## **PROPOSED AGENDA**

## Thursday, January 26, 2023 Meeting of the Design Review Board

- I. Design Review Board Submissions
  - 1. 58 Forest Road New Porch Addition (NOTE: DRIVEWAYLOOP IS NOT PART OF REQUEST – THIS WILL BE CONSIDERED BY BOARD OF COMMISSIONERS ON FEBRUARY 14, 2023)
  - 2. 57 Chauncey Circle Roof-top Solar Panel Installation
  - 3. 5 Eastwood Road Replacement of Existing Deck; Replacement of Lower Deck with Retaining Wall and Fire Pit Area
  - 4. 44 Eastwood Road Hardscape Replacements within Rear Yard and Fire Pit Installation
  - 5. 30 Cedarcliff Road Addition to Home for Outdoor Living Space, Connected Breezeway, and Addition to Existing Detached Garage

Projects 2-5 above approved by BOA on January 23, 2023. Project 1 did not require BOA approval.

II. Next Meeting – February 23, 2023

## **Zoning Compliance Application**

Town of Biltmore Forest

Name Scott Slechter

Property Address 58 Forest Road

Phone (828) 712-6363

Parcel ID/PIN Number 964669208200000

Email skslechter@gmail.com

#### ZONING INFORMATION

Current Zoning R-1

Maximum Roof Coverage 5,500 square feet (Up to 1.5 acres) Proposed Roof Coverage Total 5384

Maximum Impervious Surface Coverage 1-3 acres (25 percent of lot area)

Proposed Impervious Surface Coverage 11263

Front Yard Setback 60 feet (R-1 District)

Rear Yard Setback

25 feet (R-1 District)

**Description of the Proposed Project** Installation of driveway loop and new entry porch.

Proposed dwelling addition.

Estimated Start Date 3/1/2023

Estimated Completion Date 2/29/2024

Side Yard Setback

20 feet (R-1 District)

**Building Height** 

30

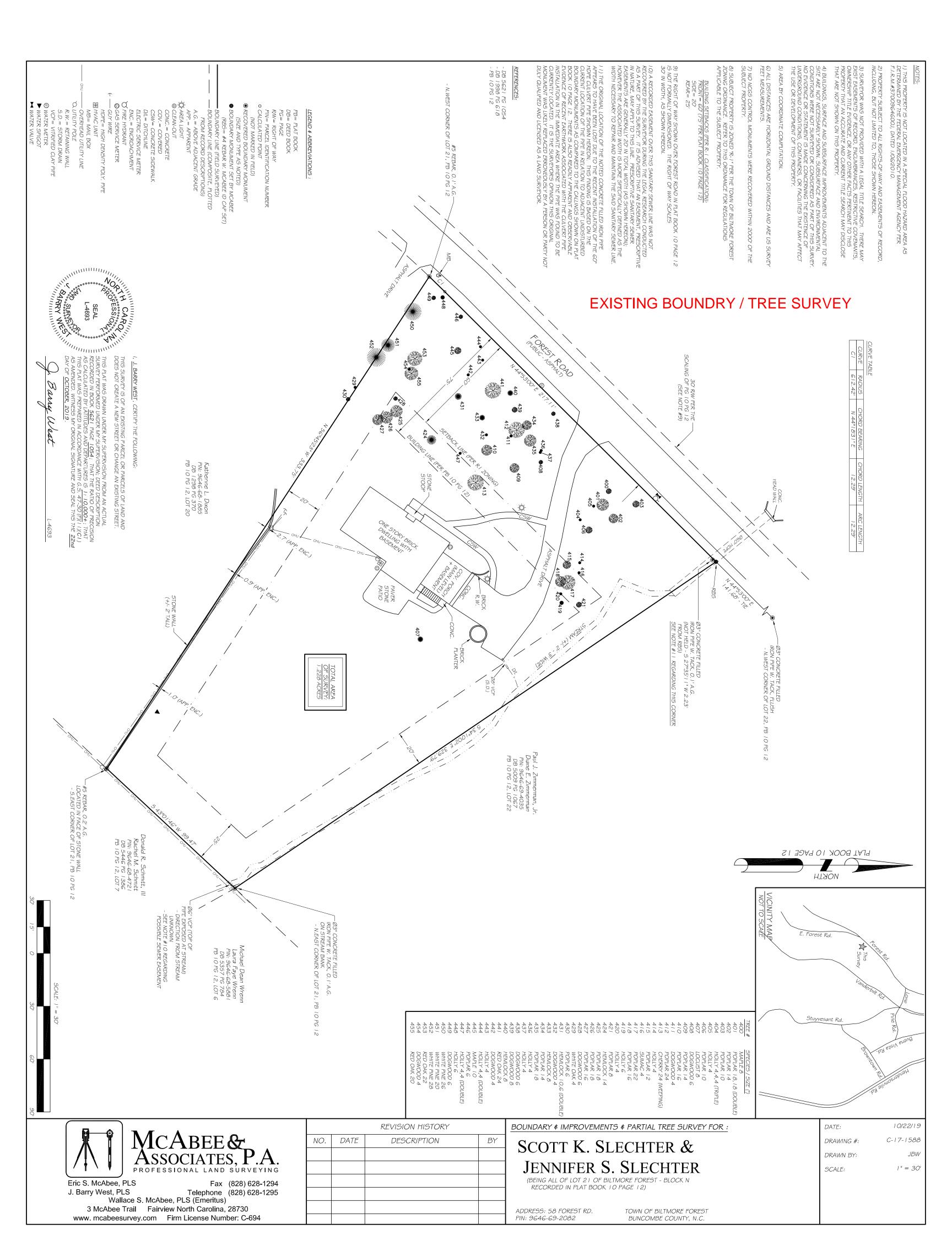
Estimated Cost of Project \$527,800.00

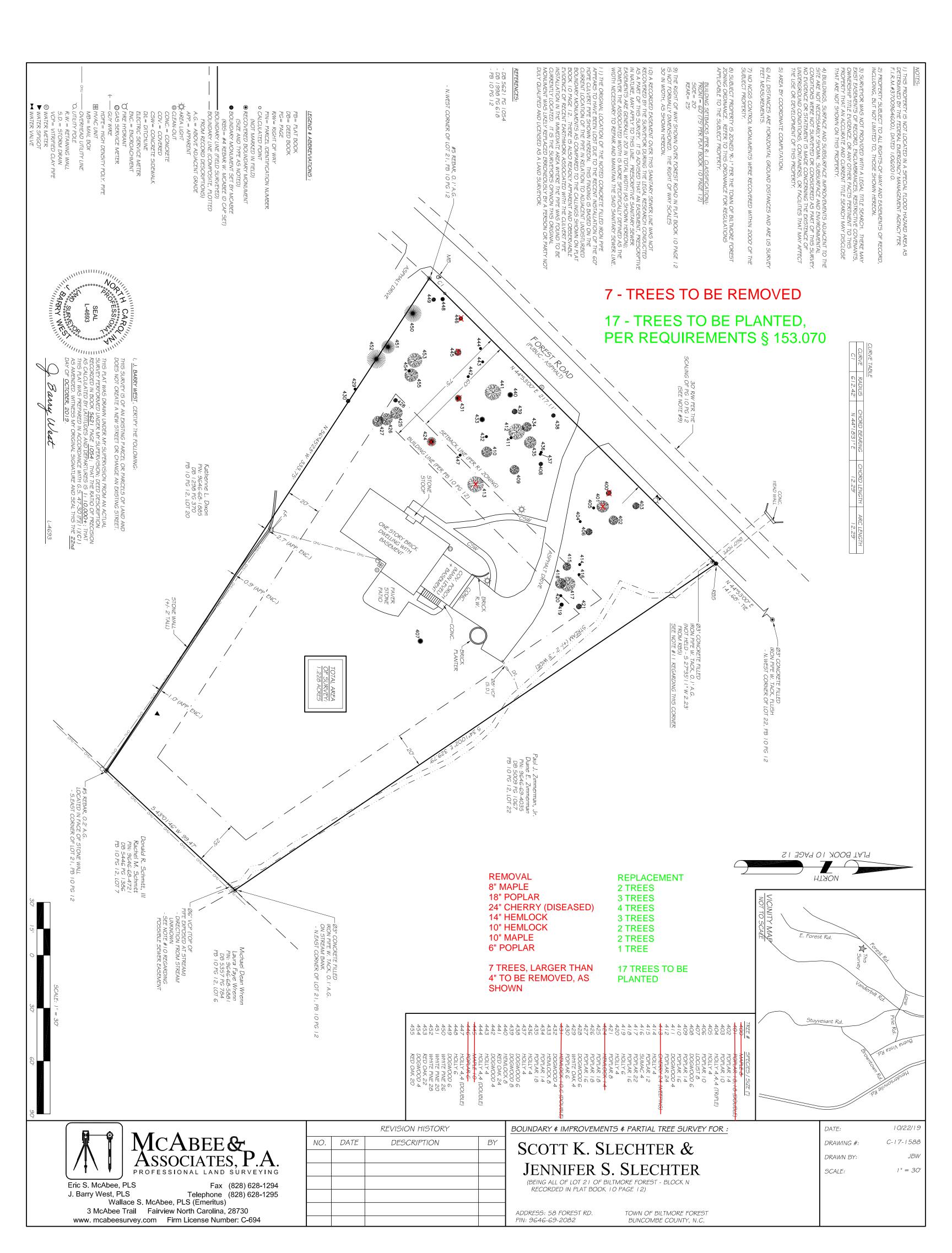
Supporting Documentation (Site Plan, Drawings, Other Information) Slechter - BOA Packet - Initial Review.pdf

Lot Size 1.228 **Applicant Signature** 

**Date** 12/19/2022

Scott Slechter

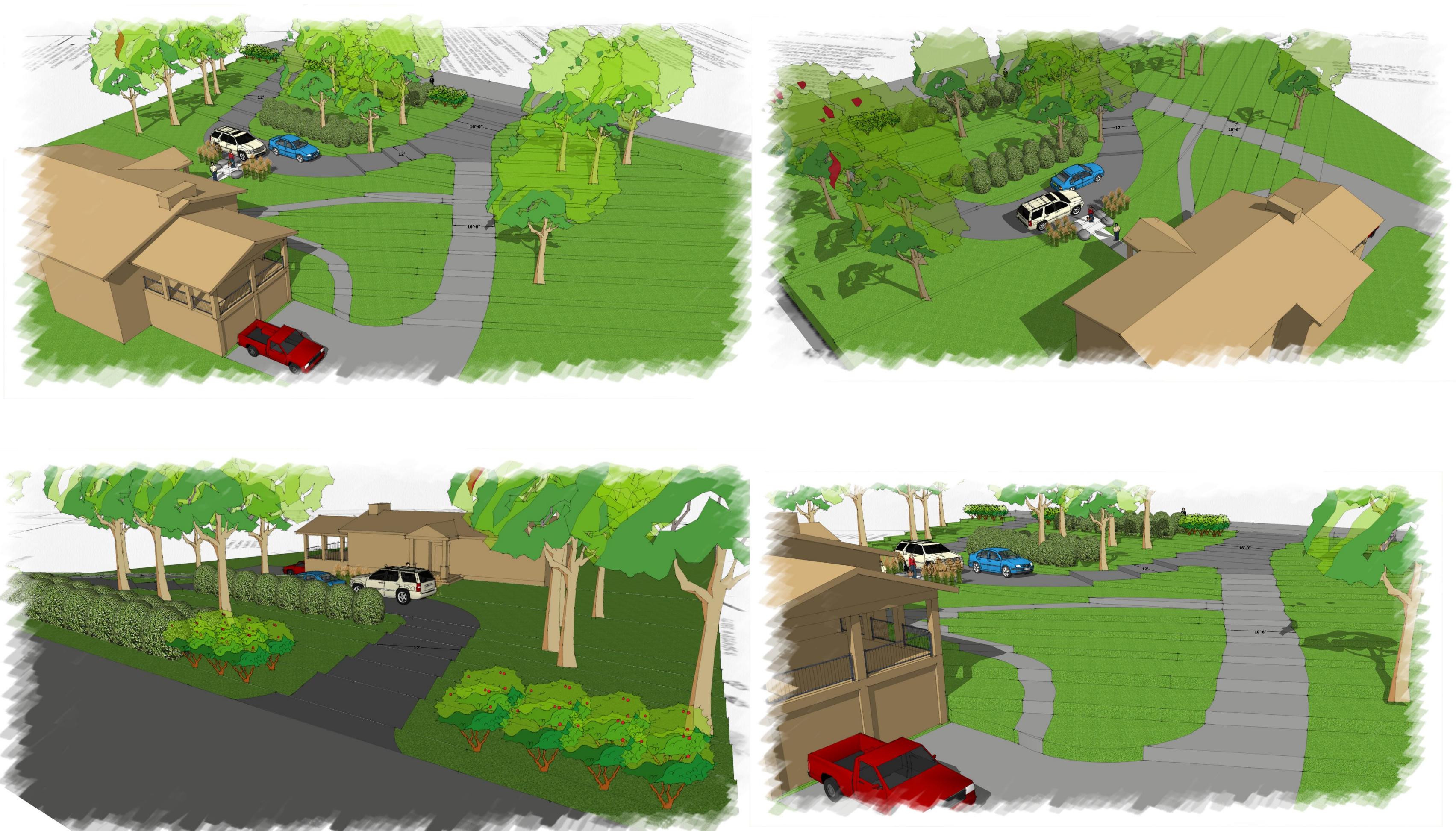




Slechter Residence Impervious Areas

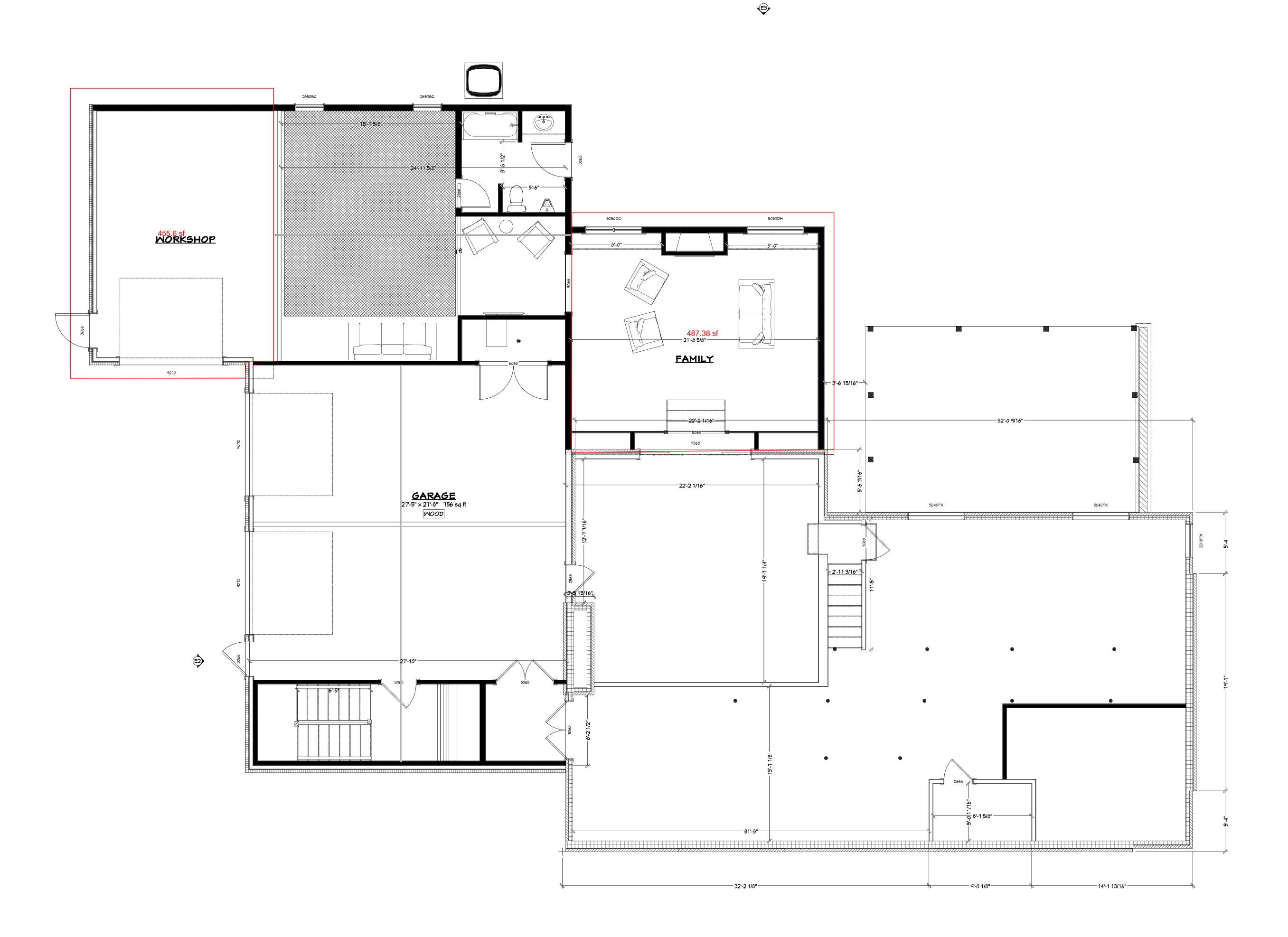
Existing Conditions:		
Home	2,223 sf	
Driveway	2,315 sf	
Back Patio	501 sf	
Front Porch	100 sf	
Front Sidewalks	450 sf	
Total Impervious Area	5,589 sf	
Existing Lot Size	55 <i>,</i> 492 sf	(1.228 acres)
Percentage of Lot	10.07%	
Proposed Conditions:		
Home	<del>-2,223 sf</del> -	PROPOSED HOME INCL.
Driveway	4,718 sf	ADDITION - 5384 SF
Back Patio	501 sf	
Front Porch	100 sf	
Front Sidewalks	560 sf	
Total Impervious Area	<del>8,102 sf</del>	11,263 SF
		,
Existing Lot Size	55,492 sf	(1.228 acres)

ALLOWABLE IMPERVIOUS AREA, PER TABLE 153.048 (55,492 X 25%) - 13,873 SF





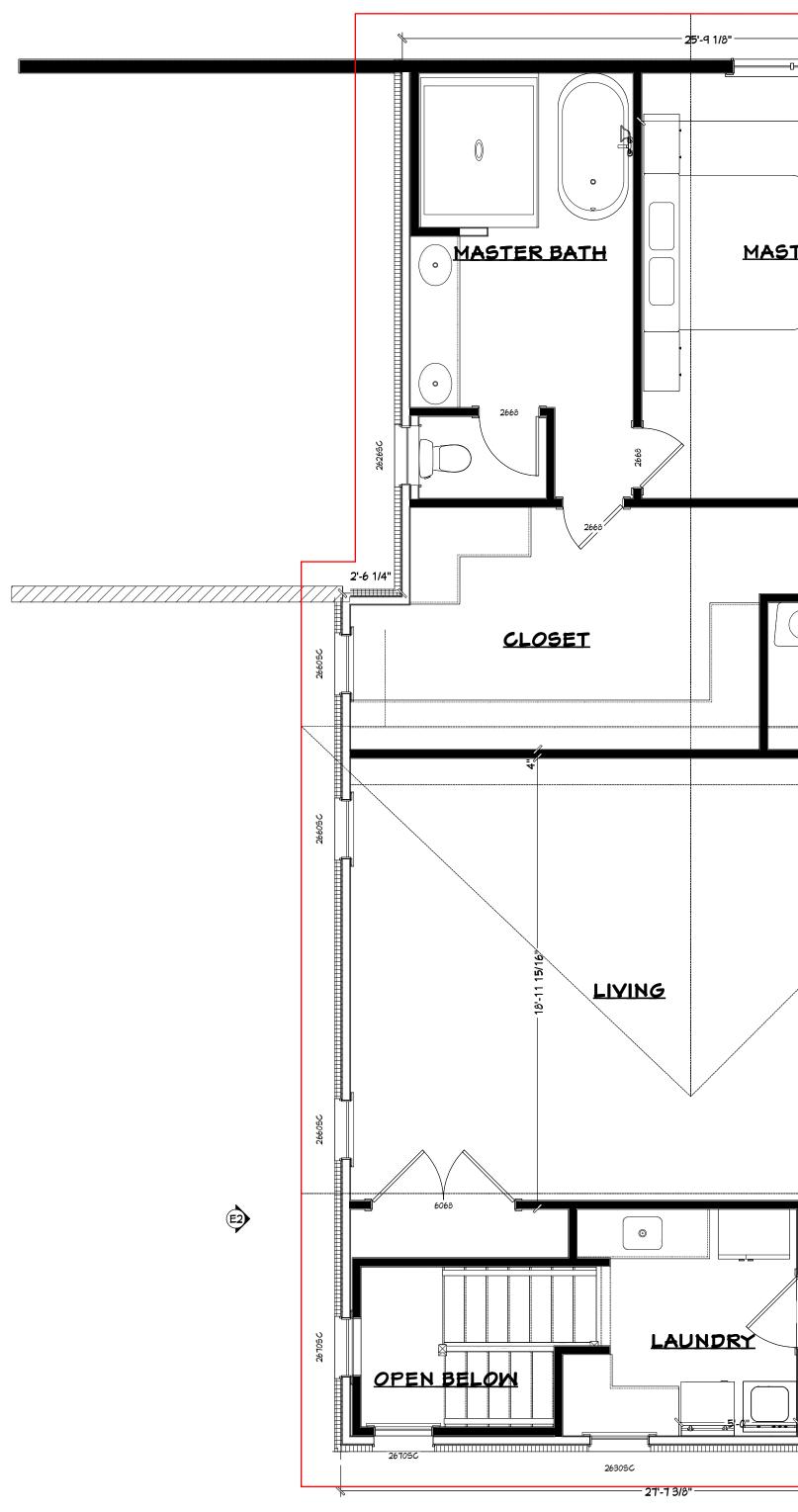
## PROPOSED DRIVEWAY LOOP



## Floor Plan

REVISION TABLE         NUMBER       DATE       REVISION TABLE         NUMBER       DATE       REVISED BY       DESCRIPTION
Project Overview
:X8 DYMINGS BRONIDED BX DATTE: 12/19/2022 SCALE:
SHEET: <b>P-1</b>

E4)



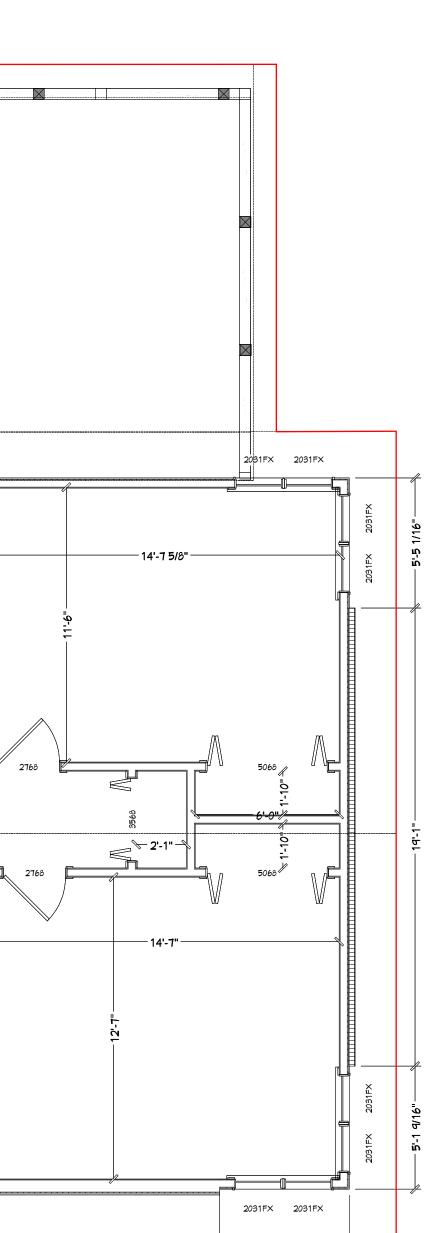
Roof coverage calculation: - Lower Level: 943 sqft. - Upper Level: 4441 sqft. MASTER BDRM <u>BATH</u> DECK 2660FX 22'-4 2031FX 2031FX 4,440.78 sf STAIRMELL - 12'-11" ----2'-3 11/16" 263050 \_\_\_\_ 3068 868FX 35210MU 35210MU 6556MU - 23'-7 7/16" -- 21'-0 13/16" -- 13'-6 3/4"

## Floor Plan

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## 153.043 Table: Lot size <1.2 acres -- 5,500 sqft maximum



------ 5'-4 7/8"------

REVISION TABLE	NUMBER DATE REVISED BY DESCRIPTION				
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DB AWTNICC BDOWTDED BV.					
	DAT 2/1	2(	02	22	
	SCA SHE				

E4

## **Zoning Compliance Application**

Town of Biltmore Forest

Name Jonathan Bowen

Property Address 57 Chauncey Circle Asheville, NC 28803

Phone (828) 777-4148

Parcel ID/PIN Number 964660915300000

Email jbowen@sugarhollowsolar.com

#### **ZONING INFORMATION**

Current Zoning R-3

Maximum Roof Coverage 4,682 square feet (Up to 1 acres)

Maximum Impervious Surface Coverage Up to 1 acre (27.5 percent of lot area)

**Front Yard Setback** 50 feet (R-2, R-3, R-4, and R-5 Districts)

**Rear Yard Setback** 20 feet (R-2, R-3, R-4, and R-5 Districts)

**Description of the Proposed Project** Roof mount solar PV with battery back up

Estimated Start Date 2/15/2023

Estimated Completion Date 2/22/2023

Estimated Cost of Project \$66,000.00

Supporting Documentation (Site Plan, Drawings, Other Information) Barlas.Permit.Pack.pdf

Lot Size 1 acre

Proposed Roof Coverage Total 4000

Proposed Impervious Surface Coverage

**Side Yard Setback** 15 feet (R-2, R-3, R-4, and R-5 Districts)

Building Height TBD **Applicant Signature** 

**Date** 1/4/2023



## **Special Use Permit Application**

Town of Biltmore Forest

### Name

Chris Barlas

#### Address

57 Chauncey Circle Biltmore Forest, NC 28803

Phone (330) 304-2957 Email jbowen@sugarhollowsolar.com

### Please select the type of special use you are applying for:

Accessory Structures

The applicant must show that the proposed use will not materially endanger public health or safety or injure value of adjoining or abutting property. In addition, the proposed use must be in general conformity with the plan of development of the town and be in harmony with scale, bulk, height, coverage, density, and character of the neighborhood.

## Please provide a description of the proposed project:

Roof mount solar PV

Explain why the project would not adversely affect the public interest of those living in the neighborhood:

Panels are going on the top of the house where they will be barely visible. Also, clean energy

## I hereby certify that all of the information set forth above is true and accurate to the best of my knowledge.

Signature

**Date** 1/10/2023



# Gravitt Engineering, PLLC.

828-606-6963

jkgravit@gmail.com

January 2, 2023

Mr. Harrison Sytz Sugar Hollow Solar 2 Miller Rd East Asheville, NC 28805

Re: Solar PV System at the BARLAS Residence 57 Chauncey Circle Asheville, NC 28803

Dear Mr. Sytz,

Pursuant to your request, I have examined the structure at the address listed above regarding its suitability for the solar photovoltaic (PV) system specifically proposed by Sugar Hollow Solar.

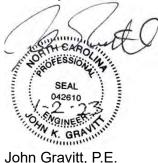
It is my opinion that the existing roof structure will safely support the additional loading incurred by the (33) solar panels and racking system and that the structure will continue to meet the minimum live loading standards defined by the **2018 North Carolina Residential Building Code**.

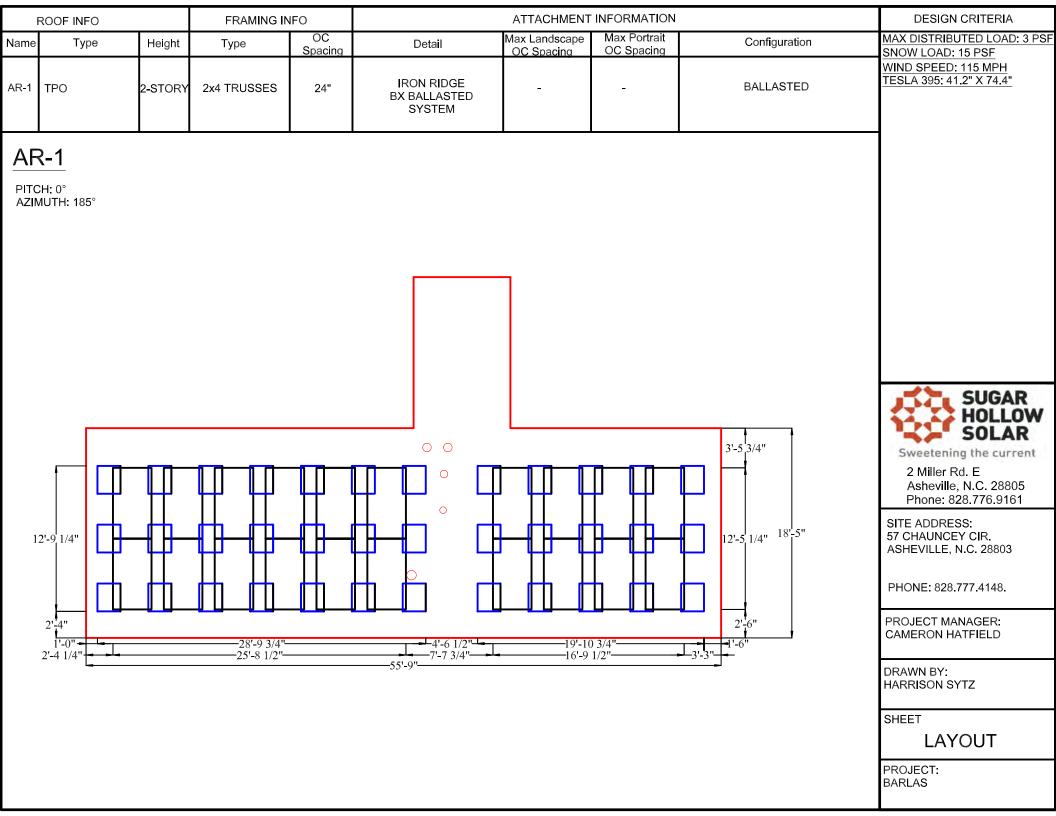
My opinion-supporting data are as follows:

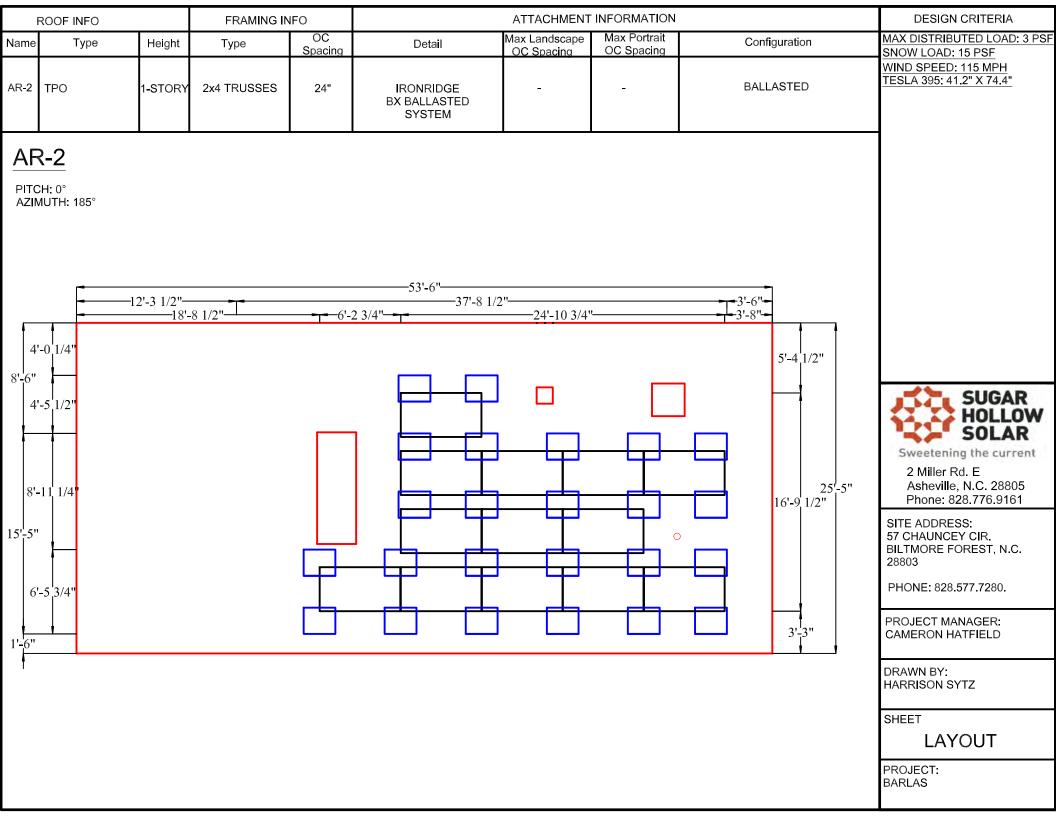
Elevation		2217 ft
ASCE 7-10 values:	wind speed	115 mph
	exposure category	D
Ground snow load		15 psf
(33) Solar panels:		Tesla 395H (74.5"x41.2"x1.57")
Ballast blocks		(90) total, 32 lb (ea.) 'cap blocks'
Array 1, (12) panels,	(28) blocks, (2) anchors	1650 lb, 4.6 psf
Array 2, (8) panels, (	(30) blocks, (4) anchors	1460 lb, 4.9 psf
Array 3, (13) panels,	(32) blocks, (0) anchors	1040 lb, 4.2 psf

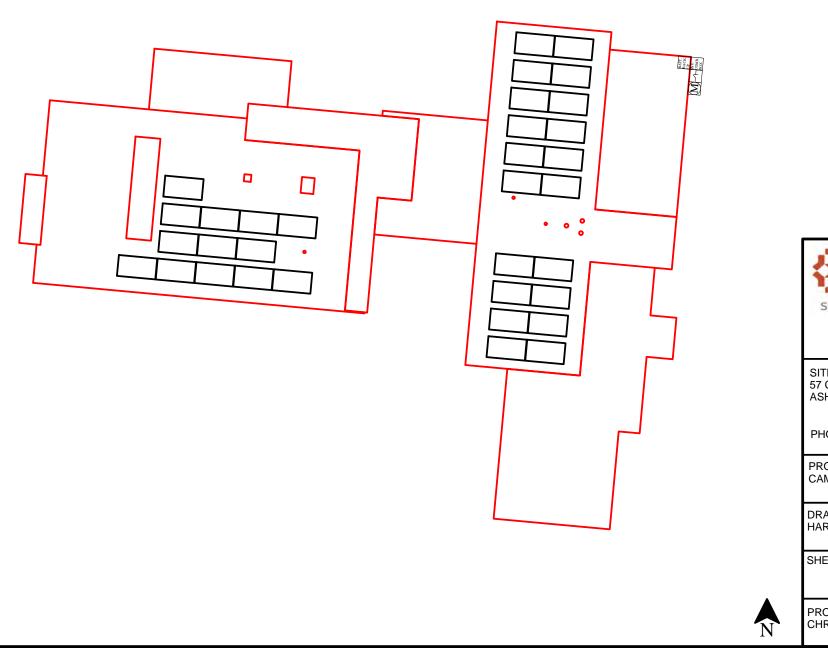
Please refer to the (4) attached drawings for rooftop equipment-placement layouts and details. The flat-roof attachment anchors shall be secured to framing or blocking by (4 ea.) #14 wood screws with length sufficient to provide 1.5-inch embedment into the framing or blocking. Blocking, if necessary, shall be secured to the top plate of roof trusses by (4ea.) framing nails or screws; blocks shall be oriented similar to the top plate (ie 'flat' on the underside of the roof deck). The modules, ballast chasis, strut, L-feet, ballast blocks, flat-roof attachment anchors and associated hardware shall be installed in accordance with the manufacturer's instructions.

Sincerely,











Asheville, N.C. 28805 Phone: 828.776.9161

SITE ADDRESS: 57 CHAUNCEY CIRCLE. ASHEVILLE, N.C. 28803

PHONE: 828.777.4148.

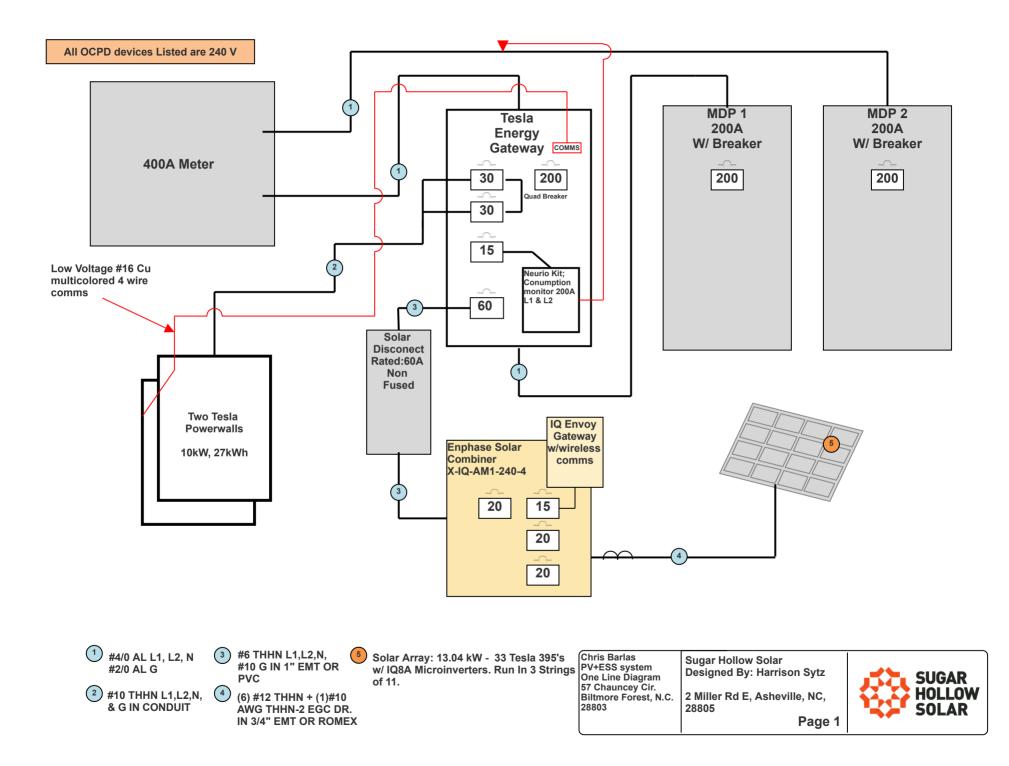
PROJECT MANAGER: CAMERON HATFIELD

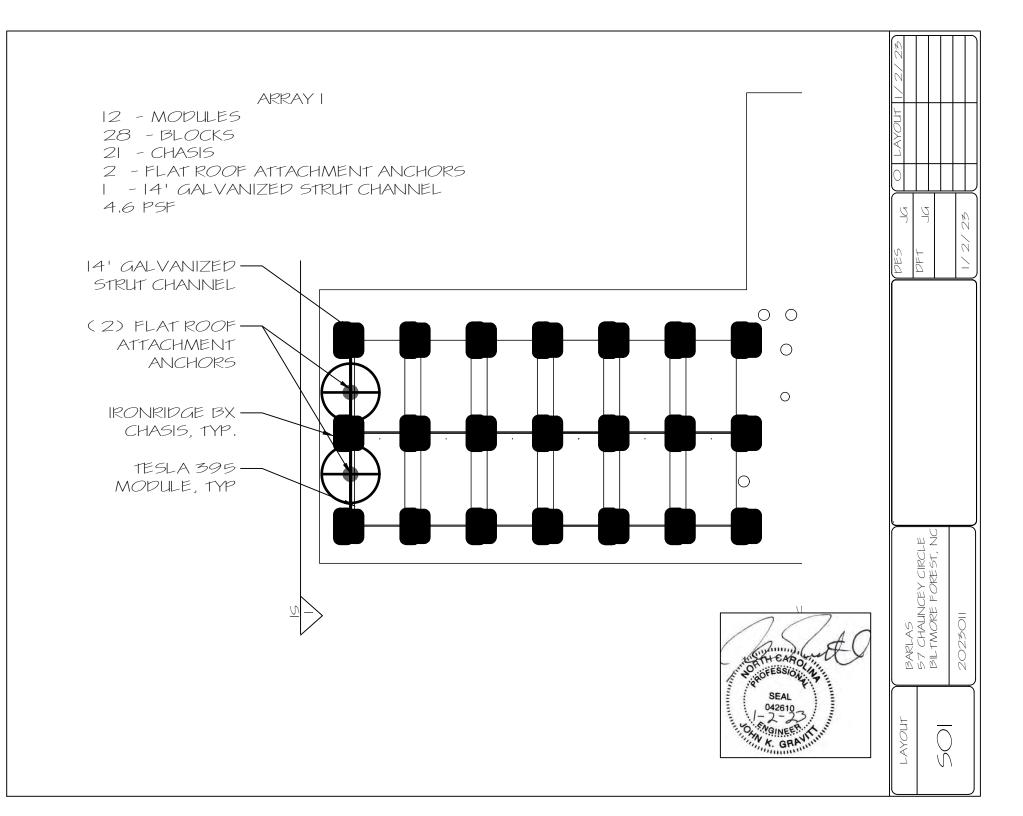
DRAWN BY: HARRISON SYTZ

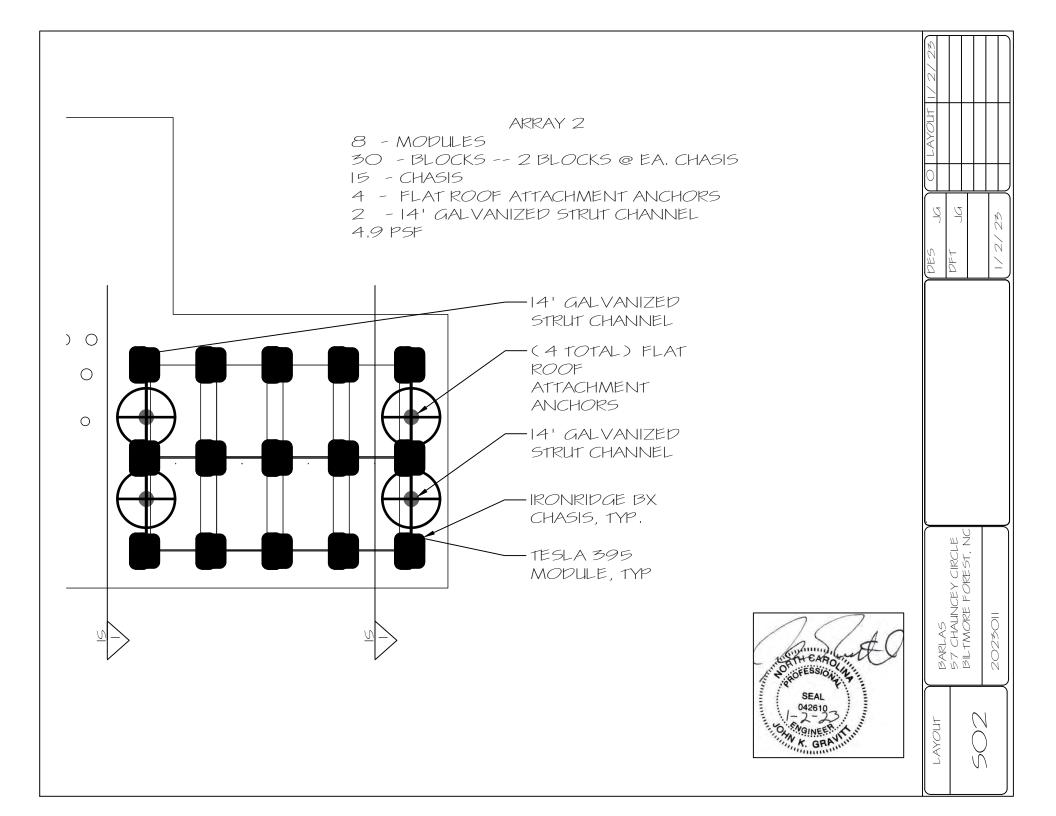
SHEET

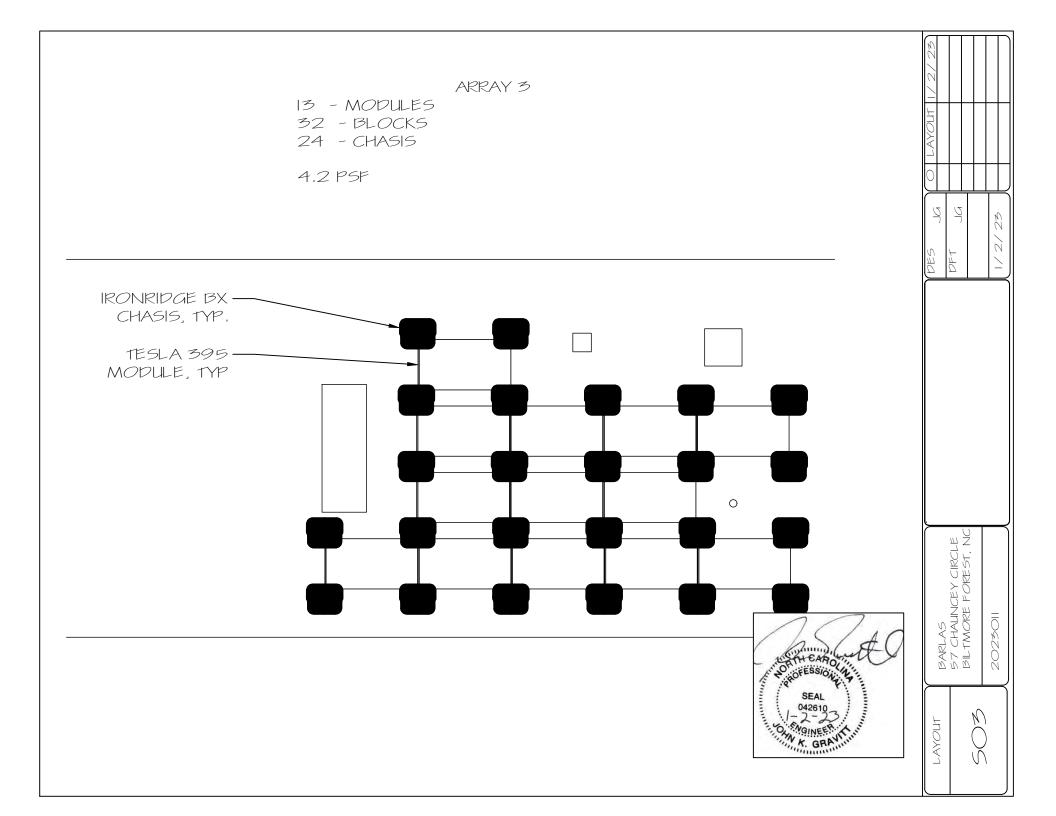
SITE PLAN

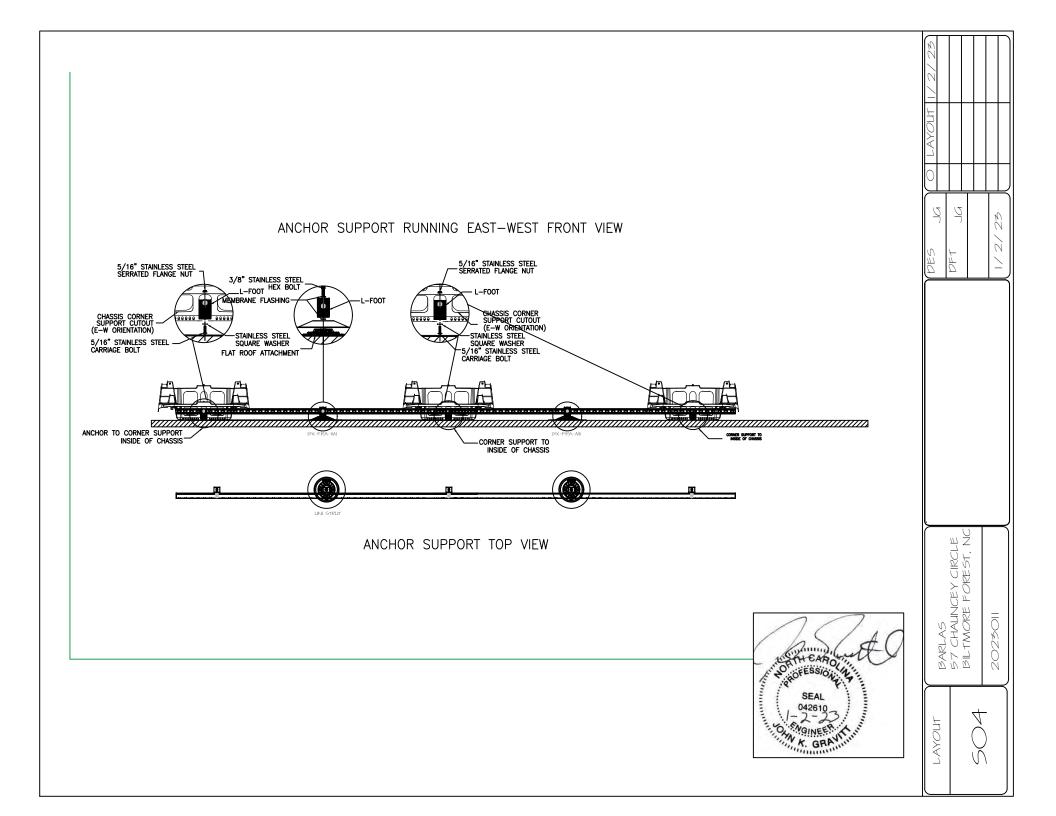






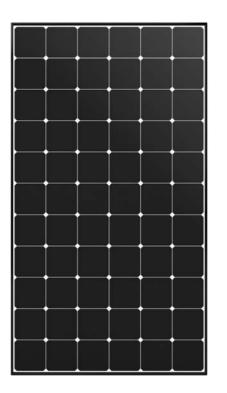






# SUNPOWER®





## 390-420 W Residential A-Series Panels

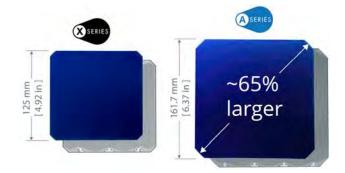
## SunPower<sup>®</sup> Maxeon<sup>®</sup> Technology

SunPower<sup>®</sup> Maxeon<sup>®</sup> cell-based panels maximize energy production and savings by combining industry-leading power, efficiency, and durability with the most comprehensive power, product, and service warranty in the industry.<sup>1,2</sup>



#### **Highest Power Density Available**

SunPower's new Maxeon Gen 5 cell is 65% larger than prior generations, delivering the most powerful cell and highest efficiency panel in residential solar.<sup>2</sup> The result is more power per square meter than any commercially available solar.<sup>1</sup>



## SunPower Maxeon Solar Cell Technology



#### Fundamentally Different. And Better.

- Cell efficiencies of over 25%
- Delivers leading reliability<sup>3</sup>
- Patented solid metal foundation prevents breakage and corrosion

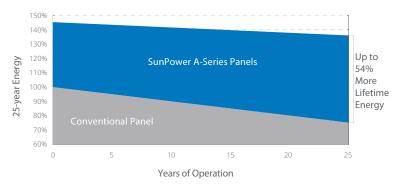
## As sustainable as the energy it produces.

- Achieved the #1 ranking on the Silicon Valley Toxics Coalition's Solar Scorecard for 3 years running
- SunPower modules can contribute to your business's LEED certification<sup>4</sup>

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## **Maximum Lifetime Energy and Savings**

Designed to deliver up to 54% more energy from the same space over the first 25 years in real-world conditions like partial shade and high temperatures.<sup>1</sup>





## Best Reliability, Best Warranty

SunPower technology is proven to last and we stand behind our panels with the industry's most comprehensive 25-year Combined Power, Product and Service Warranty.

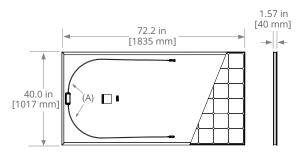


## 390-420 W Residential A-Series Panels

	E	lectrical Da	ata		
	SPR-A420	SPR-A415	SPR-A410	SPR-A400	SPR-A390
Nominal Power (Pnom) <sup>5</sup>	420 W	415 W	410 W	400 W	390 W
Power Tolerance	+5/0%	+5/0%	+5/0%	+5/0%	+5/0%
Panel Efficiency	22.5%	22.2%	22.0%	21.4%	20.9%
Rated Voltage (Vmpp)	40.5 V	40.3 V	40.0 V	39.5 V	39.0 V
Rated Current (Impp)	10.4 A	10.3 A	10.2 A	10.1 A	9.99 A
Open-Circuit Voltage (Voc)	48.2 V	48.2 V	48.2 V	48.1 V	48.0 V
Short-Circuit Current (Isc)	10.9 A	10.9 A	10.9 A	10.9 A	10.8 A
Max. System Voltage			1000 V UL		
Maximum Series Fuse			20 A		
Power Temp Coef.			-0.29%/°	С	
Voltage Temp Coef.			-136 mV / 9	°C	
Current Temp Coef.			4.1 mA / °	С	

Operating Condition And Mechanical Data			
Temperature	-40° F to +185° F (-40° C to +85° C)		
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)		
Appearance	Class A+		
Solar Cells	66 Monocrystalline Maxeon Gen 5		
Tempered Glass	High-transmission tempered anti-reflective		
Junction Box	IP-68, TE (PV4S)		
Weight	44 lbs (20 kg)		
Max. Test Load <sup>6</sup>	Wind: 125 psf, 6000 Pa, 611 kg/m² back Snow: 187 psf, 9000 Pa, 917 kg/m² front		
Design Load	Wind: 75 psf, 3600 Pa, 367 kg/m² back Snow: 125 psf, 6000 Pa, 611 kg/m² front		
Frame	Class 1 black anodized (highest AAMA rating)		

Tests And Certifications			
Standard Tests	UL1703		
Quality Management Certs	ISO 9001:2015, ISO 14001:2015		
EHS Compliance	RoHS, OHSAS 18001:2007, lead free, Recycle Scheme, REACH SVHC-163		
Available Listings	UL		



FRAME PROFILE



(A) Cable Length: 52 in +/-0.4 in [1320 mm +/-10 mm]
(B) Long Side: 1.3 in [32 mm] Short Side: 0.9 in [24 mm]

1 SunPower 420 W, 22.5% efficient, compared to a Conventional Panel on same-sized arrays (280 W p-multi, 17% efficient, approx. 1.64 m<sup>2</sup>), 8% more energy per watt (based on PVSyst pan files for avg US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application." PVSC 2018).

2 Based on search of datasheet values from websites of top 20 manufacturers per IHS, as of December 2019.

3 Jordan, et. al. Robust PV Degradation Methodology and Application. PVSC 2018.

4 Maxeon panels can contribute to LEED Materials and Resources credit categories. 5 Standard Test Conditions (1000 W/m<sup>2</sup> irradiance, AM 1.5, 25° C). NREL calibration

Standard: SOMS current, LACCS FF and Voltage.

6 Please read the safety and installation guide for more information regarding load ratings and mounting configurations.

See www.sunpower.com/company for more reference information. For more details, see extended datasheet: www.sunpower.com/solar-resources. Specifications included in this datasheet are subject to change without notice.

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## SUNPOWER<sup>®</sup>



533065 Rev C / LTR\_US Publication Date: May 2020

## 



## IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, softwaredefined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industryleading limited warranty of up to 25 years.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

© 2022 Enphase Energy. All rights reserved. Enphase, the Enphase logo, IQ8 Microinverters, and other names are trademarks of Enphase Energy, Inc. Data subject to change.

#### Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

#### High productivity and reliability

- Produce power even when the grid is down\*
- More than one million cumulative hours of testing
- Class II double-insulated
   enclosure
- Optimized for the latest highpowered PV modules

#### Microgrid-forming

- Complies with the latest advanced grid support\*\*
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA)
   requirements
- \* Only when installed with IQ System Controller 2, meets UL 1741.
- \*\* IQ8 and IQ8Plus supports split phase, 240V installations only.

## IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		108-60-2-US	IQ8PLUS-72-2-US	
Commonly used module pairings <sup>1</sup>	w	235 - 350	235 - 440	
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell	
MPPT voltage range	v	27 - 37	29 - 45	
Operating range	v	25 - 48	25 - 58	
Min/max start voltage	v	30 / 48	30 / 58	
Max input DC voltage	v	50	60	
Max DC current <sup>2</sup> [module lsc]	A			
Overvoltage class DC port	A		- I	
DC port backfeed current	mA		)	
PV array configuration	max	1x1 Ungrounded array; No additional DC side protection requ		
OUTPUT DATA (AC)		108-60-2-US	IQ8PLUS-72-2-US	
Peak output power	VA	245	300	
Max continuous output power	VA	240	290	
Nominal (L-L) voltage/range <sup>3</sup>	V	240 / 2		
Max continuous output current		1.0	1.21	
-	A	6		
Nominal frequency	Hz			
Extended frequency range	Hz	50 -	- 68	
AC short circuit fault current over 3 cycles	Arms	2	2	
Max units per 20 A (L-L) branch circuit <sup>4</sup>		16	13	
Total harmonic distortion		<5%		
Overvoltage class AC port		Ш		
AC port backfeed current	mA	30		
Power factor setting		1.0		
Grid-tied power factor (adjustable)		0.85 leading -	- 0.85 lagging	
Peak efficiency	%	97.5	97.6	
CEC weighted efficiency	%	97	97	
Night-time power consumption	mW	60		
MECHANICAL DATA				
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)		
Relative humidity range		4% to 100% (condensing)		
DC Connector type		MC4		
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")		
Weight		1.08 kg (2.38 lbs)		
Cooling		Natural convection – no fans		
Approved for wet locations		Yes		
Pollution degree		PD3		
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure		
Environ. category / UV exposure rating		NEMA Type 6 / outdoor		
COMPLIANCE				
		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01		
Certifications		This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.		

 No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility
 Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

## **Enphase IQ Combiner 4/4C**

X-IQ-AM1-240-4 X-IQ-AM1-240-4C



To learn more about Enphase offerings, visit enphase.com

The Enphase IQ Combiner 4/4C with IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

## Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- · Flexible networking supports Wi-Fi, Ethernet, or cellular
- · Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

## Simple

- · Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- · 80A total PV or storage branch circuits

## Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- · Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed



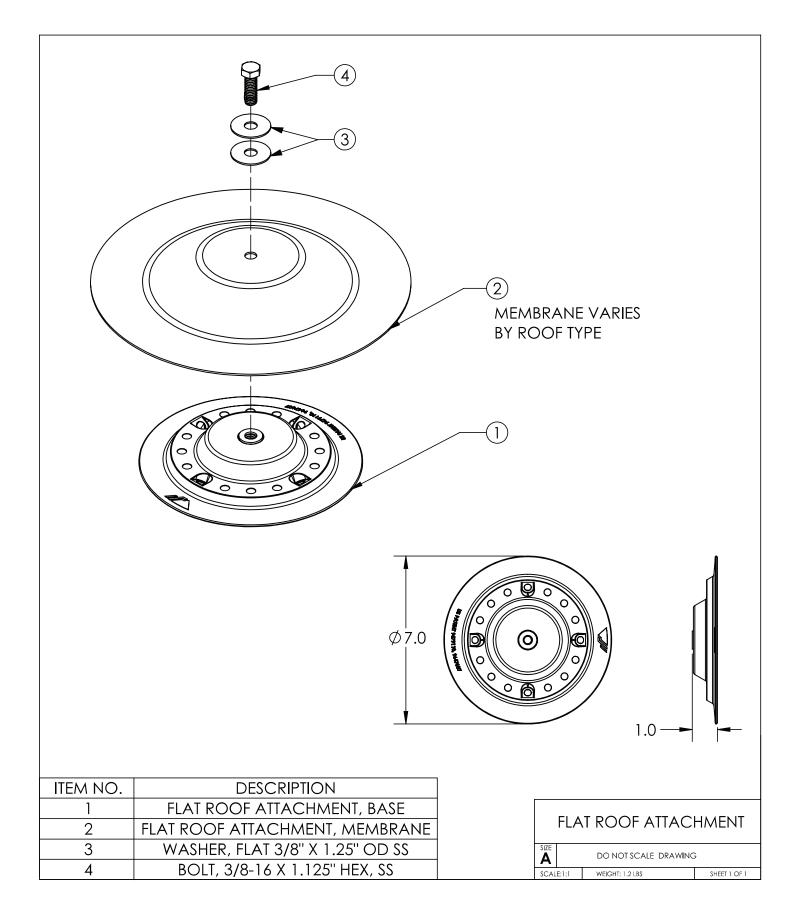
## Enphase IQ Combiner 4/4C

MODEL NUMBER	
IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.
MICROINVERTERS, ACCESSORIES AND RE	PLACEMENT PARTS (not included, order separately)
Supported Microinverters	IQ6, IQ7, IQ8. Do not mix IQ6/7 Micro-inverters with IQ8
Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input) IQ Gateway breaker	80A of distributed generation / 95A with IQ Gateway breaker included 10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers
MECHANICAL DATA	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Dimensions (WxHxD)	
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	<ul> <li>20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors</li> <li>60 A breaker branch input: 4 to 1/0 AWG copper conductors</li> <li>Main lug combined output: 10 to 2/0 AWG copper conductors</li> <li>Neutral and ground: 14 to 1/0 copper conductors</li> <li>Always follow local code requirements for conductor sizing.</li> </ul>
Altitude	Up to 3000 meters (9,842 feet)
INTERNET CONNECTION OPTIONS	000.111 / /
Integrated Wi-Fi	
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
COMPLIANCE	
Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5

To learn more about Enphase offerings, visit <u>enphase.com</u> © 2022 Enphase Energy. All rights reserved. Enphase, the Enphase logo, IQ Combiner 4/4C, and other names are trademarks of Enphase Energy, Inc. Data subject to change. 10-17-2022

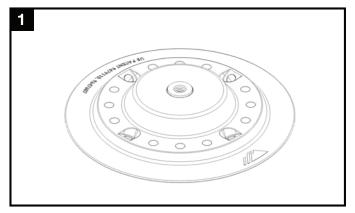


## Flat Roof Attachment

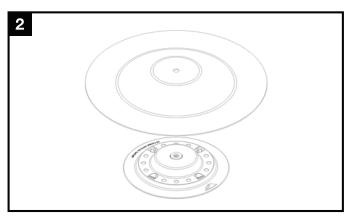


## Installation

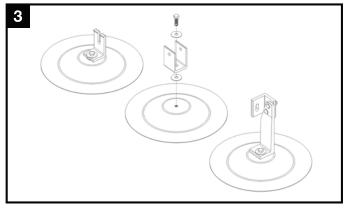
Tools Required: tape measure, chalk, approved sealing materials, roof screws, driver with 9/16" hex socket



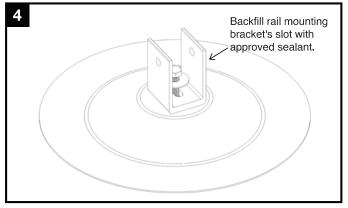
Mark locations for Flat Roof Attachment. Roof screws can be installed before or after racking is installed. Type, size, and quantity of roof screws to be specified by Structural Engineer. Fastener size not to exceed #15. Screws should be installed symmetrically to each other.



If using a membrane flashing, remove the silicone washer's protective liner prior to attaching the membrane. Thread a bolt into the base to help center the membrane during the welding or adhering process. Ensure membrane flashing is compatible with existing roofing material.



Attach rail mounting bracket with washers and 3/8" hardware torqued to 250 in-lbs (21 ft-lbs). Seal attachment and/or membrane per roofing manufacturer's requirements.



For freeze/thaw locations, a roof manufacturer's approved sealant should be applied around the 3/8" bolt and in the bracket's slot prior to tightening the bolt.

## **Structural Certification**

Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

## UL 2703

Conforms to UL 2703 (2015) Mechanical and Bonding requirements. See Ironridge Tilt or Flush Mount Manuals for full ratings.

## LA Research Reports (LARR)

Approved for use in City of Los Angeles per LARR #26185



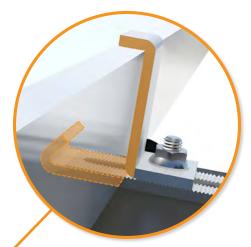
## **BX** Chassis

## Strong, Light, and Ready for Anything

The IronRidge BX System is designed to meet the needs of commercial solar—navigating complex roof layouts, while also handling the most extreme environmental conditions.

At the core of BX is the Chassis, a ballasted mount made of BASF Ultramid polyamides. They are exceptional for their high mechanical strength, rigidity and thermal stability (also being 100% recyclable).

Moreover, Ultramid polyamides afford good impact resistance even at low temperatures as well as UV protections for long life. Chassis come in 5° and 10° options and are backed by IronRidge's 25-year warranty.



**Top & Bottom Clamp** 

The multi-directional grip on the module from above and below ensures a strong connection regardless of force direction.

#### 360° Reinforcement

A flange around the entire perimeter helps to reinforce and stiffen the Chassis in all directions—alongside wide bends to reduce point loading and braced corners to increase rigidity.

#### **Roof-Friendly Design**

Wide base spreads weight and reduces point pressure, while openings along the bottom and corners prevent pooling and reduce ballast weathering.



## **Inter-Row Spacing & Edge Clearances**



With 10-13" inter-row spacing, BX provides an 8-10% increase in power density compared with other ballasted systems—that's a capacity increase of 20% in a typical 50kW system. The BX Chassis geometry also offers more than 5" of clearance in the 10-degree configuration and 8" in the 5-degree configuration, enabling the system to avoid drain domes, roof saddles, and conduit supports.

## **Flat Roof Attachment Anchors**

BX Systems can be fully ballasted, fully anchored, or a hybrid optimized for the site.

Combine BX with an IronRidge Flat Roof Attachment Kit to eliminate hundreds of pounds of required ballast weight and achieve configurations as light as 3 PSF.

The placement and fastening method can be optimized for existing roof structures, and pre-approved membranes are offered to maintain membrane roof warranties.

## **Testing & Certification**

**Anchor Uses** 

All IronRidge Kit & Strut

## **Design Assistant**

Automated design software provides an accurate bill of materials, using a simple drag-and-draw interface to generate a complete system plan—also generate a ballast map showing the required ballast for each Chassis.

Eliminates 450 lbs.

of Ballast Blocks

## **Permit Documentation**

Design Assistant project reports are backed with a ASCE/PE stamp and Commercial Services are also available to assist with more complex projects. Visit our website or contact an IronRidge sales representative.

## UL 2703 & 3741 Listed

BX conforms to the latest UL safety standards for PV systems, including mechanical, bonding, hazard control, and Class A Fire Ratings (without wind deflectors). Ninety percent of solar modules are fully supported.



### POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.



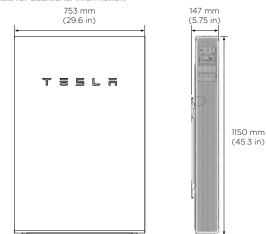
## PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy	14 kWh
Usable Energy	13.5 kWh
Real Power, max continuous	5 kW (charge and discharge)
Real Power, peak (10 s, off-grid/backup)	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/- 1.0 adjustable
Power Factor Range (full-rated power)	+/- 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency <sup>1,3</sup>	90%
Warranty	10 years

## MECHANICAL SPECIFICATIONS

Dimensions <sup>1</sup>	1150 mm x 755 mm x 147 mm (45.3 in x 29.6 in x 5.75 in)
Weight <sup>1</sup>	114 kg (251.3 lbs)
Mounting options	Floor or wall mount

<sup>1</sup>Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.



## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Recommended Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

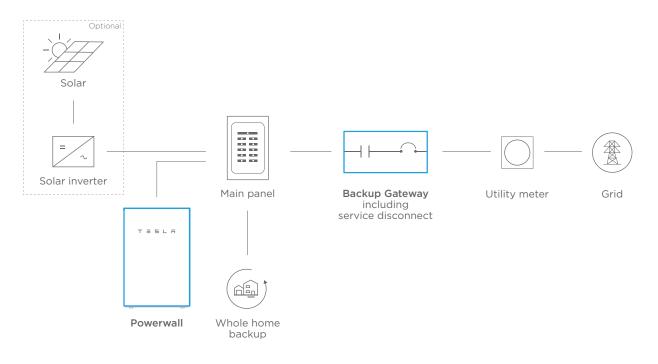
<sup>1</sup>Values provided for 25°C (77°F), 3.3 kW charge/discharge power. <sup>2</sup>In Backup mode, grid charge power is limited to 3.3 kW. <sup>3</sup>AC to battery to AC, at beginning of life.

## COMPLIANCE INFORMATION

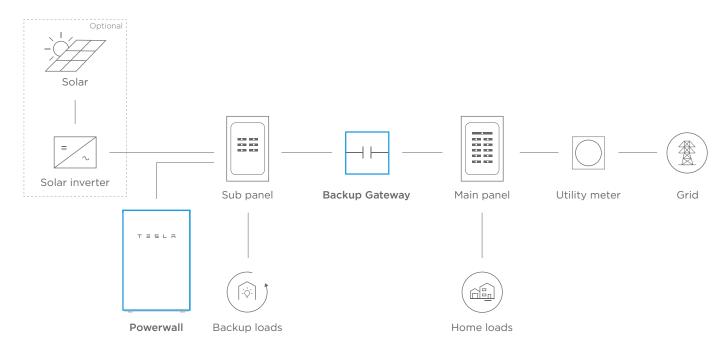
Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

## TYPICAL SYSTEM LAYOUTS

### WHOLE HOME BACKUP



#### PARTIAL HOME BACKUP



## POWERWALL

### Backup Gateway 2

The Backup Gateway 2 for Tesla Powerwall provides energy management and monitoring for solar self-consumption, time-based control, and backup.

The Backup Gateway 2 controls connection to the grid, automatically detecting outages and providing a seamless transition to backup power. When equipped with a main circuit breaker, the Backup Gateway 2 can be installed at the service entrance. When the optional internal panelboard is installed, the Backup Gateway 2 can also function as a load center.

The Backup Gateway 2 communicates directly with Powerwall, allowing you to monitor energy use and manage backup energy reserves from any mobile device with the Tesla app.



## PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Current Rating	200 A
Maximum Input Short Circuit Current	10 kA1
Overcurrent Protection Device	100-200A; Service Entrance Rated <sup>1</sup>
Overvoltage Category	Category IV
AC Meter	Revenue accurate (+/- 0.2 %)
Primary Connectivity	Ethernet, Wi-Fi
Secondary Connectivity	Cellular (3G, LTE/4G) <sup>2</sup>
User Interface	Tesla App
Operating Modes	Support for solar self-consumption, time-based control, and backup
Backup Transition	Automatic disconnect for seamless backup
Modularity	Supports up to 10 AC-coupled Powerwalls
Optional Internal Panelboard	200A 6-space / 12 circuit Eaton BR Circuit Breakers
Warranty	10 years

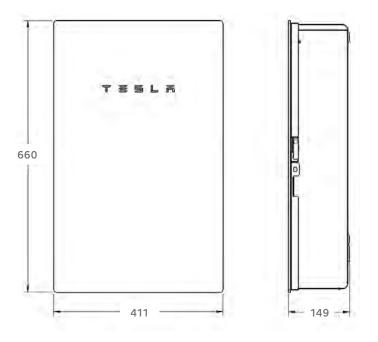
<sup>1</sup> When protected by Class J fuses, Backup Gateway 2 is suitable for use in circuits capable of delivering not more than 22kA symmetrical amperes.
 <sup>2</sup> The customer is expected to provide internet connectivity for Backup Gateway 2; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

## COMPLIANCE INFORMATION

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS CSA 22.2 0.19, CSA 22.2 205
Emissions	FCC Part 15, ICES 003

## MECHANICAL SPECIFICATIONS

Dimensions	660 mm x 411 mm x 149 mm (26 in x 16 in x 6 in)
Weight	20.4 kg (45 lb)
Mounting options	Wall mount, Semi-flush mount



## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

## **Zoning Compliance Application**

Town of Biltmore Forest

Name Christopher Kragel

**Property Address** 5 Eastwood Rd, Biltmore Forest NC

**Phone** (919) 824-0771

Parcel ID/PIN Number 964696741500000

Email christopher.kragel@gmail.com

#### **ZONING INFORMATION**

Lot Size

1.14

Current Zoning R-1

Maximum Roof Coverage 5,060 square feet (Up to 1.2 acres) Proposed Roof Coverage Total

Maximum Impervious Surface Coverage 1-3 acres (25 percent of lot area)

Proposed Impervious Surface Coverage Less than 25%

**Front Yard Setback** 60 feet (R-1 District) Side Yard Setback 20 feet (R-1 District)

**Building Height** 

**Rear Yard Setback** 25 feet (R-1 District)

## Description of the Proposed Project

The project entails repairing and replacing the existing deck. There is will be no significant to change to the foot print/square footage of the existing deck.

n/a

1. A portion of the existing wooden deck will be replaced with trex decking

2. Upper tile patio will be replaced/repaired with similar tile

3. Lower wooden deck will be replaced with stone patio (this will require a retaining wall). This will also have a fire pit

Please see attached drawings.

Estimated Start Date 1/30/2023

Estimated Completion Date 5/31/2023

Estimated Cost of Project \$175,000.00

## Supporting Documentation (Site Plan, Drawings, Other Information) 5 eastwood road deck 1.jpg

- 5 eastwood road deck 2.jpg
- 5 eastwood road deck 3.jpg

## Applicant Signature

Date 11/30/2022

## **Special Use Permit Application**

Town of Biltmore Forest

Name Christopher Kragel

Address

5 Eastwood Rd, Biltmore Forest NC, 28803

Phone (919) 824-0771 Email christopher.kragel@gmail.com

#### Please select the type of special use you are applying for:

**Accessory Structures** 

The applicant must show that the proposed use will not materially endanger public health or safety or injure value of adjoining or abutting property. In addition, the proposed use must be in general conformity with the plan of development of the town and be in harmony with scale, bulk, height, coverage, density, and character of the neighborhood.

#### Please provide a description of the proposed project:

The project involves replacing a portion of the wooden deck with trex decking. Repairing/replacing terracata tile on the upper deck. In addition, the lower wooden deck will be replaced with a retaining wall and Pennsylvania blue stone patio. The retaining wall will have a stucco finish and be extensively covered by plants. There will also be a fire pit (approximately 50 inches in diameter and 18 inches high).

The foot print/square footage of the current deck will not significantly change.

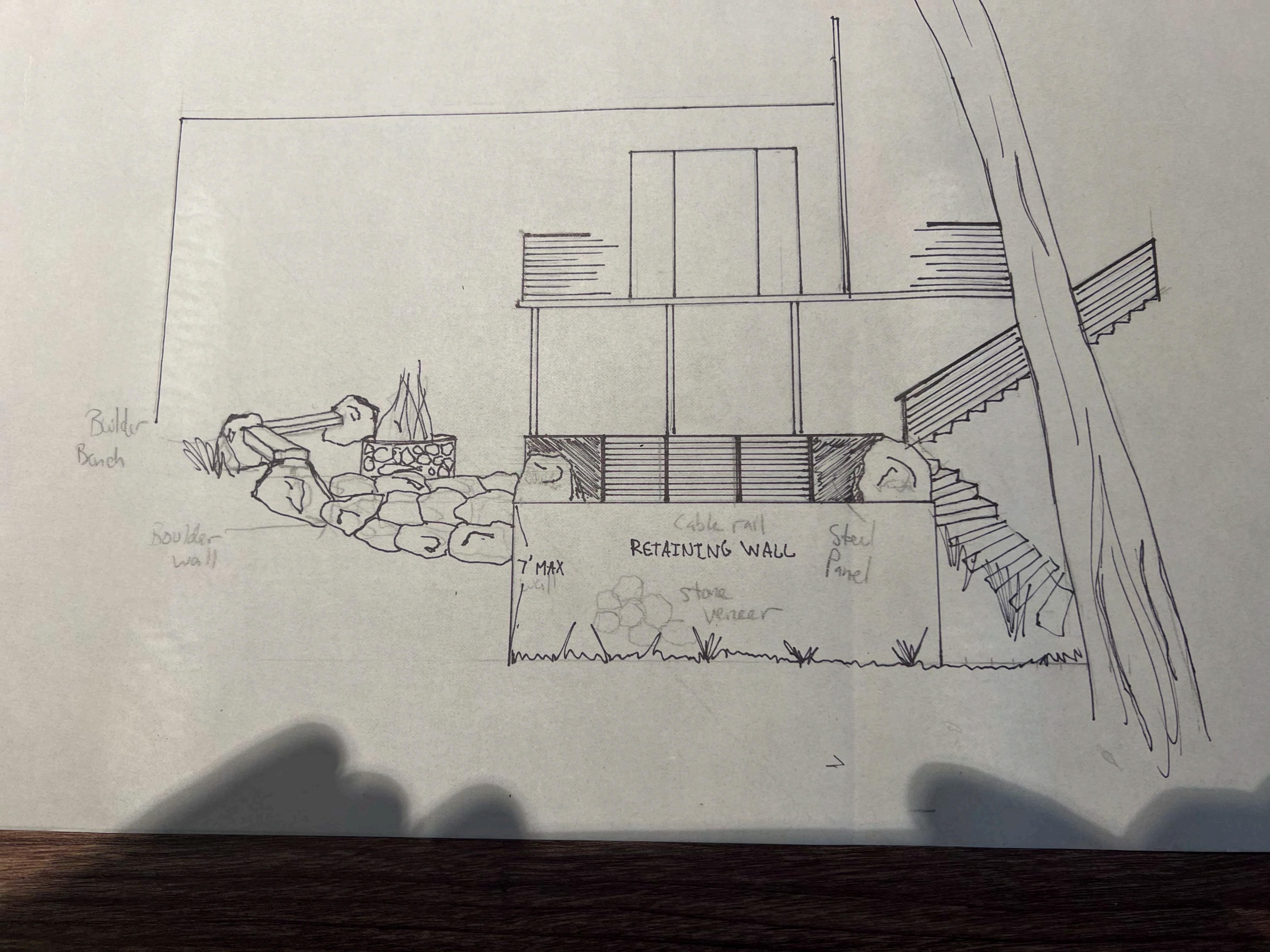
## Explain why the project would not adversely affect the public interest of those living in the neighborhood:

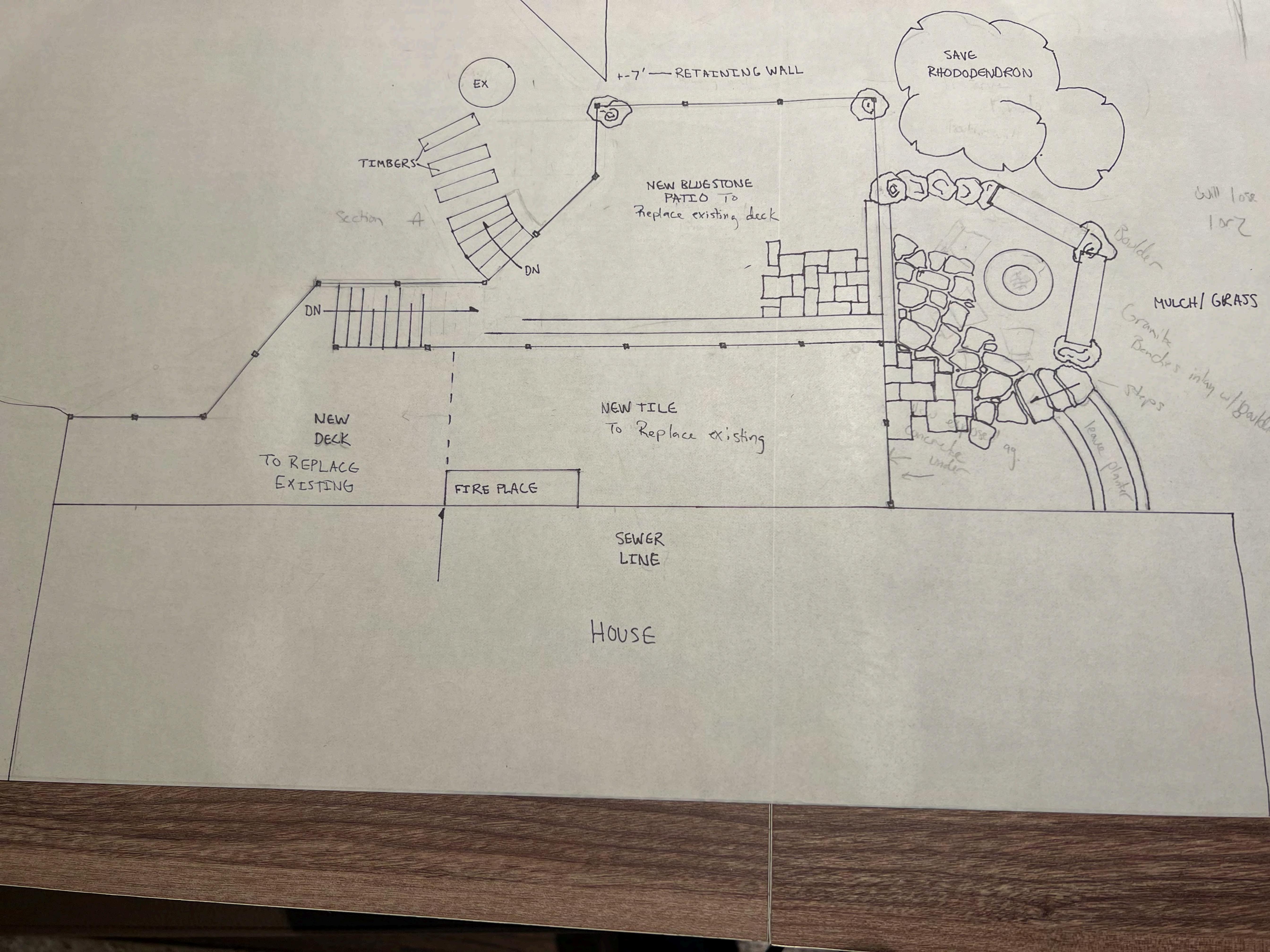
The current deck is in disrepair and becoming dangerous. It is in the public interest for this deck to be repaired/replaced. It will be incredibly difficult to see any part of this project from the side or rear of the property.

## I hereby certify that all of the information set forth above is true and accurate to the best of my knowledge.

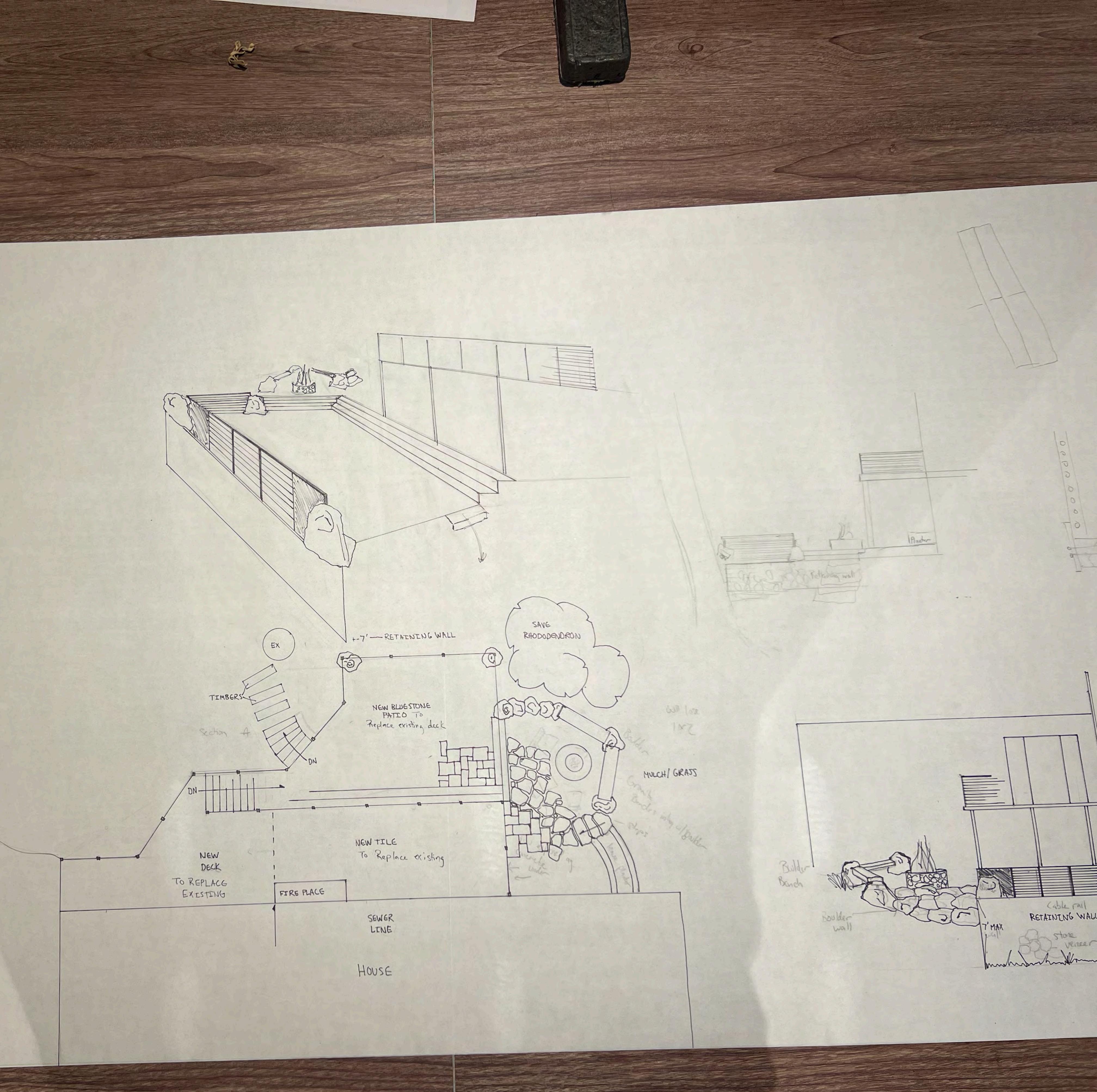
Signature

Date 12/5/2022





APPROX. PROFERTY LING 1-115' 1.00 Repar Dolve DRIVG



## **Zoning Compliance Application**

Town of Biltmore Forest

Name Erik R Simes

Property Address 44 Forest Rd

Phone (828) 280-3811

Parcel ID/PIN Number 964679177300000

Email ersimes@gmail.com

#### **ZONING INFORMATION**

Current Zoning R-1

Maximum Roof Coverage 2,874 square feet (Up to .5 acres) Proposed Roof Coverage Total

**Proposed Impervious Surface Coverage** 

2874

400 saft

.65

Lot Size

Maximum Impervious Surface Coverage Up to 1 acre (27.5 percent of lot area)

Side Yard Setback

20 feet (R-1 District)

**Rear Yard Setback** 25 feet (R-1 District)

**Front Yard Setback** 

60 feet (R-1 District)

Building Height N/A

#### **Description of the Proposed Project**

We are proposing to remove the old concrete side patio and worn brick retaining wall. The retaining wall is currently a maximum of 22" high and tapers down to about 4 inches. In addition we will remove the old brick walk way to the grass area and to the driveway. We will then replace the retaining wall with natural stone but slightly higher, expanded pavers patio and add a stone walkway to a fire pit. (See attached contractor proposal for a more detailed description). We have not made a final decision on the style of stone wall or pavers but I have included all the photos. Thank you.

Estimated Start Date 3/1/2023

Estimated Completion Date 3/31/2023

Estimated Cost of Project \$40,000.00

Supporting Documentation (Site Plan, Drawings, Other Information) 44 Forest Rd Patio Remodel.docx

Paver Patio & Walkways, etc. Proposal for Julie & Erik Simes.pdf -111381115\_90f208f3-3336-4cb5-89b9-f6747c3d0c07\_307253.jpeg 1138657704\_8544ac4c-383e-4182-9b14-2fdddb82ee4f\_1129826.jpeg -954808789\_1b6f7588-bde4-4598-aa2e-4b41ee2d4933\_1075756.jpeg 717281577\_272c7df8-e87c-4562-aadc-b4591da076d8\_1118339.jpeg -1779016669 e3a96144-2160-4d35-b299-964c5b882bc5 1108361.jpeg -590134175\_a3ae6c2d-af1e-43dd-929d-5ec70857f7e6\_1320213.jpeg 1785714727\_f17c8278-0fe0-4d66-92a9-89339edd6b91\_1311280.jpeg 1100445272\_0e027285-0aa1-49ee-b3dc-3e665c94670a\_1509835.jpeg 1252941082\_c3a8c7b7-3e30-41db-a35c-a04f2c2f9aae\_1521452.jpeg 877065734\_815cd30c-c2f7-4375-96a5-351e2d6f9163\_1519397.jpeg -1522396935\_2566a80f-e375-48e2-a662-c44df9072aef\_1691332.jpeg -1980196142\_a80fcf31-5348-4e0b-b310-2dcc17cc1a2a\_1788178.jpeg -1427958611\_442240f4-ce3d-4a98-8360-cec24ab8cfa7\_1868296.jpeg 2140136747\_1d0938d7-62f8-4fcd-a621-8b3b8fa12be6\_1921071.jpeg -1241093547 3a4d4d31-9faa-4d0f-8294-9a62cd4b23e4 1961579.jpeg -771714054\_db7fbb20-88a1-4122-973f-7e15ff68a422\_2140181.jpeg -1422425975 2303465a-c885-4560-8f25-52851166a07c 2589107.jpeg

**Applicant Signature** 

Date 12/28/2022

Erik R Simes

#### Proposal Submitted To:

Julie and Erik Simes 44 Forest Road Biltmore Forest NC 28803

We hereby propose to furnish all the materials and perform all the labor necessary for the completion of:

Removal of your old concrete patio & amateur brick wall & walks and replace with new stone retaining wall & expanded European courtyard style 3-piece pavers.. as shown on attached sketch.

Main Patio & Walkway #1-#3

#### Add-on Projects #4-#8

#### 1.) New Expanded Stone Retaining Wall:

We will remove the old amateur brick wall (that isn't quite tall enough) and replace it with a new taller & longer mortared rock retaining wall. located as per attached sketch and similar to ones in pics below.

\* First we carefully dismantle the wall and haul away of the rubble.

\* Next we carefully excavate out the soil to create the expanded area so that the new patio area can be 3' wider. This soil is likewise hauled away.

\* Then we construct the new extended wall.. which will start at approximately 28" high, wrapping around as shown and tapering down gently to terminate at about 6" tall. (Maintaing about 4" above retained grade.) Overall the new wall will be about 40' long +/-.

\* Behind the wall we install proper drainage consisting of clean crushed drainage stone wrapped in geotextile filter cloth. This prevents any muddy water from ever coming through the wall and also prevents hydraulic build-up behind the wall.

\* Excellent clean-up and repair of any adjacent disturbed areas.

#### 2.) New Expanded Paver Patio:

We will carefully remove the old concrete patio and replace it with a new greatly expanded European courtyard style paver patio.. located as per attached sketch and similar to ones in pics below.

\* First we carefully dismantle the concrete and haul away all of the rubble. (A new patio cannot be built on top of this old concrete.)

\* Next we carefully excavate out the soil and install professional compacted quarry substrate 4" thick to install the new expanded patio on. New patio will be much larger.. approx. 29' X 16' with rounded-off corners.

\* Then we carefully hand-lay the paver patio and cut all of the edges in flowing curved shapes and trim with paver borders around them.. as in pictures below.

- \* There are about 3-4 paver styles to choose from.
- \* Excellent clean-up and repair of any adjacent disturbed areas.

#### 3.) New Paver Walkway:

We will dismantle & remove the old amateur brick walkway and replace it with a new European courtyard style paver walkway.. located as per attached sketch and similar to ones in pics below.

\* First we carefully dismantle all of the brick walks and haul away all of the rubble.

\* Next we carefully excavate out the soil and sand and install professional compacted quarry substrate 4" thick to install the new paver walkways on.

\* Then we carefully hand-lay the paver walkway and cut all of the edges in flowing curved shapes and trim with paver borders around them.. as in pictures below.

\* New forked paver walkway will total approx. 45' in length X 3 feet wide.

\* Excellent clean-up and repair of any adjacent disturbed areas.

#### 4.) Paver Area Under Stairwell Deck:

We will remove the old concrete porch landing area and replace it with new European courtyard style paver landing area.. located as per attached sketch and similar to ones in pics below.

\* First we carefully dismantle the concrete landing area (*surgically.. to preserve the integrity of deck footers, etc.*) and haul away all of the rubble. (A new patio cannot be built in top of this old concrete.)

\* Next we carefully excavate out the soil and install professional compacted quarry substrate 4" thick to install the new paver landing on.

\* Then we carefully hand-lay the paver landing and cut all of the edges to outline the footprint of the deck above.. and trim with paver borders around them.. as in pictures below.

\* The new paver area will include the approx. 6' X 8' area connecting the door with the new outer paver walkway.. and also an approx. 3' X 5' area under upper half of staircase for your trash and recycling cans. (Return to mulch bed underneath the lower half of staircase.)

\* Excellent clean-up and repair of any adjacent disturbed areas.

#### 5 Rustic Slabstone Steps Down to Back Lawn:

We already will have removed the old amateur brick staircase here.. we will replace them with a simple set of rustic slabstone steps located as per attached sketch and similar to ones in pics below.

\* The approx. 5-6 natural irregular flagstone slabs will make a single-file set of steps approx. 24"-30" wide.

\* Same excellent clean-up.

#### 6.) Rustic Flagstone Stepping Stones Through Back Lawn:

We will install a simple set of rustic flagstone stepping stones located as per attached sketch and similar to ones in pics below.

\* The approx. 12-13 natural irregular flagstone stepping stones will make a single-file walk approx. 24"-30" wide.. to a proposed firepit area.

\* Same excellent clean-up.

#### 7.) Rustic Pebble Sitting Area:

We will install a simple rustic pebble sitting area located as per attached sketch and similar to ones in pics below.

\* The sitting area will be an approx. 16' diameter circle or oval to accomodate a proposed firepit area.

\* We first cut out the sod (grass). We then pin down professional grade landscape cloth. We then spread a thin layer of compacted quarry base. We then spread a layer 1.5" - 2" of clean crushed river pebble

\* Same excellent clean-up.

#### 7A.) Pebble Area With Dug-in Perimeter Rocks

These dug-in border rocks define and help keep the pebbles in.

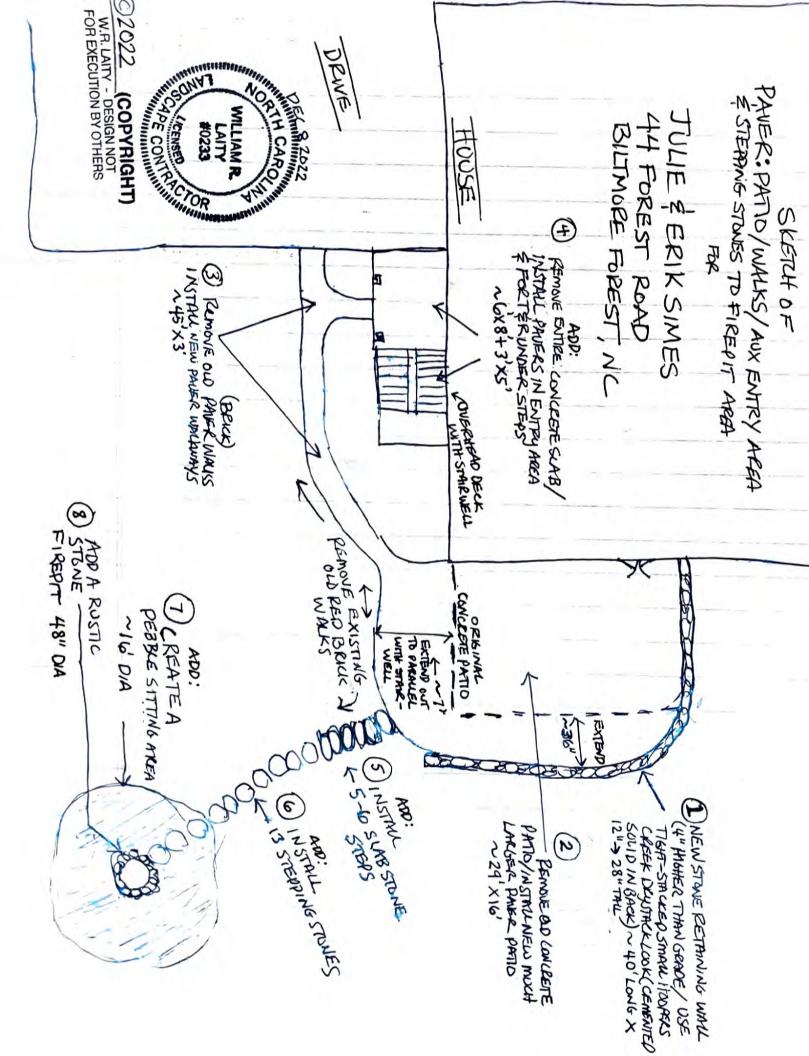
#### 8.) <u>Rustic Rock Firepit:</u>

We will install a simple rustic rock firepit rock ring. located as per attached sketch and similar to ones in pics below.

\* The firepit will be an approx. 48" diameter circle of large field rocks.

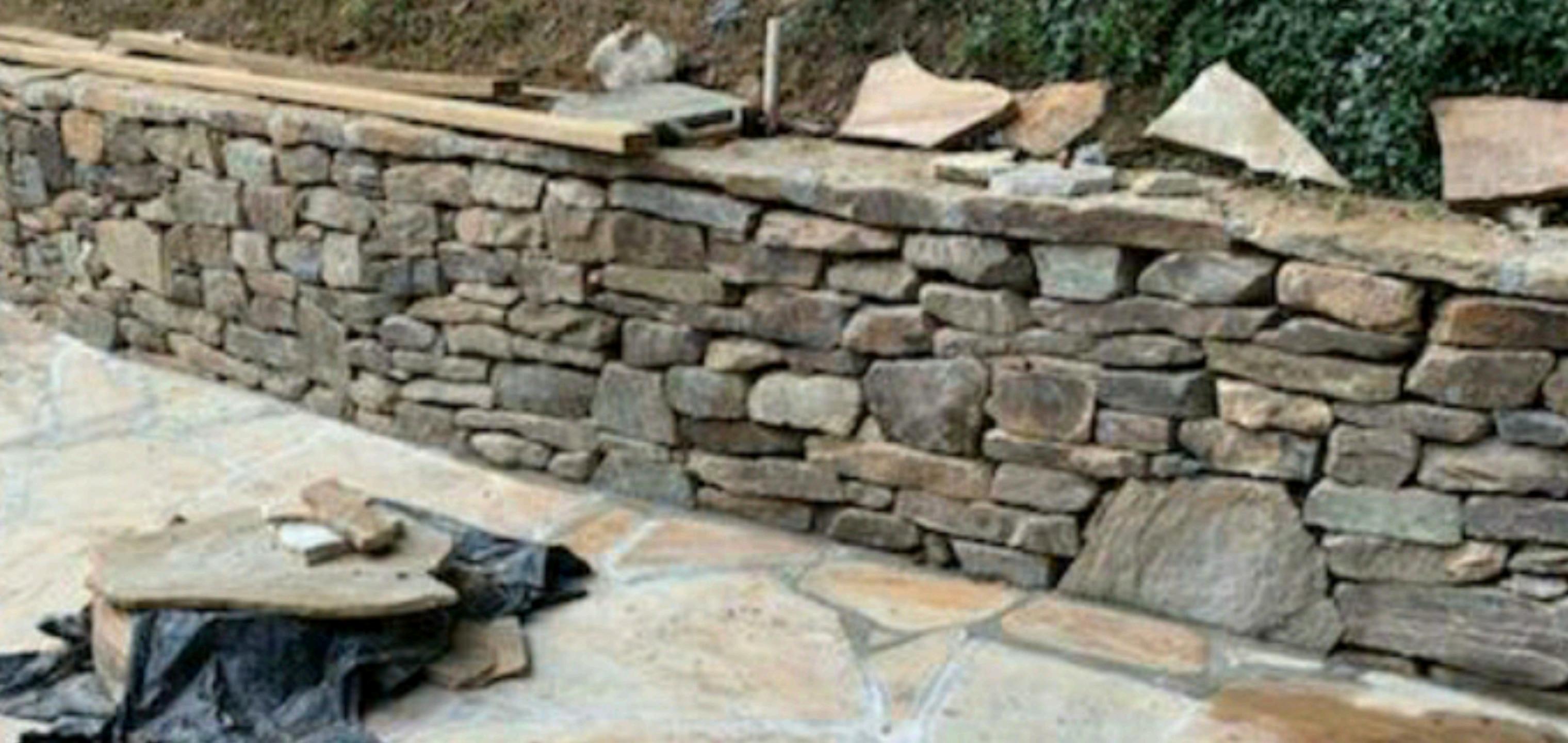
\* We first excavate out a shallow depression where the fire pit will go. We then install a layer of quarry substrate to line the pit. We then slightly dig-in the large rocks in a ring shape so they will stay stable.

\* Same excellent clean-up.



































## **Zoning Compliance Application**

Town of Biltmore Forest

Name Tal & Paige Frankfurt

Property Address 30 Cedarcliff Road, Asheville, NC 28803

**Phone** (901) 848-1024

Parcel ID/PIN Number 9647-62-3148

ZONING INFORMATION

Email

Current Zoning R-1

Maximum Roof Coverage 6,100 square feet (Up to 2 acres) Proposed Roof Coverage Total 5095

paige.magdovitz@gmail.com

Maximum Impervious Surface Coverage 1-3 acres (25 percent of lot area)

Proposed Impervious Surface Coverage 14008

**Front Yard Setback** 60 feet (R-1 District) Side Yard Setback 20 feet (R-1 District)

**Rear Yard Setback** 25 feet (R-1 District)

Building Height 28'-0"

#### **Description of the Proposed Project**

The scope of this expansion is to build a year-round outdoor living and dining space as an attached pavilion on the back of the house. An additional element of the project is to enlarge the existing garage to accommodate two average sized cars. This project will incorporate landscape design and planting for a rear lawn area, and to improve drainage of the rear lawn, which will serve as a play area for the children. There will also be revisions to the driveway to facilitate the garage addition and grading changes.

Estimated Start Date 6/1/2023

**Estimated Completion Date** 5/31/2024

Estimated Cost of Project \$500,000.00

Supporting Documentation (Site Plan, Drawings, Other Information) 30 Cedarcliff - BOA submittal - 2022-12-20.pdf

Lot Size 1.63 ac

## VARIANCE APPLICATION

Town of Biltmore Forest

Name Tal & Paige Frankfurt

#### Address 30 Cedarcliff Road, Asheville, NC 28803

**Phone** (901) 848-1024

Email paige.magdovitz@gmail.com

#### Current Zoning/Use Residential

Requested Use Residential

**APPLICATION REQUIREMENTS**: An application to the Board of Adjustment for a variance must be submitted to the Town of Biltmore Forest Town Manager at least 21 days prior to the meeting at which the application will be considered. A pre-application meeting with Town staff is required prior to application submittal to the Board of Adjustment.

#### What would you like to do with your property?

We would like to start by introducing ourselves to you all. We are the Frankfurt Family: Tal, Paige, Naomi (7yo), and Julienne, (5.5 yo). We moved to Biltmore Forest in 2015. Our house at 30 Cedarcliff Road, built in 1926, is one of the original houses in Biltmore Forest. We believe in the importance of preserving the historical fabric of the neighborhood. While renovating and modernizing various parts, we have made an effort to stay true to the original design and materials.

The scope of this expansion is to build a year-round outdoor living and dining space as an attached pavilion on the back of the house. An additional element of the project is to enlarge the existing garage to accommodate two average sized cars. This project will incorporate landscape design and planting for a rear lawn area, and to improve drainage of the rear lawn, which will serve as a play area for the children. There will also be revisions to the driveway to facilitate the garage addition and grading changes.

#### What does the ordinance require?

Attached Outdoor Living Room: The current zoning of the property requires a 20' side yard setback. The enclosed portion of the proposed addition is within this setback, but does include a covered walkway connecting it to the house, which encroaches into the side yard by 8 1/2 feet, a total of 110 square feet.

Garage: The zoning restricts the size of the accessory structure to 750 square feet. We are proposing to increase the existing garage building by 225 square feet, from 832 s.f. to 1053 s.f. to accommodate two average sized vehicles.

BOARD OF ADJUSTMENT: N.C.G.S. 160A-388(D) requires that the Board of Adjustment shall vary the provisions of the Zoning Ordinance only upon a showing of ALL the items below. The Board of Adjustment must follow strict procedure and all determinations must be decided by a concurring vote of four-fifths of the members of the Board. It is important to provide detailed supporting documentation for the Board of Adjustment to review. If necessary, additional sheets may be attached to this application.

#### **REQUIRED FINDINGS: Please provide a thorough response to each.**

#### Unnecessary hardship would result from the strict application of the ordinance.

Attached Outdoor Living Room: The proposed addition is designed on the axis of the existing kitchen, with

the breezeway and patios aligning with the existing doorways leading from the house, and in line with the orientation of the existing house. The positioning and orientation of the addition continue the lines of the house, making a clean transition of the roof lines, and keeping the house architecturally and visually intact. If the new addition were to follow the angle of the property line, it would create an architecturally unwieldy and complicated connection that would not be in keeping with the architecture of the historic home. Were the addition to remain perpendicular to the house, but closer to the center of the property, it would obstruct daylight entering the house, as well as block much of the back yard from use.

Garage: The existing accessory structure - built as a stable by the home's original builder - houses a garage and a small dwelling unit. The garage is undersized for two of today's average sized vehicles. It is our desire to be able to store two vehicles under cover from the trees on the property, protected from the elements. Parking the vehicles exposed to the elements and tree sap has proved to be very damaging to the cars. However, to replace the existing structure with a new two-car garage within the parameters of the ordinance would require tearing down the historic structure. The proposed expansion of the existing garage will be in keeping with the architectural style and materials of the original stable and home, and will keep the major portion of the existing historic structure intact.

## The hardship results from conditions that are peculiar to the property, such as location, size, or topography.

Attached Outdoor Living Room: The lot tapers significantly towards the rear of the property. Rather than centered on the lot, the existing home is sited very close to the right side of the property, and at a sharp angle relative to the side property line.

Garage: The accessory structure is pre-existing, and original to the era of the neighborhood. There is a step up in the foundation between the garage and dwelling portion of the accessory structure that prevents expansion of the garage within the existing footprint.

#### The hardship did not result from actions taken by the applicant or the property owner.

The lot tapering toward the rear, as well as the siting of the house to the right (southern) edge of the property, the angle of the existing house relative to the property line, are pre-existing conditions. The size and structural limitations of the accessory structure are pre-existing as well.

## The requested variance is consistent with the spirit, purpose, and intent of the ordinance, such that public safety is secured, and substantial justice is achieved.

- The requested variance allows the addition of the attached outdoor room to be aligned with the existing historic home.

- The materials and architectural detailing of the additions are in keeping with the language of the historic home and neighborhood.

- The enlargement of the accessory structure allows for the benefit and use of a modern-day 2-vehicle garage, without removing or diminishing the historic structure.

- The location of the house on the neighboring lot is to the farther side of their property, further minimizing the effects of the side yard encroachment. Our landscaping plan shows buffer planting around the encroachment area.

- All of these additions and modifications, including the variances, are located in the rear of the house, and are not visible from the street and public view.

## I hereby certify that all of the information set forth above is true and accurate to the best of my knowledge.

To the members of the Biltmore Forest Board of Adjustments:

I reviewed the proposed plans for 30 Cedarcliff Road with the homeowners, Paige and Tal Frankfurt, with regard to their request for variance for the construction of a 2 and a half-car garage and an outdoor living space. In reviewing the plans, I have no objections to the proposed locations of the structures or requested variance.

Sincerely

Derek and Angela Welibaecher Name (print)

<u>28 Cedarcliff Rd.</u> <u>Asheville, NC 28803</u> Address

August 7th, 2021 Date To the members of the Biltmore Forest Board of Adjustments:

We reviewed the proposed plans for 30 Cedarcliff Road with the homeowners, Paige and Tal Frankfurt, with regard to their request for variance for the construction of a 2 and a half-car garage and an outdoor living space; and after discussing the plans with the Frankfurts, we have no objections to the requested variance for the proposed locations of the new structures and related improvements.

Sincerely, Susan Mmz

Philip R. Manz and Susan S. Manz Name (print)

<u>32 Cedarcliff Rd.</u> <u>Asheville, NC 28803</u> Address

704-571-7155

January 11,2023

# **PROJECT INFORMATION**

## APPLICABLE CODES

## RESIDENTIAL

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

2017 NFPA NATIONAL ELECTRIC CODE

# ZONING ANALYSIS

ZONING DISTRICT:
PIN(s):
PLAT:
DEED REFERENCE:
ZONING:
ADJOINER ZONING:
FRONT SETBACK:
SIDE SETBACK:
REAR SETBACK:
RIVER BASIN:
TOTAL ACREAGE:
DISTURBED AREA:
EXISTING IMPERVIOUS AREA:
PROPOSED IMPERVIOUS AREA:
IMPERVIOUS AREA CHANGE:
ALLOWABLE IMPERVIOUS (20%):

TOWN OF BILTMORE FOREST 9647-62-3148 BOOK 4, PAGE 9 BOOK 5667, PAGE 330 R-1 R-1 60' 20' 25' FRENCH BROAD 1.63 AC SEE LANDSCAPING PLANS SEE LANDSCAPING PLANS SEE LANDSCAPING PLANS SEE LANDSCAPING PLANS SEE LANDSCAPING PLANS

# **BUILDING ANALYSIS**

ROOF AREA CALCULATIONS			
MAXIMUM ALLOWED F	6100 S.F.		
EXISTING TOTAL ROOF COVERAGE:3694 S.F.PROPOSED ROOF ADD:1401 S.F.PROPOSED TOTAL ROOF COVERAGE:5095 S.F.			
HOME AREA CALCULATIONS			
LEVEL 1 LEVEL 2 LEVEL 3	EXISTING 2,175 1,917 726	PROPOSED 2,175 1,917 726	ADDITION
GARAGE STUDIO	832 232	974 232	225
BREEZEWAY OUTDOOR LIVING RM	202	425 608	425 608
TOTALS	5,882	7,140	1,258

# PROJECT SCOPE

THE SCOPE OF WORK SHALL INCLUDE THE CONSTRUCTION OF AN ENCLOSED PAVILION CONNECTED TO THE MAIN HOUSE WITH A BREEZEWAY, AND THE EXPANSION AND RENOVATION OF THE EXISTING GARAGE AS OUTLINED IN THE FOLLOWING DOCUMENTS

# JOEL KELLY DESIGN

FRANKFURT/MAGDOVITZ RESIDENCE

30 CEDARCLIFF ROAD ASEVILLE, NC 28803

# PRICING PACKAGE

## TABLE OF CONTENTS

NO. SHEET TITLE

1	COVER SHEET
2	EXISTING SITE SURVEY (BY OTHERS)

## SITE DESIGN - BY VISION DESIGN COLLABORATIVE

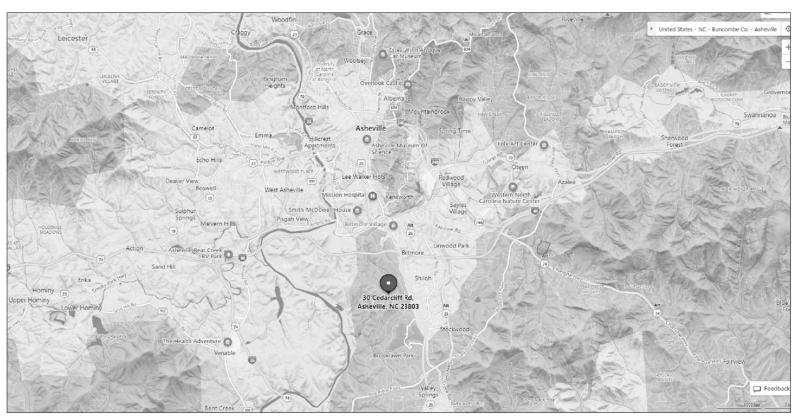
- SCHEMATIC OVERALL SITE PLAN L1.0
- SCHEMATIC SITE PLAN ENLARGEMENT L2.0
- SCHEMATIC GRADING PLAN L3.0 5

## ARCHITECTURAL - BY JOEL KELLY DESIGN

- OUTDOOR ROOM FLOOR PLAN A1.1 OUTDOOR ROOM - ROOF PLAN A1.2 GARAGE PLANS A1.3 EXTERIOR ELEVATIONS A5.1 EXTERIOR ELEVATIONS A5.2 10 DETAILS A6.1 11
- 12 A6.2 DETAILS

# LOCATION

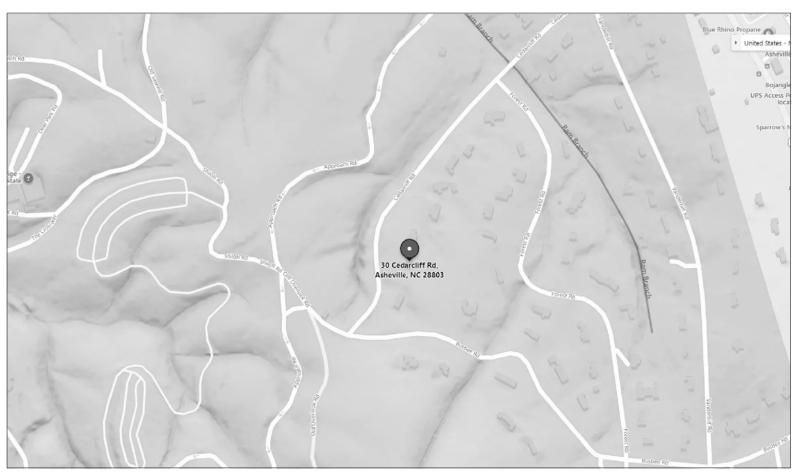
## REGION



## VICINITY



## STREET



New Construction Frankfurt/Magdovitz Residence

30 Cedarcliff Road Asheville, NC 28803

Prepared for

Tal Frankfurt & Paige Magdovitz

## Designer JOEL KELLY DESIGN

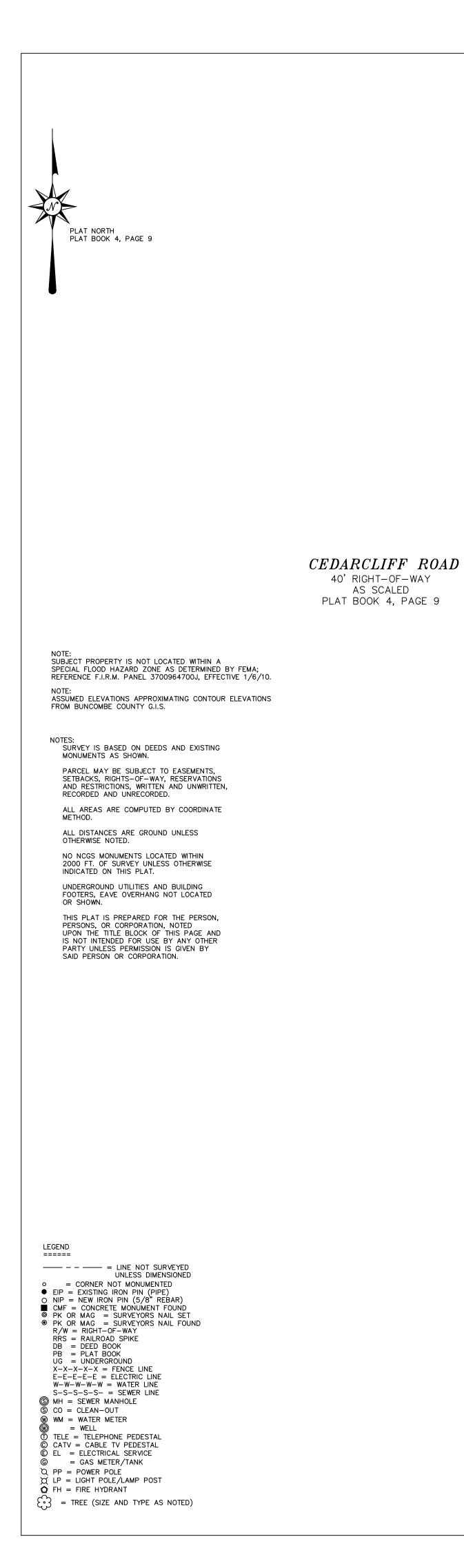
400 Plasters Ave. NE Suite 110 Atlanta, Georgia 30324 404-221-0422

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No. Issue Description	Date
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0.2 BOA / DRB SUBMITTAL	12/20/2022
Sheet Name	
COVER SHEET	
Sheet Number	

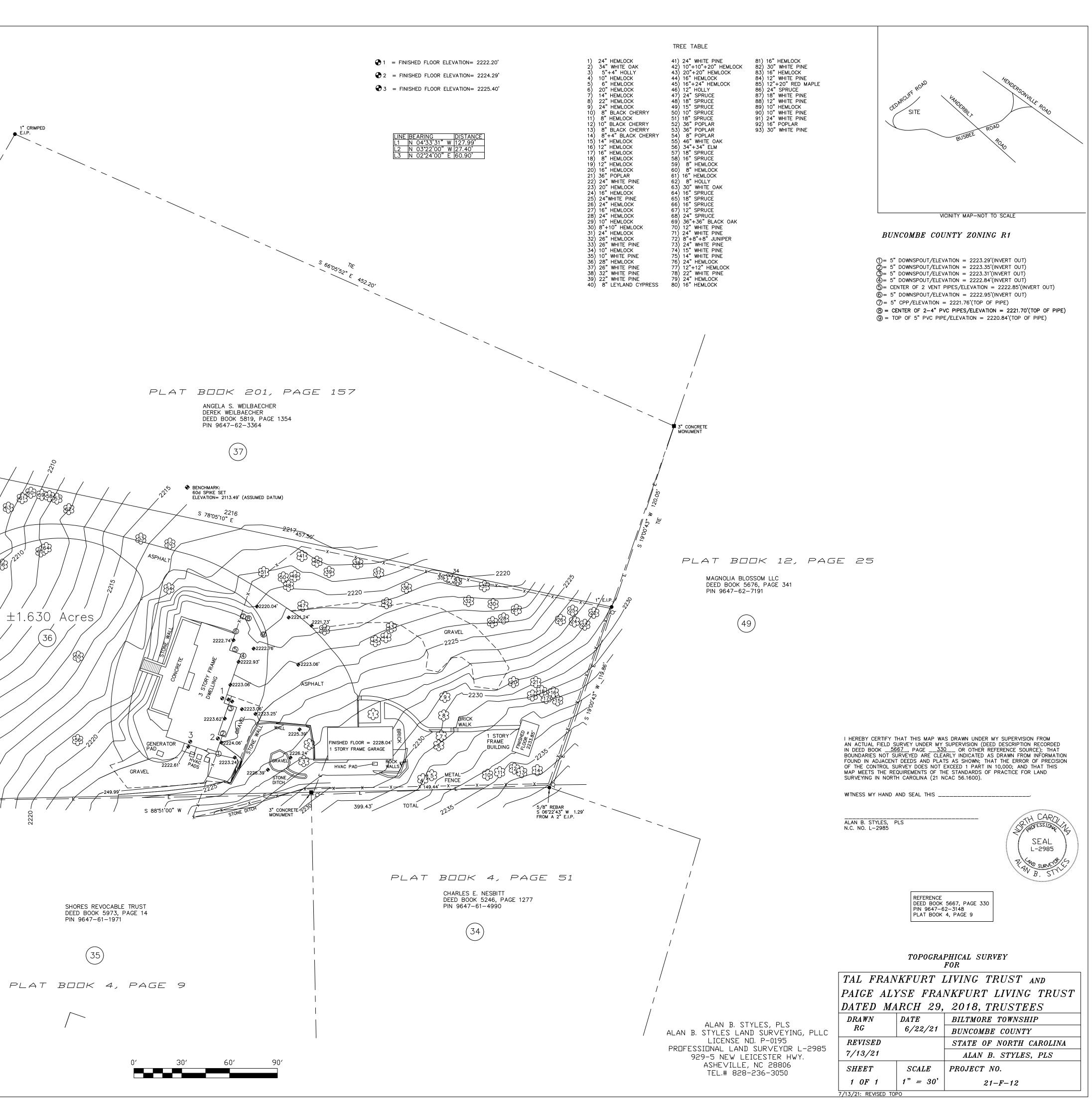
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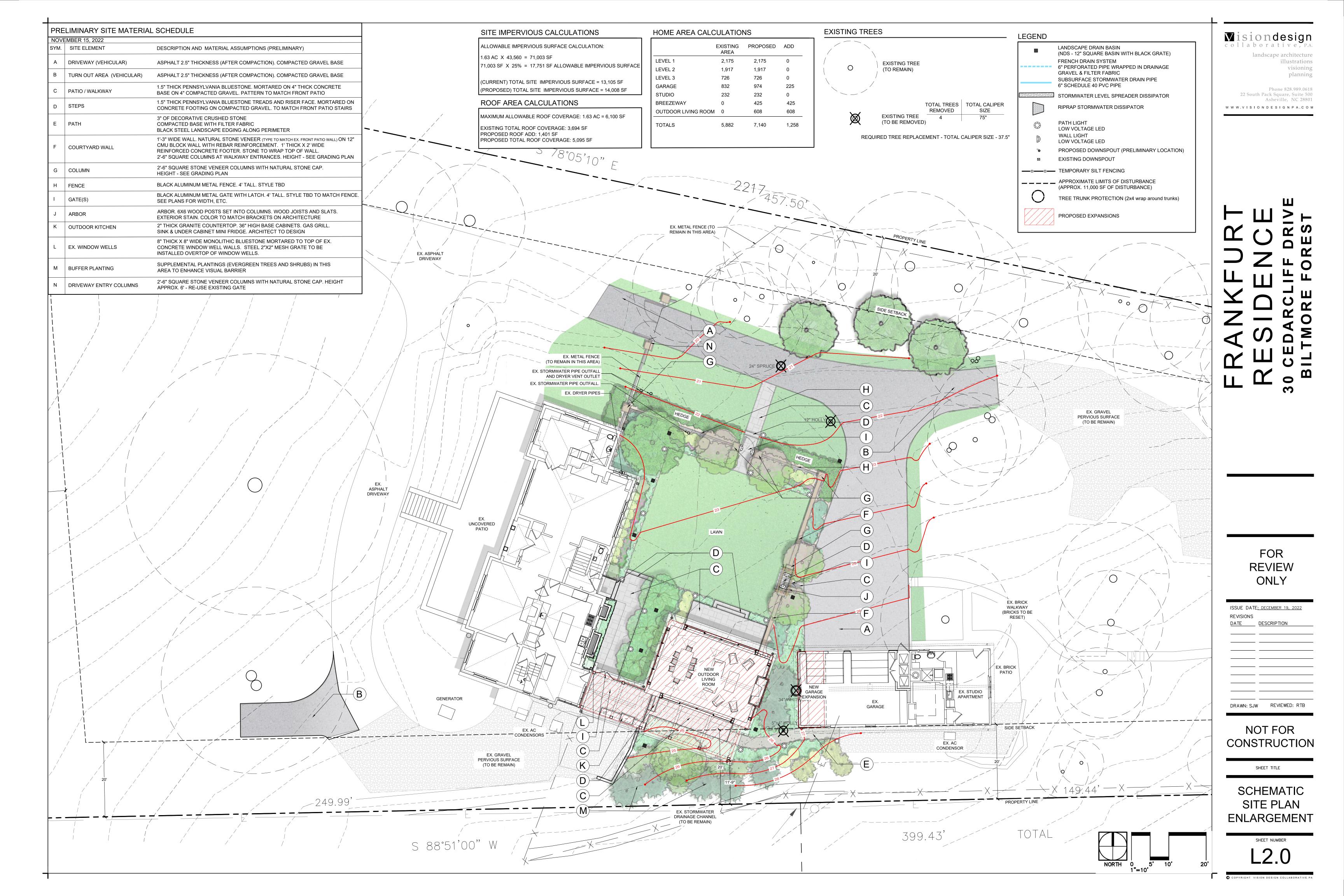


AS SCALED

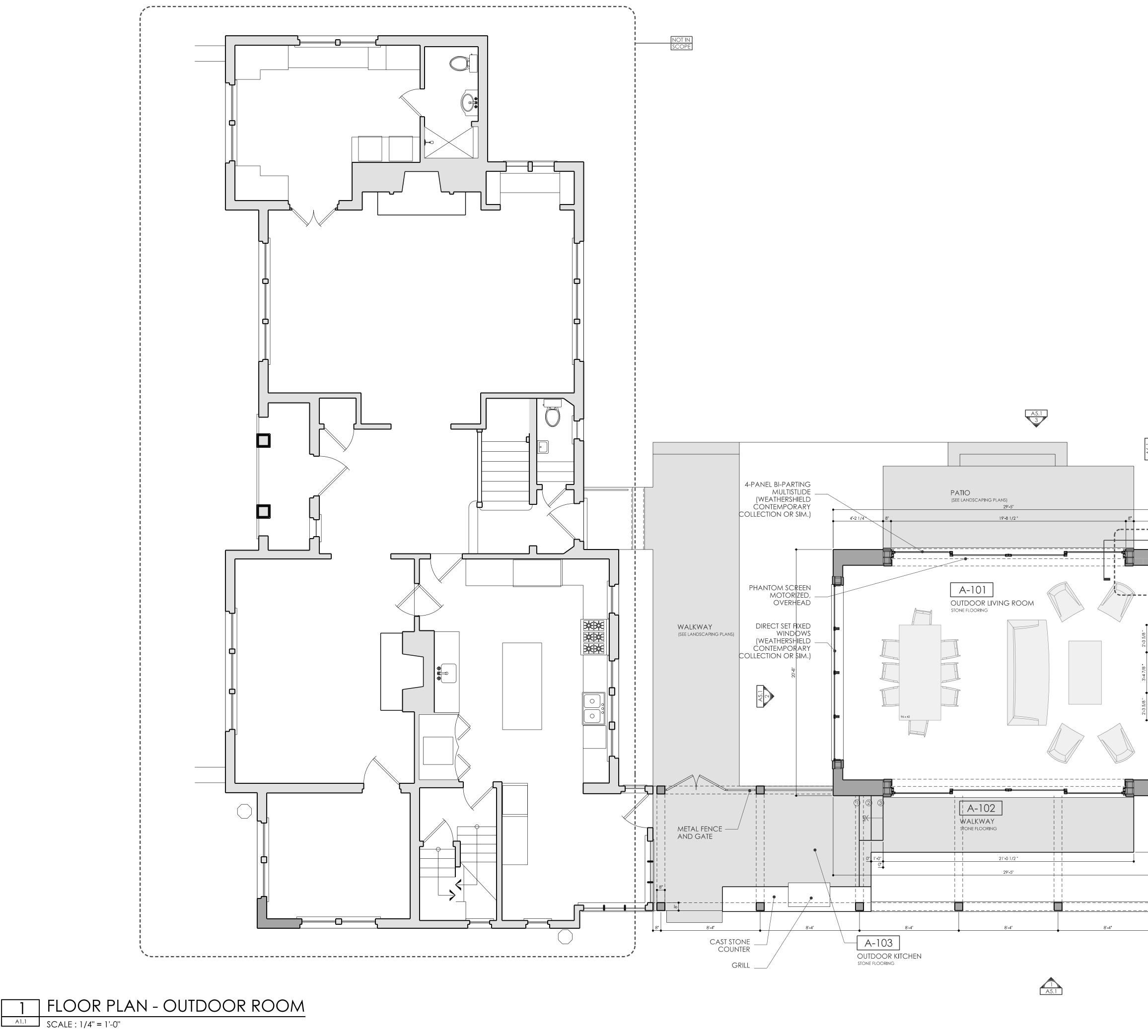
3" CONCRETE MONUMEN ∕ ∯B 6 ଞ୍ଚ 1 | W / ්ණි ଞ୍ଚେ \$1 663 673 (£B)/ FIRE 3" CONCRETE HYDRANT 🟠



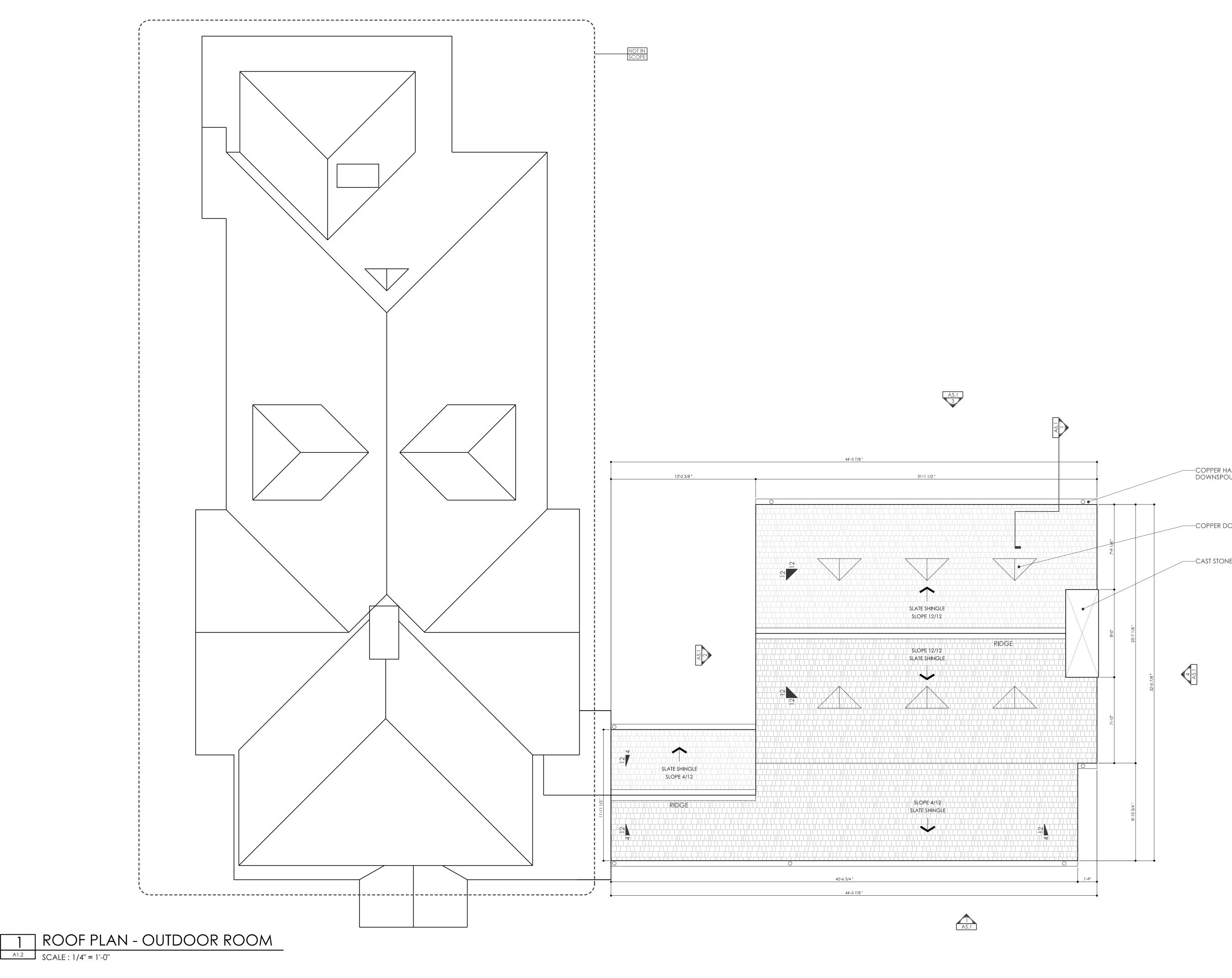








New Construction Frankfurt/Magdovitz Residence 30 Cedarcliff Road Asheville, NC 28803 Prepared for Tal Frankfurt & Paige Magdovitz Designer JOEL KELLY DESIGN 400 Plasters Ave. NE Suite 110 Atlanta, Georgia 30324 404-221-0422 www.joelkelly.com — 1'' CEMENT STUCCO ON METAL LATH ------2 A6.1 — 1" CEMENT STUCCO ON METAL LATH -2X8 ROUGH HEWN CEDAR TIMBER JAMB AND No. Issue Description Date HEADER CASING, TYPICAL 0.1 PRELIM. PRICING 10/04/2021 0.2 BOA / DRB SUBMITTAL 12/20/2022 - DIRECT SET FIXED WINDOWS (WEATHERSHIELD CONTEMPORARY COLLECTION OR SIM.) -MASONRY OR PRECAST FIREPLACE BRICK CLAD CHIMNEY WITH TIMBER MANTEL WOOD BURNING WITH GAS STARTER A5.1 2'-1 1/2" 1-1 1/4 Sheet NAME **ROOF PLAN** SHEET NUMBER AI. COMMENTS NOT ISSUED FOR CONSTRUCTION



30 Cedarcliff Road Asheville, NC 28803

Prepared for

Tal Frankfurt & Paige Magdovitz

## Designer JOEL KELLY DESIGN

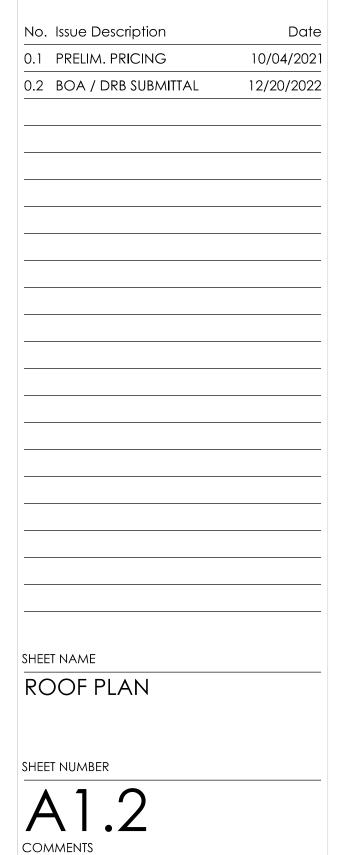
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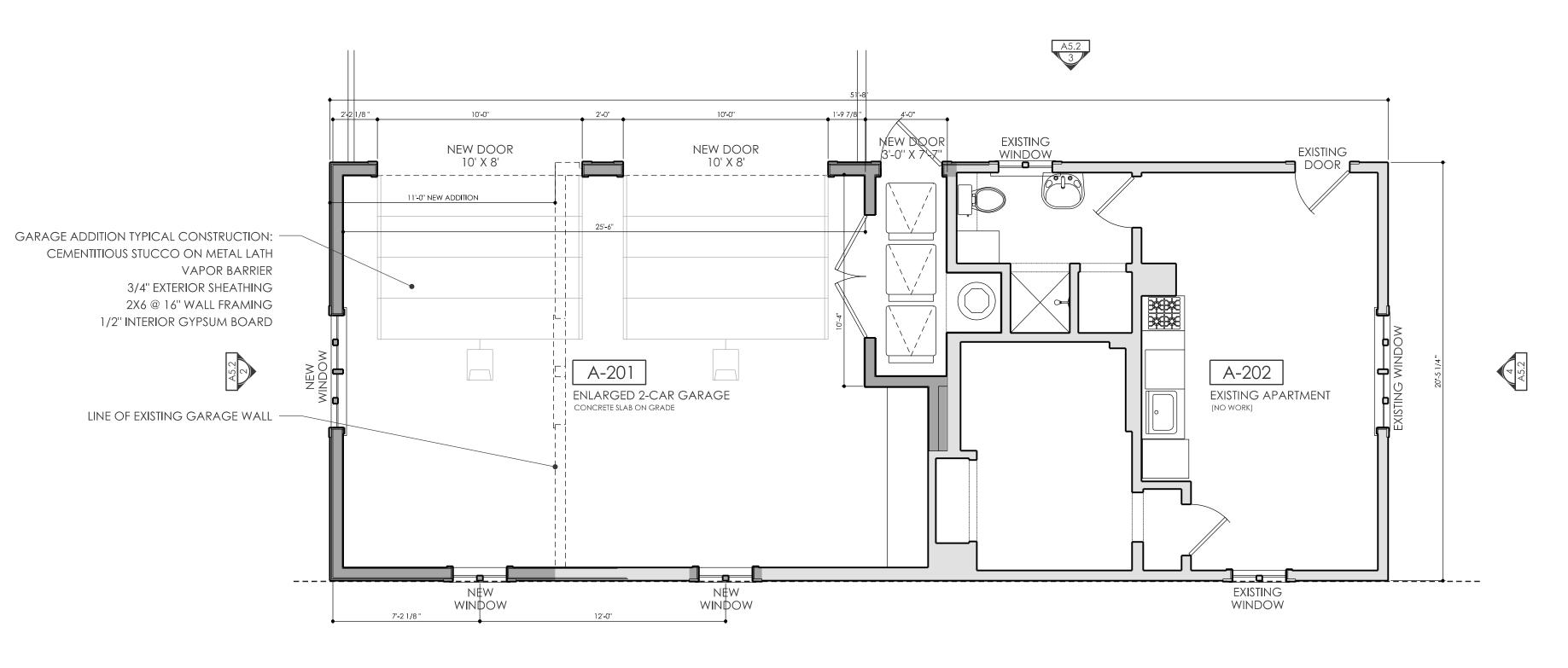
—COPPER HALF ROUND GUTTER AND DOWNSPOUTS (TYP.)

-COPPER DORMER VENTS

-CAST STONE CHIMNEY CAP

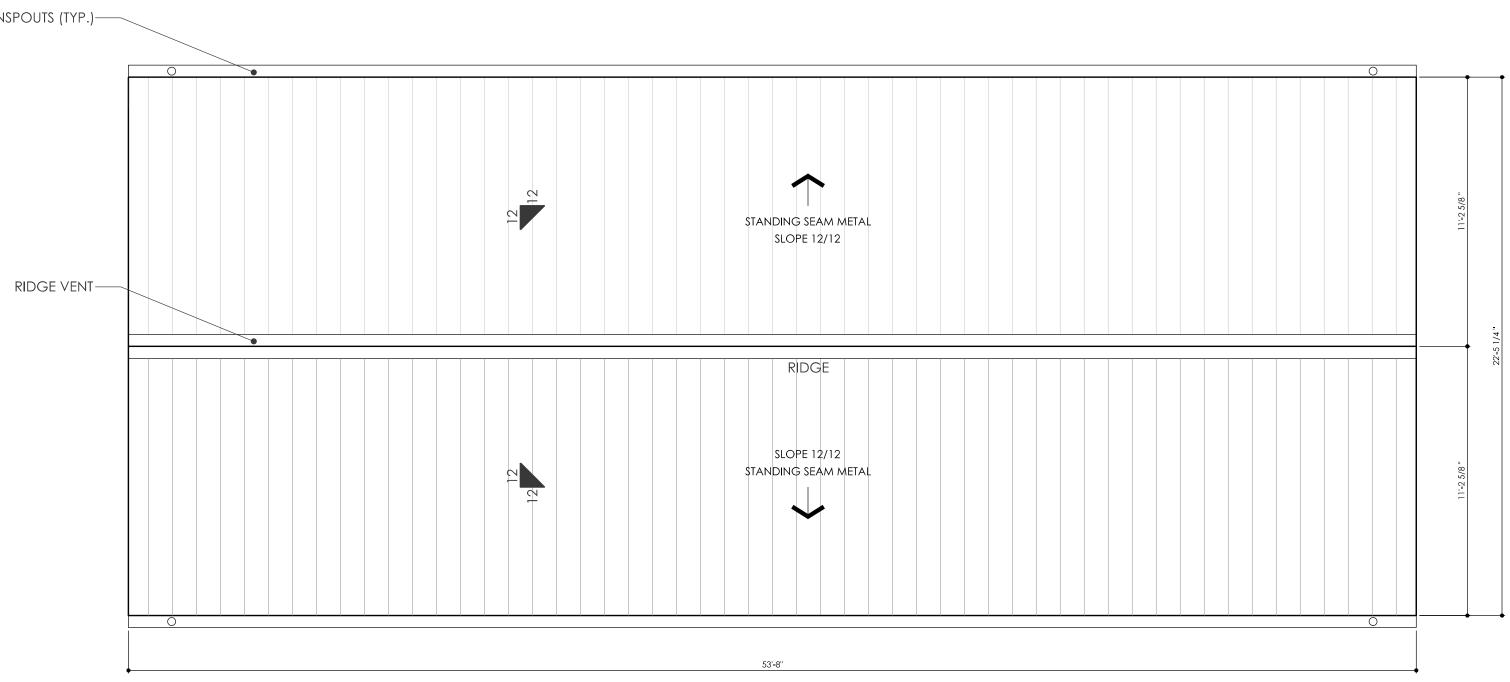


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NEW HALF ROUND GUTTER AND DOWNSPOUTS (TYP.)-----







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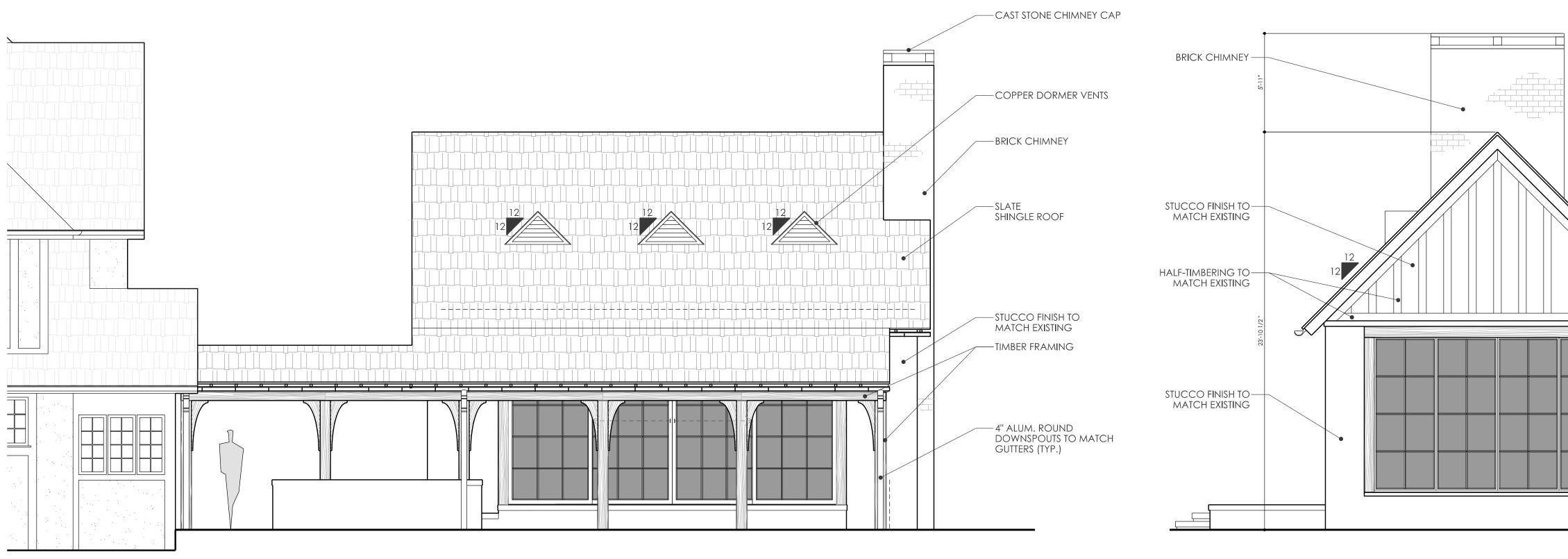
Tal Frankfurt & Paige Magdovitz

## Designer JOEL KELLY DESIGN

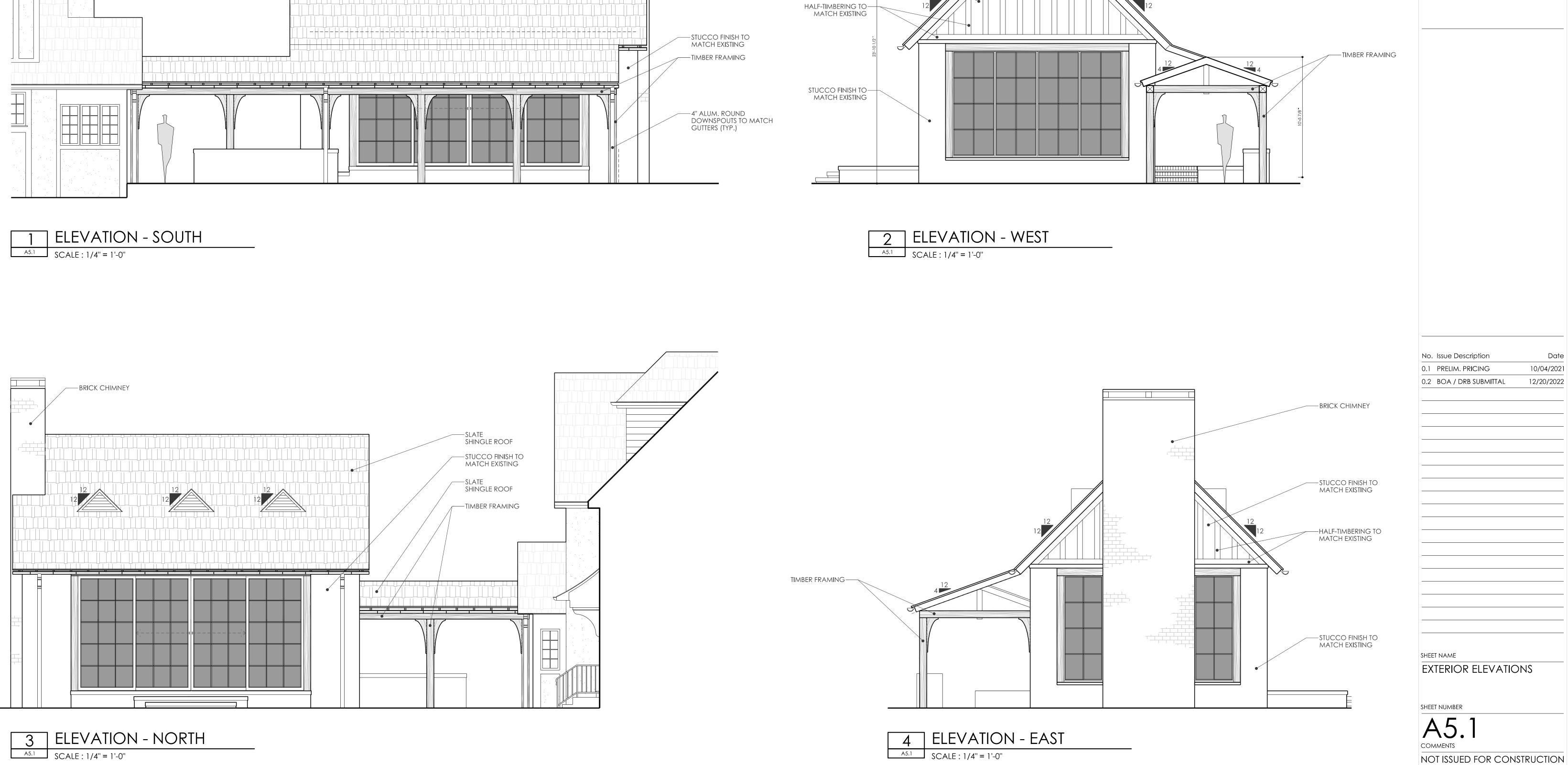
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30 Cedarcliff Road Asheville, NC 28803

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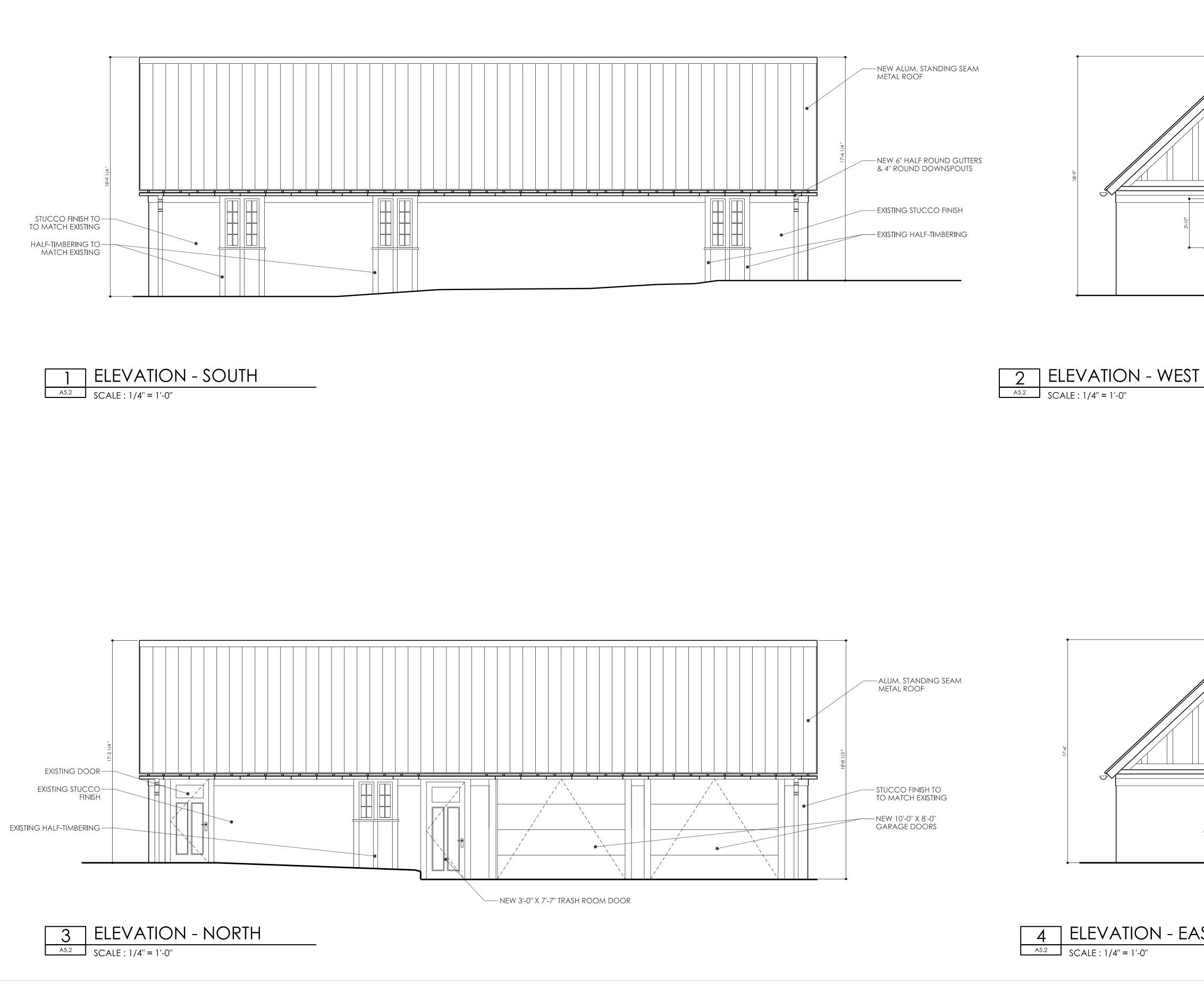
Tal Frankfurt & Paige Magdovitz

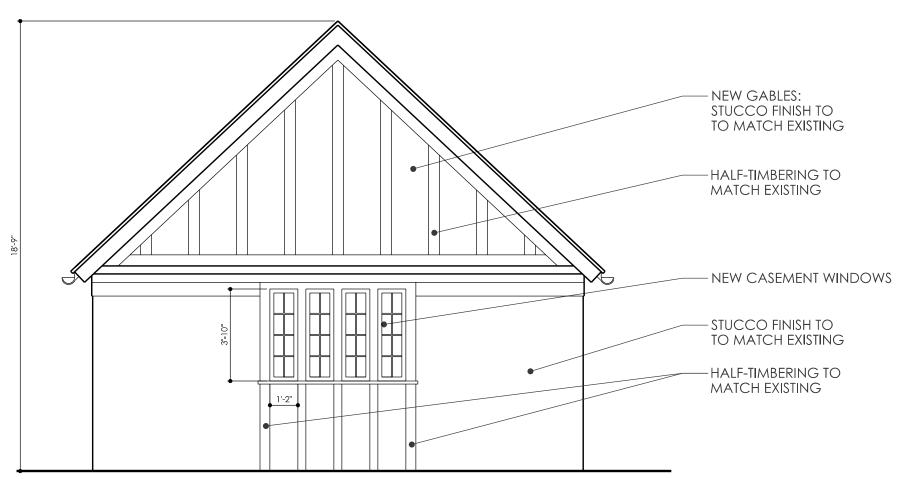
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4	ELEVATION - EAST
A5.2	SCALE : 1/4" = 1'-0"

30 Cedarcliff Road Asheville, NC 28803

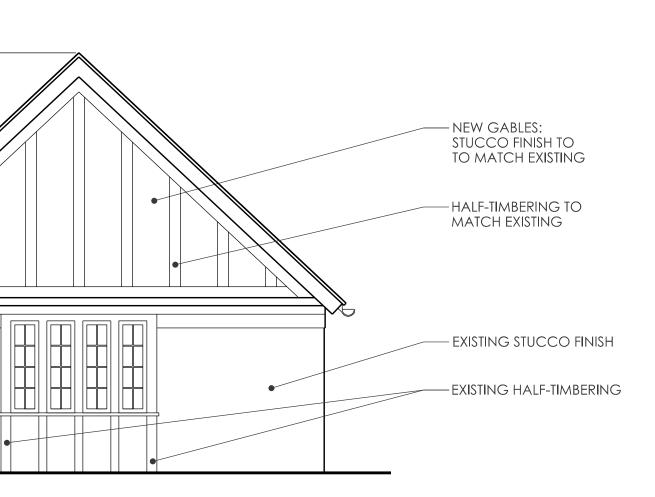
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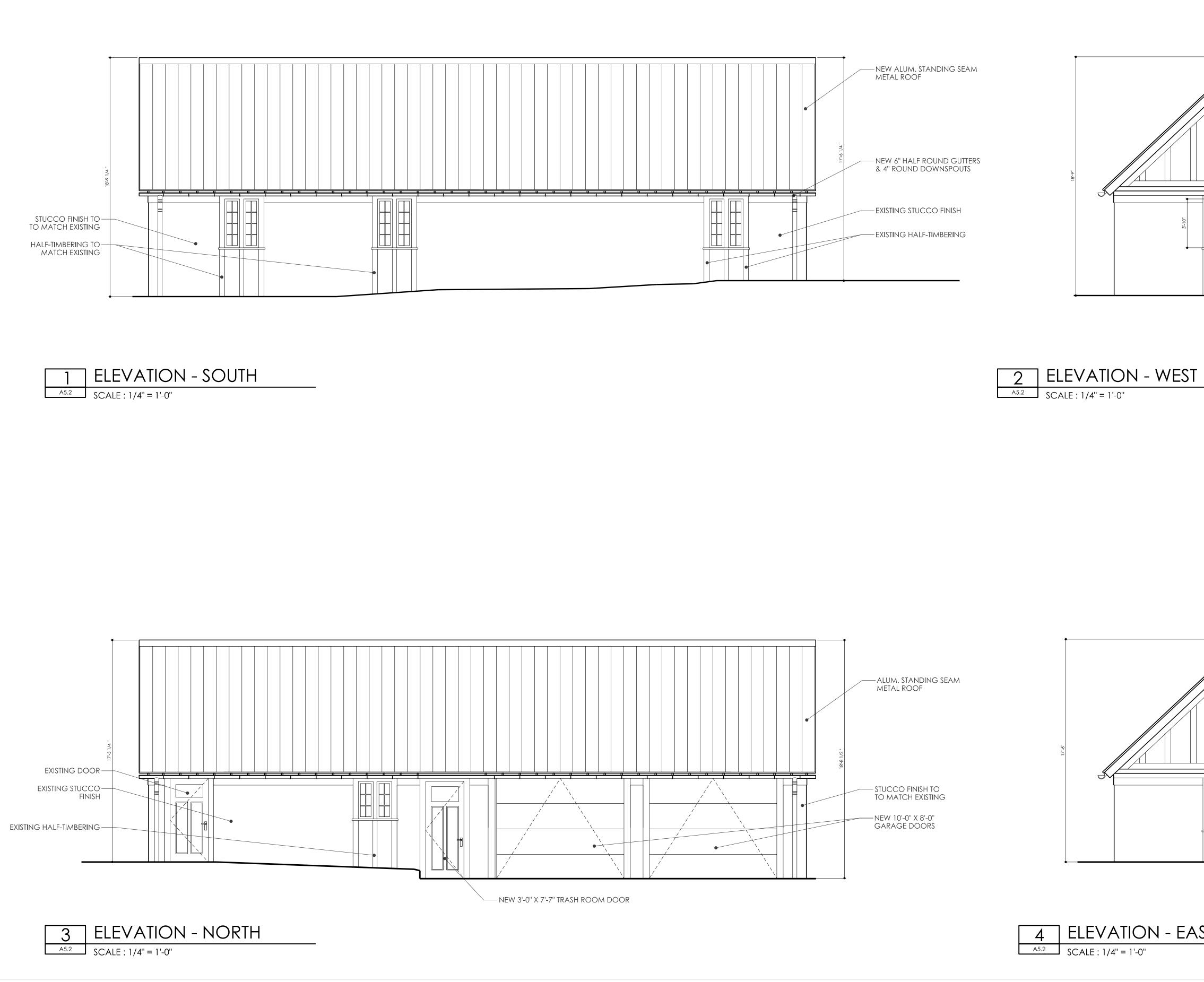
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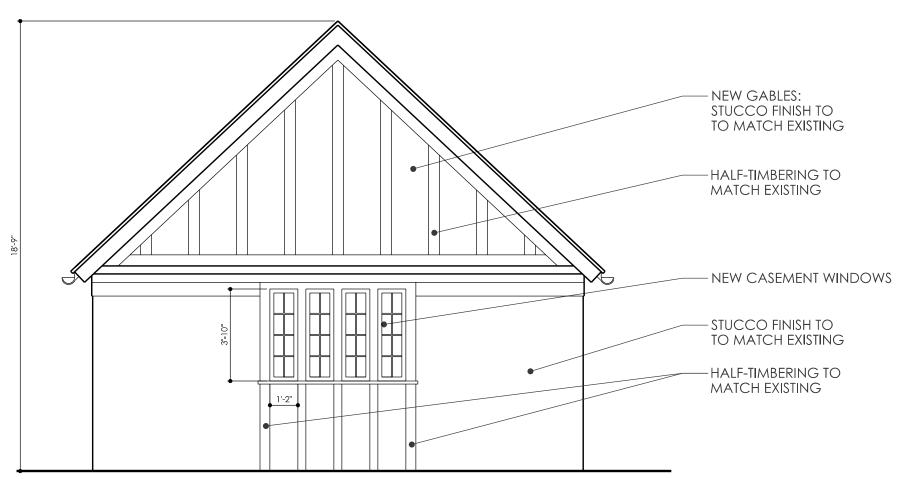
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No. Issue Description Date 0.1 PRELIM. PRICING 10/04/2021 0.2 BOA / DRB SUBMITTAL 12/20/2022 Sheet Name EXTERIOR ELEVATIONS SHEET NUMBER A5.2

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4	ELEVATION - EAST
A5.2	SCALE : 1/4" = 1'-0"

30 Cedarcliff Road Asheville, NC 28803

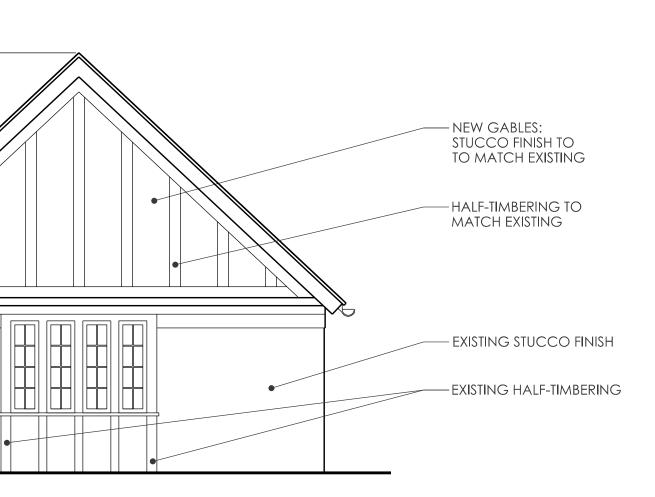
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Tal Frankfurt & Paige Magdovitz

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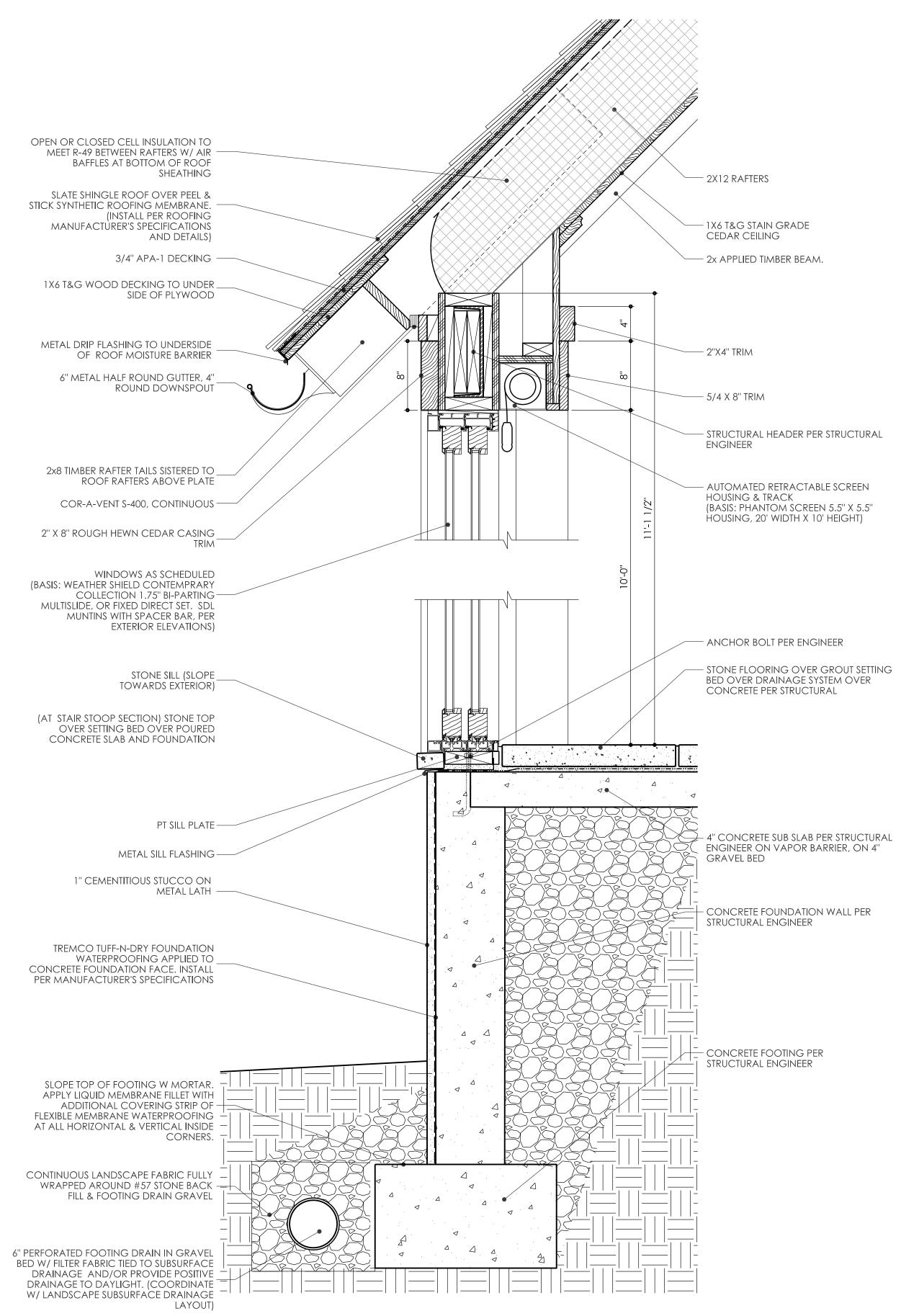
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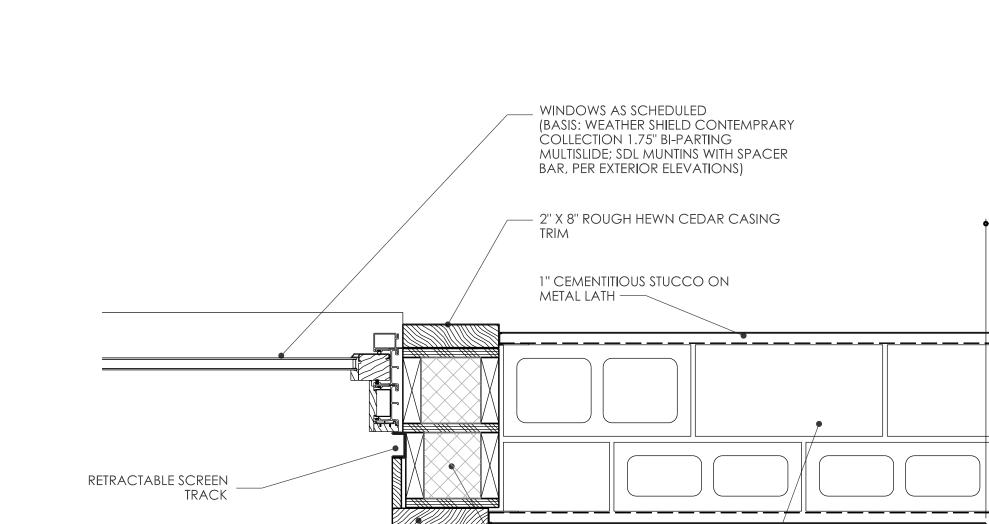
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# SECTION AT OUTDOOR ROOM

A6.1 SCALE : 1 1/2" = 1'-0"

- STRUCTURAL HEADER PER STRUCTURAL



TRIM

INSULATION

CMU WALL CONSTRUCTION

1" CEMENTITIOUS STUCCO ON METAL LATH

— 2" X 8" ROUGH HEWN CEDAR CASING

PLAN DETAIL -2

A6.1 SCALE : 1 1/2" = 1'-0"

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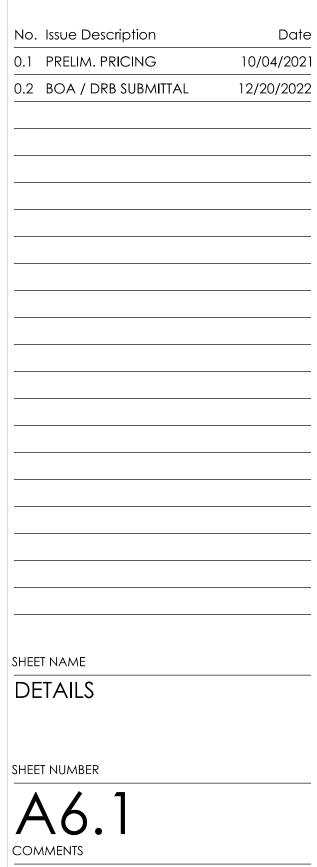
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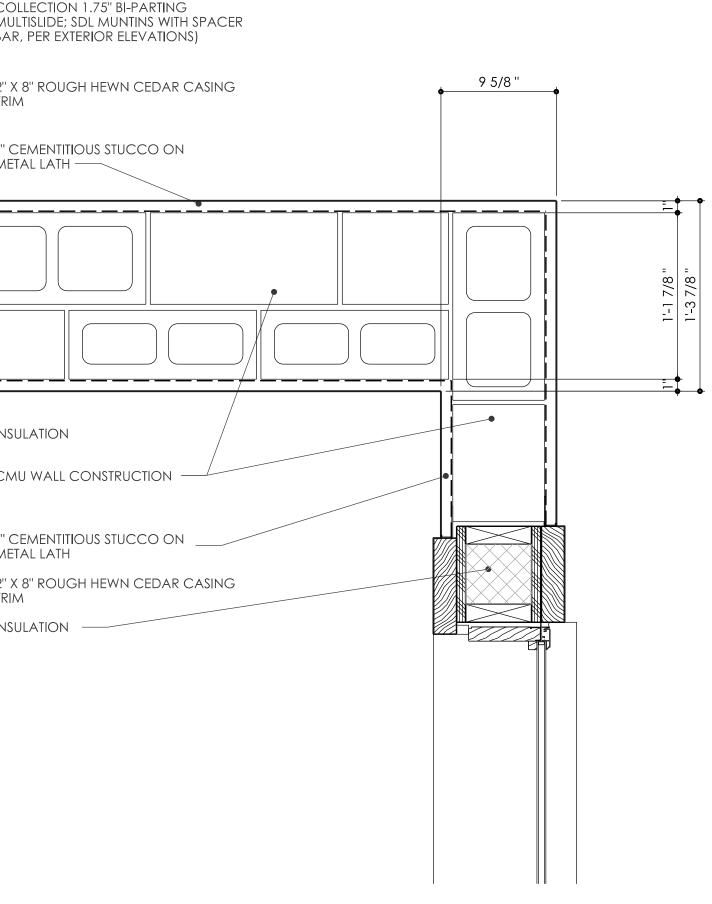
## Designer JOEL KELLY DESIGN

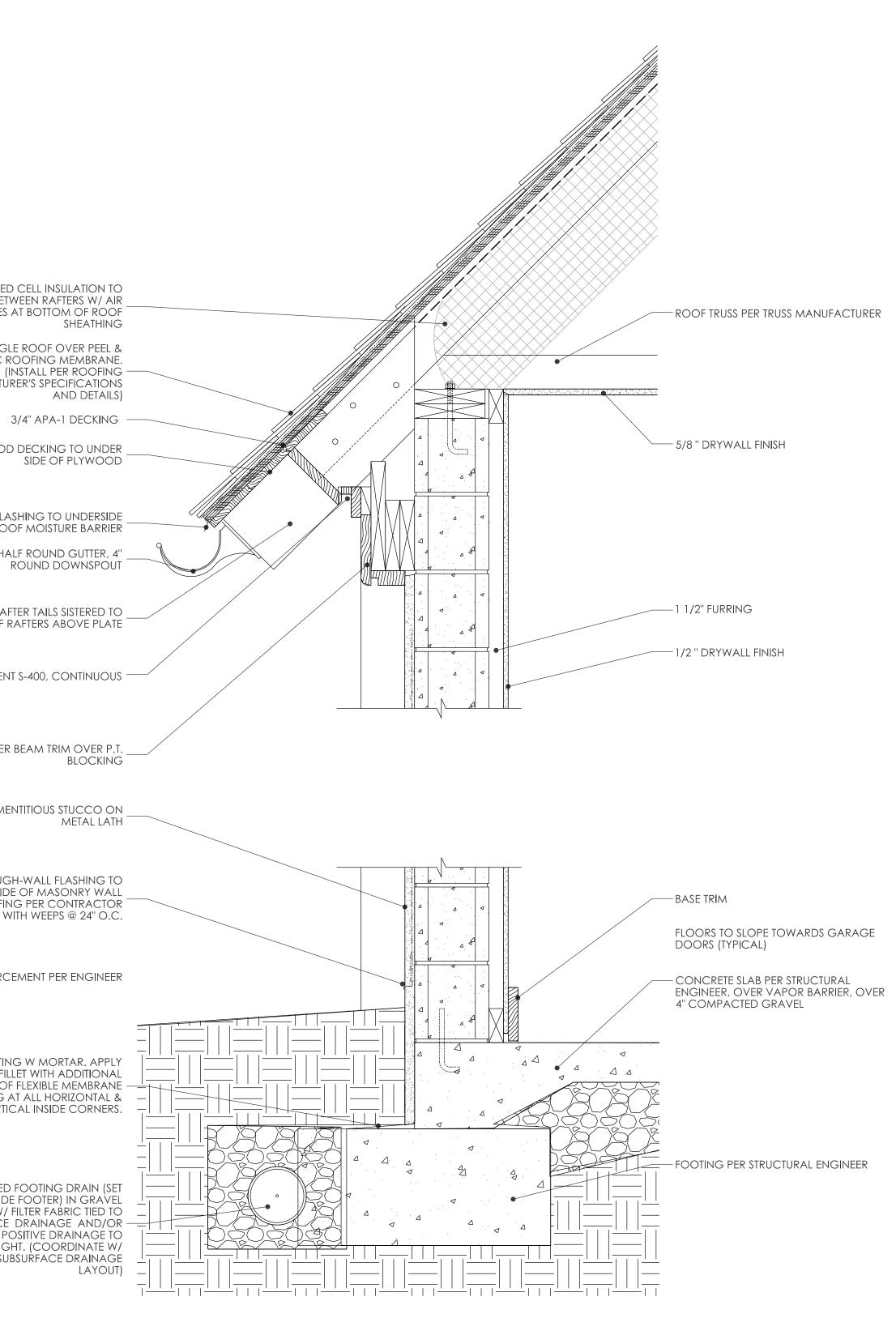
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OPEN OR CLOSED CELL INSULATION TO MEET R-49 BETWEEN RAFTERS W/ AIR \_ BAFFLES AT BOTTOM OF ROOF SHEATHING

SLATE SHINGLE ROOF OVER PEEL & STICK SYNTHETIC ROOFING MEMBRANE. (INSTALL PER ROOFING -MANUFACTURER'S SPECIFICATIONS

1X6 T&G WOOD DECKING TO UNDER SIDE OF PLYWOOD

METAL DRIP FLASHING TO UNDERSIDE OF ROOF MOISTURE BARRIER 6" METAL HALF ROUND GUTTER, 4" \_\_\_\_\_ ROUND DOWNSPOUT

COR-A-VENT S-400, CONTINUOUS

2x APPLIED TIMBER BEAM TRIM OVER P.T.

1" CEMENTITIOUS STUCCO ON METAL LATH

Through-Wall Flashing to Underside of Masonry Wall Waterproofing per contractor With Weeps @ 24" O.C.

REINFORCEMENT PER ENGINEER

SLOPE TOP OF FOOTING W MORTAR. APPLY LIQUID MEMBRANE FILLET WITH ADDITIONAL COVERING STRIP OF FLEXIBLE MEMBRANE -WATERPROOFING AT ALL HORIZONTAL & VERTICAL INSIDE CORNERS.

> 6" PERFORATED FOOTING DRAIN (SET BESIDE FOOTER) IN GRAVEL BESIDE FOOTER) IN GRAVEL BED W/ FILTER FABRIC TIED TO SUBSURFACE DRAINAGE AND/OR – PROVIDE POSITIVE DRAINAGE TO DAYLIGHT. (COORDINATE W/ LANDSCAPE SUBSURFACE DRAINAGE

# SECTION AT NEW GARAGE

A6.2 SCALE : 1 1/2" = 1'-0"

FLOORS TO SLOPE TOWARDS GARAGE DOORS (TYPICAL)

New Construction Frankfurt/Magdovitz Residence

30 Cedarcliff Road Asheville, NC 28803

Prepared for

Tal Frankfurt & Paige Magdovitz

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