY IS LOCATED IN ZONE "X" AREAS NOT AFFECTED BY THE 100 YEAR FLOOD PLAIN BASED ON F.E.M.A. "FLOOD RATE INSURANCE MAP", NO. 47187C0211G, DATED: DECEMBER 22, 2016.
- 6) SURVEYOR'S LIABILITY FOR THIS DOCUMENT SHALL BE LIMITED TO THE PARTIES NAMED AND DOES NOT EXTEND TO ANY UNNAMED PERSON OR ENTITIES WITHOUT AN EXPRESSED RE-CERTIFICATION BY THE SURVEYOR WHOSE SIGNATURE APPEARS ON THIS SURVEY.
- 7) ALL NEW DRIVEWAY CULVERTS TO BE 15" MINIMUM R.C.P.
- 8) THIS IS NOT A BOUNDARY SURVEY. ALL BOUNDARY & SETBACK INFORMATION WAS TAKEN FROM P.B. P70 PAGE 145.

- 1) NO MATERIALS WILL BE STORED, DELIVERED OR DUMPED IN THE STREET AND NO ROCK, SAND, OR DIRT MAY BE ALLOWED TO BE DUMPED IN THE STREET. ANY DAMAGES THAT OCCUR TO THE STREET, CURB OR SIDEWALK IS THE RESPONSIBILITY OF THE CONTRACTOR/HOMEOWNER TO REPAIR TO CITY OF FRANKLIN STANDARDS.
- 2) FOR LOWERING BACKWASHING OR DRAINING OF SALT POOL SYSTEM, THE APPLICANT SHALL UTILIZE A SUMP PUMP MAXIMUM OF 1/4HP TO ACCOMPLISH TASK. A FLEXIBLE HOSE SHALL BE EXTENDED TO EXISTING SANITARY SEWER CLEAN OUT MAINTAINING A MINIMUM 6" GAP AT ALL TIMES. MAXIMUM DISCHARGE RATE IS NOT TO EXCEED 80GPM FLOW RATE. SALT POOLS MUST DRAIN TO SANITARY SEWER FOR DISCHARGE.
- 3) THE SIDEWALK AND CURB SHALL BE PROTECTED AT ACCESS POINT WITH RUBBER MATS. THE RUBBER MATS SHALL BE IN PLACE AT THE START OF THE DAY AND REMOVED AT THE END OF THE DAY UNTILL CONSTRUCTION IS COMPLETE. MINIMUM 6" GAP AT ALL TIMES. MAXIMUM DISCHARGE RATE IS NOT TO EXCEED 80GPM FLOW RATE. SALT POOLS MUST DRAIN TO SANITARY SEWER FOR DISCHARGE.
- 4) THERE SHALL BE NO STORING OR DUMPING OF ROCK OR OTHER MATERIALS IN THE STREET OR PUBLIC RIGHT-OF-WAY.
- 5) ANY DEVIATION FROM THESE APPROVED PLAN WILL REQUIRE A RESUBMITTAL OF REVISED PLANS FOR APPROVAL. ALL CHANGES SHALL BE SHOWN AND CLOUDED. A REVISION LETTER SHALL BE INCLUDED WITH THE RESUBMITTAL OUTLINING ALL PLAN REVISIONS. FIELD CHANGES ARE NOT PERMITTED ON RESIDENTIAL POOLS. ANY CONSTRUCTED FIELD CHANGE MAY RESULT IN THE CONTRACTOR/APPLICANT BEING REQUIRED TO REMOVE THIS UNAPPROVED CONSTRUCTION.

Page 70 of 101

Design Review Committee

Proposed Detached Accessory Structure

344 Franklin Road, Franklin, TN 37064

Historic Preservation Overlay District

DRC Meeting: July 20, 2026

Property Overview



ADDRESS

344 Franklin Road
Franklin, TN 37064

OVERLAY DISTRICT

Historic Preservation Overlay (HPO)
Central Franklin Overlay

STRUCTURE STYLE

Non-historic residential
Board & batten white siding, black trim

LOT CONTEXT

Wooded rear slope
Existing paved driveway along north side

Existing Site Conditions



North side driveway — proposed garage access



Proposed structure location — rear of house



Rear yard & wooded slope looking toward house



Site Layout — 344 Franklin Road

- Principal structure sits center-lot, set back from Franklin Road
- Existing paved driveway runs along north side of principal building
- Wooded slope rises to the east/rear — limits usable buildable area
- Proposed structure: adjacent to rear of principal building, extending driveway — not 5 feet from rear wall

Proposed Accessory Structure

[illegible]

Structure Specifications

Footprint

30' wide x 38' long (1,140 sq ft)

Stories

2-story with dormer

Roof Style

Gabled metal roof (side gable orientation)
Matches principal building pitch

Exterior

Board & batten siding — white
Black window trim to match house

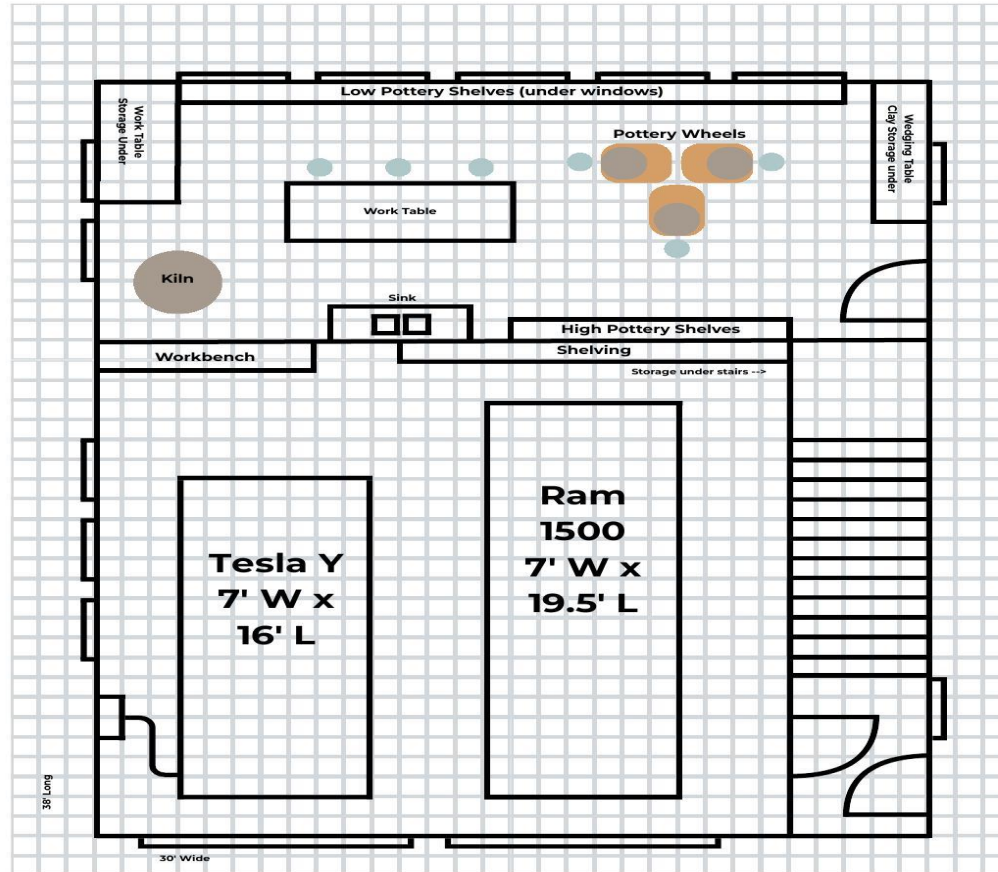
Garage Doors

Two 9'x8' overhead insulated doors
Front-facing, accessed from driveway

Structure Type

Detached accessory structure

Floor Plan — 30' × 38' Footprint



Program Breakdown

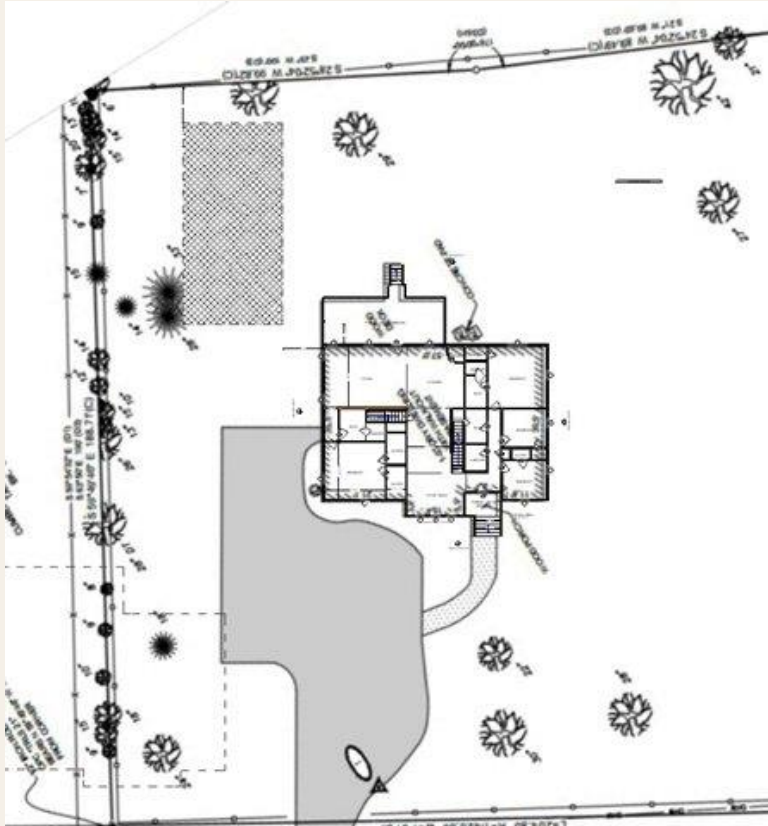
Floor 1 — Garage & Studio

- Garage area: 812 sq ft
- Pottery Studio: 391 sq ft

Floor 2 — Living / ADU

- Living area: 1,138 sq ft
- Open living/kitchen/dining
- Full bedroom + WIC closet
- Full bath with shower
- Stackable W/D, mechanical closet
- Attic storage (both sides)

Placement & Variance Request



Proposed Placement

The proposed detached garage is positioned adjacent to the rear of the principal building, extending the existing north-side driveway. The structure is not set back 5 feet from the rear wall of the house as the standard zoning requirement specifies.

Due to the site constraints — a steeply wooded slope to the east and the configuration of the existing driveway — pushing the structure further back is not feasible without significant grading.

Board of Zoning Appeals — Variance Required

We are concurrently pursuing a BZA variance (07a) for the placement of this structure. We respectfully seek DRC feedback on whether the proposed placement, with the side-gable orientation, is appropriate in the context of this site and the historic district.

Items Seeking DRC Guidance

1. Placement — structure adjacent to rear of house, not 5' set back (BZA variance pending)
2. Siding — vertical board & batten proposed to match principal structure; requesting commission guidance on compatibility
3. Orientation — side-gable configuration explored per staff suggestion to reduce street-facing mass

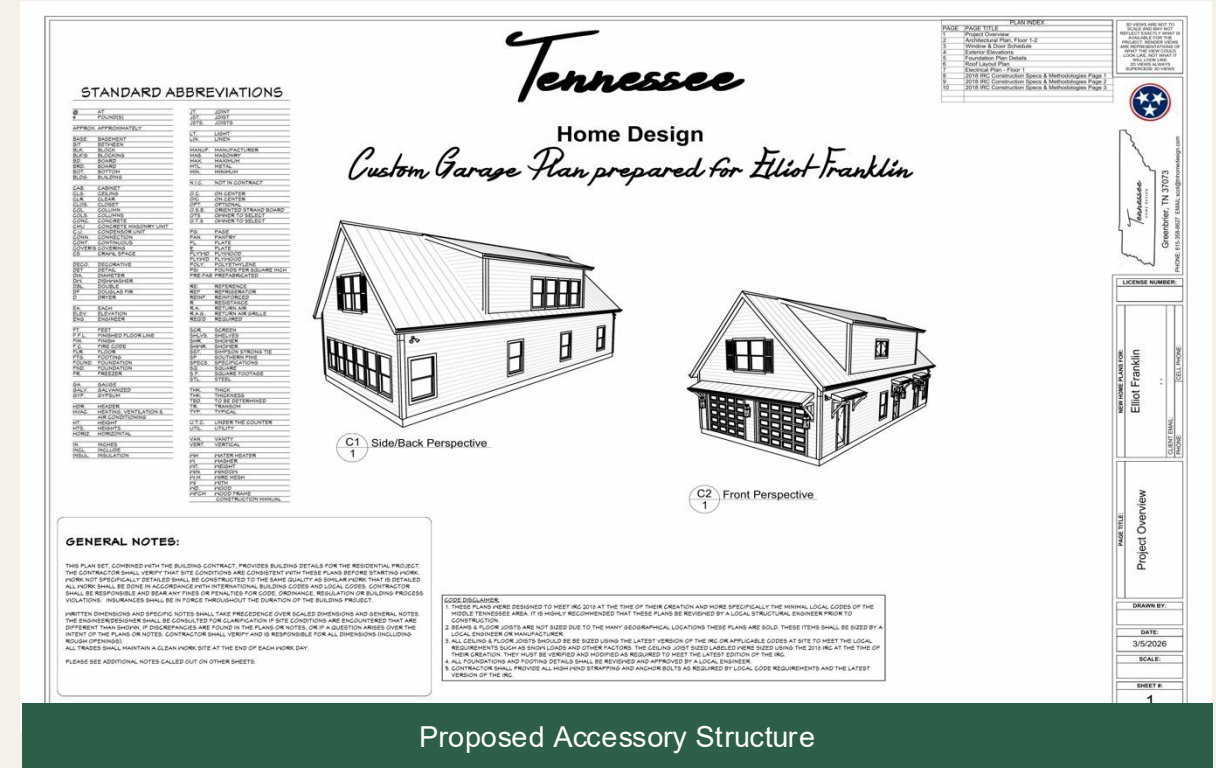
Design Compatibility & Materials



Existing Principal Structure

Matching Elements

- White exterior — consistent with principal building
- Black window and door trim
- Gabled roof form — complementary massing
- Metal roof proposed (functional/rural character)
- Detached structure — reads as separate from house



Proposed Accessory Structure

Items for DRC Discussion

- Vertical board & batten siding (matching house)
- Staff noted zoning discourages verticality-accentuating material
- Requesting commission feedback on compatibility in this context
- Open to horizontal lap siding if commission recommends



906 STUDIO, PLLC
249 4TH AVENUE N
SUITE 200
FRANKLIN, TN 37064
615.988.9065
906studio.com

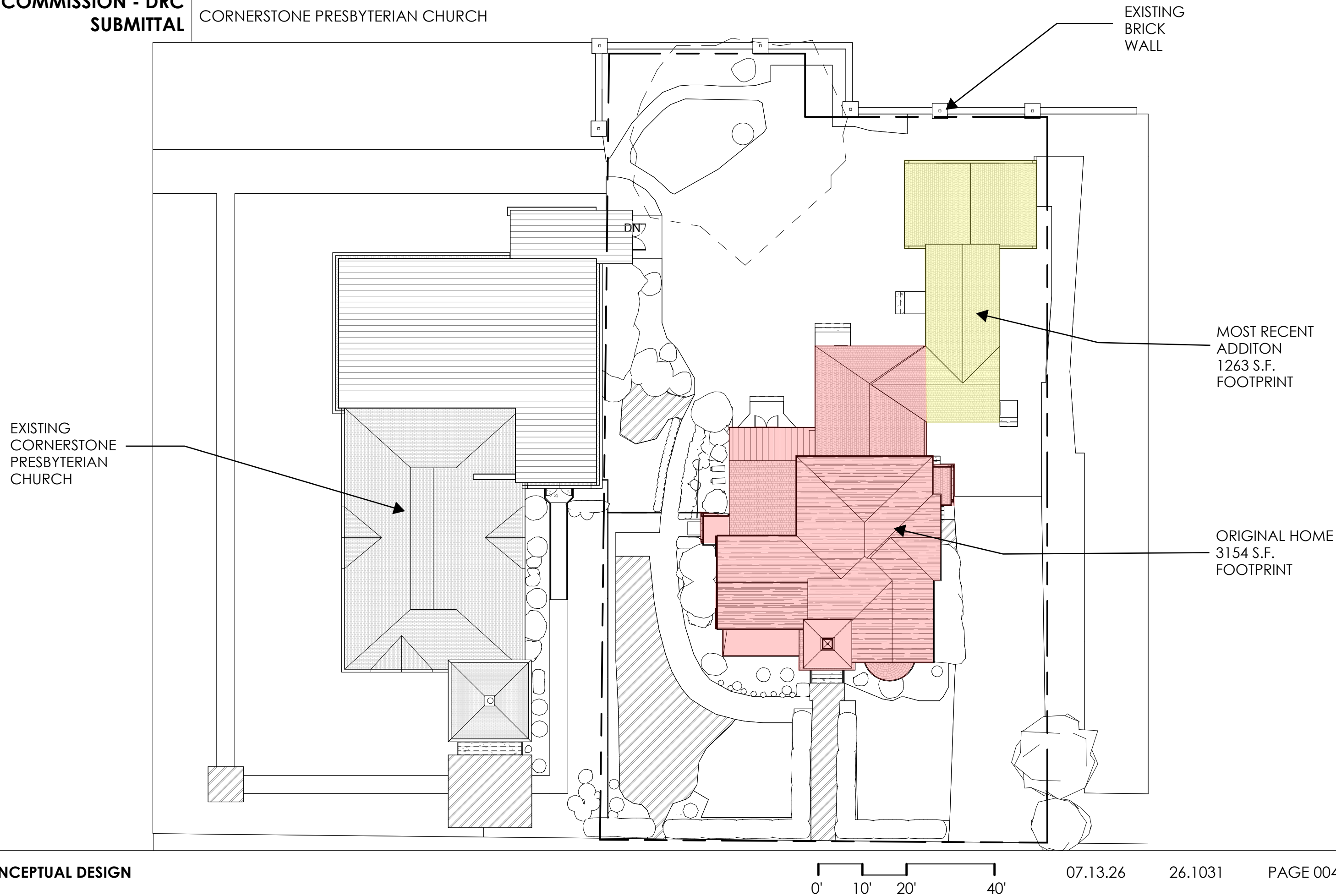
CORNERSTONE PRESBYTERIAN CHURCH HISTORIC ZONING COMMISSION - DRC SUBMITTAL

132 3rd Avenue N,
Franklin, TN 37064

July 13, 2026

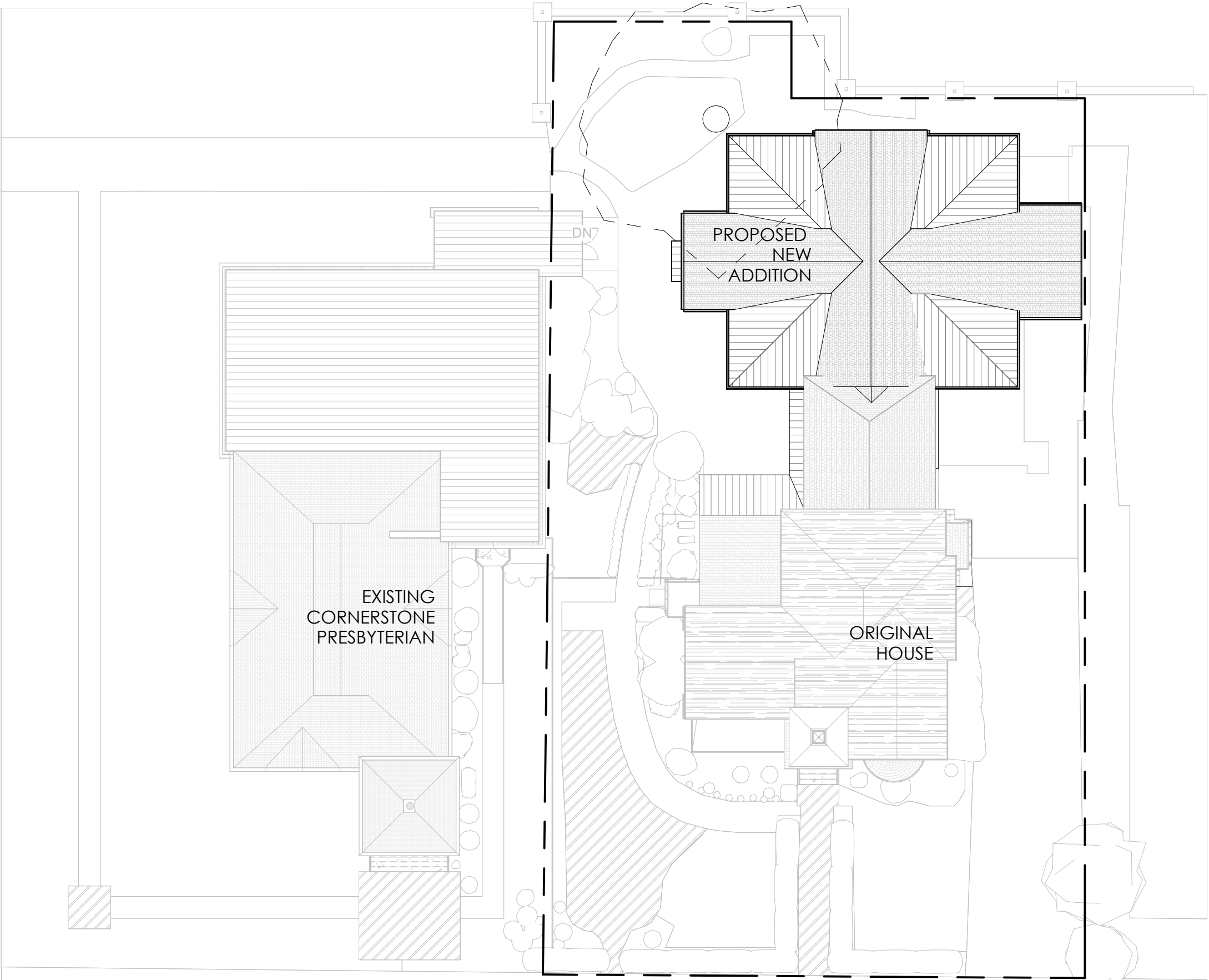






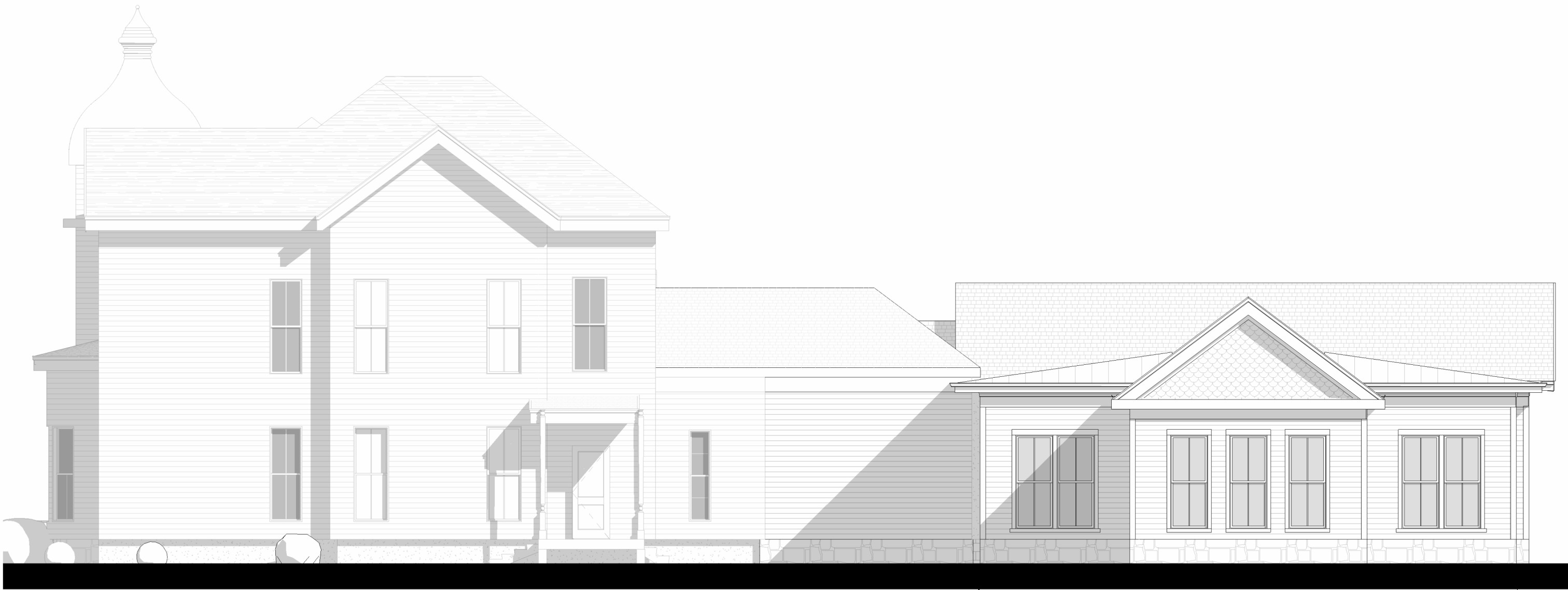






SITE DATA:	
SITE AREA:	17,237 SF (0.40 ACRES)
ORIGINAL HOME FOOTPRINT:	3150 SF ±
- W/ PREVIOUS ADDITIONS:	4417 SF ±
PROPOSED ADDITION:	2480 SF ±
PROP. ADDITION IS	79% OF ORIG. HOME
-	55% OF ORIG. HOME W/ PREVIOUS ADDITIONS
PROP. ADDITION + EXISTING BUILDING IS	32% OF TOTAL LOT

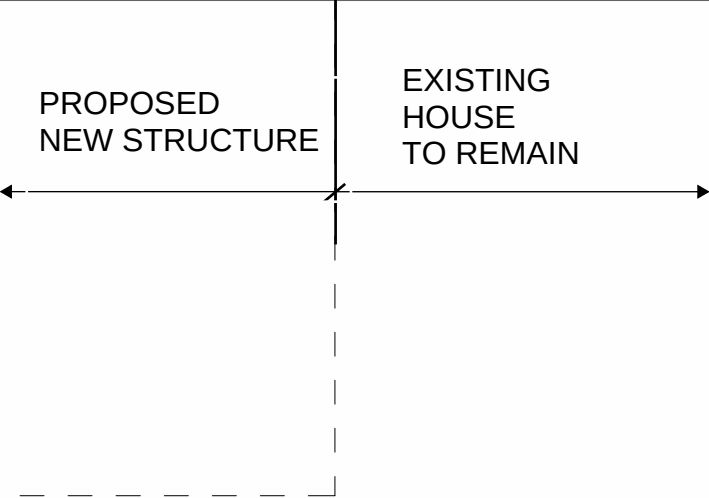
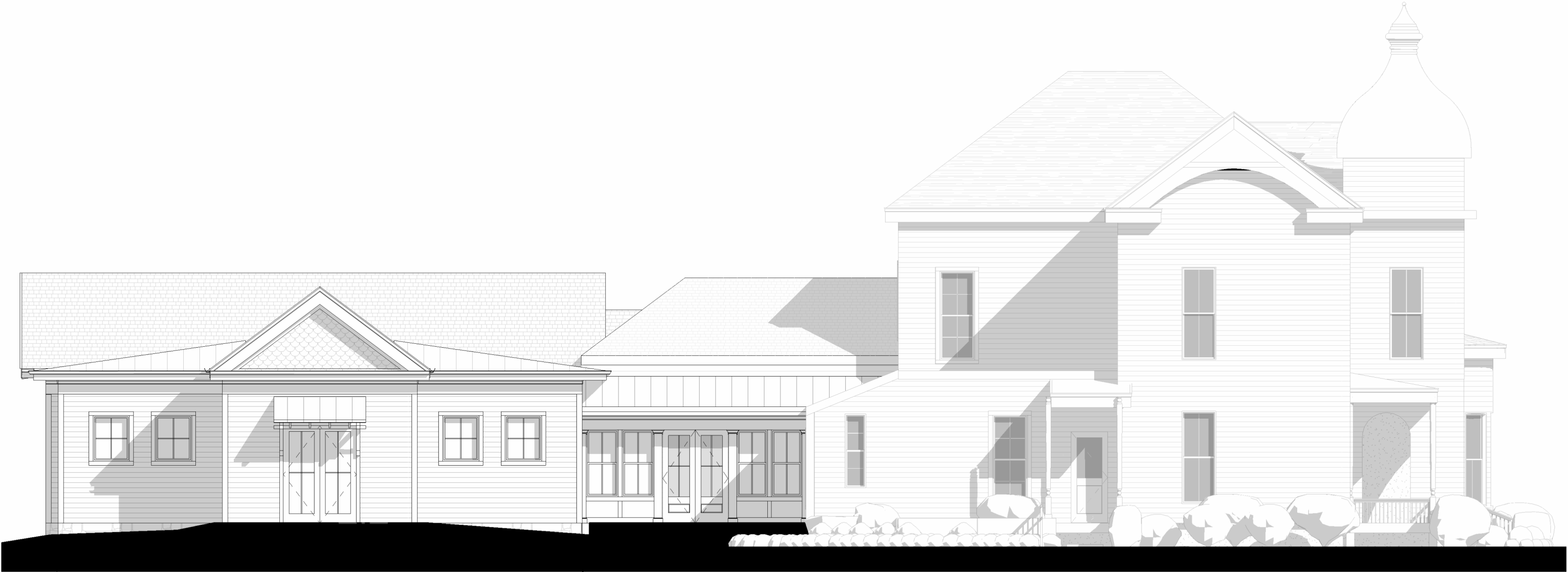




EXISTING
HOUSE
TO REMAIN

PROPOSED
NEW STRUCTURE















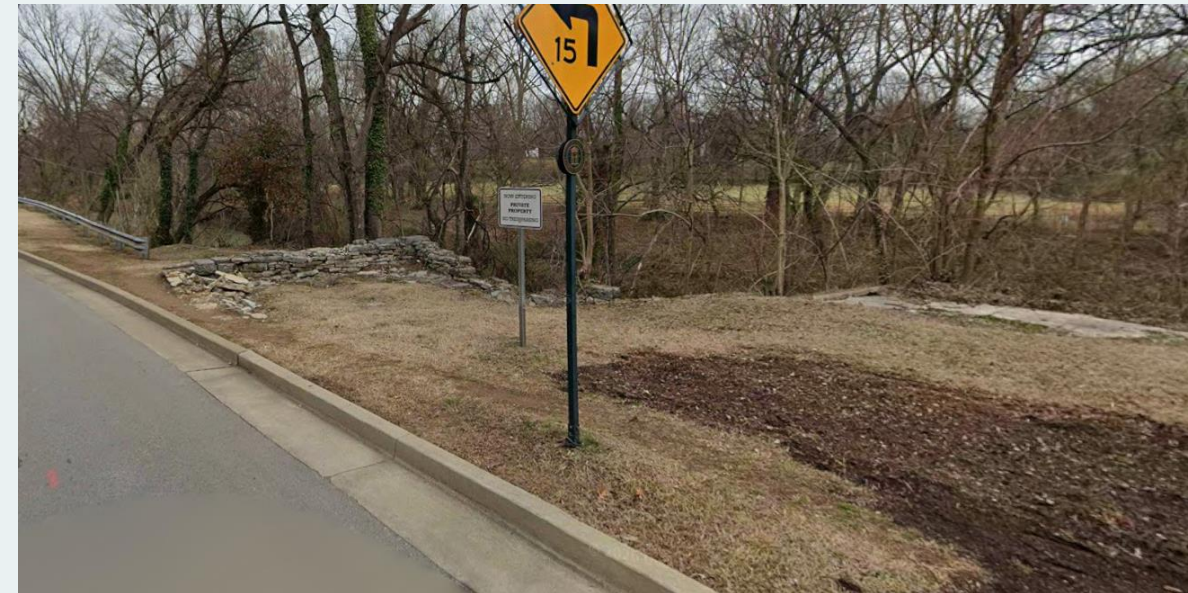
Bridge Street Sidewalk Connection



Proposed Alteration:

- The City wants to install a sidewalk to connect 1st Avenue to Bridge Street.
- The sidewalk will be concrete.

Existing Conditions





Existing Conditions Aerial



Image/ Rendering of
what is being
proposed



Aerial photo of
property with
sidewalk shown



Options after the stacked stone that will be in the path of the sidewalk is removed:

- Reuse the stones to repair the rest of the existing foundation.
- Relocate the foundation footprint to the edge of the new sidewalk.
- Mark the footprint of the original foundation on the concrete.
- Use smooth stones from the wall or similar to the wall to inlay into the concrete to demarcate the original location of the foundation.