To:	Members of the Board of Adjustment, Applicants & Neighboring Property Owners
From:	Jonathan B. Kanipe, Town Manager
Date:	September 9, 2021
Re:	**Board of Adjustment Meeting –September 20, 2021**

Applicants

You or a representative **MUST** attend the meeting in order to have the matter considered.

Members of the Board of Adjustment & staff may visit each property prior to the meeting. If this occurs, the property owner will be notified beforehand and asked if they approve the visit.

Neighbors

You are receiving this notice because your property is adjacent to an applicant on this month's agenda.

You may review applications & plans for the projects on this agenda at http://www.biltmoreforest.org/board-of-adjustments.

Parties with standing or members of the public are invited to attend the meeting at 4:00 p.m. on Monday, September 20, 2021.

AGENDA

FACE COVERINGS REQUIRED FOR ALL ATTENDEES REGARDLESS OF VACCINATION STATUS

A ZOOM LINK IS PROVIDED ON THE FOLLOWING PAGE FOR THOSE WISHING TO PARTICIPATE REMOTELY.

The following items of business will be considered by the Biltmore Forest Board of Adjustment on Monday, September 20, 2021 at 4:00 pm in the Town Hall Social Room.

1. The meeting will be called to order and roll call taken.

2. The minutes of the August 30, 2021 regular meeting will be considered.

3. Hearing of Cases (Evidentiary Hearings, Deliberations & Determinations).

   Case 1: 51 Hilltop Road – Special Use Permit request for Roof-mounted Solar Panel Installation

   Case 2: 414 Vanderbilt Road – Special Use permit request for Accessory Structures ; Landscaping Plan Review for Disturbance of Lot over 20 Percent

   Case 3: 3 Stuyvesant Crescent – Variance request to Exceed Maximum Roof Coverage and Impervious Surface Coverage for Addition

4. Adjourn

September 2021 Board of Adjustment
Zoom Meeting Information

Topic: September 2021 Board of Adjustment Meeting

Time: Sep 20, 2021 04:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

https://us02web.zoom.us/j/82413730527?pwd=K2M5UTQ5emIxaTJLQUxuNHdoUmxpZz09

Meeting ID: 824 1373 0527

Passcode: 945631

One tap mobile

+13017158592,,82413730527#,,,,*945631# US (Washington DC)

+13126266799,,82413730527#,,,,*945631# US (Chicago)

Dial by your location

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

+1 646 876 9923 US (New York)

+1 346 248 7799 US (Houston)

+1 408 638 0968 US (San Jose)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 824 1373 0527

Passcode: 945631

Find your local number: https://us02web.zoom.us/u/kb0nDCUEN0

BOARD OF ADJUSTMENT
STAFF MEMORANDUM
September 20, 2021

Case 1 – 51 Hilltop Road
Special Use Permit Request for Roof-Mounted Solar Panel Installation on Existing Home

Special Use Permit Request for Roof Mounted Solar Panel Installation on Existing Home and Existing Accessory Building

The applicant requests approval for a special use permit to install roof-mounted solar panels on an existing home. The applicant has included the proposed location of the solar installation for the Board's review. The solar panel installations are located on the south facing slopes not facing Hilltop Road. The applicant has provided an engineer's letter regarding the structural conditions for the panel installations as well as a site plan showing the location of the panels.

The Town's Zoning Ordinance regulates roof-mounted solar panels as accessory structures and states they "shall be regulated in accordance with NCGS 160D-914". A copy of NCGS 160D-914 is attached to this memorandum.

§ 160D-914. Solar collectors.

(a) Except as provided in subsection (c) of this section, no local government development regulation shall prohibit, or have the effect of prohibiting, the installation of a solar collector that gathers solar radiation as a substitute for traditional energy for water heating, active space heating and cooling, passive heating, or generating electricity for a residential property, and no person shall be denied permission by a local government to install a solar collector that gathers solar radiation as a substitute for traditional energy for water heating, active space heating and cooling, passive heating, or generating electricity for a residential property. As used in this section, the term "residential property" means property where the predominant use is for residential purposes.

(b) This section does not prohibit a development regulation regulating the location or screening of solar collectors as described in subsection (a) of this section, provided the regulation does not have the effect of preventing the reasonable use of a solar collector for a residential property.

(c) This section does not prohibit a development regulation that would prohibit the location of solar collectors as described in subsection (a) of this section that are visible by a person on the ground and that are any of the following:

(1) On the facade of a structure that faces areas open to common or public access.

(2) On a roof surface that slopes downward toward the same areas open to common or public access that the facade of the structure faces.

(3) Within the area set off by a line running across the facade of the structure extending to the property boundaries on either side of the facade, and those areas of common or public access faced by the structure.

(d) In any civil action arising under this section, the court may award costs and reasonable attorneys' fees to the prevailing party. (2019-111, s. 2.4; 2020-3, s. 4.33(a); 2020-25, s. 51(a), (b), (d).)

Zoning Compliance Application

Town of Biltmore Forest

Name
Stephen Miller

Property Address
51 Hilltop Road Biltmore Forest NC 28803

Phone
(828) 712-0672

Email
smiller@gen-span.com

Parcel ID/PIN Number
964664329700000

ZONING INFORMATION

Current Zoning
R-1

Lot Size
1.68 acres

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

Proposed Roof Coverage Total
0

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

Proposed Impervious Surface Coverage
0

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
0

Description of the Proposed Project
Rooftop Solar Installation 11.84kW(32 panels)

Estimated Start Date
10/1/2021

Estimated Completion Date
10/31/2021

Estimated Cost of Project
$23,680.00

Supporting Documentation (Site Plan, Drawings, Other Information)
TSP93362 Eng Letter.pdf

TSP93362 Plans.pdf

Applicant Signature

Date
8/26/2021

Special Use Permit Application

Town of Biltmore Forest

Name
Stephen Miller

Address
51 Hilltop Road Biltmore Forest NC 28803

Phone
(828) 712-0672

Email
smiller@gen-span.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:
Rooftop Solar Installation 11.84kW(32 panels)

Explain why the project would not adversely affect the public interest of those living in the neighborhood:
Proposed project is solar panels on roof of home.

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

Signature

Date
8/26/2021

SCOPE OF WORK:

TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 51 HILLTOP ROAD BILTMORE FOREST, NC 28803.
THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ELECTRICAL SERVICE EQUIPMENT.
THE PV SYSTEM DOES NOT INCLUDE STORAGE BATTERIES

EQUIPMENT SUMMARY
32 LG ELECTRONICS LG370Q1C-V5 MODULES
01 SOLAREDGE SE10000H-US INVERTER
32 SOLAREDGE POWER OPTIMIZER P370

GOVERNING CODES
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
2018 UNIFORM MECHANICAL CODE
2018 UNIFORM PLUMBING CODE
AUTHORITY HAVING JURISDICTION (AHJ): BILTMORE FOREST TOWN

SYSTEM RATING
11.84 KWDC
10.0 KWAC

GENERAL NOTES:

- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
- ARCHITECT HAS NOT BEEN RETAINED TO SUPERVISE ANY CONSTRUCTION OR INSTALLATION OF ANY EQUIPMENT AT SITE.
- CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, OBTAINS ALL PERMITS, LICENSES AND PAY ALL REQUIRED FEES AND COMPLETE INSTALLATION.
- CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
- DAMAGE CAUSED TO THE EXISTING STRUCTURE, PIPES, DUCTS, WINDOWS, WALL, FLOORS, ETC. SHALL BE REPAIRED TO THE ORIGINAL CONDITION OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
- NO CHANGES ARE TO BE MADE WITHOUT THE CONSULTATION AND APPROVAL OF THE ARCHITECT.
- CONTRACTOR SHALL OBTAIN BULDING PERMIT. NO WORK TO START UNLESS BUILDING PERMIT IS PROPERLY DISPLAYED.
- ALL WORKMANSHIP AND MATERIALS SHALL BE OF FIRST QUALITY AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE NC BUILDING CODE, THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ALL PERTINENT AGENCIES.
- IT IS ESSENTIAL THAT ALL WORK PROCEED WITH THE MAXIMUM COOPERATION OF ALL PARTIES AND WITH MINIMUM INTERFERENCE TO THE OCCUPANTS WITHIN THE BUILDING. THE OWNER'S DIRECTIONS IN THIS REGARD SHALL BE FULLY COMPLIED WITH.
- ALL EXPOSED PLUMBING, HVAC, ELECTRICAL DUCTWORK, PIPING AND CONDUITS ARE TO BE PAINTED BY GENERAL CONTRACTOR.
- THE CONTRACTOR SHALL PERFORM THE WORK IN STRICT CONFORMANCE WITH THE LOCAL LAWS, REGULATIONS AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS, APPROVALS, AFFIDAVITS, CERTIFICATIONS, ETC. AND PAY ALL FEES AS REQUIRED BY THE LOCAL AUTHORITIES.
- CONTRACTORS SHALL OBTAIN FIRE CERTIF. UPON COMPLETION OF WORK.

WIRING AND CONDUIT NOTES:

- ALL CONDUIT SIZES AND TYPES, SHALL BE LISTED FOR ITS PURPOSE AND APPROVED FOR THE SITE APPLICATIONS
- ALL PV CABLES AND HOMERUN WIRES BE #10AWG *USE-2, PV WIRE, OR PROPRIETARY SOLAR CABLING SPECIFIED BY MFR, OR EQUIVALENT; ROUTED TO SOURCE CIRCUIT COMBINER BOXES AS REQUIRED
- ALL CONDUCTORS AND OCPD SIZES AND TYPES SPECIFIED ACCORDING TO [NEC 690.8 (A)(1) & (B)(1)], [NEC 240] [NEC 690.7] FOR MULTIPLE CONDUCTORS
- ALL PV DC CONDUCTORS IN CONDUIT EXPOSED TO SUNLIGHT SHALL BE DERATED ACCORDING TO [NEC TABLE 310.15 (B)(2)(C)] BLACK ONLY**
- EXPOSED ROOF PV DC CONDUCTORS SHALL BE USE-2, 90°C RATED, WET AND UV RESISTANT, AND UL LISTED RATED FOR 600V, UV RATED SPIRAL WRAP SHALL BE USED TO PROTECT WIRE FROM SHARP EDGES
- PHASE AND NEUTRAL CONDUCTORS SHALL BE DUAL RATED THHN/THWN-2 INSULATED, 90°C RATED, WET AND UV RESISTANT, RATED FOR 600V PER NEC 2008 OR 1000V PER NEC 2011
- 4-WIRE DELTA CONNECTED SYSTEMS HAVE THE PHASE WITH THE HIGHER VOLTAGE TO GROUND MARKED ORANGE OR IDENTIFIED BY OTHER EFFECTIVE MEANS
- ALL SOURCE CIRCUITS SHALL HAVE INDIVIDUAL SOURCE CIRCUIT PROTECTION
- VOLTAGE DROP LIMITED TO 2% FOR DC CIRCUITS AND 1% FOR AC CIRCUITS
- NEGATIVE GROUNDED SYSTEMS DC CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS: DC POSITIVE - RED (OR MARKED RED), DC NEGATIVE - GREY (OR MARKED GREY)
- POSITIVE GROUNDED SYSTEMS DC CONDUCTORS COLOR CODED: DC POSITIVE - GREY (OR MARKED GREY), DC NEGATIVE - BLACK (OR MARKED BLACK)
- AC CONDUCTORS >4AWG COLOR CODED OR MARKED: PHASE A OR L1- BLACK, PHASE B OR L2- RED, PHASE C OR L3- BLUE, NEUTRAL- WHITE/GRAY

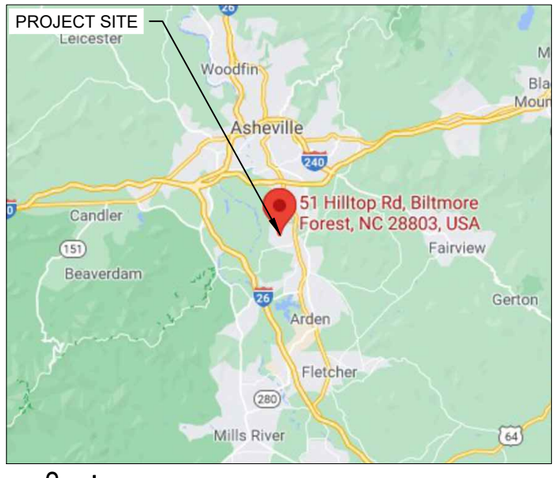
ELECTRICAL NOTES:

- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(E) AND 705.6)
- LOCAL UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION. FOR A LINE SIDE TAP CONNECTION, UTILITY NEEDS TO BE NOTIFIED WELL IN ADVANCE TO COORDINATE BUILDING ELECTRICAL SHUT OFF.
- NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. SUBCONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
- ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
- ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE WATERTIGHT AND APPROVED FOR USE IN WET LOCATIONS. (NEC 314.15A).
- WIRING METHODS FOR PV SYSTEM CONDUCTORS AREN'T PERMITTED WITHIN 10 IN. OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE LOCATED DIRECTLY BELOW THE ROOF SURFACE THAT'S COVERED BY PV MODULES AND ASSOCIATED EQUIPMENT WIRING
- BACK-FED BREAKER MUST BE AT THE OPPOSITE END OF BUS BAR FROM THE MAIN BREAKER OR MAIN LUG SUPPLYING CURRENT FROM THE UTILITIES.
- ALL CONDUCTORS AND WIRE TIES EXPOSED TO SUNLIGHT ARE LISTED AS UV RESISTANT.
- CONTRACTOR SHALL FOLLOW ALL ELECTRICAL EQUIPMENT LABELING REQUIREMENTS IN NEC 690 AND IFC 2015
- MEASURE THE LINE-TO-LINE AND LINE-TO-NEUTRAL VOLTAGE OF ALL SERVICE ENTRANCE CONDUCTORS PROIR TO INSTALLING ANY SOLAR EQUIPMENT. THE VOLTAGES FOR THE 240VAC RATED.

SHEET INDEX

PV-0	COVER PAGE
PV-1	SITE PLAN
PV-2	ROOF PLAN & MODULES
PV-2A	STRING LAYOUT & BOM
PV-3	ATTACHMENT DETAIL
PV-3A	ATTACHMENT DETAIL
PV-4	ELECTRICAL LINE DIAGRAM & CALCS.
PV-4A	ELECTRICAL LINE DIAGRAM & CALCS.
PV-4B	SPECIFICATIONS & NOTES
PV-5	SIGNAGE
PV-6	JOB SAFETY PLAN
PV-7+	EQUIPMENT SPECIFICATIONS

1 PV-0 HOUSE PHOTO SCALE: NTS



2 PV-0 VICINITY MAP SCALE: NTS

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

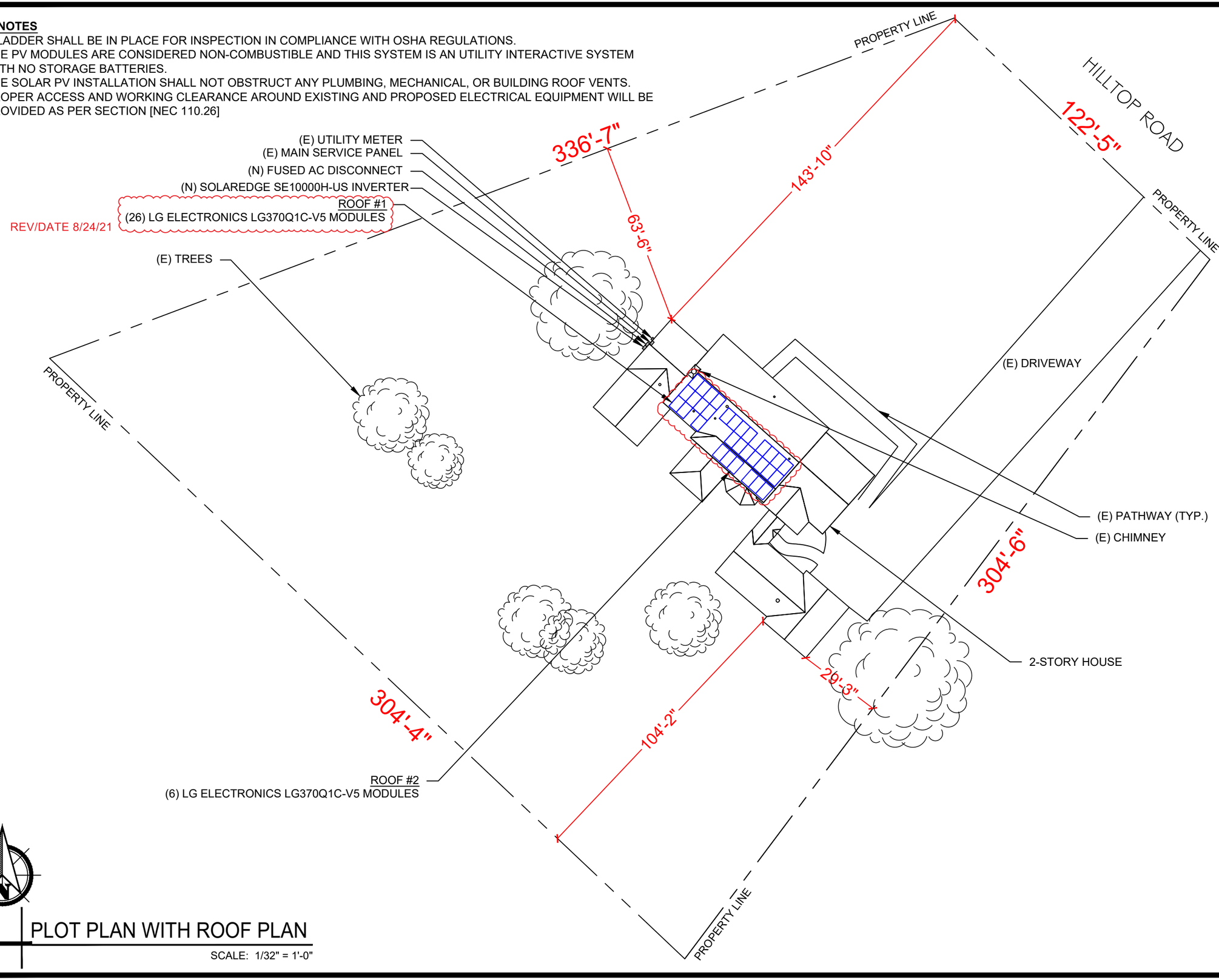
SHEET NAME
COVER PAGE

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-0

SITE NOTES

- A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS AN UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.
- THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
- PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26]



1 PLOT PLAN WITH ROOF PLAN

PV-1 SCALE: 1/32" = 1'-0"

TITAN SOLAR POWER

TITAN SOLAR POWER

210 N Sunway Dr,
Gilbert, AZ 85233

www.titansolarpower.com

ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

DESIGN SPECIFICATION	
RISK CATEGORY:	II
CONSTRUCTION:	SFD
ZONING:	RESIDENTIAL
SNOW LOAD (ASCE 7-10):	15 PSF
EXPOSURE CATEGORY:	B
WIND SPEED (ASCE 7-10):	115 MPH

PANEL HEIGHT OFF ROOF	4"

MODULE TYPE, DIMENSIONS & WEIGHT	
NUMBER OF MODULES:	32 MODULES
MODULE TYPE:	LG ELECTRONICS LG370Q1C-V5
MODULE WEIGHT:	40.79 LBS
MODULE DIMENSIONS:	66.93" X 40" = 18.59 SF
UNIT WEIGHT OF AREA:	2.20 PSF

ROOF DESCRIPTION

ROOF	ROOF TILT	AZIMUTH	TRUSS SIZE	TRUSS SPACING	ROOF MATERIAL
#1	27°	222°	2X8	16"	COMP SHINGLE
#2	15°	222°	2X8	16"	COMP SHINGLE

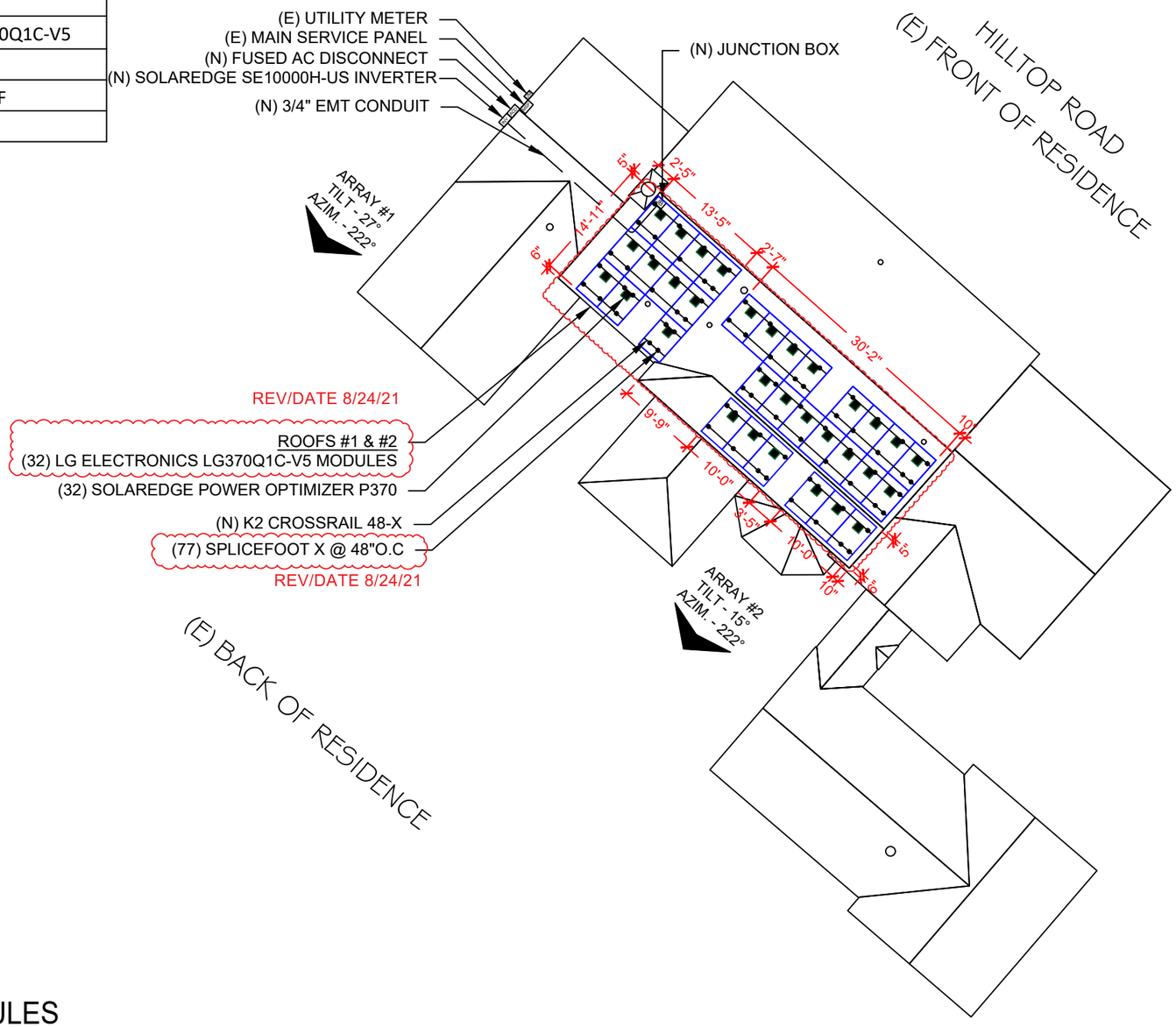
REV/DATE 8/24/21

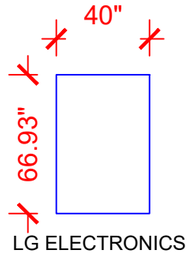
ARRAY AREA & ROOF AREA CALC'S

ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	26	432.69	669.39	65
#2	6	116.3	194.52	60

LEGEND

- JB - JUNCTION BOX
- INV - INVERTER
- ACD - AC DISCONNECT
- MSP - MAIN SERVICE PANEL
- UM - UTILITY METER
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- CONDUIT





LG ELECTRONICS
LG370Q1C-V5
MODULES

1 ROOF PLAN & MODULES

PV-2 SCALE: 1/16" = 1'-0"

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
ROOF PLAN & MODULES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

BILL OF MATERIALS

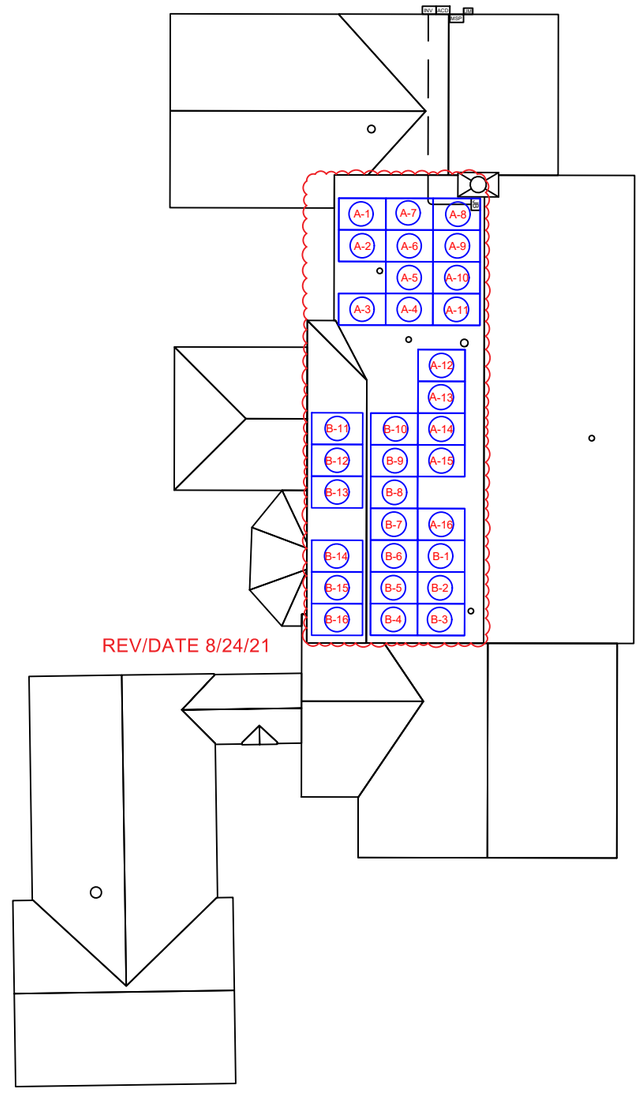
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	32	LG ELECTRONICS LG370Q1C-V5
OPTIMIZER	32	SOLAREDGE POWER OPTIMIZER P370
INVERTER	1	SOLAREDGE SE10000H-US
AC DISCONNECT	1	EATON DG222NRB, PV SYSTEM AC DISCONNECT SWITCH FUSED, 60A W/X FUSES, 120/240V 2P NEMA 3R
JUNCTION BOX	1	JUNCTION BOX, NEMA 3R, UL LISTED
ATTACHMENT	77	SPLICE FOOT X
ATTACHMENT	77	K2 SOLAR SEAL BUTYL PAD
ATTACHMENT	154	MS X 60 LAG SCREWS
ATTACHMENT	77	CAP SCREW, HEX HEAD, 5/16"-18" X 1"
RAILS	16	K2 CROSSRAIL 48-X RAIL (166")
BONDED SPLICE	2	SPLICE KIT
CLAMPS	82	MODULES CLAMPS (MID CLAMPS & END CLAMPS)
GROUNDING LUG	9	GROUNDING LUG

REV/DATE 8/24/21

A B - MODULE STRINGING

REV/DATE 8/24/21

(E) FRONT OF RESIDENCE



REV/DATE 8/24/21

HILLTOP ROAD

(E) FRONT OF RESIDENCE

1 ROOF PLAN WITH STRING LAYOUT & BOM

PV-2A

SCALE: 1/16" = 1'-0"

TITAN SOLAR POWER

TITAN SOLAR POWER

210 N Sunway Dr,
Gilbert, AZ 85233

www.titansolarpower.com

ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

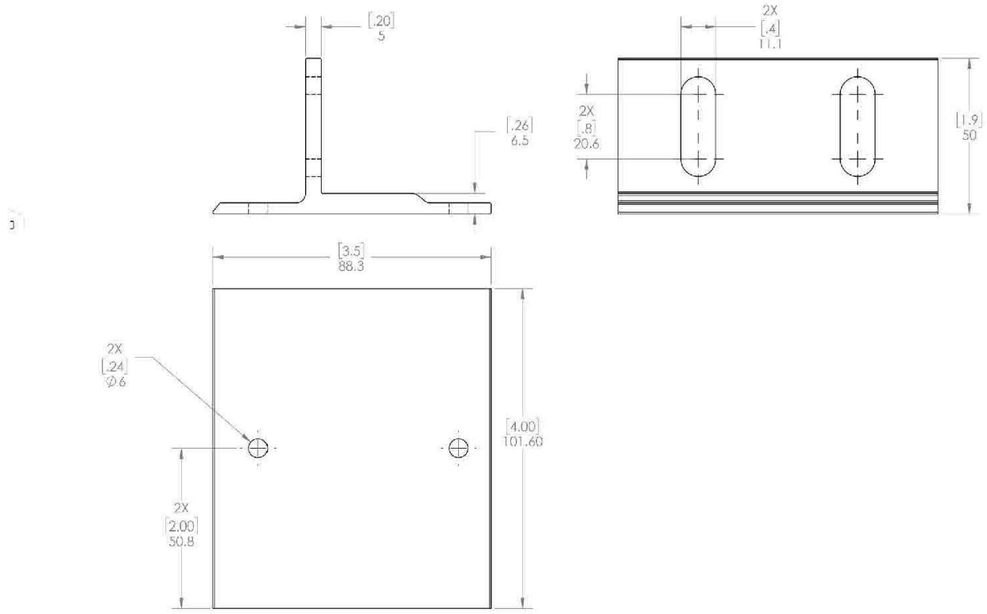
SHEET NAME
STRING
LAYOUT & BOM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2A

We support PV systems
Formerly Everest Solar Systems

Units: [in] mm



TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

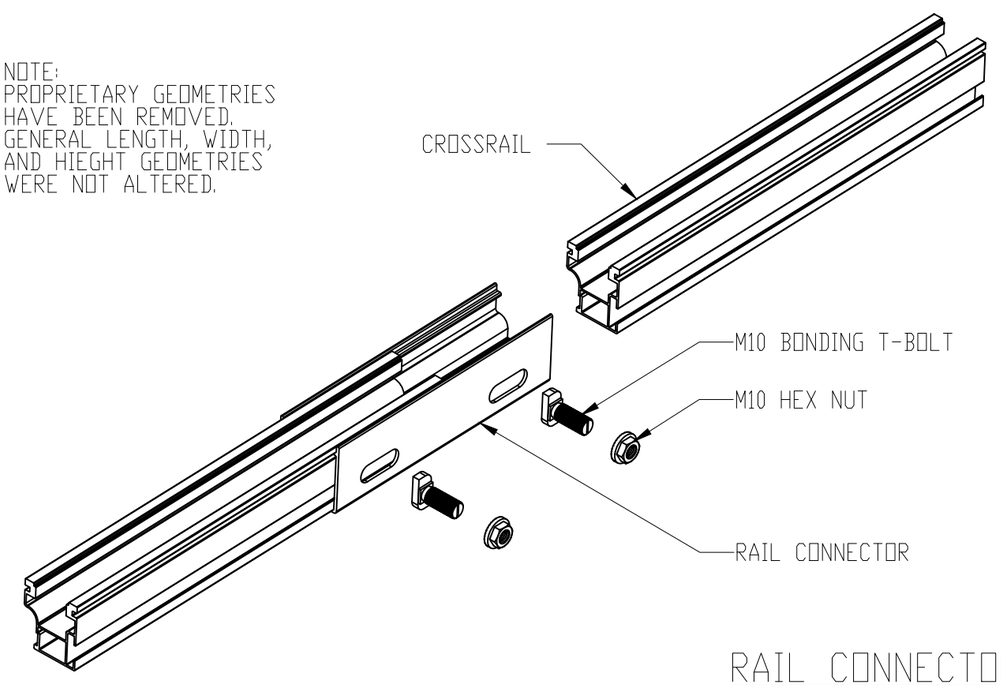
STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

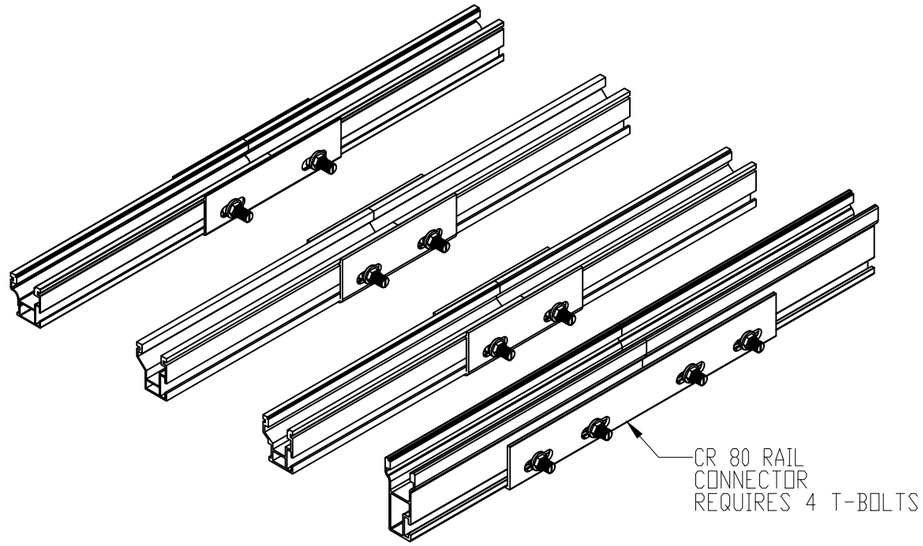
SHEET NAME
ATTACHMENT DETAILS

SHEET SIZE
ANSI B
11" X 17"

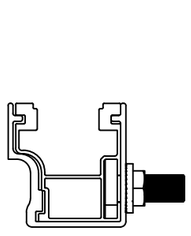
SHEET NUMBER
PV-3

NOTE:
PROPRIETARY GEOMETRIES HAVE BEEN REMOVED. GENERAL LENGTH, WIDTH, AND HIEGHT GEOMETRIES WERE NOT ALTERED.

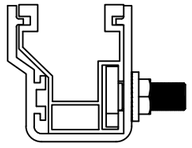




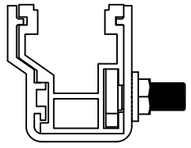
RAIL CONNECTOR ASSEMBLIES



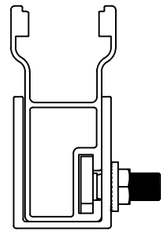
44-X



48-X



48-XL



80

REVISION HISTORY

Revision	Date	Description
01		
02		
03		
04		
05		

THIRD ANGLE

Everest Solar Systems, LLC.
a division of K2 Systems International
2835 La Mirada Dr Suite A
Vista, CA 92081
phone 760.301.5300

	Name	Date
Drawn	T. WIGGINS	07/29/2020
Checked	R. HAGEN	08/07/2020
Approved	T. WIGGINS	08/10/2020
Last Revision		

Title: CROSSRAIL RAIL CONNECTOR ASSEMBLIES

Size: B

All Dimensions are mm

Scale: 1:25 | Revision: 00 | Sheet 2 of 2

TITAN SOLAR POWER

210 N Sunway Dr,
Gilbert, AZ 85233

www.titansolarpower.com

ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

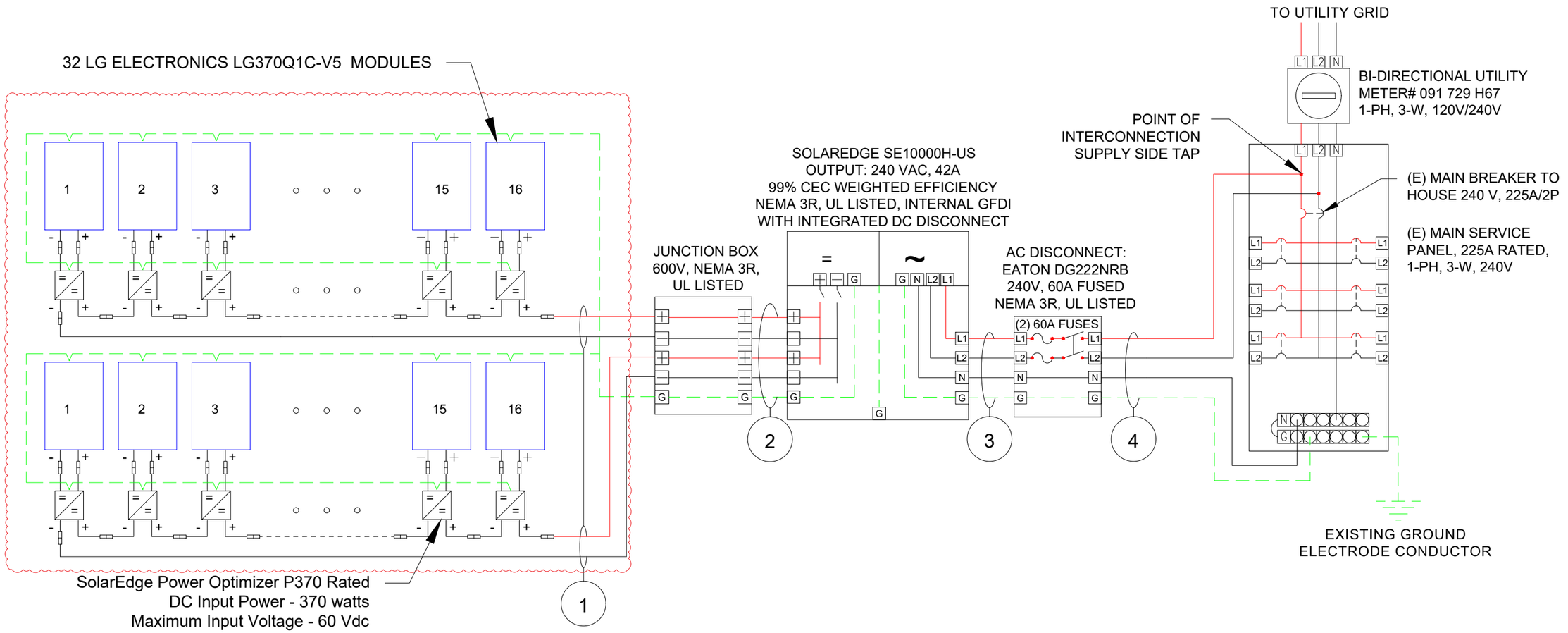
SHEET NAME
ATTACHMENT DETAILS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3A

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	# OF PARALLEL CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CONDUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	LENGTH	VOLTAGE DROP
1	2	STRING	JUNCTION BOX	10 AWG	PV WIRE	COPPER	Open Air	1	2	N/A	N/A	6 AWG	THWN-2, COPPER	0.76	(53°C)	N/A	15.0A	18.8A	40A	30.4A	90°C	96FT	0.03%
2	1	JUNCTION BOX	INVERTER	10 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	2	4	19.09%	N/A	8 AWG	THWN-2, COPPER	0.96	(31°C)	0.8	15.0A	18.8A	40A	30.7A	90°C	45FT	0.15%
3	1	INVERTER	FUSED AC DISCONNECT	6 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	1	3	36.53%	60A	8 AWG	THWN-2, COPPER	0.96	(31°C)	1	42.0A	52.5A	75A	72 A	90°C	5FT	0.13%
4	1	FUSED AC DISCONNECT	MSP	6 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	1	3	36.53%	N/A	8 AWG	THWN-2, COPPER	0.96	(31°C)	1	42.0A	52.5A	75A	72 A	90°C	5FT	0.13%

REV/DATE 8/24/21



REV/DATE 8/24/21

SYSTEM RATING
11.84 KWDC
10.0 KWAC

SERVICE INFO

UTILITY PROVIDER:	DUKE ENERGY
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	EATON
MAIN SERVICE PANEL:	225A
MAIN CIRCUIT BREAKER RATING:	225A
MAIN SERVICE LOCATION:	NORTH-WEST
SERVICE FEED SOURCE:	UNDERGROUND

1 ELECTRICAL LINE DIAGRAM

PV-4 SCALE: NTS

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

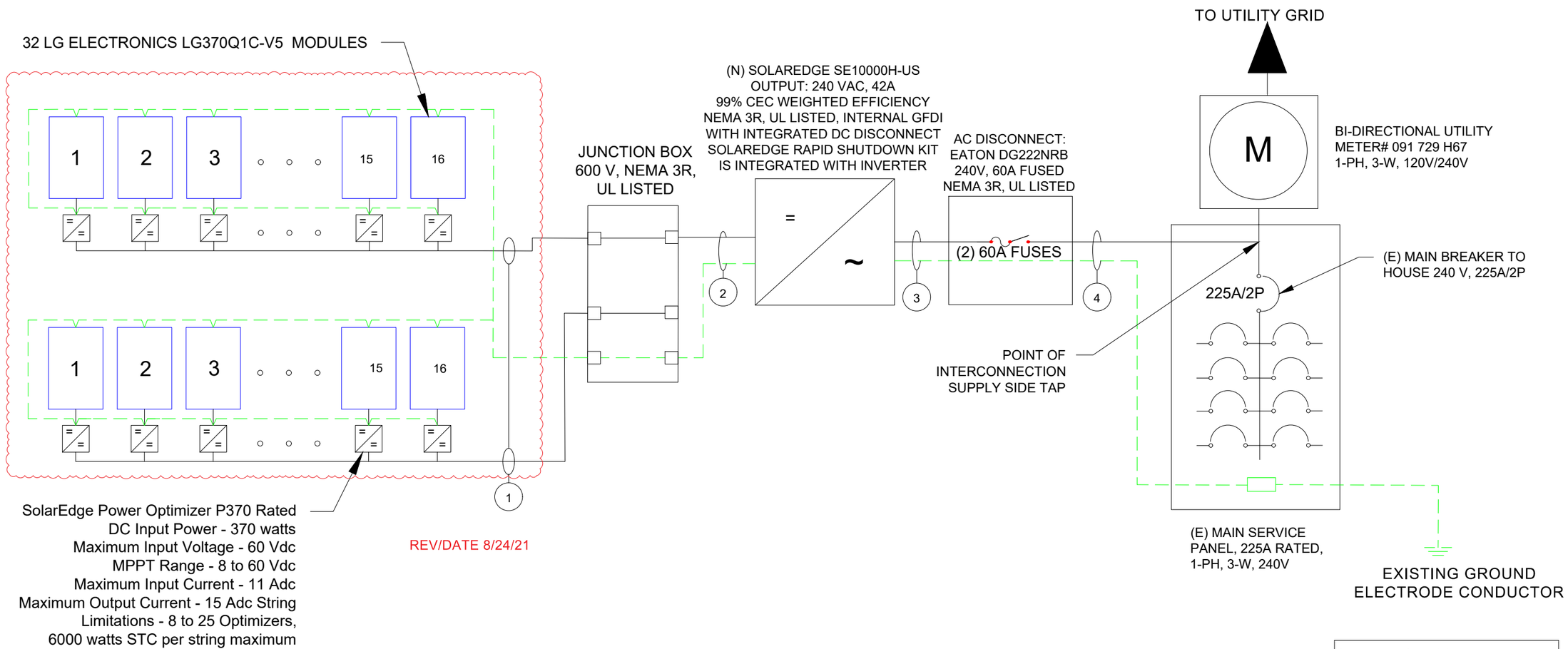
SHEET NAME
ELECTRICAL LINE & CALCS.

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	# OF PARALLEL CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CONDUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	LENGTH	VOLTAGE DROP
1	2	STRING	JUNCTION BOX	10 AWG	PV WIRE	COPPER	Open Air	1	2	N/A	N/A	6 AWG	THWN-2, COPPER	0.76	(53°C)	N/A	15.0A	18.8A	40A	30.4A	90°C	95FT	0.03%
2	1	JUNCTION BOX	INVERTER	10 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	2	4	19.09%	N/A	8 AWG	THWN-2, COPPER	0.96	(31°C)	0.8	15.0A	18.8A	40A	30.7A	90°C	35FT	0.15%
3	1	INVERTER	FUSED AC DISCONNECT	6 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	1	3	36.53%	60A	8 AWG	THWN-2, COPPER	0.96	(31°C)	1	42.0A	52.5A	75A	72 A	90°C	5FT	0.13%
4	1	FUSED AC DISCONNECT	MSP	6 AWG	THWN-2	COPPER	MIN 0.75" Dia EMT	1	3	36.53%	N/A	8 AWG	THWN-2, COPPER	0.96	(31°C)	1	42.0A	52.5A	75A	72 A	90°C	5FT	0.13%

REV/DATE 8/24/21



REV/DATE 8/24/21

SYSTEM RATING
11.84 KWDC
10.0 KWAC

SERVICE INFO	
UTILITY PROVIDER:	DUKE ENERGY
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	EATON
MAIN SERVICE PANEL:	225A
MAIN CIRCUIT BREAKER RATING:	225A
MAIN SERVICE LOCATION:	NORTH-WEST
SERVICE FEED SOURCE:	UNDERGROUND

1 ELECTRICAL LINE DIAGRAM
PV-4A
SCALE: NTS

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
ELECTRICAL LINE & CALCS.

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4A

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL	LG ELECTRONICS LG370Q1C-V5
VMP	37.0 V
IMP	10.01 A
VOC	42.8 V
ISC	10.82A
TEMP. COEFF. VOC	-0.24%/°C
PTC RATING	349 W
MODULE DIMENSION	66.93"(L) x 40"(W)
PANEL WATTAGE	370W

INVERTER SPECIFICATION	
MANUFACTURER / MODEL	SOLAREDGE SE10000H-US
NOMINAL AC POWER	10000 W
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	42 A

POWER OPTIMIZER (SOLAREDGE P370)	
MAXIMUM INPUT POWER	370 W
MAXIMUM INPUT VOLTAGE	60 VDC
MAXIMUM INPUT ISC	11 ADC
MAXIMUM OUTPUT CURRENT	15 ADC
WEIGHTED EFFICIENCY	98.80%

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-15°C
AMBIENT TEMP (HIGH TEMP 2%)	31°C
CONDUIT HEIGHT	0.5"
ROOF TOP TEMP	90°C
CONDUCTOR TEMPERATURE RATE	53°C
MODULE TEMPERATURE COEFFICIENT OF VOC	-0.24%/°C

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
0.80	4-6
0.70	7-9
0.50	10-20

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
SPECIFICATIONS
& NOTES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4B

1

⚠ WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:
COMBINER BOX/ EMT ENCLOSURES/
AC DISCONNECT/ MAIN SERVICE PANEL
(PER CODE: NEC 2017, 690.13(B))

2

WARNING
PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION:
CONDUIT, RACEWAY, ENCLOSURES,
COMBINER BOX & AC DISCONNECT
(PER CODE: NEC2017, 690.31(G)(3)(4)

3

PHOTOVOLTAIC

AC DISCONNECT

LABEL LOCATION:
AC DISCONNECT/ BREAKER/
POINTS OF CONNECTION
(PER CODE: NEC2017, 690.13(B)

4

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT	42A
NOMINAL OPERATING AC VOLTAGE	240V

LABEL LOCATION:
AC DISCONNECT
(PER CODE: NEC2017, 690.53)

5

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
RAPID SHUTDOWN (AC DISCONNECT)
PER CODE: NEC 690.58 (C)(3)

6

⚠ WARNING: DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL LOCATION:
POINT OF INTERCONNECTION
(PER CODE: NEC 2017, 705.12(B)

7

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY

LABEL LOCATION:
RAPID SHUTDOWN (AC DISCONNECT)
PER CODE: NEC 690.56 (C)(1)

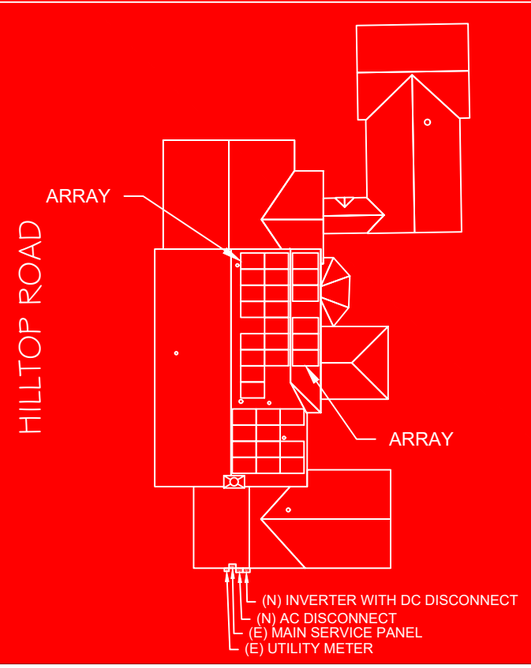
8

RATED MAXIMUM POWER-POINT CURRENT (Imp)	27	A
RATED MAXIMUM POWER-POINT VOLTAGE (Vmp)	400	V
MAXIMUM SYSTEM VOLTAGE (VOC)	480	V
MAXIMUM CIRCUIT CURRENT (Isc)	30	A

LABEL LOCATION:
INVERTER
(PER CODE: NEC 690.53)

CAUTION

POWER TO THIS BUILDING IS SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN



LABEL LOCATION:
EACH SERVICE EQUIPMENT LOCATION AND AT THE LOCATION(S) OF THE SYSTEM DISCONNECT(S)
FOR ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED
(PER CODE: NEC 705.10)

ADHESIVE FASTENED SIGNS:

- ANSI Z535.4-2011 PRODUCT SAFETY SIGNS AND LABELS, PROVIDES GUIDELINES FOR SUITABLE FONT SIZES, WORDS, COLORS, SYMBOLS, AND LOCATION REQUIREMENTS FOR LABELS. NEC 110.21(B)(1)
- THE LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC 110.21(B)(3)
- ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT.

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

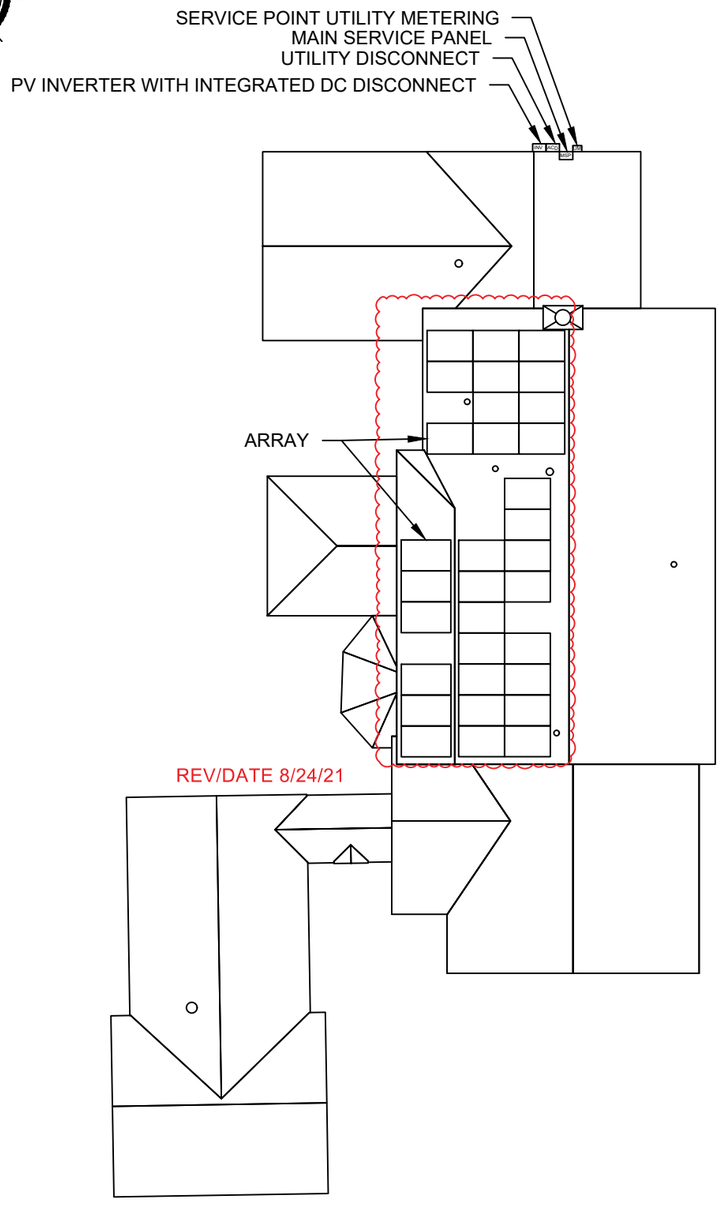
STEPHEN MILLER RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
SIGNAGE

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

JOB SAFETY PLAN



51 HILLTOP ROAD BILTMORE FOREST NC, 28803

LOCATION OF NEAREST URGENT CARE FACILITY :

NAME :
ADDRESS :
PHONE NUMBER :

NOTES :

- INSTALLER SHALL DRAW IN DESIGNED SAFETY AREA AROUND HOME.
- INSTALLER SHALL UPDATE NAME, ADDRESS, AND PHONE NUMBER OF NEAREST URGENT CARE FACILITY RELATIVE TO THE JOB SITE BEFORE STARTING WORK.

PERSON COVERED BY THIS JOB SAFETY PLAN

INJURED AT WORK TODAY ?
INTIAL YES OR NO

PRINT NAME	INITIAL	YES	NO

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
JOB SAFETY PLAN

SHEET SIZE
ANSI B
11" X 17"

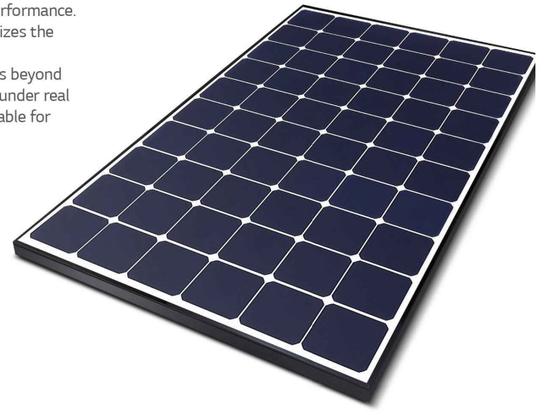
SHEET NUMBER
PV-6

LG NeON®R

60

380W I 375W I 370W I 365W

LG NeON® R is powerful solar module that provides world-class performance. A new cell structure that eliminates electrodes on the front maximizes the utilization of light and enhances reliability.
LG NeON® R is a result of LG's efforts to increase customer's values beyond efficiency. LG NeON® R features enhanced durability, performance under real -world conditions, an enhanced warranty and aesthetic design suitable for roofs.



Feature

Aesthetic Roof

LG NeON® R has been designed with aesthetics in mind: the lack of any electrodes on the front creates an improved, modern aesthetic.

Extended Product Warranty

LG has extended the product warranty of the LG NeON® R to 25 years which is top level of the industry.

Enhanced Performance Warranty

LG NeON® R has an enhanced performance warranty. After 25 years, LG NeON® R is guaranteed to perform at minimum 90.8% of initial performance.

More generation per square meter

The LG NeON® R has been designed to significantly enhance its output, making it efficient even in limited space.

About LG Electronics

LG Electronics is a global big player, committed to expanding its operations with the solar market. The company first embarked on a solar energy source research program in 1985, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry and materials industries. In 2010, LG Solar successfully released its first MonoX® series to the market, which is now available in 32 countries. The NeON® (previous. MonoX® NeON), NeON®2, NeON®2 BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG Solar's lead, innovation and commitment to the industry.

LG NeON®R

LG380Q1C-V5 I LG375Q1C-V5 I LG370Q1C-V5 I LG365Q1C-V5

General Data

Cell Properties(Material / Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Module Dimensions(L x W x H)	1,700mm x 1,016mm x 40mm
Weight	17.5 kg
Glass(Thickness / Material)	2.8mm / Tempered Glass with AR Coating
Backsheet(Color)	White
Frame(Material)	Anodized Aluminium
Junction Box(Protection Degree)	IP68 with 3 Bypass Diodes
Cables(Length)	1,000mm x 2EA
Connector(Type / Maker)	MC4 / MC

Certifications and Warranty

Certifications	IEC 61215-1/-1-1/2:2016, IEC 61730-1/2:2016
	UL 1703
	ISO 9001, ISO 14001, ISO 50001
	OHSAS 18001
Salt Mist Corrosion Test	IEC 61701:2012 Severity 6
Ammonia Corrosion Test	IEC 62716:2013
Module Fire Performance	Type 1 (UL 1703)
Fire Rating	Class C (UL 790, ULC/ORD C 1703)
Product Warranty	25 Years
Output Warranty of Pmax	Linear Warranty*

* 1) First year : 98%, 2)After 1st year : 0.3% annual degradation 3) 90.8% for 25years
** LG380Q1C-V5 model has UL 1703 certification only

Temperature Characteristics

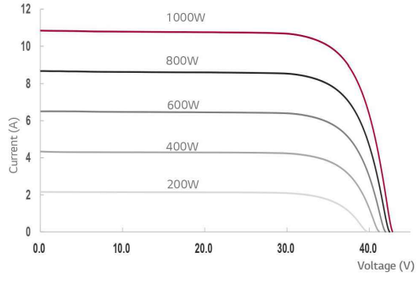
NMOT*	[℃]	44 ± 3
Pmax	[%/℃]	-0.30
Voc	[%/℃]	-0.24
Isc	[%/℃]	0.037

* NMOT(Nominal Module Operating Temperature) : Irradiance 800 W/m², Ambient temperature 20 ℃, Wind speed 1 m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

Model		LG380Q1C-V5	LG375Q1C-V5	LG370Q1C-V5	LG365Q1C-V5
Maximum Power (Pmax)	[W]	286	282	279	275
MPP Voltage (Vmpp)	[V]	37.3	37.1	36.9	36.6
MPP Current (Impp)	[A]	7.67	7.61	7.55	7.51
Open Circuit Voltage (Voc)	[V]	40.3	40.3	40.3	40.2
Short Circuit Current (Isc)	[A]	8.73	8.72	8.71	8.70

I-V Curves



Electrical Properties (STC*)

Model		LG380Q1C-V5	LG375Q1C-V5	LG370Q1C-V5	LG365Q1C-V5
Maximum Power (Pmax)	[W]	380	375	370	365
MPP Voltage (Vmpp)	[V]	37.4	37.2	37.0	36.7
MPP Current (Impp)	[A]	10.17	10.09	10.01	9.95
Open Circuit Voltage (Voc, ±5%)	[V]	42.9	42.8	42.8	42.8
Short Circuit Current (Isc, ±5%)	[A]	10.84	10.83	10.82	10.80
Module Efficiency	[%]	22.0	21.7	21.4	21.1
Power Tolerance	[%]	0 ~ +3			

* STC (Standard Test Condition): Irradiance 1000 W/m², Cell Temperature 25 ℃, AM 1.5,
** Measure Tolerance : ± 3%

Operating Conditions

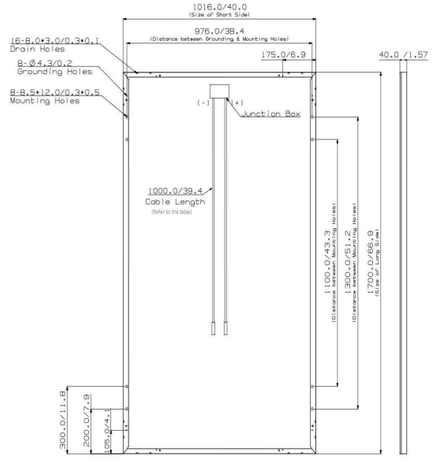
Operating Temperature	[℃]	-40 ~ +90
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load(Front)	[Pa / psf]	5,400 / 113
Mechanical Test Load(Rear)	[Pa / psf]	4,000 / 83.5

※ Mechanical Test Load 5,400Pa / 4,000Pa based on IEC 61215-2 : 2016
(Test Load = Design Load x Safety Factor(1.5))

Packaging Configuration

Number of Modules Per Pallet	[EA]	25
Number of Modules Per 40ft HQ Container	[EA]	650
Packaging Box Dimensions (L x W x H)	[mm]	1,750 x 1,120 x 1,221
Packaging Box Gross Weight	[kg]	473

Dimensions (mm / inch)



LG Electronics Inc.
Solar Business Division
LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul
07336, Korea
www.lg-solar.com

Life's Good

Product specifications are subject to change without notice.
DS-V5-60-C-G-F-EN-90812

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-7

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS

12-25 YEAR WARRANTY

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

solaredge.com

solaredge

Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, adjustable -0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V[2]	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V[2]	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

[1] For other regional settings please contact SolarEdge support
[2] A higher current source may be used; the inverter will limit its input current to the values stated

TITAN SOLAR POWER

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[3]							
Inverter Commissioning	with the SetApp mobile application using built-in Wi-Fi Access Point for local connection							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG					1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG					1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9	38.8 / 17.6		lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -40 to +60[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

[3] Revenue grade inverter P/N: SExxxxH-US000BNC4
[4] Full power up to at least 50°C / 122°F, for power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf

RoHS

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8A

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

POWER OPTIMIZER

PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge.com

solaredge

/ Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power[1]	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125[2]	87[2]	Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	12.5 - 105	12.5 - 87	Vdc
Maximum Short Circuit Current (Isc)	11			10.1		14	Adc
Maximum DC Input Current	13.75			12.5		17.5	Adc
Maximum Efficiency	99.5						%
Weighted Efficiency	98.8					98.6	%
Overvoltage Category	II						
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)							
Maximum Output Current	15						Adc
Maximum Output Voltage	60				85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer	1 ± 0.1						Vdc
STANDARD COMPLIANCE							
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3						
Safety	IEC62109-1 (class II safety), UL1741						
Material	UL94 V-0 , UV Resistant						
RoHS	Yes						
INSTALLATION SPECIFICATIONS							
Maximum Allowed System Voltage	1000						Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters						
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	Single or dual MC4[3]						
Input Wire Length	0.16 / 0.52						m / ft
Output Wire Type / Connector	Double Insulated / MC4						
Output Wire Length	0.9 / 2.95		1.2 / 3.9				m / ft
Operating Temperature Range[4]	-40 - +85 / -40 - +185						°C / °F
Protection Rating	IP68 / NEMA6P						
Relative Humidity	0 - 100						%

[1] Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed
[2] NEC 2017 requires max input voltage be not more than 80V
[3] For other connector types please contact SolarEdge
[4] For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV System Design Using a SolarEdge Inverter[5][6]		Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8		10	18	
	P405 / P505	6		8	14	
Maximum String Length (Power Optimizers)		25		25	50[7]	
Maximum Power per String		5700 (6000 with SE7600-US - SE11400-US)	5250	6000[8]	12750[9]	W
Parallel Strings of Different Lengths or Orientations		Yes				

[5] For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf
[6] It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string
[7] A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
[8] For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W
[9] For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W

CE RoHS

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

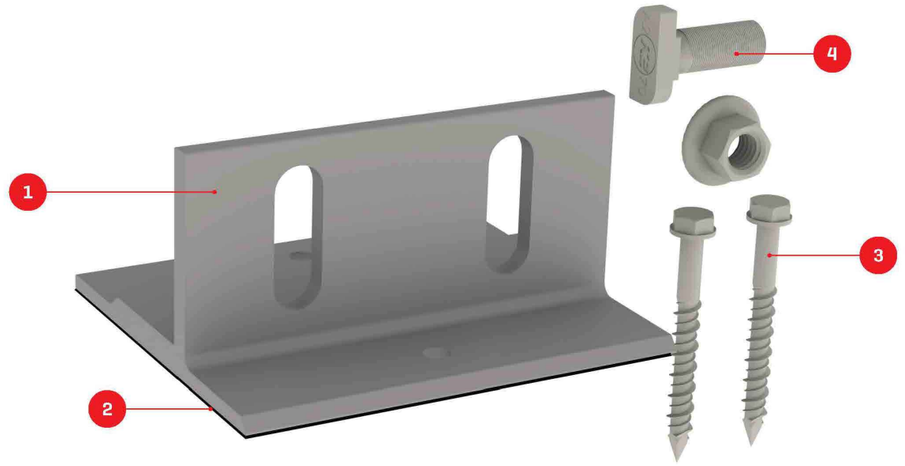
STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

We support PV systems
Formerly Everest Solar Systems



Splice Foot X

TECHNICAL SHEET

Item Number	Description	Part Number
1	Splice Foot X	4000113 | Splice Foot X Kit, Mill
2	K2 Solar Seal Butyl Pad	
3	M5 x 60 lag screws	
4	T-Bolt & Hex Nut Set	

Technical Data

	Splice Foot X
Roof Type	Composition shingle
Material	Aluminum with stainless steel hardware
Finish	Mill
Roof Connection	M5 x 60 lag screws
Code Compliance	UL 2703
Compatibility	CrossRail 44-X, 48-X, 48-XL, 80

TITAN SOLAR POWER

210 N Sunway Dr,
Gilbert, AZ 85233

www.titansolarpower.com

ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

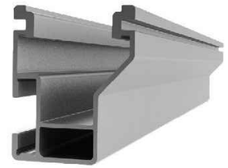
SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

We support PV systems
Formerly Everest Solar Systems

CROSSRAIL 48-X



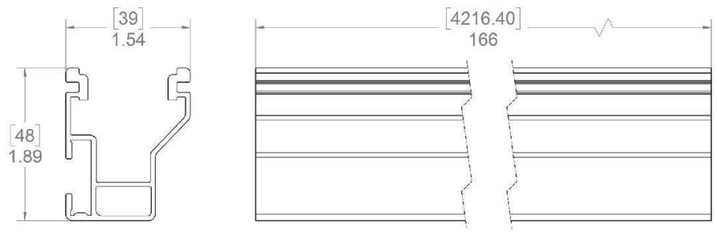
Mechanical Properties

	CrossRail 48-X
Material	6000 Series Aluminum
Ultimate Tensile Strength	37.7 ksi (260 MPa)
Yield Strength	34.8 ksi (240 MPa)
Weight	0.56 lbs/ft (0.833 kg/m)
Finish	Mill or Dark Anodized

Sectional Properties

	CrossRail 48-X
Sx	0.1980 in^3 (3.245 cm^3)
Sy	0.1510 in^3 (2.474 cm^3)
A (X-Section)	0.4650 in^2 (2.999 cm^2)

Units: [mm] in



Notes:

- Structural values and span charts determined in accordance with Aluminum Design Manual and ASCE 7-16
- UL2703 Listed System for Fire and Bonding

TITAN SOLAR POWER
210 N Sunway Dr,
Gilbert, AZ 85233
www.titansolarpower.com
ELECTRICAL LIC#: U.33714

REVISIONS

DESCRIPTION	DATE	REV
REVISION	08/24/2021	A

Signature with Seal

DATE: 08/24/2021

PROJECT NAME & ADDRESS

STEPHEN MILLER
RESIDENCE
51 HILLTOP ROAD
BILTMORE FOREST, NC 28803
PH NO. 828 712 0672
EMAIL ID: smiller@genspan.

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

Structural Capacity, PC
STRUCTURAL CONSULTING GROUP
North Carolina Firm License Number – C3406

August 22, 2021

Titan Solar Power NC, Inc.
525. W. Baseline Road
Mesa, AZ 85210

Re: Miller, Stephen - TSP93362 (SCPC Project No. - 2021.26.18080)
51 Hilltop Road
Biltmore Forest, NC 28803

Titan Solar Power NC:

At the request of Titan Solar Power NC, Structural Capacity, PC (SCPC) has evaluated the roof structure at the above noted site to determine its adequacy to support the attachment of roof mounted solar arrays. The roof structure is composed of wood sheathing supported by 2x8 wood rafters at 16" o.c. The maximum rafter span does not exceed approximately 17'-1".

Design Criteria:
- Ground Snow Load = 15 psf
- Wind speed = 115 mph
- Risk Category = II / Wind Exposure B
- PV module Dead Load = 3.5psf (max)
- PV Module Count = 32

Each panel will be supported by (2) mounting rails, (1) at each end. The mounting legs of the solar panel railing will be attached directly to the rafters with a 5/16 (min) inch diameter lag screw. The installer shall use best practice construction methods to locate the lag screw in the center of each rafter. All wood members supporting PV modules should consist of sound lumber without significant signs of deterioration.

The mounting legs of the solar panel racking system shall be located at 5'-4" o.c. maximum. The mounting legs should be staggered at the primary framing member spacing (1'-4") at adjacent solar panel rails. The maximum rail cantilever span should be limited to 1'-4".

The existing roof structure at the above referenced site is adequate to support the solar panel loadings, as noted above, per the 2018 North Carolina Residential Code, if installed in accordance with the above stated conditions. The adequacy of the solar panels and

solar racking system are outside the scope of this letter and to be provided by solar panel and racking manufacturer, if required.

If any conditions are found in conflict with those stated above, SCPC should be made aware immediately for re-evaluation and report amendment, as applicable, before proceeding with solar panel installation.

Sincerely,

Structural Capacity, PC

Adrian S. Durham

Adrian S. Durham, PE, SE

Adrian Durham

Digitally signed by Adrian Durham
Date: 2021.08.22 18:00:09 -04'00'

BOARD OF ADJUSTMENT
STAFF MEMORANDUM
September 20, 2021

Case 2 – 414 Vanderbilt Road
Special Use Permit Request for Accessory Structures
(Driveway Gate and Stone Fire Pit)

Special Use Permit Request for Accessory Structure Installation (Driveway Gate and Stone Fire Pit)

Request for Landscaping and Grading Plan Approval for Lot Disturbance Greater than 20 Percent

As part of the construction of a new residence, the applicant requests a special use permit to install two accessory structures: a driveway gate and a stone fire pit. The installation of driveway gates and associated columns are governed by the following portion of the Zoning Ordinance:

§ 153.049 of the Zoning Ordinance (attached) specifies the following:

(B) A driveway gate and supporting columns may be approved by the Board of Adjustment as a special use so long as it meets the following requirements:

(1) The driveway gate and columns shall not be located in the front or side yard setback of a property.

(2) The driveway gate shall not be more than eight feet in height.

(3) The driveway gate must provide access for emergency services and first responders. This may be done via a lockbox code, strobe or siren activation switch, or other method with demonstrated reliability.

(4) The driveway gate must open wide enough to provide for ingress and egress of emergency vehicles. The minimum acceptable standard is for the gate access to be 14 feet wide with a 14-foot minimum height clearance with a 14-foot minimum height clearance.

The proposal complies with these requirements and is located behind the sixty (60) foot front setback. There is no perimeter fence associated with this project.

The applicant also requests an accessory structure permit for a stone fire pit located within the rear yard. The fire pit is located in compliance with the typical setbacks for the property and is allowed within the adjusted setbacks. Adjusted setbacks are applicable only to the home structure itself. The proposed accessory structure is a wood burning fire pit with a gas starter, surrounded by a flagstone patio of approximately 20-feet in diameter, and partially captured by a bench-height site wall on one side, 18-22 inches high.

The Town's requirements regarding accessory structures, including fire pits, are located on the following page:

§ 153.029 ACCESSORY STRUCTURES AND BUILDINGS.

(A) Accessory structures and/or necessary buildings shall not detract from nor interfere with adjacent properties. No accessory structure or building shall be constructed, erected, or located within any front yard or within any side yard or rear yard setback.

The Board of Adjustment is required to review the preliminary landscape plan since the lot disturbance associated with the new home is greater than twenty (20) percent. The applicant has provided a site plan showing the existing home (which has already received a permit for demolition); the existing home overlaid with the proposed new home; and a site plan showing full landscaping improvements. The Town has approved the removal of trees for a portion of this project and the applicant has provided detailed instructions for all contractors regarding soil disturbance and tree protection during construction. The applicant has made application to the Buncombe County Soil and Erosion Control Department for their erosion control permit as this project is over 1 acre disturbance. The landscaping plan, as provided, complies with the Town's standards for replacement and replanting.

Zoning Compliance Application

Town of Biltmore Forest

Name
Derek Weilbaecher

Property Address
414 Vanderbilt Rd, Biltmore Forest, NC 28803

Phone
(404) 221-0422

Email
don@joelkelly.com

Parcel ID/PIN Number
9646-66-1233

ZONING INFORMATION

Current Zoning
R-1

Lot Size
3.01 Acres

Maximum Roof Coverage
8,200 square feet (Up to 3.5 acres)

Proposed Roof Coverage Total
8144

Maximum Impervious Surface Coverage
3-6 acres (20 percent of lot area)

Proposed Impervious Surface Coverage
17.3%

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
38.5'

Description of the Proposed Project
The scope of work shall include the removal of the existing house, and construction of a new house as outlined in the attached documents.

Estimated Start Date
9/27/2021

Estimated Completion Date
10/31/2023

Estimated Cost of Project
$7,000,000.00

Supporting Documentation (Site Plan, Drawings, Other Information)
Weilbaecher_Materials_2021-08-30.pdf

01_Weilbaecher Residence-FLA-Site Landscape Set.pdf

Weilbaecher_Zoning-architectural-set_2021-08-30.pdf

Applicant Signature

Date
8/30/2021

Special Use Permit Application

Town of Biltmore Forest

Name
Derek Weilbaecher

Address
414 Vanderbilt Road, Biltmore Forest, NC 28803

Phone
(404) 221-0422 x103

Email
don@joelkelly.com

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

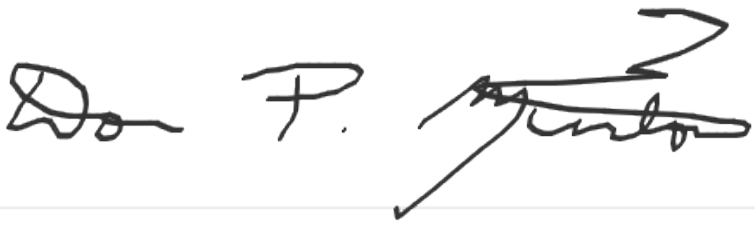
The applicant must show that the proposed use will not materially endanger public health or safety or injure value of adjoining or abutting property. In addition, the proposed use must be in general conformity with the plan of development of the town and be in harmony with scale, bulk, height, coverage,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

Please provide a description of the proposed project:
The proposed Accessory Structure for this application is a wood burning fire pit with a gas starter. It will be surrounded by a flagstone patio of approximately 20' diameter, and partially captured by a bench-height site wall on one side, 18-22" high.

Explain why the project would not adversely affect the public interest of those living in the neighborhood:
Proposed fire pit is located in an area where it will be away from the house, not highly visible from the golf course and buffered from the adjacent property with vegetation. The fire pit surround will sit high enough to prevent hot coals and ash from leaving the enclosure. The area will function as a normal patio when not in use.

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

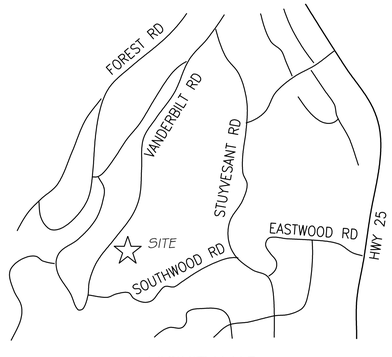
Signature



Date
9/2/2021

WEILBAECHER RESIDENCE

414 Vanderbilt Road
Biltmore Forest, NC 28803



VICINITY MAP
NOT TO SCALE

SHEET INDEX

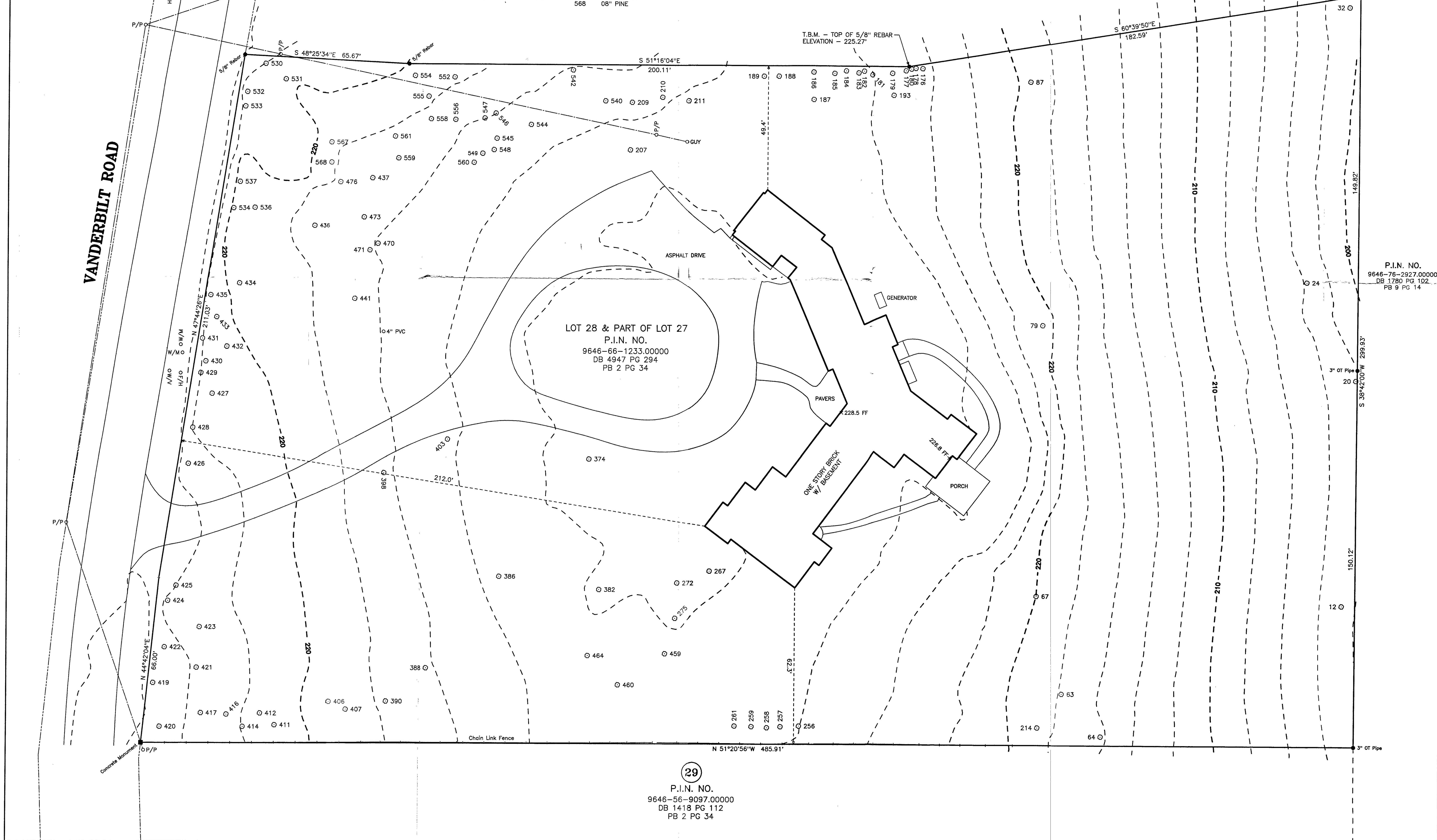
	EXISTING SITE SURVEY
L1.01	SITE NOTES & SPECIFICATIONS
L1.02	GROUND STABILIZATION & MATERIALS HANDLING
L1.03	SELF-INSPECTION, RECORD-KEEPING, & REPORTING
L2.01	SITE STABILIZATION & CLEARING
L3.01	SITE LAYOUT & MATERIALS
L3.02	SITE GRADING, DRAINAGE, EROSION CONTROL, & STORMWATER CONTROL
L3.03	YARD INLET & PIPE SCHEDULE
L4.01	SITE DETAILS
L4.02	SITE DETAILS
L5.01	LANDSCAPE PLAN
L6.01	LANDSCAPE SCHEDULE, NOTES, SPECS, & DETAILS
L6.02	LANDSCAPE SCHEDULE, NOTES, SPECS, & DETAILS

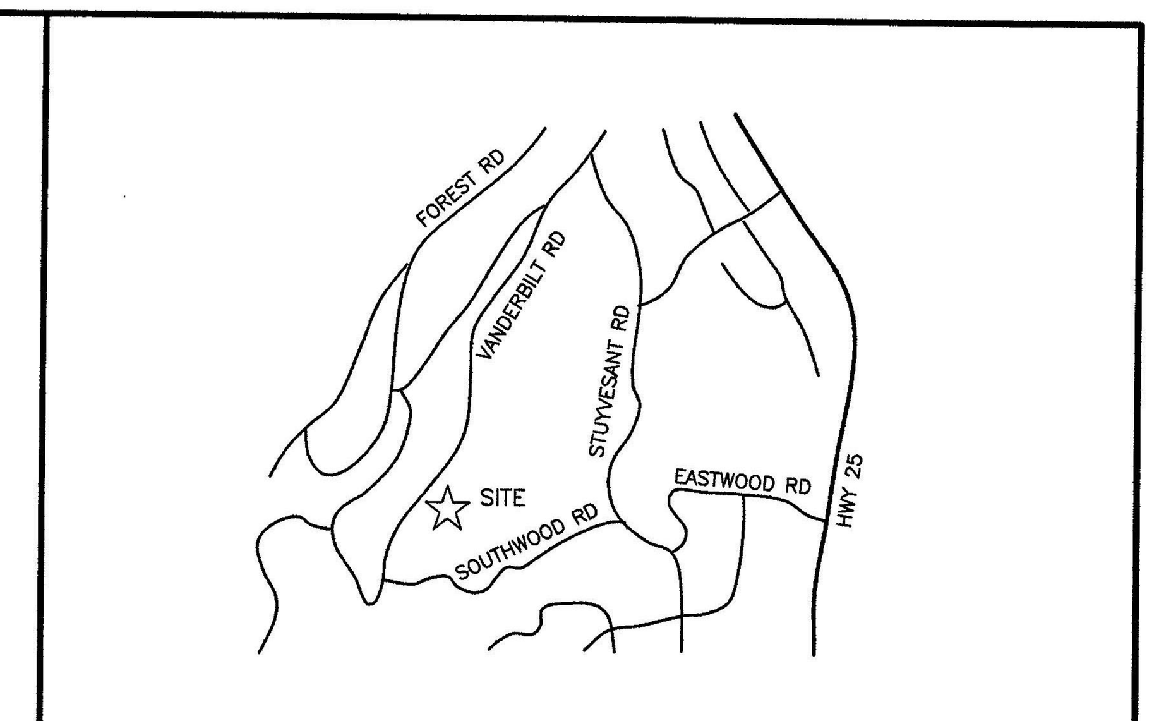
FUSCO
LAND PLANNING & DESIGN, PLLC

LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

TREE LIST

PT NO.	DESCRIPTION	PT NO.	DESCRIPTION	PT NO.	DESCRIPTION
12	40" CHERRY	267	36" OAK	436	16" OAK
20	18" HICKORY	272	20" CEDAR	437	40" OAK
24	18" CHESTNUT	275	14" CEDAR	441	30" OAK
32	48" OAK	374	42" OAK	459	08" CEDAR
63	10" HOLLEY	382	18" SPRUCE	460	24" PINE
64	14" BLACKGUMS	386	12" REDWOOD	464	26" OAK
67	10" HOLLEY	388	28" OAK	470	12" HEMLOCK
79	36" OAK	390	20" PINE	471	06" HEMLOCK
87	18" HICKORY	398	28" OAK	473	12" PINE
176	12" HEMLOCKS	403	20" OAK	476	12" PINE
177	10" HEMLOCKS	406	14" HEMLOCK	530	08" PINE
178	10" HEMLOCK	407	26" PINE	531	30" OAK
179	10" HEMLOCK	411	14" HEMLOCK	532	16" HEMLOCK
180	12" HEMLOCK	412	24" PINE	533	26" PINE
181	12" HEMLOCK	414	10" HEMLOCK	534	16" PINE
182	12" HEMLOCK	416	12" HEMLOCK	536	28" PINE
183	16" HEMLOCK	417	08" HEMLOCK	537	30" PINE
184	18" HEMLOCK	419	36" PINE	540	10" HICKORY
185	12" HEMLOCK	420	12" HEMLOCK	542	30" OAK
186	08" HEMLOCKS	421	12" HEMLOCK	544	24" OAK
187	20" HEMLOCK	422	16" HEMLOCK	545	12" HEMLOCK
188	12" HEMLOCK	423	26" PINE	546	08" HEMLOCK
189	14" HEMLOCK	424	28" PINE	547	14" HEMLOCK
193	36" POPLAR	425	12" HEMLOCK	548	12" HEMLOCK
207	08" HEMLOCK	426	28" PINE	549	10" HEMLOCK
209	30" POPLAR	427	24" PINE	552	10" PINE
210	16" OAK	428	08" PINE	554	12" OAK
211	24" PINE	429	14" PINE	555	12" PINE
214	12" HOLLEY	430	08" HEMLOCK	556	24" PINE
256	16" SPRUCE	431	18" PINE	558	08" PINE
257	16" SPRUCE	432	16" PINE	559	10" HEMLOCK
258	14" SPRUCE	433	10" HEMLOCK	560	26" OAK
259	18" SPRUCE	434	36" PINE	561	16" OAK
261	16" SPRUCE	435	16" HEMLOCK	567	24" POPLAR
				568	08" PINE





LOCATION MAP – NOT TO SCALE

LEGEND:
- IRON PIN SET – 5/8" REBAR
- IRON PIN FOUND (TYPE NOTED)
- NAIL & CAP SET
- NAIL & CAP FOUND
- MAGNETIC NAIL SET
- STONE FOUND
- PT NOT FOUND OR SET
- RAILROAD SPIKE

CERTIFICATE OF ACCURACY

I, W.C. LINDSEY Jr. certify that this plat was drawn under my supervision from an actual survey made under my supervision, deed description recorded in Book 4947 Page 294, that the ratio of precision as calculated is 1/10000; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration number and seal this Seventh day of November, A.D., 2013.

W.C. Lindsey Jr.
SURVEYOR

L3646
REGISTRATION NUMBER

NORTH CAROLINA PROFESSIONAL SEAL L-3646 LAND SURVEYOR W. C. LINDSEY, Jr.

TOPOGRAPHIC SURVEY OF

PART OF LOT 27 & LOT 28 BILTMORE FOREST

SURVEY FOR

JOSEPH & ASHLEY SEGRAVE

BUNCOMBE COUNTY — NORTH CAROLINA

1"= 20' — 20' 0 20' 40' — Scale in feet

DRAWN	CHECK	DATE	JOB NO.	F.B.
B.M.B.	W.C.L.	NOVEMBER 7, 2013	5819	D/C

LINDSEY & ASSOCIATES, INC.
P.O. BOX 9 TIGERVILLE, S.C. 29688
LAND & HYDROGRAPHIC SURVEYORS
Ph 895-1285 Fax 895-4141

SITE PREPARATION AND DEMOLITION NOTES

1. ESTABLISH, PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
2. CONTRACTOR TO ENSURE ALL REQUIRED PERMITS FROM REGULATORY AND REVIEW AGENCIES HAVE BEEN OBTAINED.
3. ALL PROJECT ACTIVITY SHALL BE CONFINED TO THE AREA WITHIN THE LIMITS OF DISTURBANCE.
4. THERE SHALL BE NO LAY-DOWN ACTIVITIES, MATERIALS STORAGE FOOT TRAFFIC, VEHICULAR TRAFFIC AND STORAGE OF MATERIALS OR EQUIPMENT OUTSIDE OF THE LIMITS OF DISTURBANCE.
5. COORDINATE LOCATION OF CONSTRUCTION TRAILER, REST ROOM FACILITIES, PERMIT DISPLAYS AND ANY OTHER PROJECT ACCESSORIES NOT SPECIFICALLY LOCATED ON THE CONSTRUCTION DRAWINGS WITH THE OWNER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES AND STRUCTURES UNTIL PROJECT INSTALLATION IS COMPLETE. THE CONTRACTOR SHALL REPAIR OR PAY FOR ALL DAMAGES MADE TO EXISTING FACILITIES AND STRUCTURES.
7. NOTIFY OWNER IMMEDIATELY IF ANY PROPOSED OR EXISTING CONDITIONS CONFLICT WITH UTILITIES.
8. INSTALL EROSION CONTROLS AS INDICATED IN THE EROSION CONTROL NOTES AND SEQUENCE OF CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL.
9. MARK TREES AND OTHER PLANT MATERIAL TO BE REMOVED WITH A SINGLE AND UNIQUE COLOR OF SURVEY FLAGGING AND OBTAIN APPROVAL OF OWNER OR LANDSCAPE ARCHITECT PRIOR TO PROCEEDING.
10. REMOVE OBSTRUCTIONS, TREES, SHRUBS, GRASS AND OTHER VEGETATION WITHIN THE LIMITS OF DISTURBANCE TO PERMIT INSTALLATION OF NEW CONSTRUCTION UNLESS OTHERWISE NOTED. REMOVAL INCLUDES DIGGING OUT STUMPS AND OBSTRUCTIONS AND GRUBBING ROOTS TO A DEPTH OF 18".
11. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
12. WIRES, SIGNS, PERMITS OR ANY OTHER OBJECT SHALL NOT BE FASTENED TO TREES.
13. ALL CLEARING, GRUBBING, REMOVAL OF TOPSOIL OR ANY OTHER DISTURBANCE WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN SHALL BE DONE WITH HAND TOOLS UNDER THE DIRECTION OF LANDSCAPE ARCHITECT.
14. REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS, INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR AND SHALL ADHERE TO ALL PROVISIONS AND REQUIREMENTS OF ALL APPLICABLE EROSION CONTROL REQUIREMENTS.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED FOLLOWING THE EROSION CONTROL SEQUENCE.
3. EROSION CONTROL MEASURES ARE GENERAL IN NATURE. CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL MEASURES AS REQUIRED TO PREVENT ON- OR OFF-SITE RUNOFF AND EROSION.
4. ALL INLETS SHALL HAVE TEMPORARY INLET PROTECTION INSTALLED IMMEDIATELY AFTER INLET HAS BEEN CONSTRUCTED.
5. CONTRACTOR IS RESPONSIBLE FOR REGULAR INSPECTION AND MAINTENANCE OF EROSION CONTROL MEASURES TO ENSURE THAT MEASURES CONTINUOUSLY FUNCTION AS INTENDED.
6. ESTABLISH PERMANENT COVER ON DISTURBED AREAS IMMEDIATELY AFTER FINAL GRADING IS COMPLETE OR IF DISTURBED AREAS ARE TO REMAIN UNALTERED FOR MORE THAN 5 CONSECUTIVE DAYS.
7. REMOVE ALL TEMPORARY EROSION CONTROLS AFTER DISTURBED AREAS HAVE BEEN STABILIZED AND COMPLETED.
8. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL OF OFF-SITE BORROW PITS AND DISPOSAL AREAS.
9. CONTRACTOR SHALL WATER SITE TO CONTROL DUST DURING PERIODS OF DRY WEATHER.
10. EQUIPMENT UTILIZED DURING THE CONSTRUCTION ACTIVITY ON SITE MUST BE OPERATED AND MAINTAINED IN SUCH A MANNER AS TO PREVENT THE POTENTIAL OR ACTUAL POLLUTION OF THE SURFACE OR GROUND WATERS OF THE STATE. FUELS, LUBRICANTS, COOLANTS, AND HYDRAULIC FLUIDS, OR ANY OTHER PETROLEUM PRODUCTS, SHALL NOT BE DISCHARGED INTO THE GROUND OR INTO SURFACE WATERS. SPENT FLUIDS SHALL BE DISPOSED OF IN A MANNER SO AS NOT TO ENTER THE WATERS, SURFACE OR GROUND, OF THE STATE AND IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL DISPOSAL REGULATIONS. ANY SPILLED FLUIDS SHALL BE CLEANED UP TO THE EXTENT PRACTICABLE AND DISPOSED OF IN A MANNER SO AS NOT TO ALLOW THEIR ENTRY INTO THE WATERS, SURFACE OR GROUND, OF THE STATE.
11. HERBICIDE, PESTICIDE AND FERTILIZER USAGE DURING THE CONSTRUCTION ACTIVITY SHALL BE CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT AND SHALL BE IN ACCORDANCE WITH LABEL RESTRICTIONS.
12. ALL WASTES COMPOSED OF BUILDING MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE GENERAL STATUTES.

SEQUENCE OF CONSTRUCTION FOR EROSION & SEDIMENT CONTROL

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. FLAG THE LIMITS OF DISTURBANCE AND MARK THE TREES TO BE REMOVED AND OBTAIN APPROVAL PRIOR TO PROCEEDING.
3. HOLD PRE-CONSTRUCTION CONFERENCE AS REQUIRED.
4. INSTALL TEMPORARY SILT FENCE AND OTHER EROSION CONTROL MEASURES AS SHOWN WHERE FEASIBLE.
5. UPON INSTALLATION OF EROSION CONTROL MEASURES, REQUEST ON-SITE INSPECTION AND APPROVAL AS REQUIRED.
6. CLEAR AND GRUB SITE.
7. BEGIN ROUGH GRADING OF SITE.
8. INSTALL ALL CATCH BASINS. INLET PROTECTION, CULVERTS AND OUTLET PROTECTION AS GRADING PERMITS.
9. INSTALL STONE BASE AS GRADING PERMITS.
10. INSTALL TEMPORARY OR PERMANENT SEEDING OR GROUND COVER ON ALL ROUGH GRADED SLOPES.
11. BEGIN FINE GRADING.
12. UPON COMPLETION OF FINE GRADING, IMMEDIATELY INSTALL PERMANENT GROUND COVER.
13. UPON COMPLETION OF CONSTRUCTION, STABILIZATION OF SITE, AND APPROVAL BY REVIEWING GOVERNMENT AGENCY OR DESIGN REVIEW COMMITTEE. REMOVE ALL TEMPORARY MEASURES AND COMPLETE PERMANENT GROUND COVER.

MAINTENANCE PLAN:

A. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CHECKED AND MAINTAINED FOR STABILITY AND OPERATION AT OPTIMUM EFFICIENCY FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.

B. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 6" DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

C. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

GRADING NOTES

1. STAKE GRADES BY A REGISTERED LAND SURVEYOR AND OBTAIN APPROVAL OF LANDSCAPE ARCHITECT OR OWNER PRIOR TO PROCEEDING.
2. CONTRACTOR SHALL REVIEW PROPOSED ACTIVITIES ON-SITE WITH LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
3. ALL PROPOSED STORM DRAIN LINES SHALL HAVE A MIN. OF 2' COVER UNLESS OTHERWISE NOTED.
4. MATERIAL REMAINING FROM PROJECT EXCAVATION SHALL BE LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
5. EXCAVATION LIKELY TO DISLOCATE, DAMAGE, OR IMPAIR THE STRENGTH OF EXISTING STRUCTURES SHALL BE CONDUCTED ONLY AFTER ADEQUATE PROTECTION HAS BEEN PROVIDED FOR THE EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO OR REPLACEMENT OF STRUCTURES DAMAGED BY PROJECT ACTIVITIES.
6. MATCH EXISTING GRADES SMOOTHLY WHERE PROPOSED FEATURES MEET EXISTING FEATURES.
7. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT A MINIMUM OF 2% SLOPE AWAY FROM ALL BUILDINGS.
8. ALL CUT SLOPES GREATER THAN 2:1 & FILL SLOPES GREATER THAN 1.5:1 SHALL BE CERTIFIED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO AND DURING CONSTRUCTION .
9. ALL PVC SLEEVES TO BE SCHEDULE 80. COORDINATE WITH LANDSCAPE ARCHITECT FOR NUMBER AND LOCATION, EVEN IF SHOWN ON THE PLAN.
10. ABBREVIATIONS

TW:	ELEVATION AT TOP OF WALL	TC:	ELEVATION AT TOP OF CURB
BW:	FINISHED GRADE ELEVATION AT BOTTOM OF WALL	BC:	ELEVATION AT BOTTOM OF CURB
SWCP:	SMOOTH WALL CORRUGATED PLASTIC PIPE	TS:	ELEVATION AT TOP OF STEPS
RIM:	FINISHED ELEVATION AT RIM INLET OF DRAINAGE STRUCTURES	BS:	ELEVATION AT BOTTOM OF STEPS
INV:	PIPE INVERT	MIN:	MINIMUM
TYP:	TYPICAL	MAX:	MAXIMUM

11. PRUNE TREE ROOTS EXPOSED DURING GRADE LOWERING. DO NOT CUT MAIN LATERAL ROOTS OR TAP ROOTS; CUT ONLY SMALLER ROOTS. CUT ROOTS WITH SHARP PRUNING INSTRUMENTS; DO NOT BREAK OR CHOP.
12. WHERE EXISTING GRADE IS 6 INCHES OR LESS BELOW ELEVATION OF FINISH GRADE, FILL WITH TOPSOIL. PLACE TOPSOIL IN A SINGLE UNCOMPACTED LAYER, HAND GRADE AND LIGHTLY TAMP TO REQUIRED FINISH ELEVATIONS.
13. PROVIDE BORROW SOIL MATERIALS WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE.
14. SATISFACTORY SOILS SHALL BE DEFINED AS FOLLOWS: ASTM D 2487 SOIL CLASSIFICATION GROUPS SC, ML, CL, SP, GM AND SM OR A COMBINATION OF THESE GROUP SYMBOLS; FREE OF ROCK OR GRAVEL LARGER THAN 3" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER.
15. UNSATISFACTORY SOILS SHALL BE DEFINED AS FOLLOWS: ASTM D 2487 SOIL CLASSIFICATION GROUPS GC, GW, GP, MH, CH, OL, OH, SW AND PT OR A COMBINATION OF THESE GROUP SYMBOLS.
16. UNSATISFACTORY SOILS ALSO INCLUDE SATISFACTORY SOILS NOT MAINTAINED WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT AT TIME OF COMPACTION.
17. BACKFILL AND FILL SHALL BE SATISFACTORY SOILS.
18. SUBMIT MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING AND INTERPRETING TEST RESULTS FOR COMPLIANCE WITH THE FOLLOWING REQUIREMENTS:
    - CLASSIFICATION ACCORDING TO ASTM D 2487 OF EACH ON-SITE OR BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL
    - LABORATORY COMPACTION CURVE ACCORDING TO ASTM D 698 FOR EACH ON-SITE OR BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
19. GEOTECHNICAL TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM 329 TO CONDUCT SOIL MATERIALS AND ROCK-DEFINITION TESTING, AS DOCUMENTED ACCORDING TO ASTM D 3740 AND ASTM E 548.
20. NOTIFY AND OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE.
21. PROOF ROLL SUBGRADE WITH SUITABLE EQUIPMENT TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF ROLL WET OR SATURATED SUBGRADES.
22. RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES AS DIRECTED BY GEOTECHNICAL ENGINEER.
23. PLACE AND COMPACT BACKFILL IN EXCAVATIONS PROMPTLY BUT NOT BEFORE REMOVING TRASH AND DEBRIS.
24. WHEN INSTALLING FILL:
    - REMOVE VEGETATION, TOPSOIL, DEBRIS, UNSATISFACTORY SOIL MATERIALS, OBSTRUCTION, AND DELETERIOUS MATERIALS FROM GROUND SURFACE BEFORE PLACING FILLS
    - PLOW, SCARIFY, BENCH OR BREAK UP SLOPED SURFACES STEEPER THAN 4:1 SO FILL MATERIAL WILL BOND WITH EXISTING MATERIAL
    - PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS AND COMPACTION.
25. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION TO WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
26. DO NOT PLACE BACKFILL OR FILL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
27. REMOVE, REPLACE, OR SCARIFY OR AIR-DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT EXCEEDS OPTIMUM MOISTURE CONTENT BY 2% AND IS TOO WET TO COMPACT TO SPECIFIED DRY UNIT WEIGHT.
28. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
29. PLACE BACKFILL AND FILL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.
30. COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698:
    - UNDER STRUCTURES AND PAVEMENTS, COMPACT TOP 12" OF EXISTING SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 98%
    - UNDER UNPAVED AREAS, COMPACT TOP 6" BELOW SUBGRADE AND COMPACT EACH LAYER OF BACKFILL OR FILL MATERIAL AT 85%.
31. FINISH SUBGRADES TO REQUIRED ELEVATIONS WITHIN THE FOLLOWING TOLERANCES:
    - LAWN OR UNPAVED AREAS: PLUS OR MINUS 1"
    - PAVEMENTS: PLUS OR MINUS 1/10"
32. CONTRACTOR WILL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING. SUBMIT TEST REPORTS TO LANDSCAPE ARCHITECT OR OWNER.
33. ALLOW TESTING AGENCY TO INSPECT AND TEST SUBGRADES AND EACH FILL AND BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS.
34. TESTING AGENCY WILL TEST COMPACTION OF SOILS IN PLACE ACCORDING TO ASTM D 1556, ASTM D 2167, ASTM D 2922, AND ASTM D 2937 AS APPLICABLE.
35. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED, RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
36. PREVENT WATER AND SUBSURFACE OR GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES EXCAVATE UTILITY TRENCHES TO INDICATED SLOPES, LINES DEPTHS AND INVERT ELEVATIONS OF UNIFORM WIDTHS TO PROVIDE A MAXIMUM 12 INCHES OF WORKING CLEARANCE ON EACH SIDE OF PIPE OR CONDUIT. EXCAVATE TRENCH WALLS VERTICALLY FROM TRENCH BOTTOM TO 12 INCHES HIGHER THAN THE TOP OF PIPE OR CONDUIT.

GRADING NOTES CONT.

37. EXCAVATE AND SHAPE TRENCH SUBGRADE TO PROVIDE UNIFORM BEARING AND CONTINUOUS SUPPORT FOR PIPE AND CONDUIT. WHERE ENCOUNTERING ROCK OR OTHER UNYIELDING BEARING SURFACE, CARRY TRENCH EXCAVATION 6 INCHES BELOW INVERT ELEVATION TO RECEIVE BEDDING COURSE.
38. FILL UNAUTHORIZED EXCAVATION UNDER FOUNDATIONS OR WALL FOOTINGS BY EXTENDING INDICATED BOTTOM ELEVATION OF CONCRETE FOUNDATION OR FOOTING TO EXCAVATION BOTTOM, WITHOUT ALTERING REQUIRED TOP ELEVATION. FILL UNAUTHORIZED EXCAVATIONS UNDER CONSTRUCTION AS DIRECTED BY GEOTECHNICAL ENGINEER.
39. UTILITY TRENCH BACKFILL: PLACE, COMPACT AND SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR PIPES AND CONDUITS OVER ROCK AND OTHER UNYIELDING BEARING SURFACES AND TO FILL UNAUTHORIZED EXCAVATIONS.
40. INSTALL UNDERGROUND UTILITY WARNING TAPE DIRECTLY ABOVE UTILITIES, 12 INCHES BELOW FINISHED GRADE AND IN THE SAME TRENCH FOR OPEN AREAS. INSTALL 6 INCHES BELOW SUBGRADE UNDER PAVEMENTS AND SLABS OR AS REQUIRED.
41. FOUNDATION DRAINS TO BE INSTALLED INDEPENDENT OF ANY OTHER DRAINS SHOWN ON SITE PLAN.

LAYOUT AND MATERIALS NOTES

1. DO NOT SCALE FROM DRAWINGS.
2. OBTAIN DIGITAL CAD FILES FROM LANDSCAPE ARCHITECT FOR STAKING BY REGISTERED LAND SURVEYOR.
3. CONTRACTOR TO HAVE A REGISTERED LAND SURVEYOR STAKE SITE ELEMENTS. OBTAIN APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO PROCEEDING.
4. ALL DIMENSIONS ARE TO FACE OF WALL, FACE OF CURB OR EDGE OF PAVING UNLESS OTHERWISE NOTED.
5. CONTACT LANDSCAPE ARCHITECT IMMEDIATELY IF LAYOUT CONFLICTS OR AMBIGUITIES ARISE.
6. STORE AND PROTECT MATERIALS PER MANUFACTURER'S RECOMMENDATIONS.
7. CONTRACTOR WILL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING ON MATERIALS AND INSTALLATION WHERE SPECIFIED.
8. PROVIDE TEST RESULTS FOR COMPACTION OF AGGREGATE BASE COURSE IN ACCORDANCE WITH ASTM D 1556 OR ASTM D 2167 WHICHEVER IS MOST APPLICABLE.
9. CONCRETE FORMS SHALL BE STEEL, WOOD OR OTHER SUITABLE MATERIAL OF SIZE AND STRENGTH TO RESIST MOVEMENT DURING CONCRETE PLACEMENT AND TO RETAIN HORIZONTAL AND VERTICAL ALIGNMENT UNTIL REMOVAL. USE FLEXIBLE SPRING STEEL FORMS OR LAMINATED BOARDS TO FORM RADIUS BENDS AS REQUIRED.
10. DO NOT BUILD ON FROZEN SUBGRADE OR SETTING BEDS. REMOVE AND REPLACE MASONRY WORK DAMAGED BY FROST OR FREEZING.
11. HVAC UNITS, PROPANE TANKS, GENERATORS, OR OTHER UTILITY STRUCTURES MAY OR MAY NOT BE SHOWN ON SITE PLAN. CONTRACTOR SHALL COORDINATE LOCATION OF THESE UNITS WITH LANDSCAPE ARCHITECT AND HVAC CONTRACTOR INCOORDINATION WITH ARCHITECT OR BUILDING DESIGNER.

TEMPORARY SEEDING SCHEDULE

FALL

Seeding mixture:

SPECIES	RATE (lb/acre)
Rye (grain)	120

Seeding dates:

Mountains:	Aug. 15 - Dec. 15
Coastal Plain & Piedmont:	Aug. 15 - Dec. 30

LATE WINTER & EARLY SPRING

Seeding mixture:

SPECIES	RATE (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont & Coastal Plain, Korean in Mountains)	50

*Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates:

Mountains (above 2500 ft):	Feb. 15 - May 15
Mountains (below 2500 ft):	Feb. 1 - May 1
Piedmont:	Jan. 1 - May 1
Coastal Plain:	Dec. 1 - April 15

SUMMER

Seeding mixture:

SPECIES	RATE (lb/acre)
German millet	40

*In the Piedmont & Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates:

Mountains:	May 15 - Aug 15
Piedmont:	May 1 - Aug 15
Coastal Plain:	April 15 - Aug 15

Soil Amendments:

Follow recommendation of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb./acre 10-10-10 fertilizer. For Fall applications modify 10-10-10 fertilizer to 1000 lb./acre.

Mulch:

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance:

Refertilize if growth is not fully adequate. Reseed, refertilize, and mulch immediately following erosion or other damage.

PERMANENT SEEDING SCHEDULE (GRASSED AREAS FROM 3:1 TO 2:1 SLOPE)

Seeding mixture:

Species	Rate (lb/acre)
Tall Fescue (KY-31)	100
Andropogon temarius - Splitbeard Bluestem	20
Chamaecrista fasciculata - Partridge Pea	10
Redtop	5
Kentucky Bluegrass	5

Nurse plants:

Between May 1 and Aug. 15 add 10 lb/acre German millet or 15 lb/acre Sudangrass.

Prior to May 1 or Aug. 15, add 40 lb/acre rye (grain).

Seeding dates:

Below 2500 ft:	Aug. 15 - Sept. 1
Above 2500 ft:	July 25 - Aug. 15

Complete seeding earlier in fall and start later in spring on north and east-facing slopes.

Soil Amendments:

Apply lime and fertilizer according to soil tests or apply 4,000 lb/acre ground agricultural limestone and 1,000 lb/acre 5-10-10 fertilizer.

Mulch:

Apply 4,000-5,000 lb/acre grain straw or equivalent cover of another suitable mulching material. Anchor mulch by tacking with asphalt, roving, or netting. Netting or hydroseed with adequate mulch shall be the required anchoring method on steep slopes (greater than 2:1). North American Green SC150BN netting or North American Green Hydromax CM mulch may be used. Alternatives may be approved on a case by case basis.

Maintenance:

Mow no more than once a year. Re-fertilize in the second year unless growth is fully adequate. Reseed, fertilize, and mulch damaged areas immediately.

PERMANENT SEEDING SCHEDULE (GRASSED AREAS UP TO 3:1 SLOPE)

Seeding mixture:

Species	Rate (lb/acre)
Tall fescue blend (equal parts KY-31 & Rebel 2)	200-250

Seeding dates:

Below 2500 ft:	Aug. 15 - Sept. 1
Above 2500 ft:	July 25 - Aug. 15

Soil Amendments:

Apply lime and fertilizer according to soil tests or apply 4,000 lb/acre ground agricultural limestone and 1,200 lb/acre 10-10-10 fertilizer.

Mulch:

Apply 3,000-4,000 lb/acre grain straw or equivalent cover of another suitable mulch. Anchor mulch by tacking with asphalt, roving, or netting. Netting is the preferred anchoring method on steep slopes.

Maintenance:

The bunch-type habit of tall fescue restricts its spread into damaged areas. Reseed bare spots in the fall. Re-fertilize annually in late winter and again in fall. Reseed, fertilize, and mulch damaged areas immediately.

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECTURAL CORPORATION # C-473 FUSCO AND ASSOCIATES, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT

CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Notes & Specifications

SHEET NO:

L1.01

Sheet Size: 24 x 36

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

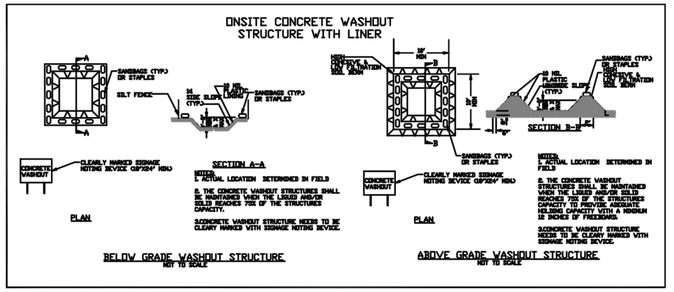
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA *Environmental Quality*



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore
Design, PA

SEAL:
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT # C-473 FUSCO LAND PLANNING & DESIGN, PLLC
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:
Ground Stabilization & Materials Handling

SHEET NO:
L1.02

Sheet Size: 24 x 36

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA LANDSCAPE ARCHITECTURAL REGISTRATION BOARD # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Self-Inspection, Recordkeeping, & Reporting

SHEET NO:

L1.03

Sheet Size: 24 x 36

PROJECT DATA:	
OWNER:	ANGELA & DEREK WEILBAECHER
ADDRESS:	414 VANDERBILT ROAD BILTMORE FOREST, NC 28803
PIN(s):	9646-66-1233
DEED REFERENCE:	5948/0296
PLAT:	2-34
ZONING:	R-1
ADJOINER ZONING:	R-1
SETBACKS:	FRONT: 60' - SIDE: 20' - REAR: 25'
SETBACK REQUIREMENTS DUE TO BUILDING HEIGHT***:	SIDE: 41' - REAR: 46'
RIVER BASIN*:	FRENCH BROAD
TOTAL ACREAGE:	3.01 AC PER TAX RECORDS
DISTURBED AREA:	1.38 AC
EXISTING IMPERVIOUS AREA:	13,554 S.F. (0.31 AC) (10.35%)
PROPOSED IMPERVIOUS AREA:	18,817 S.F. (0.53 AC) (14.35%)
PERCENT IMPERVIOUS AREA CHANGE:	ADD 4.0%
ALLOWABLE IMPERVIOUS SURFACE AREA (20% OF LOT AREA)**:	26,223 S.F. (0.60 AC)

* THERE ARE NO POTENTIALLY JURISDICTIONAL WATERS OF THE STATE OR UNITED STATES ON THIS PROJECT SITE.
** PER TOWN OF BILTMORE FOREST ORDINANCE.
*** ADDITIONAL SETBACK REQUIREMENTS (BUILDING HEIGHT = 38'-6") - ADD 1.5' PER FOOT ABOVE 25' TO SIDE AND REAR SETBACKS.

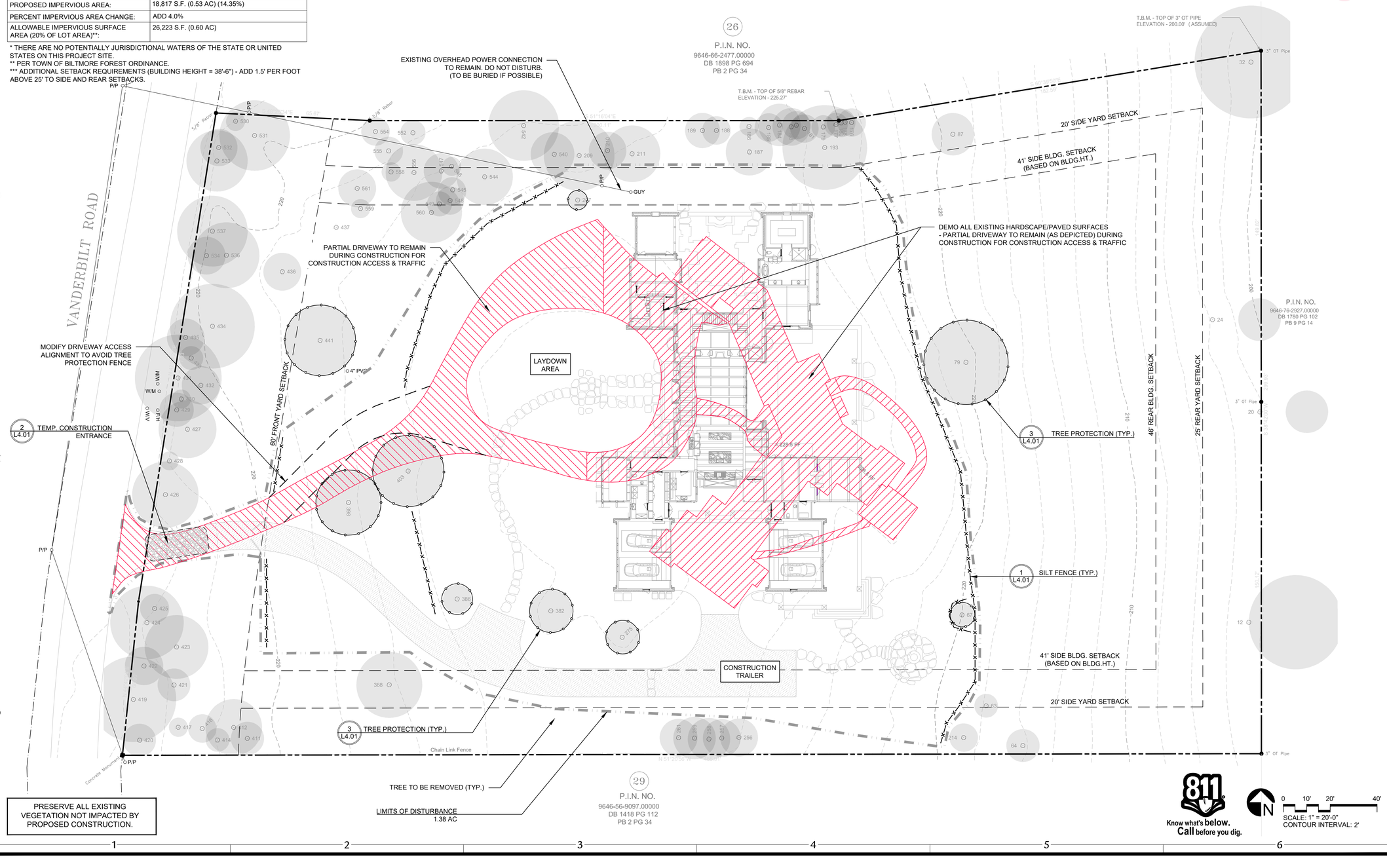
TREE LIST (WITHIN LIMITS OF DISTURBANCE)

TREES TO REMAIN	
PT NO.	DESCRIPTION
67	10" HOLLEY
275	14" CEDAR
382	18" SPRUCE
386	12" REDWOOD
398	28" OAK
403	20" OAK

TREES TO BE REMOVED	
PT NO.	DESCRIPTION
267	36" OAK
272	20" CEDAR
374	42" OAK
459	08" CEDAR
460	24" PINE
464	26" OAK

LEGEND:

- PROPERTY BOUNDARY
- ADJOINING PROPERTY
- TEMPORARY SILT FENCE
- CONSTRUCTION ENTRANCE
- LIMITS OF DISTURBANCE
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- TREE PROTECTION
- TREES TO BE REMOVED



FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Site Stabilization & Clearing

SHEET NO:

L2.01

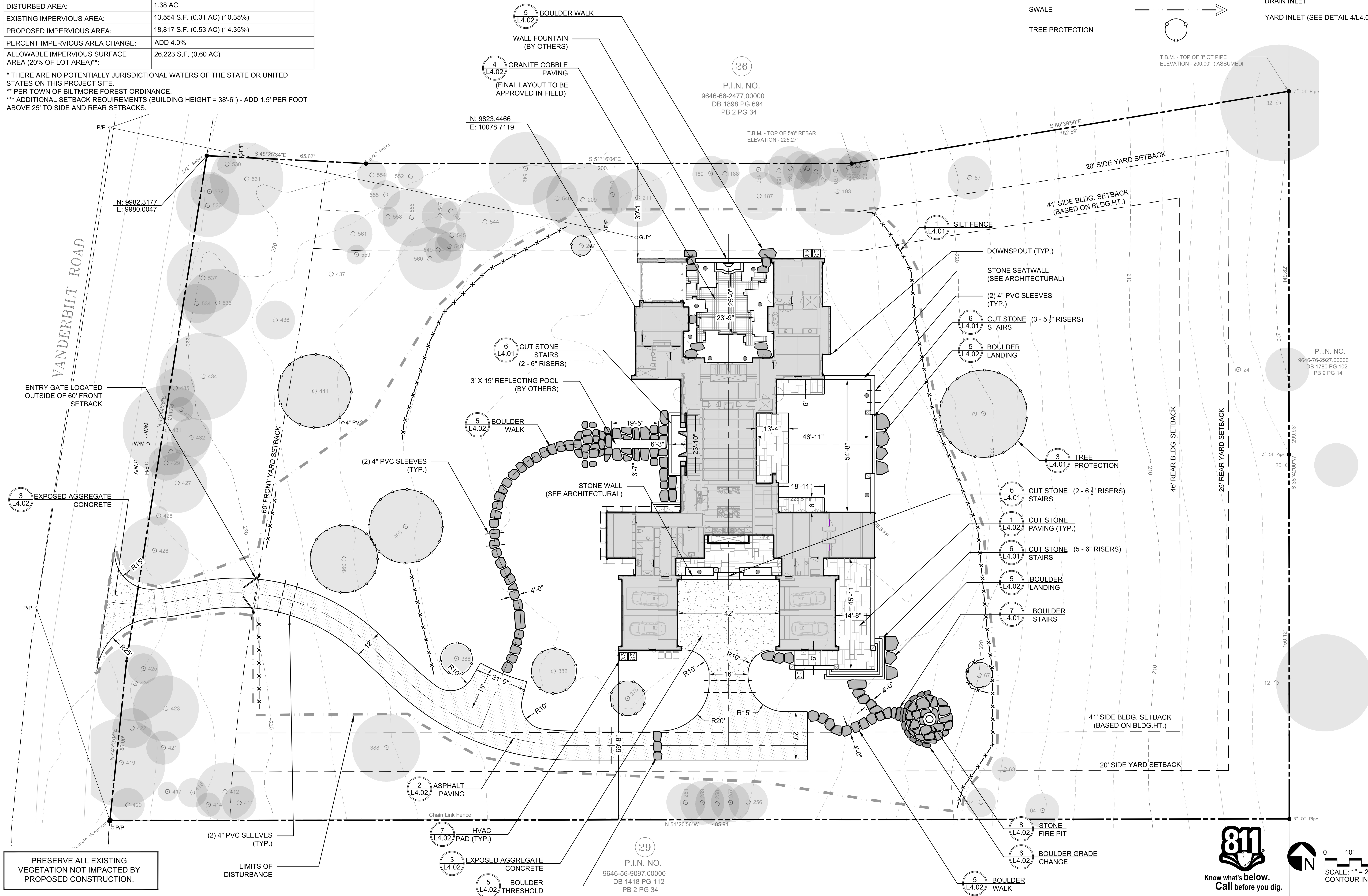
Sheet Size: 24 x 36

PROJECT DATA:	
OWNER:	ANGELA & DEREK WEILBAECHER
ADDRESS:	414 VANDERBILT ROAD BILTMORE FOREST, NC 28803
PIN(s):	9646-66-1233
DEED REFERENCE:	5948/0296
PLAT:	2-34
ZONING:	R-1
ADJOINER ZONING:	R-1
SETBACKS:	FRONT: 60' - SIDE: 20' - REAR: 25'
SETBACK REQUIREMENTS DUE TO BUILDING HEIGHT***:	SIDE: 41' - REAR: 46'
RIVER BASIN*:	FRENCH BROAD
TOTAL ACREAGE:	3.01 AC PER TAX RECORDS
DISTURBED AREA:	1.38 AC
EXISTING IMPERVIOUS AREA:	13,554 S.F. (0.31 AC) (10.35%)
PROPOSED IMPERVIOUS AREA:	18,817 S.F. (0.53 AC) (14.35%)
PERCENT IMPERVIOUS AREA CHANGE:	ADD 4.0%
ALLOWABLE IMPERVIOUS SURFACE AREA (20% OF LOT AREA)**:	26,223 S.F. (0.60 AC)

* THERE ARE NO POTENTIALLY JURISDICTIONAL WATERS OF THE STATE OR UNITED STATES ON THIS PROJECT SITE.
** PER TOWN OF BILTMORE FOREST ORDINANCE.
*** ADDITIONAL SETBACK REQUIREMENTS (BUILDING HEIGHT = 38'-6") - ADD 1.5' PER FOOT ABOVE 25' TO SIDE AND REAR SETBACKS.

LEGEND

INDEX CONTOUR		PROPOSED SPOT ELEVATION	97.5
INTERMEDIATE CONTOUR		TYPICAL	TYP.
PROPERTY LINE		HIGH POINT OF SWALE	HPS
ADJOINING PROPERTY LINE		TOP OF WALL	TW
PROPOSED INDEX CONTOUR	3900	BOTTOM OF WALL	BW
PROPOSED INTERMEDIATE CONTOUR		DOWNSPOUT	DS
SILT FENCE	—x—x—x—x—	HEAT PUMP	HP
LIMITS OF DISTURBANCE		GENERATOR	GEN
SWALE		DRAIN INLET	DI
TREE PROTECTION		YARD INLET (SEE DETAIL 4/L4.01)	YI



PRESERVE ALL EXISTING VEGETATION NOT IMPACTED BY PROPOSED CONSTRUCTION.

811 Know what's below. Call before you dig.

SCALE: 1" = 20'-0"
CONTOUR INTERVAL: 2'

FUSCO LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL: NORTH CAROLINA # C-473 — NORTH CAROLINA #1261

DRAWN BY:	CHECKED BY:
NAT	MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Site Layout & Matierials

SHEET NO:

L3.01

Sheet Size: 24 x 36

PROJECT DATA:	
OWNER:	ANGELA & DEREK WEILBAECHER
ADDRESS:	414 VANDERBILT ROAD BILTMORE FOREST, NC 28803
PIN(s):	9646-66-1233
DEED REFERENCE:	5948/0296
PLAT:	2-34
ZONING:	R-1
ADJOINER ZONING:	R-1
SETBACKS:	FRONT: 60' - SIDE: 20' - REAR: 25'
SETBACK REQUIREMENTS DUE TO BUILDING HEIGHT***:	SIDE: 41' - REAR: 46'
RIVER BASIN*:	FRENCH BROAD
TOTAL ACREAGE:	3.01 AC PER TAX RECORDS
DISTURBED AREA:	1.38 AC
EXISTING IMPERVIOUS AREA:	13,554 S.F. (0.31 AC) (10.35%)
PROPOSED IMPERVIOUS AREA:	18,817 S.F. (0.53 AC) (14.35%)
PERCENT IMPERVIOUS AREA CHANGE:	ADD 4.0%
ALLOWABLE IMPERVIOUS SURFACE AREA (20% OF LOT AREA)**:	26,223 S.F. (0.60 AC)

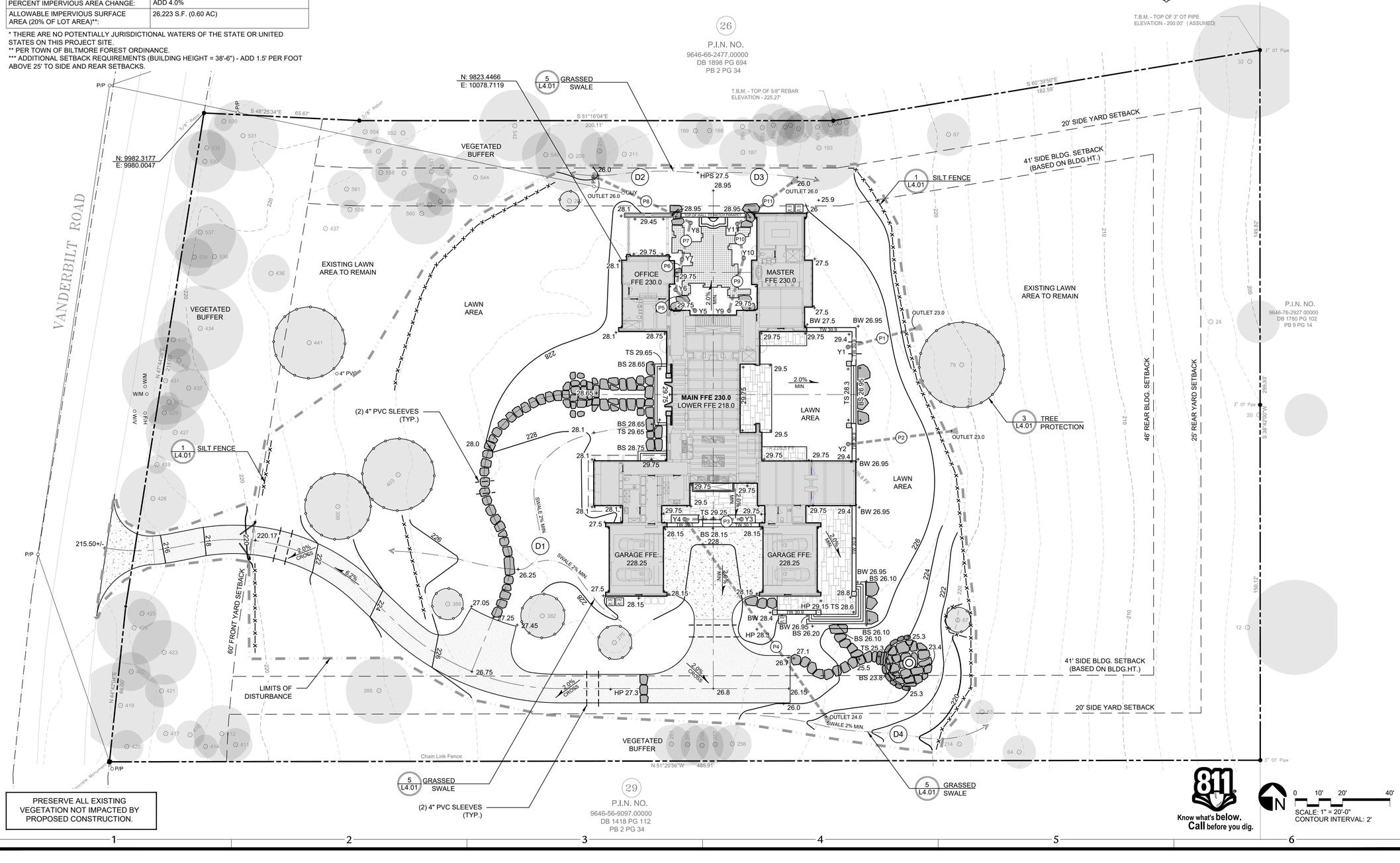
* THERE ARE NO POTENTIALLY JURISDICTIONAL WATERS OF THE STATE OR UNITED STATES ON THIS PROJECT SITE.
** PER TOWN OF BILTMORE FOREST ORDINANCE.
*** ADDITIONAL SETBACK REQUIREMENTS (BUILDING HEIGHT = 38'-6") - ADD 1.5' PER FOOT ABOVE 25' TO SIDE AND REAR SETBACKS.

DITCH REINFORCEMENT																	
Ditch	Total Acres "A"	"C" % Runoff	TOC	Rain "i" 10 yr	Design Q=CiA (CFS)	Slope	Bottom Width (ft) (b)	Side Slopes (Z)	Channel Depth (ft) (d)	n	Velocity	Area (sq. ft.) (A)	Hyd. Rad. (ft.)	Permissible Q (CFS)	Material/Staple Pattern	Permissible sheer stress	Calculated sheer stress
D1	0.23	0.40	5.00	7.760	0.71	0.0250	1	3	.25	0.022	3.28	0.44	0.17	1.43	Straw w/ Net	1.45	0.39
D2	0.13	0.40	5.00	7.760	0.40	0.0300	1	3	.25	0.022	3.59	0.44	0.17	1.57	Straw w/ Net	1.45	0.47
D3	0.09	0.40	5.00	7.760	0.28	0.0326	1	3	.25	0.022	3.74	0.44	0.17	1.64	Straw w/ Net	1.45	0.51
D4	0.18	0.40	5.00	7.760	0.56	0.0833	1	3	.25	0.022	5.98	0.44	0.17	2.62	Straw w/ Net	1.45	1.30

LEGEND

- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- PROPERTY LINE
- ADJOINING PROPERTY LINE
- PROPOSED INDEX CONTOUR (3900)
- PROPOSED INTERMEDIATE CONTOUR
- SILT FENCE
- LIMITS OF DISTURBANCE
- SWALE
- TREE PROTECTION

PROPOSED SPOT ELEVATION	+97.5
TYPICAL	TYP.
HIGH POINT OF SWALE	HPS
TOP OF WALL	TW
BOTTOM OF WALL	BW
DOWNSPOUT	DS
HEAT PUMP	HP
GENERATOR	GEN
DRAIN INLET	DI
YARD INLET (SEE DETAIL 4/L4.01)	Y1
DITCH	D3
PIPE	P6



Know what's below. Call before you dig.

SCALE: 1" = 20'-0"
CONTOUR INTERVAL: 2'

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA LANDSCAPE ARCHITECTURAL REGISTRATION BOARD # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021		
No.	Revision / Issue	Date

SHEET TITLE:

Site Grading, Drainage, EC & Stormwater Control

SHEET NO:

L3.02

Sheet Size: 24 x 36

YARD INLET SCHEDULE				RUNOFF & PIPE CAPACITY								Runoff: Q=CIA						
												Pipe Capacity: Q=1.486/n*R^2/3*S^0.5*A						
						Approx.						Total	Developed			25Year			
	RIM				Pipe	Pipe		Manning's				Area	Runoff	Tc	Rainfall	Runoff	Pipe	Full Flow	Sized
Yard	Elevation	Invert In	Invert Out	Pipe	Size	Length	Pipe	"n"	Slope	Invert In	Invert Out	to Pipe	C-Factor		Intensity	to Pipe	Capacity	Velocity	for the
Inlet	(FT)			Segment	(IN)	(FT)	Mat'l	Factor				(ACRES)	(C)	(Min)	(In/Hr)	(CFS)	(CFS)	(Ft/Sec)	design storm
Y1	29.30		24.00	P1	12	31.35	HDPE	0.013	3.19%	24.00	23.00	0.10	0.40	5	7.760	0.31	6.4	8.1	OK
Y2	29.30		24.00	P2	12	46.15	HDPE	0.013	2.17%	24.00	23.00	0.10	0.40	5	7.760	0.31	5.2	6.7	OK
Y3	28.75		26.20	P3	12	22.50	HDPE	0.013	2.00%	26.20	25.75	0.03	0.40	5	7.760	0.08	5.0	6.4	OK
Y4	28.75	25.75	25.50	P4	12	100.00	HDPE	0.013	1.50%	25.50	24.00	0.03	0.40	5	7.760	0.08	4.4	5.6	OK
Y5	29.25		27.25	P5	12	10.50	HDPE	0.013	1.43%	27.25	27.10	0.09	0.40	5	7.760	0.27	4.3	5.4	OK
Y6	29.25	27.00	27.00	P6	12	11.50	HDPE	0.013	1.30%	27.00	26.85	0.09	0.40	5	7.760	0.27	4.1	5.2	OK
Y7	29.25	26.85	26.85	P7	12	14.15	HDPE	0.013	1.77%	26.75	26.50	0.09	0.40	5	7.760	0.27	4.7	6.0	OK
Y8	28.50	26.50	26.50	P8	12	44.50	HDPE	0.013	1.35%	26.40	25.80	0.09	0.40	5	7.760	0.27	4.1	5.3	OK
Y9	29.25	27.25	27.25	P9	12	26.00	HDPE	0.013	1.92%	27.25	26.75	0.09	0.40	5	7.760	0.27	4.9	6.3	OK
Y10	29.00	26.75	26.75	P10	12	13.15	HDPE	0.013	1.90%	26.75	26.50	0.09	0.40	5	7.760	0.27	4.9	6.3	OK
Y11	28.50	26.50	26.50	P11	12	21.50	HDPE	0.013	2.33%	26.50	26.00	0.09	0.40	5	7.760	0.27	5.4	6.9	OK

* If pipe size shown is not available increase to next available pipe size. Ensure 2' cover over all pipes.

** TOC was determined using chart 8.03.04 of the erosion control manual. All TOC's less than 5, were rounded up to 5.

*** Pipes 5-11 sized for entire courtyard area to provide for redundancy against flooding.

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore
Design, PA

SEAL:

DRAWN BY: NAT

CHECKED BY: MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC

LANDSCAPE ARCHITECTURE | CONSERVATION PLANNING | LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 | PH: 828.243.6604 | WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

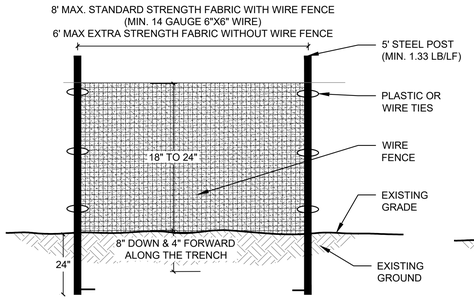
SHEET TITLE:

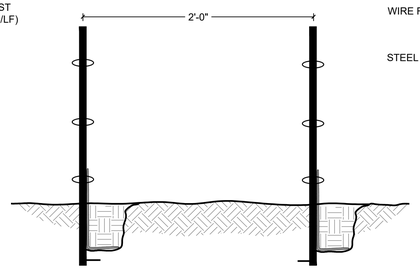
Yard Inlet & Pipe Schedule

SHEET NO:

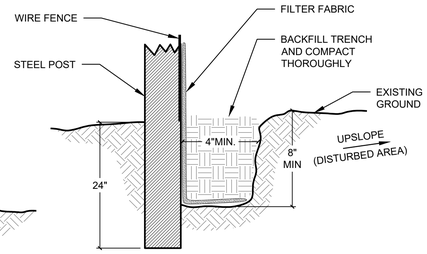
L3.03

Sheet Size: 24 x 36

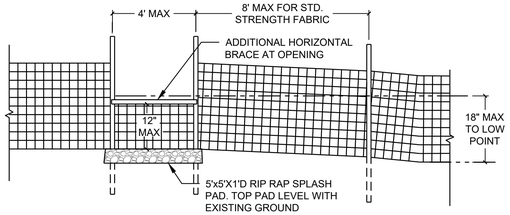




DOUBLE ROW SILT FENCE
SIDE VIEW



ENLARGED SECTION VIEW



NOTE: ALL SILT FENCE NOTES APPLY TO SILT FENCE OUTLET

SILT FENCE OUTLET

SLOPE	SLOPE LENGTH (FT)	MAXIMUM AREA (SQ FT)
<2%	100	10,000
2 TO 5%	75	7,500
5 TO 10%	50	5,000
10 TO 20%	25	2,500
>20%	15	1,500

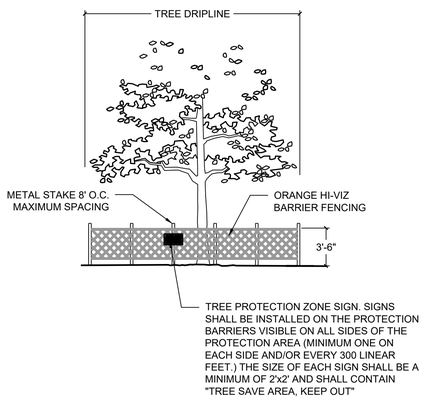
NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
4. REFERENCE NCDEQ LAND QUALITY SECTION DESIGN MANUAL: 6.62
5. ALL AREAS WITHIN TROUT BUFFERS SHALL RECEIVE DOUBLE ROW OF SILT FENCE (TYP.)

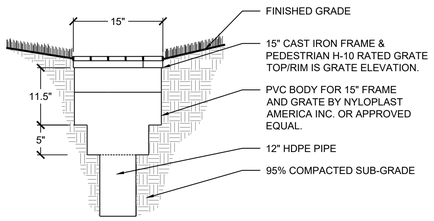
1 L4.01 TEMPORARY SILT FENCE
NTS

NOTES:

1. TREE PROTECTION SHALL BE PROVIDED AS SHOWN IN DETAIL. BARRIER SHALL BE ERECTED PRIOR TO ANY CONSTRUCTION IN GENERAL AREA OF TREES TO BE PROTECTED.
2. TREES AND CLUSTERS OF TREES SHALL BE MARKED AND PHYSICALLY PROTECTED FROM PARKING, STORAGE, OF MATERIALS AND SECONDARY UTILITY LINE LOCATIONS.
3. EXISTING VEGETATION REMAINING AFTER GRUBBING FOR BUILDING PADS, STRUCTURES, RIGHT-OF-WAY, PARKING AREAS AND SIGNIFICANT GRADE CHANGES SHALL BE PROTECTED DURING THE CONSTRUCTION PROCESS OF THE DEVELOPMENT.
4. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION AND HEAVY EQUIPMENT IS OUT OF AREA.
5. UPRIGHTS - 4 X 4 POST OR WOOD FENCE POST ON 8' MINIMUM CENTERS.
6. HORIZONTALS - 1"X 6" SOUTHERN YELLOW PINE.

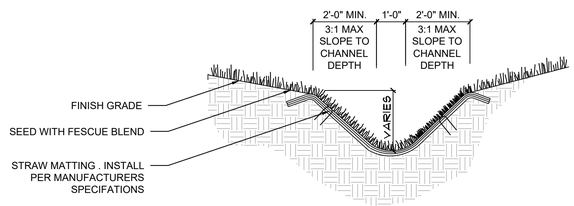


3 L4.01 TREE PROTECTION
NTS



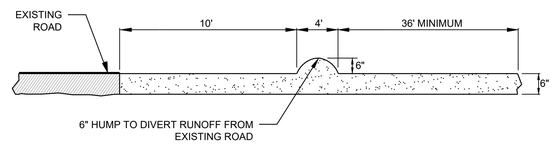
18" DROP-IN DUCTILE IRON GRATE (BLACK)

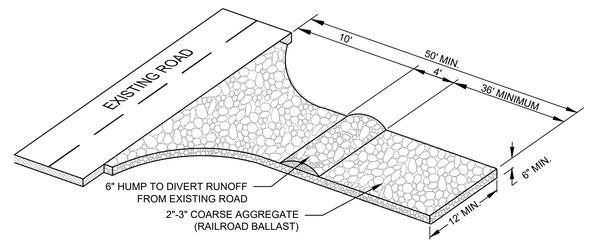
4 L4.01 NYLOPLAST YARD INLET
NTS



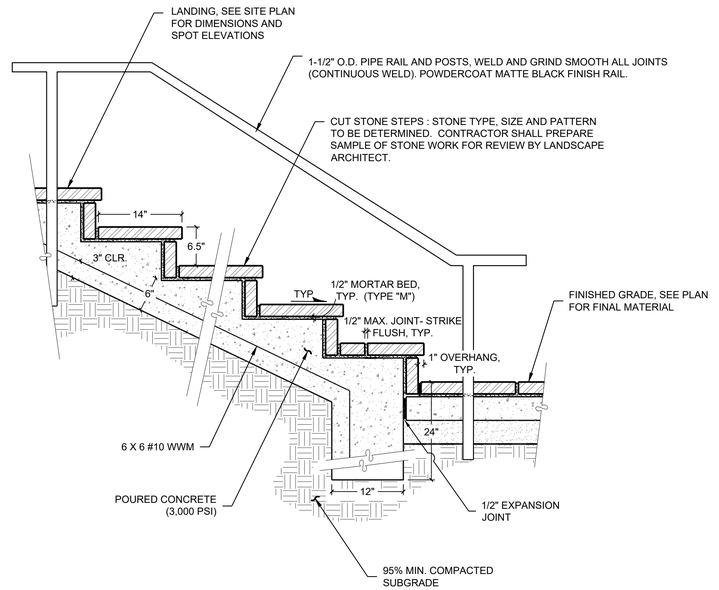
MAINTENANCE:
During establishment period, check grass lined channels after every rainfall. Immediately make repairs. After grass is established periodically check channel particularly after heavy rainfall. Check channel outlet and all road crossings for bank stability and evidence of pipe scour holes. Remove all significant sediment accumulations. Keep grass in a healthy, vigorous condition at all times.

5 L4.01 GRASSED SWALE
NTS

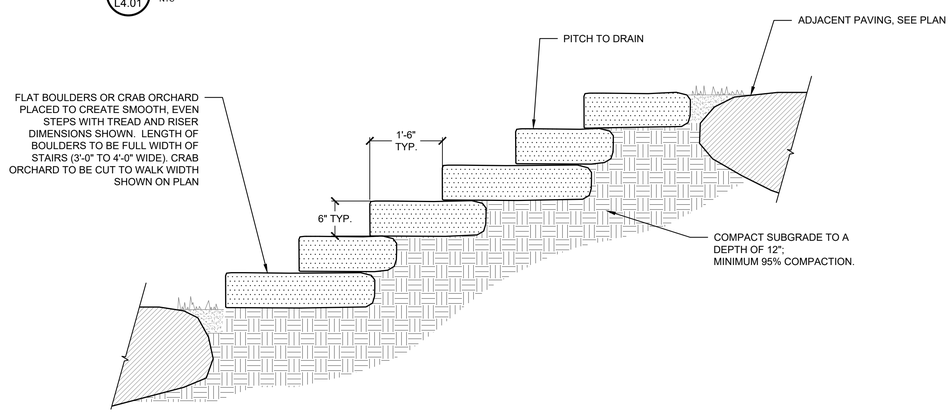




2 L4.01 TEMPORARY CONSTRUCTION ENTRANCE
NTS



6 L4.01 CUT STONE STAIRS
NTS



7 L4.01 BOULDER STAIRS
NTS

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECTURAL FIRM # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT

CHECKED BY: MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC

LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT

P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

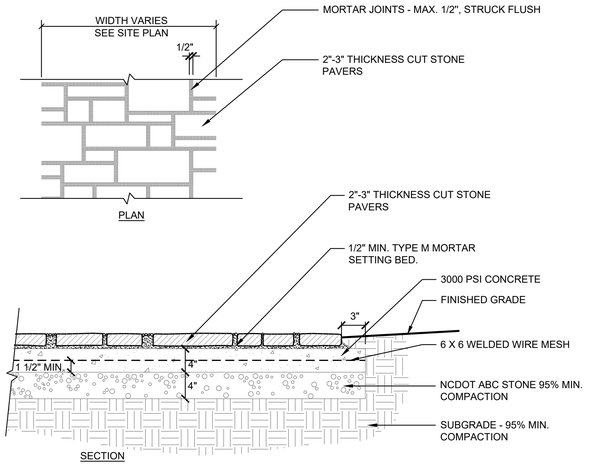
Site Details

SHEET NO:

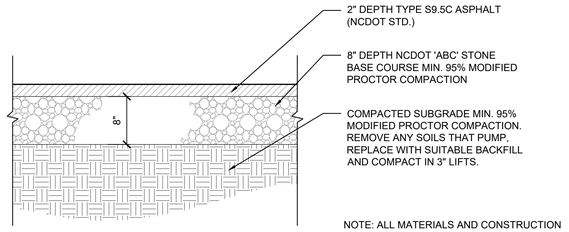
L4.01

Sheet Size: 24 x 36

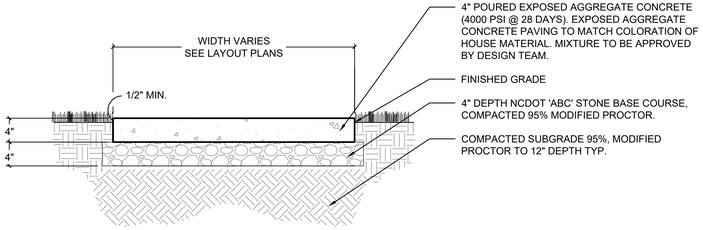
NOTES
1. CUT OUT & REMOVE UNSUITABLE SUBGRADE AS NECESSARY, REPLACE WITH ACCEPTABLE BACKFILL AND COMPACT TO 95% STANDARD PROCTOR.
2. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES, ALL WALKS TO HAVE A MINIMUM CROSS SLOPE OF 1.0%.
3. CONTRACTOR TO PROVIDE A 5'X5' MOCK UP FOR APPROVAL BY DESIGN TEAM.



1 L4.02 CUT STONE PAVING
NTS



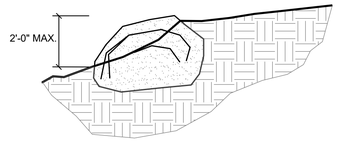
2 L4.02 ASPHALT PAVING
NTS



NOTE:

1. TOOLED CONTRACTION JOINTS, 1" DEPTH, MIN. DISTANCE BETWEEN JOINTS 5'-0" TYP.
2. EXPANSION JOINTS ARE TO OCCUR A MIN. OF 50' O.C., OTHER JOINTS MAY OCCUR AS CONTRACTION JNTS. FILL 1/2" EXPANSION JOINT WITH FLEXIBLE BOND, BOARD, OR GROUT AS APPROVED BY LANDSCAPE ARCHITECT.
3. TYPICAL WIDTH OF CONCRETE SIDEWALKS ARE 8'.
4. CONTRACTION JOINTS ARE TO OCCUR AT A MIN. OF 5' O.C.
5. ALL PAVING TO BE STAKED AND FINAL LAY OUT IN THE FIELD BY LANDSCAPE ARCHITECT.

3 L4.02 EXPOSED AGGREGATE CONCRETE
NTS

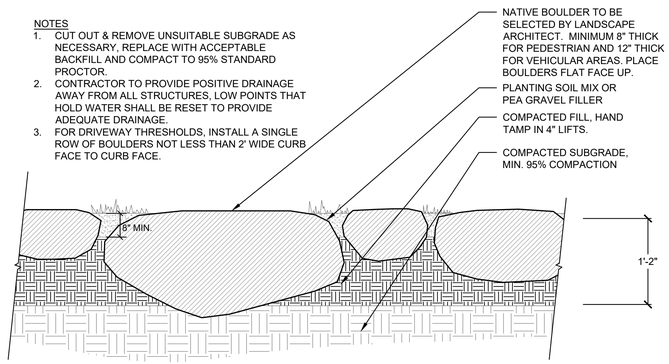


NOTES:

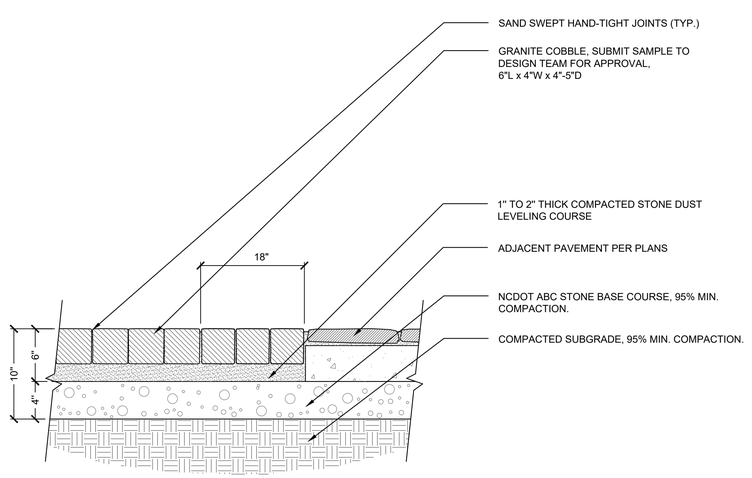
1. BOULDERS TO BE NATIVE, WEATHERED FIELDSTONE.
2. RECEIVE LANDSCAPE ARCHITECTS APPROVAL OF BOULDERS PRIOR TO INSTALLATION.
3. BOULDER PLACEMENT TO BE DIRECTED IN FIELD BY LANDSCAPE ARCHITECT.
4. MINIMUM BOULDER DIMENSIONS TO BE 30"-48" X 24"-36"
5. COUNTERSINK BOULDER INTO GROUND 1/2 - 2/3 OF BOULDER HEIGHT.
6. ADJACENT BOULDERS TO BE PLACED TO MINIMIZE GAPS.
7. BOULDERS TO EMULATE ROCK OUTCROPS

6 L4.02 BOULDER GRADE CHANGE
NTS

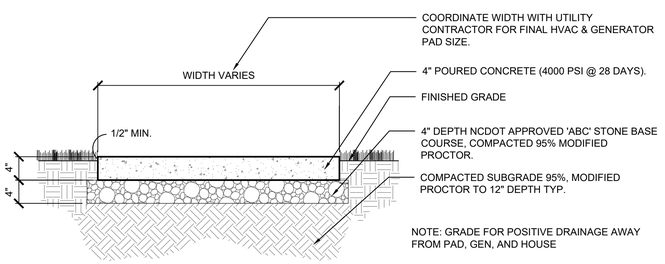
NOTES
1. CUT OUT & REMOVE UNSUITABLE SUBGRADE AS NECESSARY, REPLACE WITH ACCEPTABLE BACKFILL AND COMPACT TO 95% STANDARD PROCTOR.
2. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES, LOW POINTS THAT HOLD WATER SHALL BE RESET TO PROVIDE ADEQUATE DRAINAGE.
3. FOR DRIVEWAY THRESHOLDS, INSTALL A SINGLE ROW OF BOULDERS NOT LESS THAN 2' WIDE CURB FACE TO CURB FACE.



5 L4.02 BOULDER WALK / PAVING / LANDING / THRESHOLD
NTS



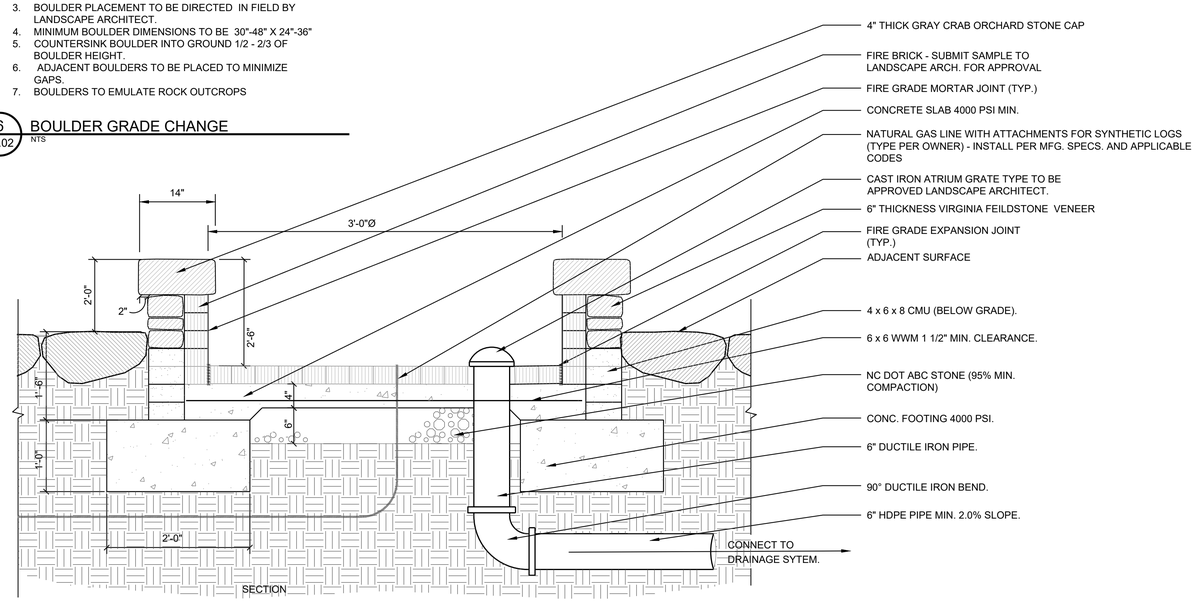
4 L4.02 GRANITE COBBLE PAVING
NTS



7 L4.02 HVAC / GENERATOR / HEAT PUMP PAD
NTS

IMPORTANT: THE GAS LINE AND RELATED EQUIPMENT FOR STARTING WOOD FIRES WILL BE SUBJECT TO HIGH TERMPERATURES AND OPEN FLAMES. THIS EQUIPMENT SHALL BE SPECIFIED AND INSTALLED BY QUALIFIED PERSONEL TO ASSURE THE SAFETY OF OPERATORS AND THE GENERAL PUBLIC.

NOTES:
1) CONTRACTOR TO PROVIDE A MINIMUM 1.0% SLOPE TO INLET.
2) GAS LINE AND RELATED EQUIPMENT TO BE INSTALLED PER ALL APPLICABLE CODES.
3) CONTROL VALVE(S) FOR THE GAS LINE ARE TO BE LOCATED REMOTELY FROM THE FIRE PIT WITHIN A SECURE LOCKABLE BOX.



8 L4.02 STONE FIRE PIT
NTS

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECTURAL CORPORATION # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Site Details

SHEET NO:

L4.02

Sheet Size: 24 x 36

15 TREES TO BE REMOVED:

PROTECTED TREES		UNPROTECTED TREES		REQUIRED REPLACEMENTS
267	36" OAK	374	42" OAK - DAMAGED	33 TREES REQUIRED
272	20" CEDAR	390	20" PIN - DAMAGED	54 TREES PROVIDED
464	26" OAK	406	14" HEMLOCK - ADELGID	
567	24" POPLAR	407	26" PINE - DAMAGED	
		459	08" CEDAR - ONE SIDE DAMAGED	
		460	24" PINE - DAMAGED	
		470	12" HEMLOCK - ADELGID	
		471	06" HEMLOCK - ADELGID	
		473	12" PINE - DAMAGED	
		568	08" PINE - DAMAGED	
		476	12" PINE - DAMAGED	

VANDERBILT ROAD

26
P.I.N. NO.
9646-66-2477.00000
DB 1898 PG 694
PB 2 PG 34

29
P.I.N. NO.
9646-56-9097.00000
DB 1418 PG 112
PB 2 PG 34

P.I.N. NO.
9646-76-2927.00000
DB 1780 PG 102
PB 9 PG 14

N: 9982.3177
E: 9980.0047

N: 9823.4466
E: 10078.7119

EXISTING PLANT BUFFER TO REMAIN

ENHANCE ROADSIDE BUFFER WITH RHODODENDRON AND HYDRANGEA

PERENNIAL/FERN/ GROUNDCOVER MIX (TYP.)

ORNAMENTAL GRASS MIX (TYP.) :
PRAIRIE DROP SEED
CARL FORESTER FEATHER REED
HAMLYN FOUNTAIN GRASS

BOULDER PATH

BOULDER PATIO

BENCH BY OWNER

REFLECTING POOL

SPADED BED EDGE (TYP.)

TWO CAR PARKING

GARDEN GATE

COURTYARD GARDEN
ANTIQUE WATER FEATURE
COBBLE PAVING
MOSS GARDEN

6' MULCH PATH

FIRE PIT PATIO

LAWN TERRACE

HERBS

MOSS

CARE TABLE

PIERRE MTN FIRE

LAWN

EXIST. LAURELS

EXIST. HOLLY

EXISTING EVERGREEN BUFFER TO REMAIN

PERENNIAL/FERN/ GROUNDCOVER MIX (TYP.)

20' SIDE YARD SETBACK

41' SIDE BLDG. SETBACK (BASED ON BLDG.HT.)

46' REAR BLDG. SETBACK

25' REAR YARD SETBACK

60' FRONT YARD SETBACK

41' SIDE BLDG. SETBACK (BASED ON BLDG.HT.)

20' SIDE YARD SETBACK

T.B.M. - TOP OF 5/8" REBAR
ELEVATION - 201.20' (ASSUMED)

T.B.M. - TOP OF 3" OT PIPE
ELEVATION - 200.00' (ASSUMED)

PRESERVE ALL EXISTING VEGETATION NOT IMPACTED BY PROPOSED CONSTRUCTION.

Know what's below. Call before you dig.

0 10' 20' 40'
SCALE: 1" = 20'-0"
CONTOUR INTERVAL: 2'

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECTURAL CORPORATION FUSCO LAND PLANNING & DESIGN, PLLC # C-473

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT

CHECKED BY: MJF

WEILBAECHER RESIDENCE

414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC

LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT

P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021		
No.	Revision / Issue	Date

SHEET TITLE:

Landscape Plan

SHEET NO:

L5.01

Sheet Size: 24 x 36

PLANT LIST

SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SPECIFICATIONS
CANOPY TREES				
AR1	Acer rubrum 'Red Sunset'	Red Sunset Maple	1	3.5" Cal. – B&B – Single, straight leader – Dense, full plant
AR2	Acer rubrum 'Red Sunset'	Red Sunset Maple	1	2.5" Cal. – B&B – Single, straight leader – Dense, full plant
QL	Quercus lyrata	Overcup Oak	1	3.5" Cal. – B&B – Single, straight leader – Dense,full plant
EVERGREEN TREES				
CO	Chamaecyparis obtusa	Hinoki Cypress	2	6' – 8'
CJ	Cryptomeria japonica	Japanese Cryptomeria	11	10' – 12' ht. – B&B – Dense, full plant
INS	Ilex x 'Nellie Stevens Holly'	Nellie Stevens Holly	4	8' – 10' ht. – B&B – Dense, full plant
ISH	Ilex x 'Satyr 'Hill Holly'	'Satyr Hill' Holly	8	6' – 8' ht. – B&B – Dense, full plant
PA	Picea 'abies	Norway Spruce	11	8' – 10' ht. – B&B – Dense, full plant
MLG	Magnolia x 'Little Gem'	Little Gem Magnolia	1	5'–6" ht. – B&B – Dense, full plant
TE1	Thuja x Emerald	Emerald Arborvitae	1	8' '– 10' ht. – B&B – Dense, full plant
TE2	Thuja x 'Emearald'	Emerald Arborvitae	1	10'–12' ht. – B&B – Dense, full plant
SMALL FLOWERING TREES				
AP	Aesculus pavia	Red Buckeye	1	4' – 5' Hgt. multi stemmed (3 min.) – Specimen
AJG	Acer japonica 'Green Leaf'	Green Leaf japanese maple	2	8' –10' Hgt. multi stemmed (3 min.) – Specimen
AJLH	Acer japonica 'Lions Head'	Lions Head japanese maple	1	4' – 5' Hgt. multi stemmed (3 min.) – Specimen
CK	Cornus kousa	Kousa Dogwood	3	7' – 8' ht. – B&B – Multi–stemmed – 3 Leaders min. – Full plant
MJ	Magnolia x 'Jane'	Jane Saucer magnolia	2	6'– 8' Ht – Multi–stemmed – Dense, Full plant
LIN	Lagerstroemia indica 'Natchez"	Natchez Crepe Myrtle	3	10' –12' Ht – B&B –Multi stemmed (3 min.) – Specimen
EVERGREEN SHRUBS				
BGM	Buxus 'Green Mountain'	Green Mountain Boxwood	8	7 Gal. Cont. – Dense, full plant
DVJ	Distylium 'Vintage Jade'	Vintage Jade Distylium	19	3 Gal. Cont. – Dense, full plant
IGN	Ilex glabra 'Nigra'	Dwf. Inkberry Holly	18	3 Gal. Cont. – Dense, full plant
ICG	Ilex x 'China Girl'	China Girl Holly (one China Boy)	15	3 Gal. Cont. – Dense, full plant
IH	Ilex x 'Hoogendorn'	Hoogendorn Holly	18	3 Gal. Cont.. – Cont. – Dense, full plant
KM	Kalmia latifolia 'Minuet'	Minuet Mountain Laurel	9	3 Gal. Cont. – Cont. – Dense, full plant
PL	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Cherry Laurel	31	5 Gal. Cont.– Cont. – Dense, full plant
PS	Prunus laurocerasus 'Schipkaensis'	Schip Cherry Laurel	12	5 Gal. Cont.– Cont. – Dense, full plant
PJ	Pieris japonica	Japanese pieris	11	5 gal. Cont. Dense, full plant.
RE	Rhododendron catawbiense 'English Roseum'	English Roseum Rhododendron	16	24" – 30" ht.– Dense, full plant
RN	Rhododendron catawbiense 'Anna Krushke'	Anna Krushke Rhododendron	13	24" – 30" ht.– Dense, full plant
RP	Rosa x 'Pink Drift'	Pink Drift Rose	25	3 Gal cont..– Dense, full plant
RRI	Rosa x 'Ringo'	Ringo Rose	16	3 Gal cont..– Dense, full plant
DECIDUOUS SHRUBS AND VINES				
CL	Caryopteris clandonensis 'Dark Knight'	False Spirea	15	3 gal. Cont. – Dense, full plant
CH	Clethra alnifolia 'Hummingbird'	Hummingbird Clethra	12	3 Gal. Cont. – Dense, full plant
FG	Fothergilla Gardenii	Dwarf Fothergilla	13	3 Gal Cont. – Dense , full plant
HF	Hydrangea paniculata 'Firelight'	Firelight Hydrangea	10	3 Gal. Cont. – Dense, full plant
HLL	Hydrangea paniculata 'Little Lime'	Little Lime Hydrangea	35	3 Gal. Cont. – Dense, full plant
HPM	Hydrangea x 'Penny Mac'	Penny Mac Hydrangea	3	5 gal. Cont. – Dense, full plant
HE	Hydrangea 'endless Summer'	Endless Summer Hydrangea	12	3 gal Cont. – dense, full plant.
HQ	Hydrangea quercifolia 'Ruby Slippers'	Oak Leaf Hydrangea	14	3 Gal. Cont. – Dense, full plant
IV	Itea virginica 'Henry's Garnet'	Virginia Sweetspire	22	3 Gal. Cont. – Dense, full plant
VC	Vitex agnus–castus	Chaste Tree	7	5 gal. Cont. – Dense, full plant
VP	Viburnum plicatum 'Shasta'	Shasta Viburnum	10	5 gal. Cont. – Dense, full plant
HLK	Hibiscus x 'Little Kim'	Dwf. Rose of Sharon	18	3 Gal. Cont. – Dense, full plant
POC	Physocarpus opulus 'Coppertina'	Coppertina Ninebark	28	3 Gal. Cont. – Dense, full plant
POD	Physocarpus opulus 'Diablo'	Diablo Ninebark	13	5 Gal. Cont. – Dense, full plant
POD	Physocarpus opulus 'Diablo'	Diablo Ninebark	13	5 Gal. Cont. – Dense, full plant
AP	Anomala petriola	Climbing Hydrangea	11	1 Gal Cont. – Dense , full plant
RI	Rosa x 'Iceburg'	Iceburg Climbing Rose	8	1 Gal Cont. – Dense , full plant
PERENNIALS AND FERNS				
AM	Allium 'Mellenium'	Wild Onion	23	1 Gallon cont. – Dense, full plant
AA	Aster x 'Winston Churchill'	Winston Churchill Aster	22	1 Gallon cont. – Dense, full plant
AN	Aster novae–angliae	New England Aster	15	1 Gallon cont. – Dense, full plant
CS	Chrysanthemum x superbum	Shasta Daisy	35	1 Gallon cont. – Dense, full plant
CZ	Coreopsis verticillata 'Zagreb'	Threadleaf Coreopsis	60	1 Gallon cont. – Dense, full plant
DG	Dianthus gratianopolitanus	Cheddar Pinks 'Bath's Pink'	45	1 Gallon cont. – Dense, full plant
DP	Dennstadtia punctiloba	Hay–Scented Fern	75	1 Gallon cont. – Dense, full plant
DE	Dryopteris erythrosora	Autumn Fern	30	1 gallon cont. – Dense full plant
EP	Echinacea purpurea	Purple Coneflower	12	1 Gallon cont. – Dense, full plant
HL	Hermerocallis liliaceae	Daylily	12	1 Gallon cont. – Dense, full plant
IS	Iberis sempervirens 'Purity'	Candytuft	25	1 Gallon cont. – Dense, full plant
ICB	Iris siberica 'Ceasars Brother'	Siberian Iris	15	1 Gallon cont. – Dense, full plant
IIC	Iris siberica 'Ice Castles'	Siberian Iris	15	1 Gallon cont. – Dense, full plant
LS	Liatris spicata 'Kobold'	Spike Gayfeather	12	1 Gallon cont. – Dense, full plant
PAC	Polystichum acrostichoides	Christmas Fern	25	1 Gallon cont. – Dense, full plant
CK	Calamagrostis x actiflora 'Stricta'	Karl Forester Reed Grass	15	1 Gallon cont. – Dense, full plant
PSB	Phlox subulata	Moss Phlox 'Blue'	22	1 Gallon cont. – Dense, full plant
RF	Rudeckia fulsida 'Goldstrum'	Blackeyed Susan	34	1 Gallon cont. – Dense, full plant
SF	Solidago x 'Fireworks'	Fireworks Golden Rod	22	1 Gallon cont. – Dense, full plant
TH	Thymus	Creeping Thyme	25	1 Gallon cont. – Dense, full plant
VS	Veronica x 'Blue Skywalker'	Speedwell	25	1 Gallon cont. – Dense, full plant
GROUNDCOVER				
PT	Pacchysandra Terminallis	jap. Pacchysandra	65	1 Qt cont. – Dense, full plant
VM	Vinca Minor	Perriwinkle	25	1 Qt cont. – Dense, full plant

LANDSCAPE NOTES

1. ALL AREAS SHOWN ON THE PLAN TO BE MULCHED SHALL RECEIVE 3" DEPTH OF AGED FINE SHREDDED PINE BARK. SAMPLE TO BE APPROVED BY LANDSCAPE ARCHITECT.

2. CONTRACTOR SHALL VERIFY QUANTITIES ON THE PLAN AND IS RESPONSIBLE FOR ALL PLANTS AS SHOWN ON THE PLANT LIST. REPORT ANY DISCREPANCIES TO LANDSCAPE ARCHITECT. SEE PLANT LIST SHEET L–4.

3. CONTRACTOR SHALL GUARANTEE ALL PLANTINGS FOR ONE YEAR FROM COMPLETION OF WORK. REPLACEMENT PLANTS AND LABOR SHALL BE PROVIDED AT CONTRACTORS' EXPENSE.

4. PRUNE ONLY AS DIRECTED BY LANDSCAPE ARCHITECT. PLANTS SHALL NOT HAVE A SHEARED APPEARANCE.

5. ALL PLANT MATERIAL IS TO CONFORM TO THE LATEST EDITION OF AMERICAN STANDARDS FOR NURSERY STOCK.

6. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL.

7. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND IDENTIFICATION OF ALL UTILITIES. ANY UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S COST.

8. ALL DEMOLISHED MATERIALS AND TRASH ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. HARDSCAPE AREAS ARE TO BE PRESSURE WASHED TO ACHIEVE A CLEAN FINISHED APPEARANCE.

9. ALL PLANTING BEDS ARE TO BE CLEANED OF ROCKS AND DEBRIS >1", TILLED TO 12" DEPTH AND AMENDED WITH 3" OF NATURES HELPER (OR APPROVED EQUAL), THEN THOROUGHLY TILLED TOGETHER.

10. ANY REMAINING DISTURBED AREAS, NON–PLANTING OR MEADOW, ARE TO BE FINE GRADED AND SEEDED WITH FESCUE BLEND (SEE SCHEDULE, THIS PAGE) .

11. PRIOR TO INSTALLATION, CONTRACTOR SHALL REVIEW PLANT AND LIGHT LOCATIONS WITH LANDSCAPE ARCHITECT TO ELIMINATE CONFLICTS. ON SHEET L1.

12. ALL EXISTING AND PROPOSED TREES NOT CONTAINED WITHIN A MULCHED BED ARE TO RECEIVE A 5' DIAMETER CIRCLE OF MULCH.

13. LANDSCAPE ARCHITECT WILL FIELD PLACE ALL PLANT MATERIALS.

14. REPORT ANY POORLY DRAINED SOILS OR ANY DRAINAGE PROBLEMS TO LANDSCAPE ARCHITECT IMMEDIATELY. FAILURE TO REPORT SUCH CONDITIONS WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR CORRECTING THE PROBLEM AND REPLACING DAMAGED OR LOST PLANTS.

15. LAWN AREAS TO BE SEEDED SHALL BE TILLED TO A MIN. 4" DEPTH (EXCEPT WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN.) SEE SEEDING SCHEDULES, THIS PAGE, FOR SEEDING AND FERTILIZATION RATES.

TREE PROTECTION NOTES

1. ALL TREES, UNDERSTORY AND OTHER VEGETATION TO REMAIN SHALL BE PROTECTED FROM INJURY DURING ANY LAND CLEARING AND CONSTRUCTION PROCESS.

2. THE CONTRACTOR SHALL NOT PARK VEHICLES, STORE MATERIALS OR TRENCH WITHIN THE DRIPLINE OF TREES TO REMAIN, OR WITHIN BARRIERS PROTECTING ANY VEGETATION TO REMAIN.

3. THE CONTRACTOR SHALL NOT CAUSE OR ALLOW THE CLEANING OF EQUIPMENT, STORAGE OR DISPOSAL OF MATERIALS SUCH AS PAINTS, SOLVENTS, ASPHALT, CONCRETE, OR ANY MATERIAL THAT CAN DAMAGE THE HEALTH OF VEGETATION WITHIN THE DRIPLINE OF PROTECTED VEGETATION.

4. NO ATTACHMENT OF WIRES (EXCLUSIVE OF PROTECTIVE GUIDE WIRES) SIGNS, OR PERMITS SHALL BE FASTENED TO PROTECTED VEGETATION.

5. A TEMPORARY BARRIER SHALL BE INSTALLED PER PLAN OR AS DIRECTED BY THE LANDSCAPE ARCHITECT. THE BARRIERS SHALL REMAIN THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS.

6. ALL CLEARING AND GRUBBING WITHIN AREAS OF VEGETATION TO REMAIN SHALL BE DONE WITH HAND TOOLS ONLY AND UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT.

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore
Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

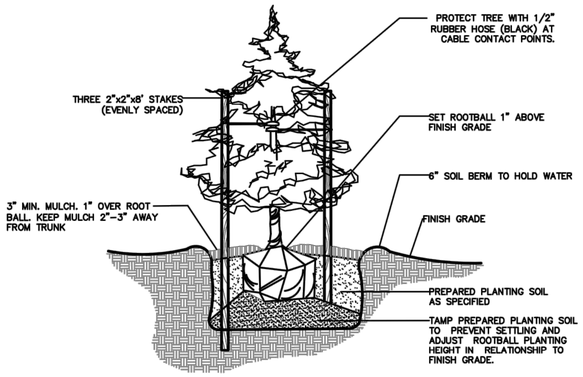
SHEET TITLE:

Landscape Schedule, Notes, Specs & Details

SHEET NO:

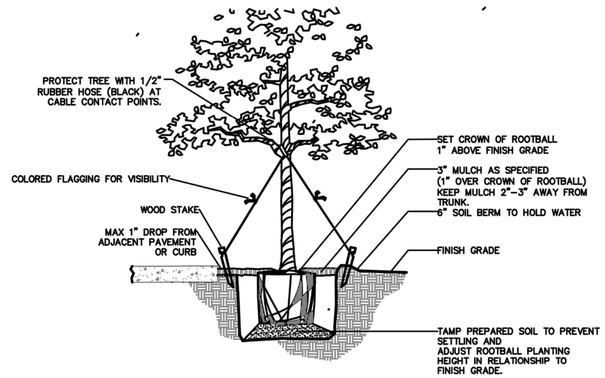
L6.01

Sheet Size: 24 x 36



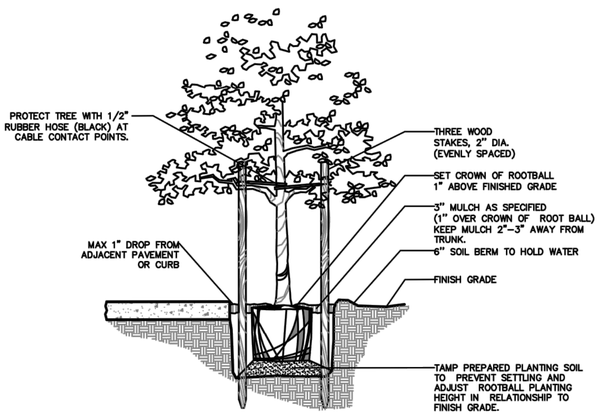
NOTES:
1. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOTBALL WHEN INSTALLING TREE STAKES
2. "D" = ROOTBALL + 24".
3. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS/PITS PRIOR TO INSTALLATION.
4. STAKES TO BE A MINIMUM OF 4' & MAX. OF 8' ABOVE FINISH GRADE DEPENDING UPON HEIGHT OF TREE. CUT TOP OF POSTS CLEAN.

Evergreen Tree Planting Detail
Scale: NTS



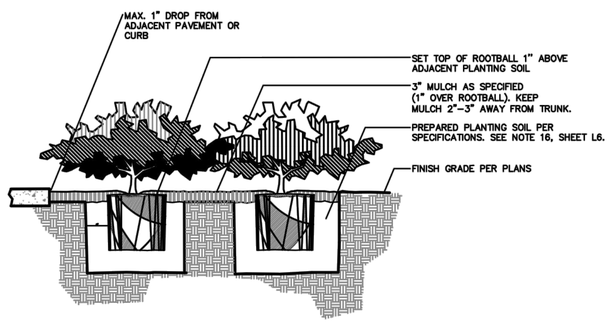
NOTES:
1. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOTBALL WHEN INSTALLING TREE STAKES
2. "D" = ROOTBALL + 24".
3. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS/PITS PRIOR TO INSTALLATION.
4. TREE SUPPORT SYSTEM TO BE 3 GALV. STEEL CABLES FASTENED TO WOOD STAKES. PLACE COLORED FLAGGING ON CABLES FOR SAFETY.

Large Tree Planting Detail
Scale: NTS



NOTES:
1. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOTBALL WHEN INSTALLING TREE STAKES
2. "D" = ROOTBALL + 24".
3. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS/PITS PRIOR TO INSTALLATION.
4. STAKES TO BE A MINIMUM OF 4' & MAX. OF 8' ABOVE FINISH GRADE DEPENDING UPON HEIGHT OF TREE. CUT TOP OF POSTS CLEAN.

Small Tree Planting Detail
Scale: NTS



NOTES:
1. ALL AREAS BETWEEN SHRUBS TO RECIEVE 3" MULCH PER SPECS.
2. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS/PITS PRIOR TO INSTALLATION.

Shrub Planting Detail
Scale: NTS

FUSCO
LAND PLANNING & DESIGN, PLLC

Westmore Design, PA

SEAL:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT # C-473 FUSCO LAND PLANNING & DESIGN, PLLC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT #1261 MATTHEW J. FUSCO

DRAWN BY: NAT
CHECKED BY: MJF

WEILBAECHER RESIDENCE
414 VANDERBILT ROAD, BILTMORE FOREST, NC 28803 - BUNCOMBE COUNTY

FUSCO LAND PLANNING & DESIGN, PLLC
LANDSCAPE ARCHITECTURE I CONSERVATION PLANNING I LOW IMPACT DEVELOPMENT
P.O. BOX 8013, ASHEVILLE, NC 28814 I PH: 828.243.6604 I WWW.FUSCOLA.COM

ISSUE DATE: 09/09/2021

No.	Revision / Issue	Date

SHEET TITLE:

Landscape Schedule, Notes, Specs & Details

SHEET NO:

L6.02

Sheet Size: 24 x 36

JOEL KELLY DESIGN

WEILBAECHER RESIDENCE

414 Vanderbilt Rd.
Ashville, NC 28803
NEW CONSTRUCTION

PROJECT INFORMATION

APPLICABLE CODES

RESIDENTIAL

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

2017 NFPA NATIONAL ELECTRIC CODE

ZONING ANALYSIS

ZONING DISTRICT:	TOWN OF BILTMORE FOREST
PIN(s):	9646-66-1233
PLAT:	5948/0296
DEED REFERENCE:	2-34
ZONING:	R-1
ADJOINER ZONING:	R-1
FRONT SETBACK:	60'
SIDE SETBACK:	20'
REAR SETBACK:	25'
RIVER BASIN:	FRENCH BROAD
TOTAL ACREAGE:	3.01 AC PER TAX RECORDS
DISTURBED AREA:	1.34 AC
EXISTING IMPERVIOUS AREA:	13,524 S.F. (0.31 AC) (10.2%)
PROPOSED IMPERVIOUS AREA:	22,480 S.F. (0.52 AC) (17.3%)
IMPERVIOUS AREA CHANGE:	ADD 7.1%
ALLOWABLE IMPERVIOUS SURFACE AREA (20% OF LOT AREA):	26,223 S.F. (0.60 AC)

BUILDING ANALYSIS

PROPOSED HEATED AREA	LEVEL 0: 2,225 S.F. LEVEL 1: 5,477 S.F. LEVEL 2: 2,445 S.F.
PROPOSED UNHEATED AREA	LEVEL 0: 866 S.F. LEVEL 1: 1,364 S.F. LEVEL 2: 0 S.F.
PROPOSED MAX BUILDING HEIGHT:	38'-6"
AVERAGE BUILDING HEIGHT:	38'-4"
PROPOSED ROOF AREA:	8,144 S.F.
ALLOWABLE ROOF AREA (3.0-3.5 ACRES):	8,200 S.F.

PROJECT SCOPE

THE SCOPE OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING HOUSE AND CONSTRUCTION OF THE PROPOSED HOUSE AS OUTLINED IN THE FOLLOWING CONSTRUCTION DOCUMENTS

DESIGN PACKAGE

TABLE OF CONTENTS

DRAWING	SHEET	TITLE
LANDSCAPE - ATTACHED (BY OTHERS)		
ARCHITECTURAL		
1		COVER SHEET
1	A1.0	FLOOR PLAN LEVEL 0
1	A1.1	FLOOR PLAN LEVEL 1
1	A1.2	FLOOR PLAN LEVEL 2
1	A1.3	ROOF PLAN
1	A5.1	EXTERIOR ELEVATIONS
1	A5.2	EXTERIOR ELEVATIONS
1	A5.3	EXTERIOR ELEVATIONS
1	A5.4	EXTERIOR ELEVATIONS

LOCATION

VICINITY

STREET

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
12	ZONING APPLICATION	08-30-2021

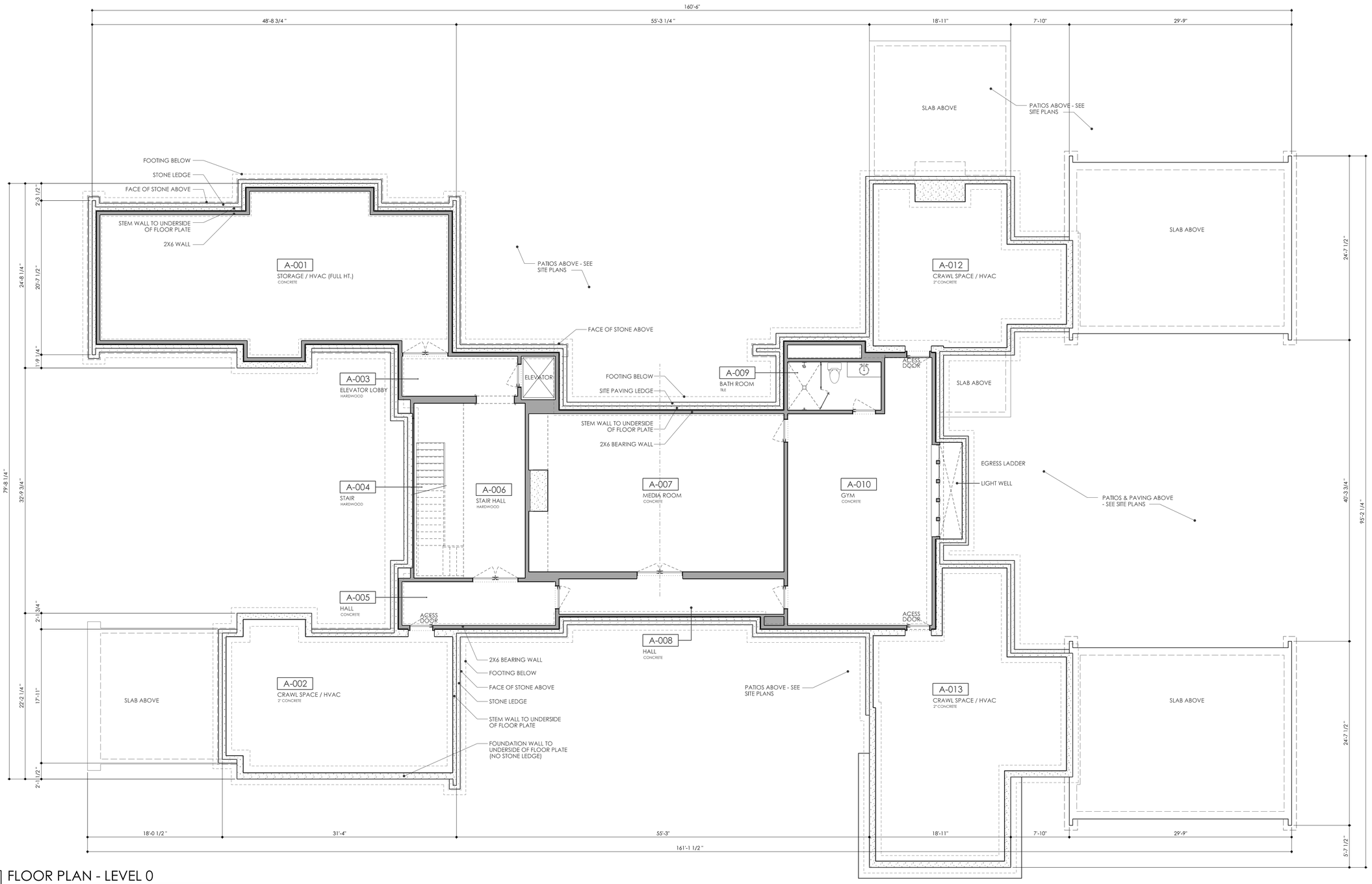
SHEET NAME

COVER SHEET

SHEET NUMBER

COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 A1.0 FLOOR PLAN - LEVEL 0

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
2	Interiors	05-05-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
7	Client Review - Millwork	06-30-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
11	Cabinet Coordination	08-26-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

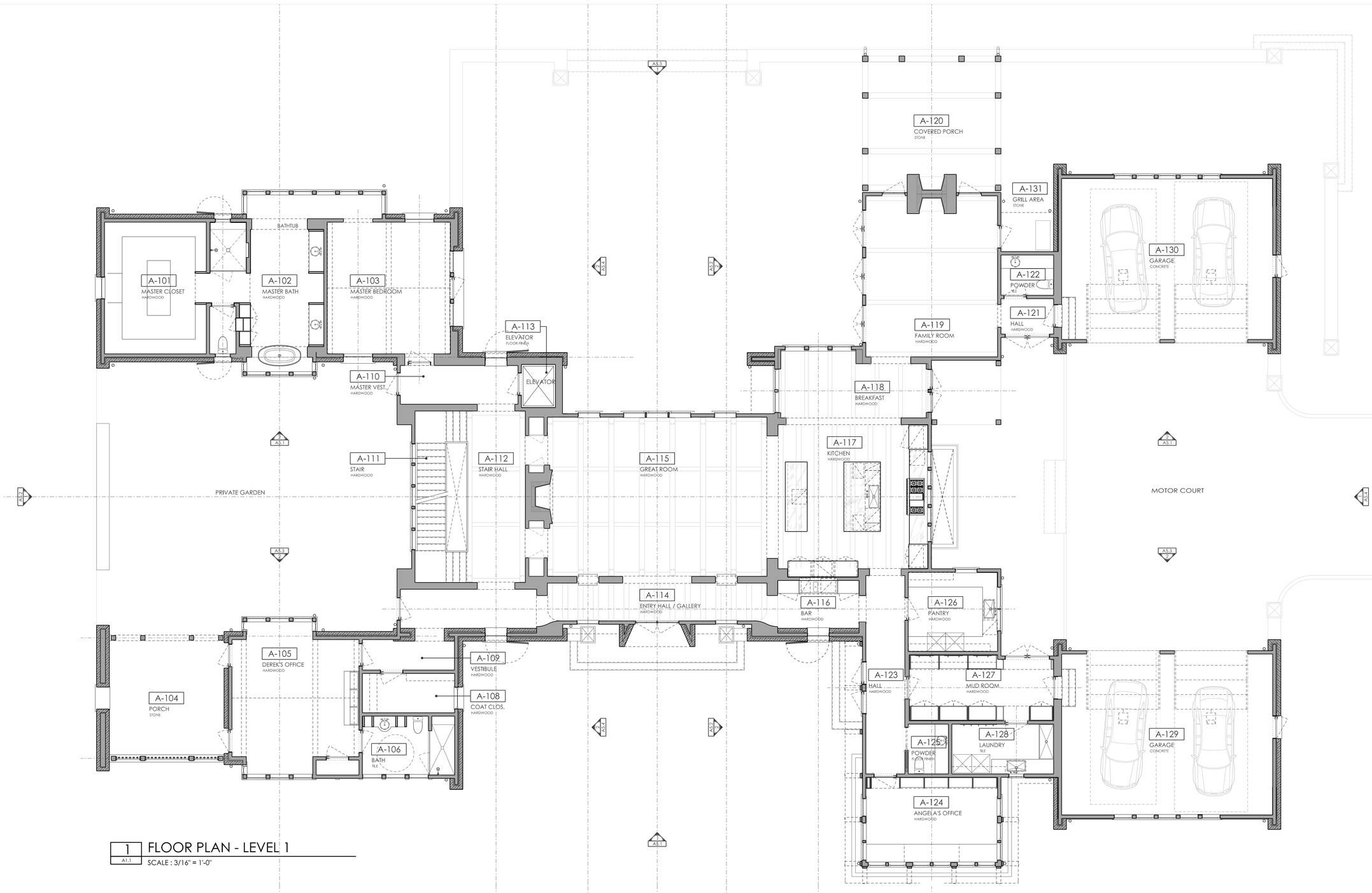
FLOOR PLAN
LEVEL 0 - ALTERNATE

SHEET NUMBER

A1.0

COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 / A1.1 FLOOR PLAN - LEVEL 1

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
5.1	Interior Designer Copy	06-21-2021
7	Client Review - Millwork	06-30-2021
8	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
11	Cabinet Coordination	08-26-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

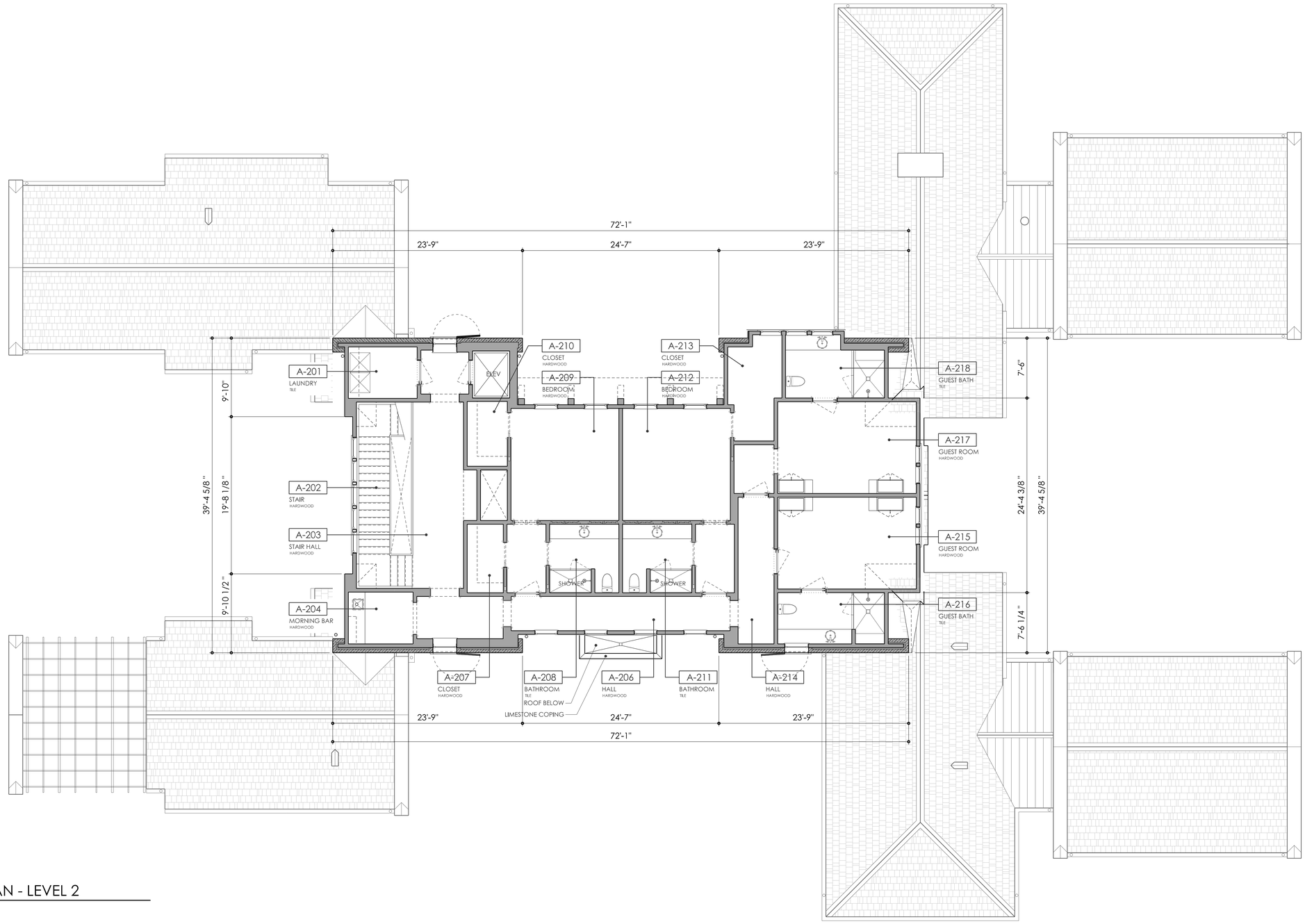
FLOOR PLAN
LEVEL 1

SHEET NUMBER

A1.1

COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 / A1.2 FLOOR PLAN - LEVEL 2

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
5.1	Interior Designer Copy	06-21-2021
7	Client Review - Millwork	06-30-2021
8	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
11	Cabinet Coordination	08-26-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

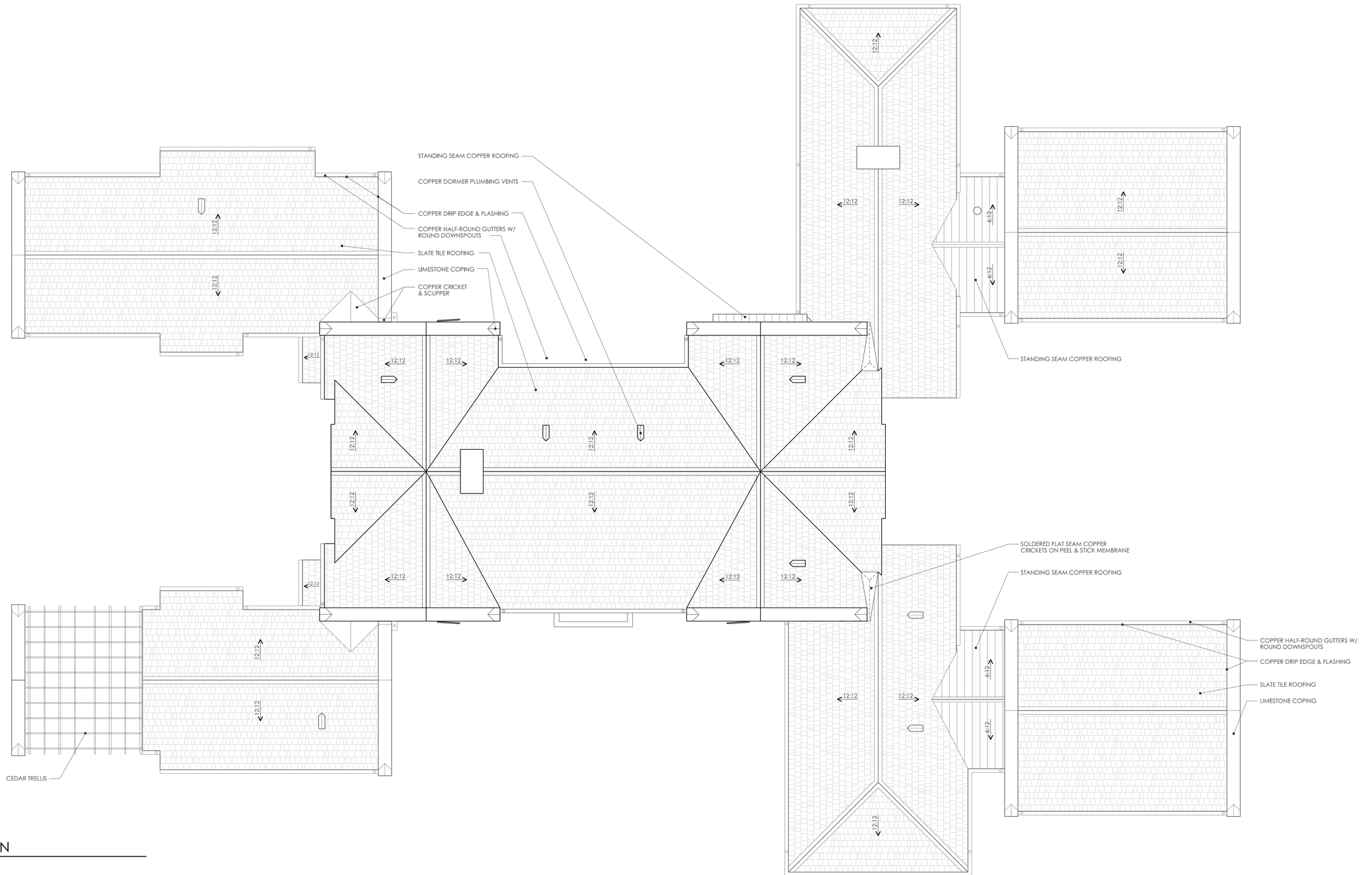
FLOOR PLAN
LEVEL 2

SHEET NUMBER

A1.2

COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 ROOF PLAN
A1.3
SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
9	Structural Review	08-04-2021
10	Structural Export	08-18-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

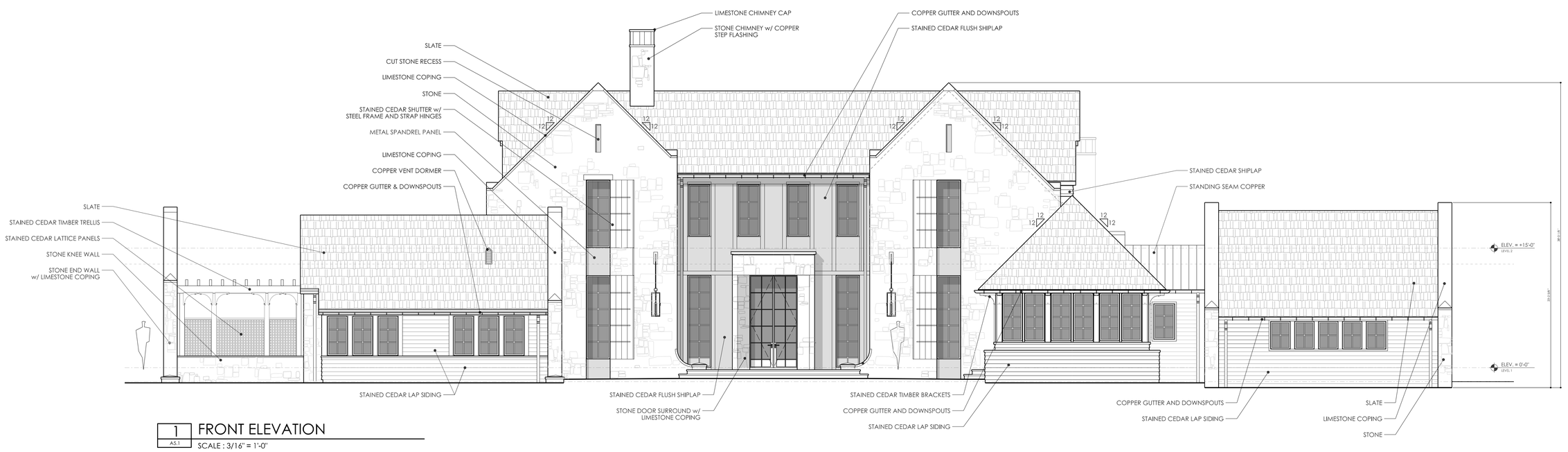
ROOF PLAN

SHEET NUMBER

A1.3

COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 A5.1 FRONT ELEVATION

SCALE : 3/16" = 1'-0"

2 A5.1 COURTYARD ELEVATION (FACING REAR)

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
		05-06-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
6	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

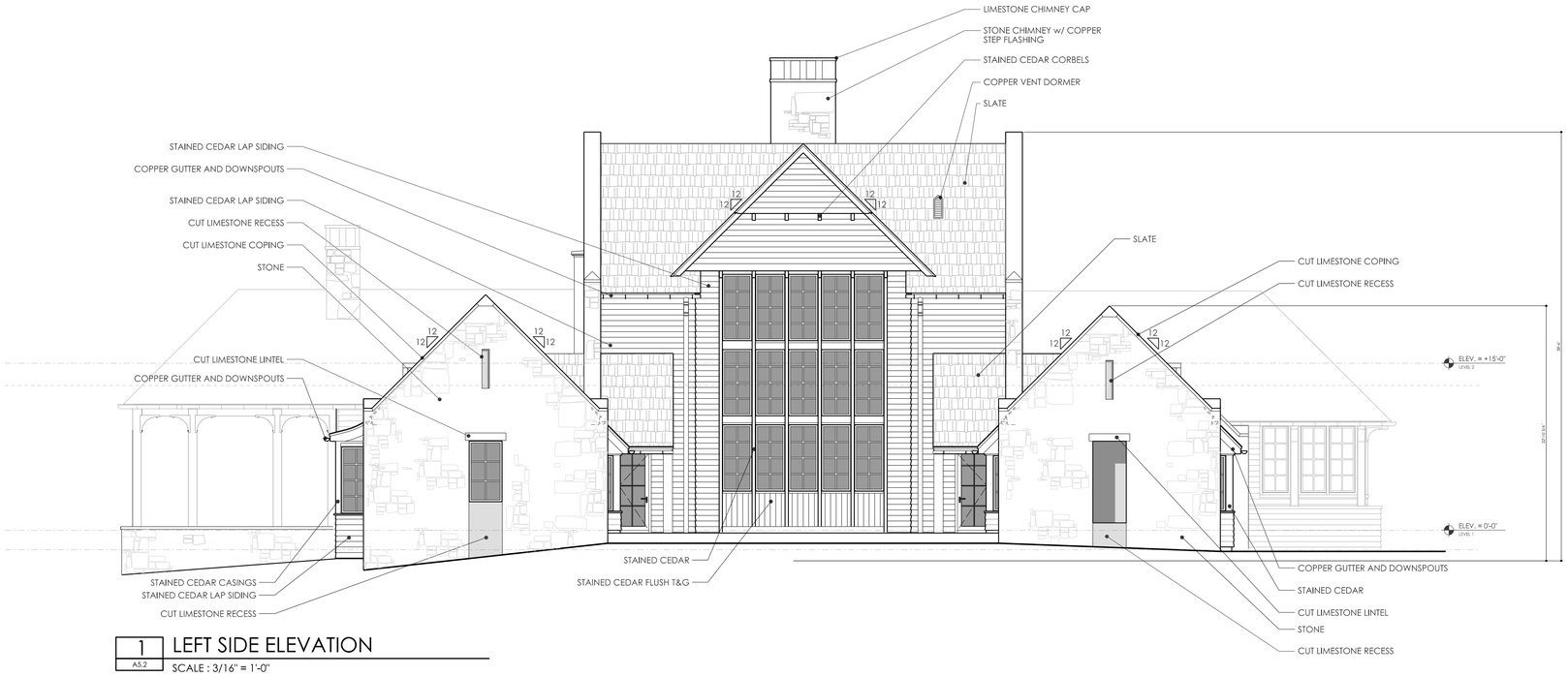
EXTERIOR ELEVATIONS

SHEET NUMBER

A5.1

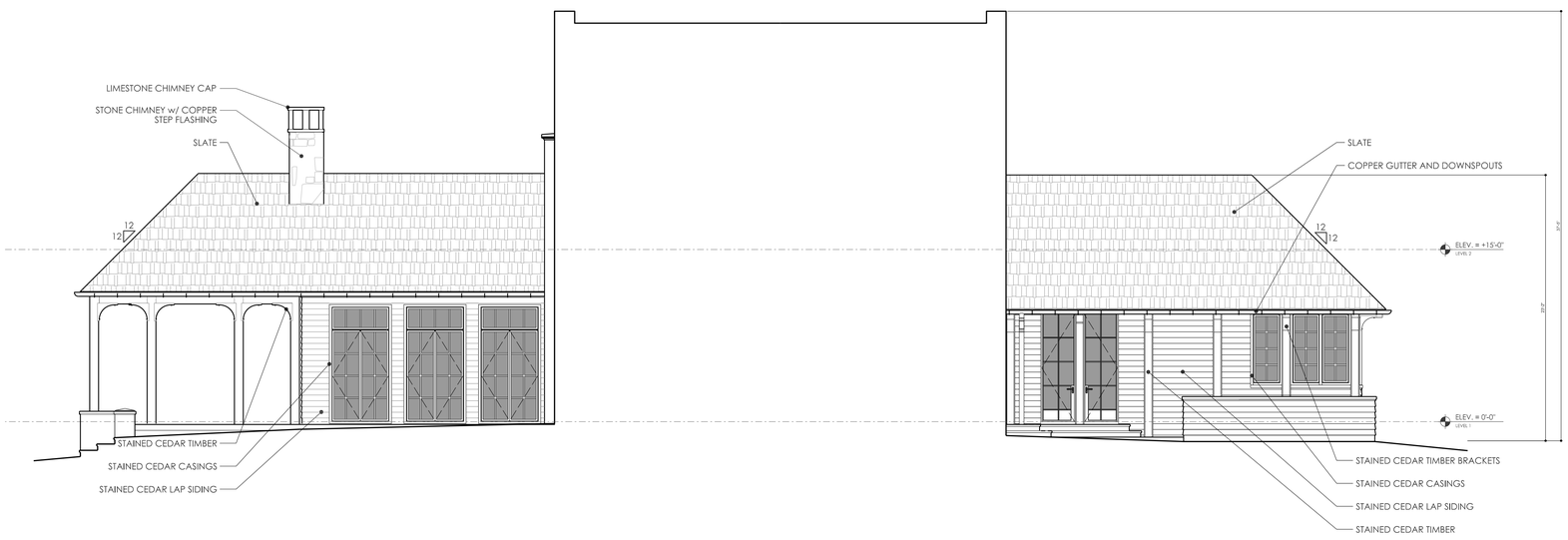
COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 A5.2 LEFT SIDE ELEVATION

SCALE : 3/16" = 1'-0"



2 A5.2 COURTYARD ELEVATION (FACING RIGHT)

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
1	Client Review	05-04-2021
		05-06-2021
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
6	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

EXTERIOR ELEVATIONS

SHEET NUMBER

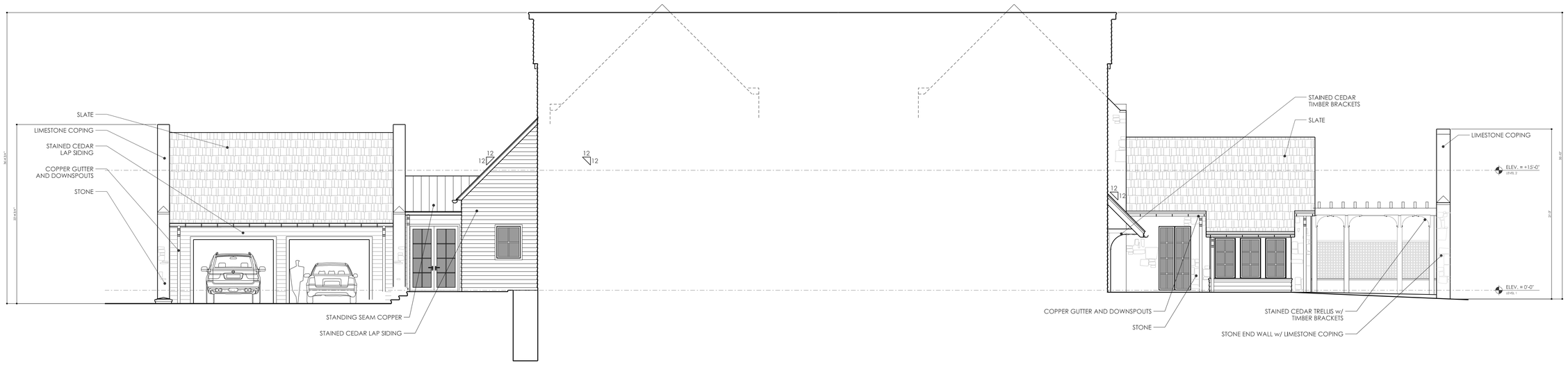
A5.2

COMMENTS

NOT ISSUED FOR CONSTRUCTION

1 A5.3 REAR ELEVATION

SCALE : 3/16" = 1'-0"



2 A5.3 COURTYARD ELEVATION (FACING FRONT)

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
6	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

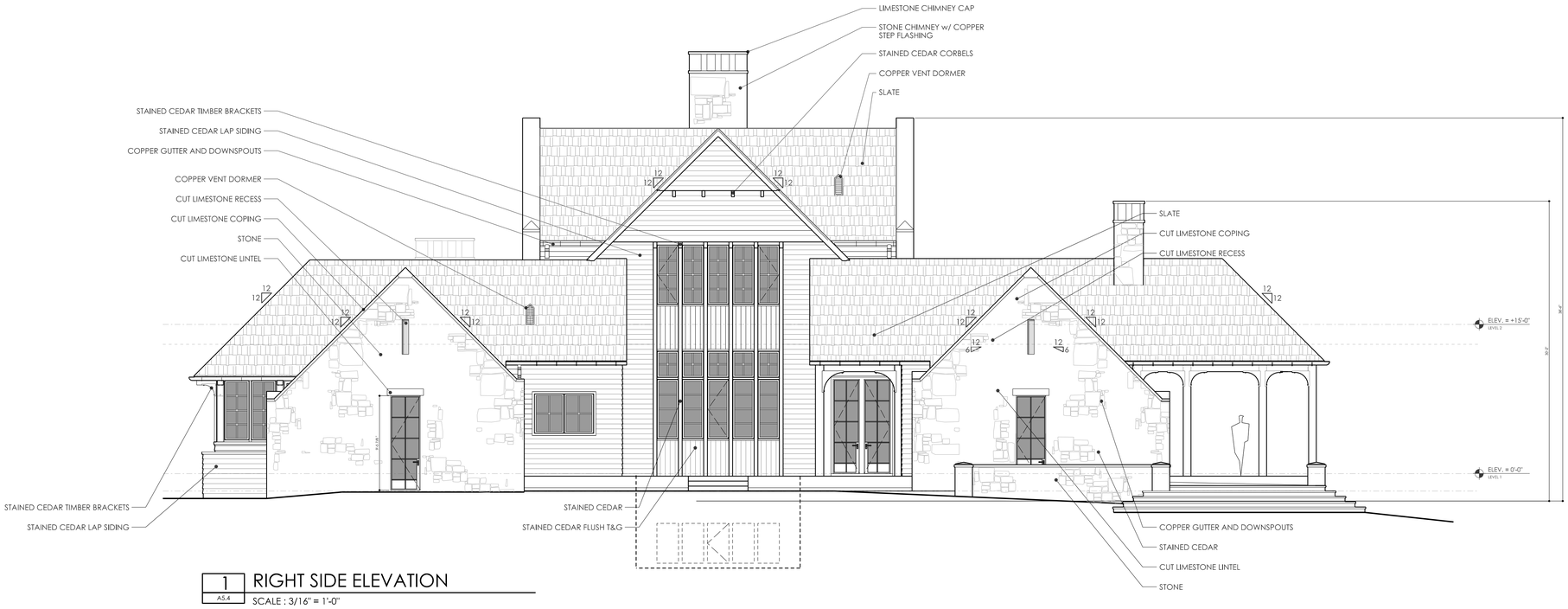
EXTERIOR ELEVATIONS

SHEET NUMBER

A5.3

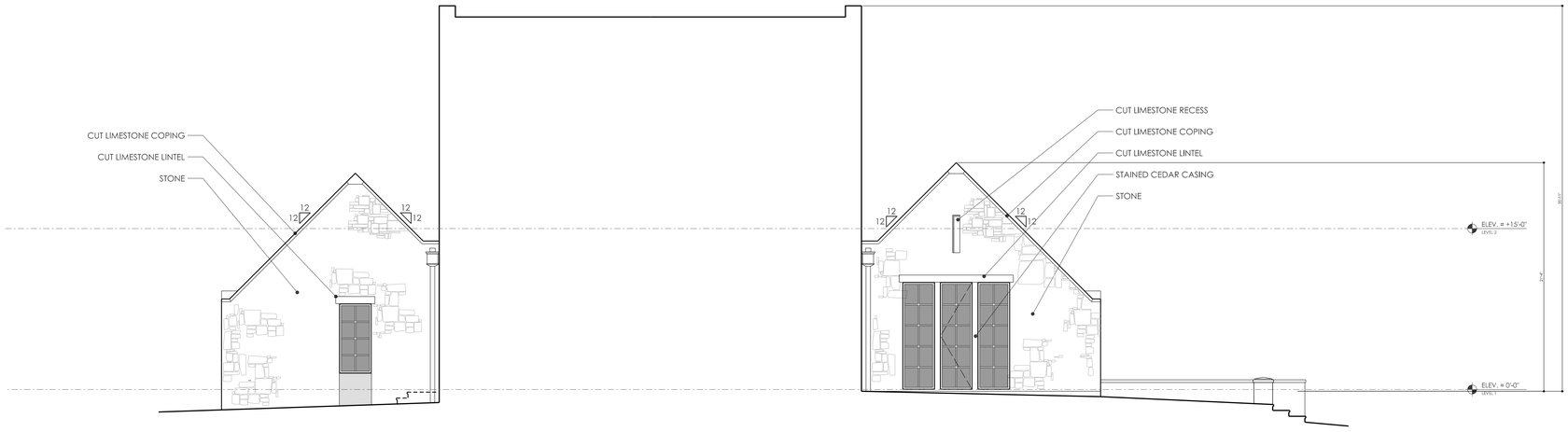
COMMENTS

NOT ISSUED FOR CONSTRUCTION



1 A5.4 RIGHT SIDE ELEVATION

SCALE : 3/16" = 1'-0"



2 A5.4 COURTYARD ELEVATION (FACING LEFT)

SCALE : 3/16" = 1'-0"

New Construction

Weilbaecher Residence

414 Vanderbilt Road
Asheville NC 28803

Prepared for

Derek & Angela Weilbaecher

Designer

JOEL KELLY DESIGN

448 E. Paces Ferry Rd. NE
Suite 100
Atlanta, Georgia 30305

404-221-0422

www.joelkelly.com

No.	Issue Description	Date
3	Structural RFP	05-21-2021
4	Client Review	05-28-2021
5	Client Review	06-16-2021
6	Client Review	07-26-2021
9	Structural Review	08-04-2021
9.1	Window Pricing	08-05-2021
10	Structural Export	08-18-2021
12	ZONING APPLICATION	08-30-2021

SHEET NAME

EXTERIOR ELEVATIONS

SHEET NUMBER

A5.4

COMMENTS

NOT ISSUED FOR CONSTRUCTION

JOEL KELLY DESIGN

Proposed Exterior Materials for Weilbaecher Residence

414 Vanderbilt Rd.
Biltmore Forest, NC

Example of exterior stone, limestone coping:

+1 (404) 221-0422
448 E. Paces Ferry Rd. Suite 100
Atlanta, GA 30305

joelkelly.com

JOEL KELLY DESIGN

Example of wood siding:
(Image also shows copper standing seam, cedar shingle roofing alternate):

+1 (404) 221-0422
448 E. Paces Ferry Rd. Suite 100
Atlanta, GA 30305

joelkelly.com

Example of slate roofing:

+1 (404) 221-0422
448 E. Paces Ferry Rd. Suite 100
Atlanta, GA 30305

BOARD OF ADJUSTMENT
STAFF MEMORANDUM
September 20, 2021

Case 3 – 3 Stuyvesant Crescent
Variance Request to Exceed Maximum Roof Coverage and Maximum Impervious Surface Coverage

Variance Request to Exceed Maximum Roof Coverage and Maximum Impervious Surface Coverage

The applicant requests a variance to exceed the maximum roof and impervious surface coverages for the property. The property itself is 0.89 acres and zoned R-1.

Maximum Roof Coverage Request

The allowed maximum roof coverage for the lot, per the Town's Zoning Ordinance, is 4,682 square feet. The requested total roof coverage is 4,874 square feet – a difference of 192 square feet or 4.1 percent.

Impervious Surface Coverage Request

The allowed impervious surface coverage for the lot, per the Town's Zoning Ordinance, is 10,636 square feet (or 27.5 percent of the lot area). The proposed impervious surface coverage is 10,820 square feet – a difference of 184 square feet or 1.7 percent.

The applicant makes these requests due to the proposed renovation to the existing home, including enlarging the kitchen, adding an addition area to the existing garage, adding a complete new first floor owner's suite, adding a new front entry open terrace, adding a new screened rear porch, and reconfiguring the existing driveway. The applicant has provided elevation drawings and the proposed site plan for the project.

Zoning Compliance Application

Town of Biltmore Forest

Name
Tunc and Nancy Togar

Property Address
3 Stuyvesant Crescent, Biltmore Forest NC

Phone
(828) 242-2044

Email
Togar.tunc31@gmail.com

Parcel ID/PIN Number
96-46-93-0608

ZONING INFORMATION

Current Zoning
R-1

Lot Size
.89 Acres, 38,678 Sq, Ft,

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

Proposed Roof Coverage Total
4,874

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

Proposed Impervious Surface Coverage
10,820

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
33' x 8"

Description of the Proposed Project
This remodeling project consist of reconfiguration of much of the first floor, including enlarging the exisiting Kitchen, adding additional area to the existing Garage, adding a complete new First Floor Owners Suite, adding a new Front Entry Open Terrace, adding a new screened Rear Porch and reconfiguring and resurfacing the existing Driveway.

Estimated Start Date
12/1/2021

Estimated Completion Date
12/1/2022

Estimated Cost of Project
$1,100,000.00

Supporting Documentation (Site Plan, Drawings, Other Information)
03-Left Side Elevation Rendering.pdf

04-Rear Elevation Rendering.pdf

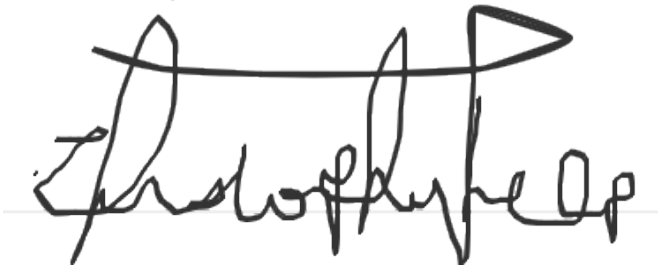
05-Remodeled First Floor Plan.pdf

06-Remodeled Site Plan.pdf

01-Front Elevation Rendering.pdf

02-Right Side Elevation Rendering.pdf

Applicant Signature



Date
8/24/2021

VARIANCE APPLICATION

Town of Biltmore Forest

Name
Tunc and Nancy Togar

Address
3 Stuyvesant Cresant, Biltmore Forest, NC

Phone
(828) 242-2044

Email
togar.tunc31@gmail.com

Current Zoning/Use
R

Requested Use

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 add on to the existing home with a new First Floor Owner's Suite, consisting of a new Owner's Bedroom, new Owners Bath, and a new Owner's Wardrobe Closets. We would like to expand our existing Garage to include better sized areas for our automobiles and better garage Storage areas. We would like to expand and renovate our Kitchen. Finally, we would like to add a new Screened Porch.

What does the ordinance require?
The Total Roof requirements are 4,682 Sq. Ft. and we are at 4,874 Sq. Ft. for this project.

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.
We are only going over the stated Roof Covered Area by an insignificant amount, however reducing the size/square footage of the new areas to be added on would result in Room sizes that would not meet the Owner's needs for each new area.

The hardship results from conditions that are peculiar to the property, such as location, size, or topography.
The hardship is not caused or related to size or location of the property.

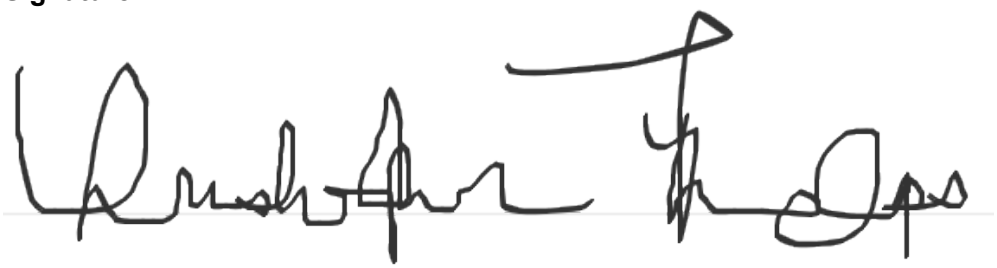
The hardship did not result from actions taken by the applicant or the property owner.
There is not action that has caused hardship. The Owner's are simply attempting to renovate their existing, dated home and bring the property up to today's real estate expectations, as well as meet their own needs.

The requested variance is consistent with the spirit, purpose, and intent of the ordinance, such that

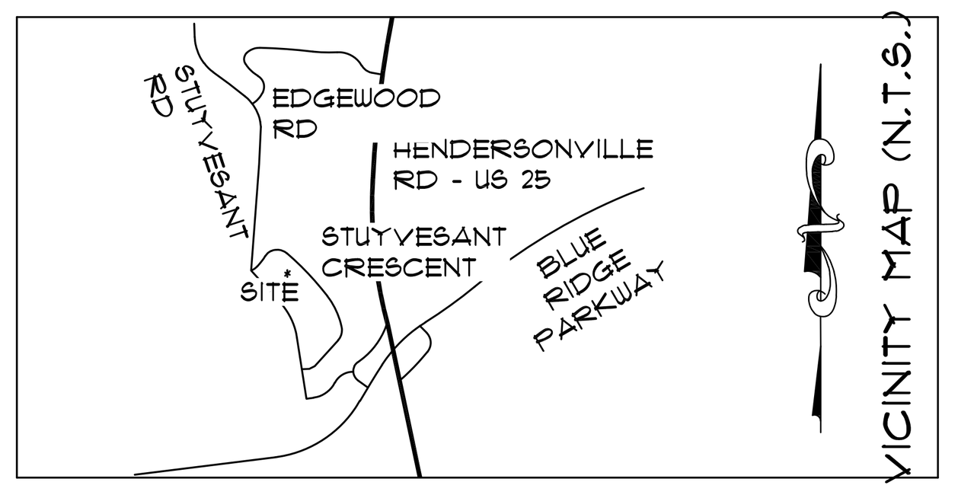
public safety is secured, and substantial justice is achieved.
The variance requested will allow this extensive renovation to this 40 year old home up to date and greatly improve the exterior of the home, along with creating wonderful new areas to the First Floor. This project will very much so keep the spirit of Biltmore Forest, and provide a safe and well executed final product.

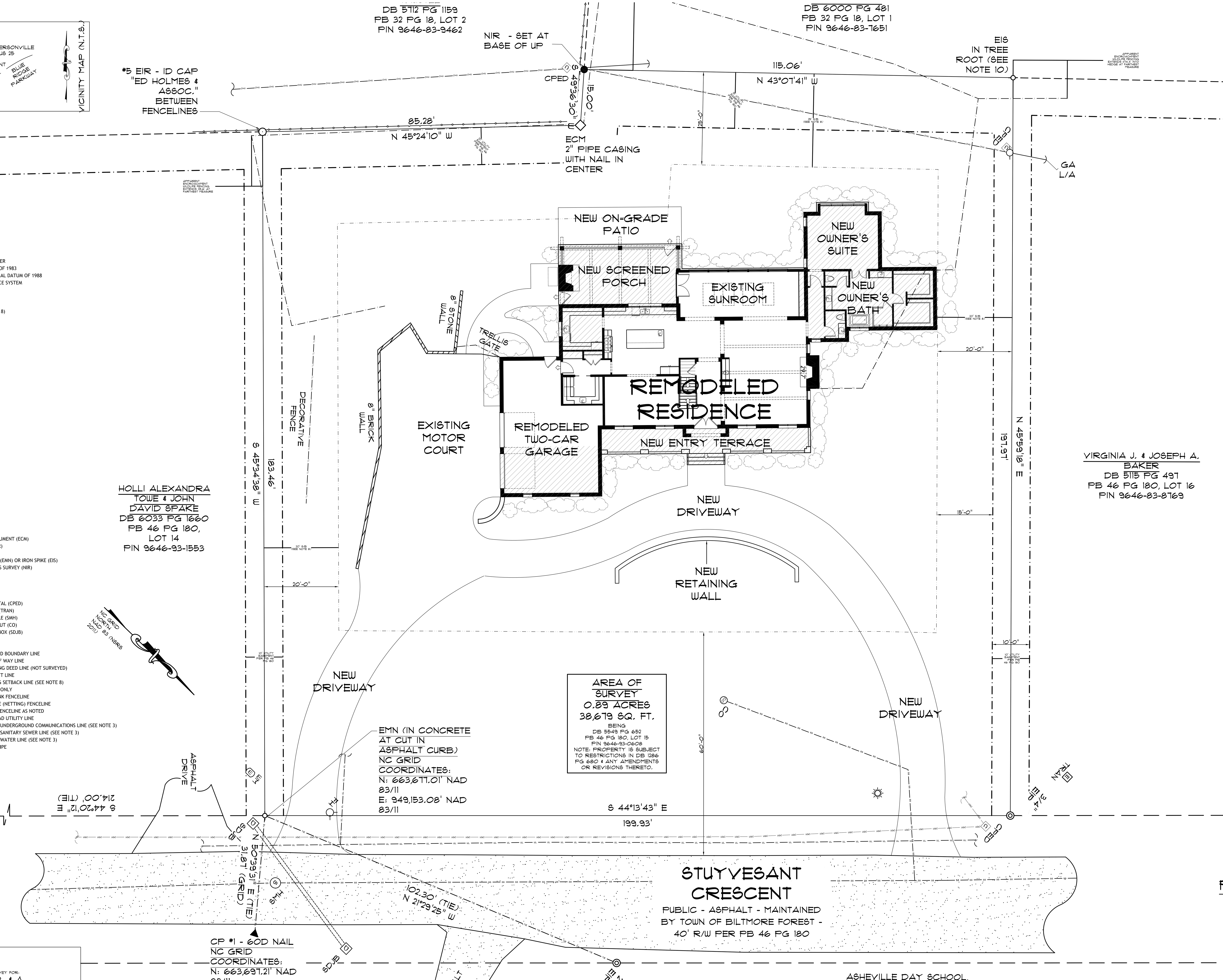
I hereby certify that all of the information set forth above is true and accurate to the best of my knowledge.

Signature



Date
9/1/2021





ABBREVIATIONS

DB...DEED BOOK
PB...PLAT BOOK
PG...PAGE
R/W...RIGHT OF WAY
PIN...PARCEL IDENTIFICATION NUMBER
NAD 83...NORTH AMERICAN DATUM OF 1983
NAVD 88...NORTH AMERICAN VERTICAL DATUM OF 1988
NSRS...NATIONAL SPATIAL REFERENCE SYSTEM
N.T.S...NOT TO SCALE
T...TOTAL DISTANCE
TYP...(TYPICAL)
S/B...BUILDING SETBACK (SEE NOTE 8)
F/K/A...FORMERLY KNOWN AS
L/A...LOCATION APPROXIMATE
HVAC...HEATING & AIR UNIT(S)

LEGEND

- EXISTING CONCRETE MONUMENT (ECM)
- EXISTING IRON REBAR (EIR)
- EXISTING IRON PIPE (EIP)
- EXISTING MAGNETIC NAIL (EMN) OR IRON SPIKE (EIS)
- NEW IRON REBAR SET THIS SURVEY (NIR)
- CONTROL POINT (CP)
- UTILITY POLE (UP)
- LIGHT POLE
- GUY ANCHOR (GA)
- COMMUNICATIONS PEDESTAL (CPED)
- ELECTRIC TRANSFORMER (TRAN)
- SANITARY SEWER MANHOLE (SMH)
- SANITARY SEWER CLEANOUT (CO)
- STORM DRAIN JUNCTION BOX (SDJB)
- FIRE HYDRANT (FH)
- WATER METER (WM)
- SURVEYED BOUNDARY LINE
- RIGHT OF WAY LINE
- ADJOINING DEED LINE (NOT SURVEYED)
- EASEMENT LINE
- BUILDING SETBACK LINE (SEE NOTE 8)
- TIE LINE ONLY
- CHAINLINK FENCELINE
- WILDLIFE (NETTING) FENCELINE
- OTHER FENCELINE AS NOTED
- OVERHEAD UTILITY LINE
- MARKED UNDERGROUND COMMUNICATIONS LINE (SEE NOTE 3)
- MARKED SANITARY SEWER LINE (SEE NOTE 3)
- MARKED WATER LINE (SEE NOTE 3)
- STORM PIPE

NOTES

1. SURVEYED AREA IS SUBJECT TO ALL RIGHTS OF WAY, EASEMENTS, RESERVATIONS, RESTRICTIONS, ETC. OF RECORD, INCLUDING, BUT NOT LIMITED TO, THOSE SHOWN THIS SURVEY.
2. THIS SURVEY PERFORMED WITHOUT THE BENEFIT OF A PROVIDED TITLE SEARCH, AND MAY NOT SHOW ALL EASEMENTS, RESTRICTIONS, RIGHTS OF WAY, OR OTHER ENCUMBRANCES ETC. WHICH MAY BE DISCLOSED BY A FULL AND CURRENT EXAMINATION OF TITLE PERFORMED BY AN ATTORNEY AT LAW. THIS SURVEY SHALL NOT BE CONSIDERED A CERTIFICATION OF OWNERSHIP, ZONING, TITLE, OR GUARANTEE THAT THE PROPERTY IS FREE FROM ENCUMBRANCES.
3. ANY UNDERGROUND UTILITIES OR FEATURES SHOWN THIS SURVEY ARE BASED SOLELY UPON APPARENT & CONSPICUOUS ABOVE GROUND FACILITIES OR UTILITY LOCATE MARKINGS UNLESS OTHERWISE NOTED. NO CERTIFICATION TO THE LOCATION OR EXISTENCE OF UNDERGROUND UTILITIES OR FEATURES THIS SURVEY. CONTACT 811 BEFORE DIGGING.
4. ANY STREAMS, CREEKS, PONDS, LAKES, WETLANDS, ETC. LOCATED WITHIN THE SURVEYED AREA, SHOWN OR NOT SHOWN HEREON, MAY BE SUBJECT TO BUFFER AREAS. IT IS THE OWNER/DEVELOPER'S RESPONSIBILITY TO HAVE THE AREAS DESIGNATED BY PROFESSIONALS AUTHORIZED BY THE PROPER AUTHORITIES TO MAKE THESE DETERMINATIONS.
5. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN US SURVEY FEET UNLESS OTHERWISE NOTED.
6. AREAS CALCULATED BY COORDINATE METHOD UNLESS OTHERWISE NOTED.
7. BY GRAPHICAL DETERMINATION, SURVEYED AREA DOES NOT LIE IN A FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP 3700964600J, EFFECTIVE DATE 1/6/2010.
8. THE SURVEYED AREA IS ZONED R-1 BY TOWN OF BILTMORE FOREST, HAVING SETBACKS AS FOLLOWS: 60' FRONT (FROM STREET), 25' REAR, & 20' SIDE. *SETBACKS SHOWN MAY BE SUBJECT TO INTERPRETATION BY TOWN OF BILTMORE FOREST.* REFER TO THE TOWN OF BILTMORE FOREST CODE OF ORDINANCES FOR APPLICABLE REGULATIONS.
9. ADJOINING PROPERTY OWNERSHIP INFORMATION PER BUNCOMBE COUNTY GIS WEBSITE, AND DEEDS & PLATS OF RECORD.
10. NOTED EXISTING IRON SPIKE LOCATED IN ROOT OF APPARENT LARGE TREE NOW REMOVED, FOUND AT BASE OF DECORATIVE CEDAR VARIANT THIS SURVEY.
11. PLAT NOT PREPARED FOR RECORDING IN ACCORDANCE WITH G.S. 47-30.

HIGHLIGHTS NEW ADDITION

PRELIMINARY SITE PLAN

SCALE: 1" = 10'-0"

BOUNDARY SURVEY FOR:
NANCY P. & A. TUNC TOGAR, TRUSTEES
PIN 9646-93-0608 • PROJECT #21-004
TOWN OF BILTMORE FOREST
LIMESTONE TOWNSHIP, BUNCOMBE COUNTY, NC

PISGAH SURVEYING, PLLC
1503 ORLEANS AVE,
HENDERSONVILLE, NC 28791
(828) 515-1929 • NC FIRM #P-2288

A REMODELING PROJECT FOR

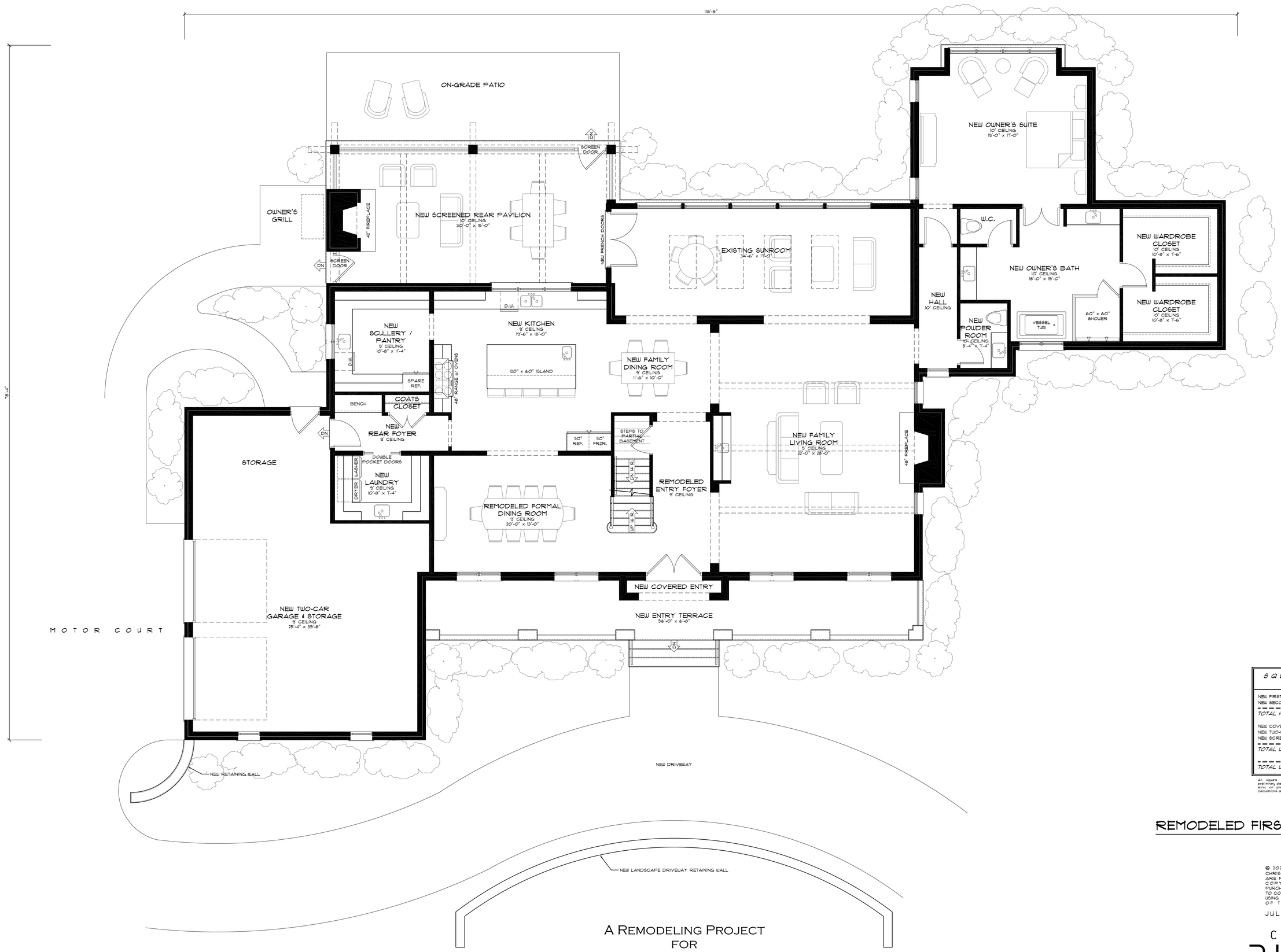
THE TOGAR RESIDENCE

3 STUYVESANT CRESCENT
BILTMORE FOREST NORTH CAROLINA

JULY 13, 2021 RDW

Christopher PHELPS™
Inspiring Homes for Life
1230 West Morehead St., Suite 202, Charlotte, NC 28208
Tel. 704.377.5569

2021-028 TOGAR RESIDENCE REMODEL



A Remodeling Project
for

The Togar Residence

3 Stuyvesant Crescent
Biltmore Forest North Carolina

SQUARE FOOTAGE (TO OUTSIDE OF STUD WALL)	SQ.FT.
NEW FIRST FLOOR HEATED	3,339
NEW SECOND FLOOR HEATED	N/A
TOTAL HEATED SQ. FT.	*3,339±*
NEW COVERED ENTRY	30
NEW TWO-CAR GARAGE	840
NEW SCREENED REAR PAVILION	505
TOTAL UNHEATED SQ. FT.	*1,375*
TOTAL UNDER ROOF SQ. FT.	*4,714±*

All square footage calculations have been derived from preliminary design sketches. Unless exact dimensions that do not exist on preliminary design sketches, these square footage calculations are considered approximate.

REMODELED FIRST FLOOR PLAN

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

JULY 13, 2021 RDW

Christopher PHELPS™
Inspiring Homes for Life

1230 West Morehead St., Suite 202, Charlotte, NC 28208
Tel. 704.377.5569

2021-028 TOGAR RESIDENCE REMODEL

REMODELED FRONT ELEVATION RENDERING
(NORTH)

A Remodeling Project
for

The Togar Residence

3 Stuyvesant Crescent
Biltmore Forest North Carolina

AUGUST 9, 2021

Christopher PHELPS
Inspiring Homes for Life

1230 W. Morehead Street • Suite 202 • Charlotte • NC • 28208
10 Cheshire Drive • Black Mountain • NC • 28711
P: (704) 377-5569 • Christopherphelps.com

REMODELED RIGHT SIDE ELEVATION RENDERING
(WEST)

A Remodeling Project
for
The Togar Residence
3 Stuyvesant Crescent
Biltmore Forest North Carolina

AUGUST 9, 2021

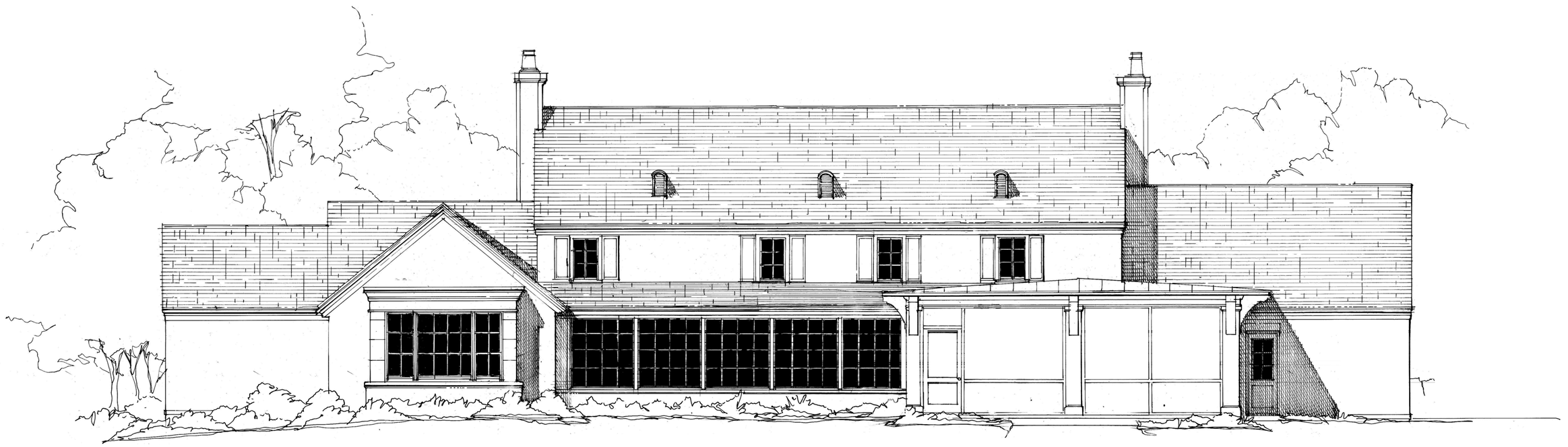
Christopher PHELPS
Inspiring Homes for Life
1230 W. Morehead Street • Suite 202 • Charlotte • NC • 28208
10 Cheshire Drive • Black Mountain • NC • 28711
P: (704) 377-5569 • Christopherphelps.com

REMODELED LEFT SIDE ELEVATION RENDERING
(EAST)

A Remodeling Project
for
The Togar Residence
3 Stuyvesant Crescent
Biltmore Forest North Carolina

AUGUST 9, 2021

Christopher PHELPS
Inspiring Homes for Life
1230 W. Morehead Street • Suite 202 • Charlotte • NC • 28208
10 Cheshire Drive • Black Mountain • NC • 28711
P: (704) 377-5569 • Christopherphelps.com



REMODELED REAR ELEVATION RENDERING
(SOUTH)

A Remodeling Project
for

The Togar Residence

3 Stuyvesant Crescent
Biltmore Forest North Carolina

AUGUST 9, 2021

Christopher PHELPS
Inspiring Homes for Life

1230 W. Morehead Street • Suite 202 • Charlotte • NC • 28208
10 Cheshire Drive • Black Mountain • NC • 28711
P: (704) 377-5569 • Christopherphelps.com