FOAM, GLUE, TAPE AND A LITTLE IMAGINATION....

(RC Model Airplane Construction Plans)

rcFoamFighters

FF-SUPERNOVA

(FOAMBOARD VERSION)

(Original Design & CAD Drawing by Paul Petty - APR. 2025)

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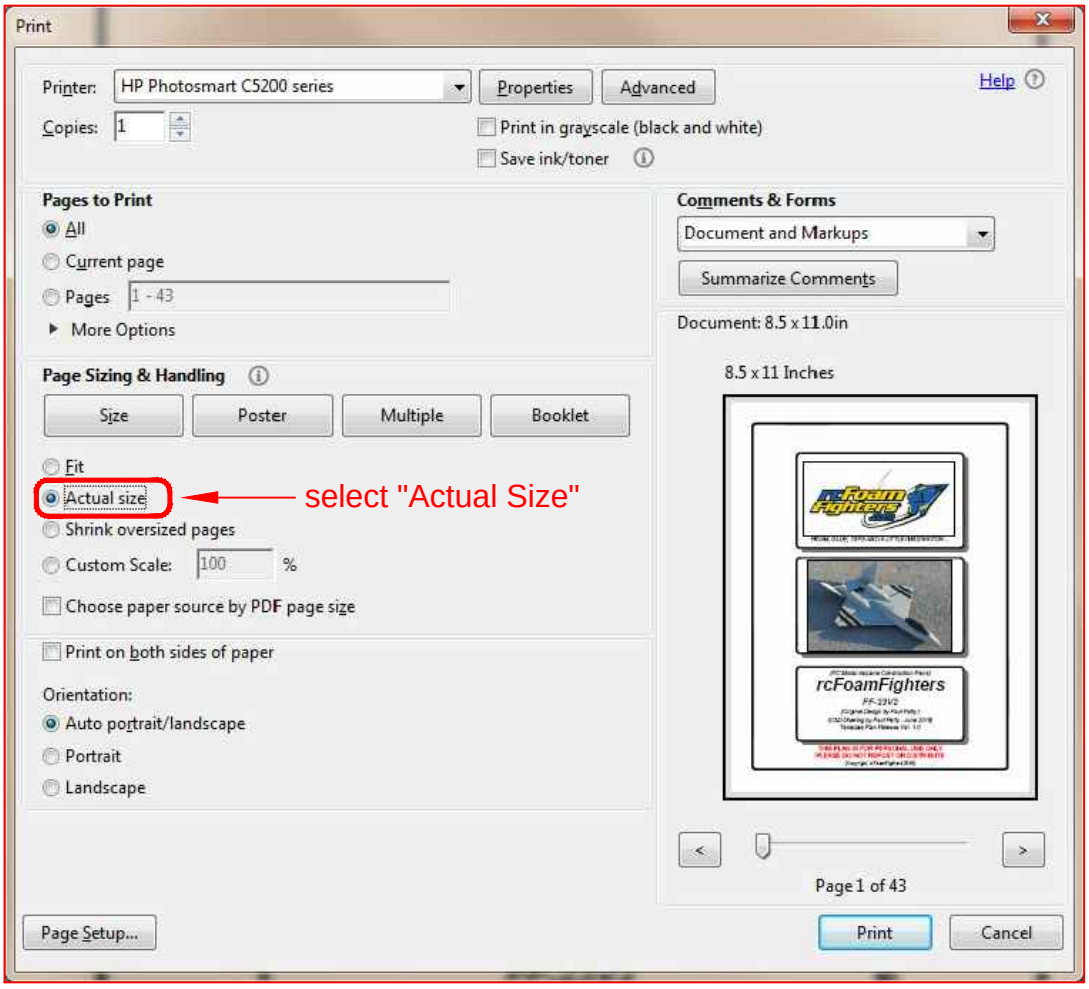
(Contact rcFoamFighters at: rcff-admin@rcfoamfighters.net)

Very Important printing instructions!!!

Make sure you print to "Actual Size" or your plan may come out the wrong scale. Do not use "Fit" or "Shrink oversized pages". Older Acrobat versions may also list "Fit to Printable Area" or similar as the default. Make sure you Select "Actual Size" or "Scaling to None" or "100% Scale" setting to print your plans correctly. See example below.



rcFoamFighters

FF-SUPERNOVA-FB

Template Plan

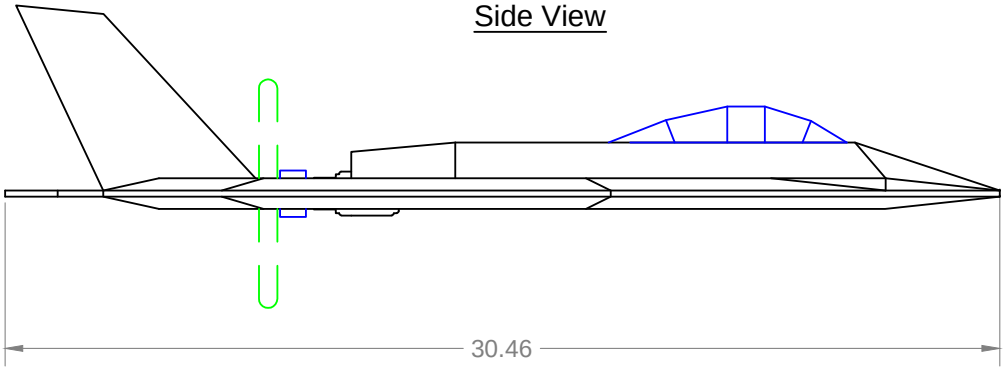
(CAD Plans by Paul Petty - Rev. 1.0, APRIL 2025)
(Plan Release 1.0 - Copyright rcFoamFighters 2025)
(Contact rcFoamFighters at: rcff-admin@rcfoamfighters.net)
(Please Visit Our Blog at: https://www.rcfoamfighters.net)

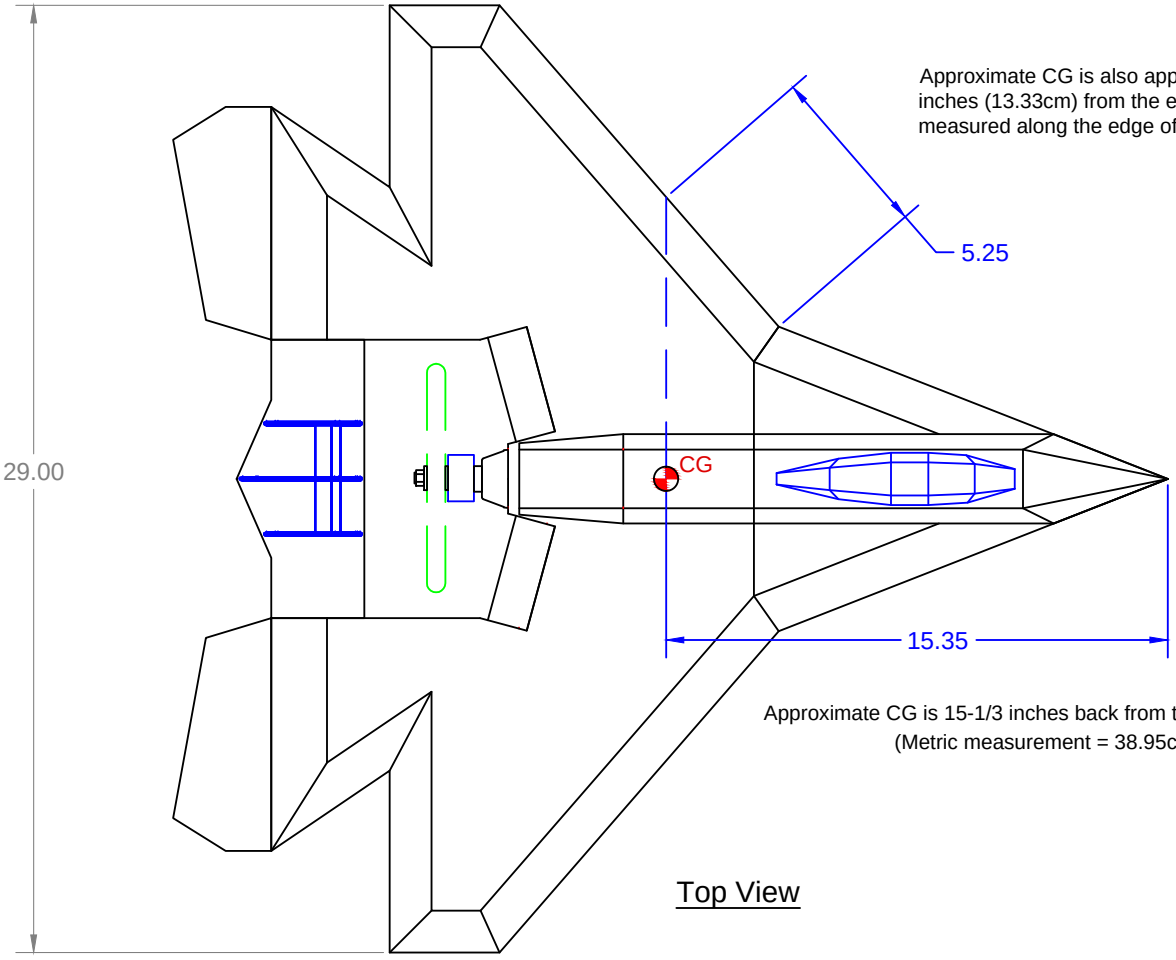
Basic Specs as built by rcFoamFighters:

Wingspan:	29.0 Inches (73.66cm)
Length:	30.46 Inches (77.37cm)
All Up Weight:	33.00oz. (935.53gms)
Top Speed:	70+mph (112.65+kph)

Note, weight and top speed may vary depending on materials, EDF, battery and electronics used. The weight given here is based on the model rcFoamFighters made using Readiboard brand Foamboard.

Side View





Approximate CG is also approximately 5-1/4 inches (13.33cm) from the edge of the wing root measured along the edge of the wing.

Approximate CG is 15-1/3 inches back from the tip of the nose.
(Metric measurement = 38.95cm)

Top View

PARTS LISTED BELOW ARE WHAT WAS USED IN THE RCFOAMFIGHTERS TEST PLANE:

BASIC SETUP (70+mph)

Motor: Brother Hobby 2806.5-1950kv
ESC: Cobra Race Wing 60A Brushless ESC
Battery: 4S 2600mah 60C Lipo
Servos: 2 EMAX Mini Metal Gear Servos, 12gm
TX/RX: Any 4-channel or better with Delta Mixing
Prop: Gemfan 2-Blade 6x4.2 Drone Prop.

PERFOMANCE SETUP (90+mph)

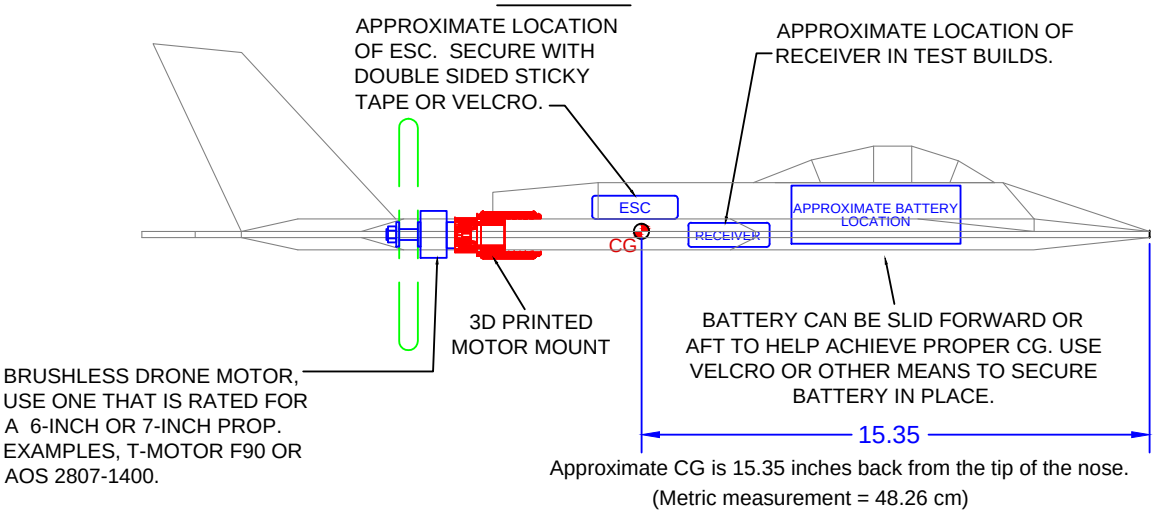
Motor: AOS 2807, 1400kv Supernova Brushless Motor
ESC: Cobra Race Wing 60A Brushless ESC
Battery: 6S 1800mah 60C Lipo
Servos: 2 EMAX Mini Metal Gear Servos, 12gm
TX/RX: Any 4-channel or better with Delta Mixing
Prop: APC 2-Blade 7x5 Sport Prop.

Plane was originally designed to be made from 4 Sheets of 20x30 inch DollarTree Foamboard. Depron or FanFold Foam with Carbon Spars may be used. Using different parts or materials is OK, but may result in changed weight and performance.

Disclaimer (Please Read):

- This is a design template for a high performance, high speed RC aircraft. This plane should only be built and flown by experienced pilots with adequate skill to fly fast, maneuverable planes.
- DO NOT fly this plane where it can endanger people, livestock or property.
- ANY PERSONS DECIDING TO BUILD AND FLY THIS PLANE DOES SO AT HIS/HER OWN RISK AND LIABILITY. RCFOAMFIGHTERS ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF THE PLANE YOU BUILD!
- You should only launch this plane using the side launch technique by holding it from the main wing leading edge near the fuselage. Never hold or throw the plane in a way the propeller can strike your hand or body! It can cause EXTREME BODILY HARM if any hand or body part comes into contact with the fast spinning Propeller!
- All minors should fly under the supervision of an adult or guardian.

Side View



Approximate CG is 15.35 inches back from the tip of the nose.
(Metric measurement = 48.26 cm)

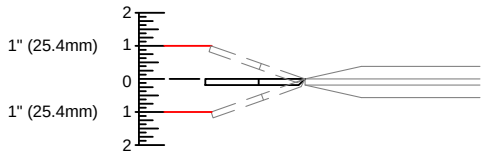
ELEVON CONTROL SURFACE SETTINGS:

THE FF-SUPERNOVA-FB USES A DUAL ELEVON SETUP, WHERE AS THE REAR HORIZONTAL STABILIZER SURFACES (TYPICALLY ELEVATOR) ARE USED AS ELEVONS, A COMBINATION OF ELEVATOR AND AILERON FUNCTIONS. BELOW ARE THE BASIC MEASURED THROWS I USED ON THE TEST PLANE. IF YOU HAVE DUAL OR TRIPLE RATES ON YOUR TRANSMITTER, YOU CAN SET YOUR ADDITIONAL RATES ACCORDINGLY TO GIVE MORE ACTIVE OR MORE RELAXED FLIGHT CHARACTERISTICS. I ALSO USUALLY ADD 40 TO 60 PERCENT EXPO ON BOTH AILERON & ELEVATOR FOR A MORE RELAXED FEEL NEAR CENTER STICK AND RAMPS UP THE MORE THE INPUT IS INCREASED.

WING SURFACES (AILERONS)

RECOMMENDED AILERON THROWS:

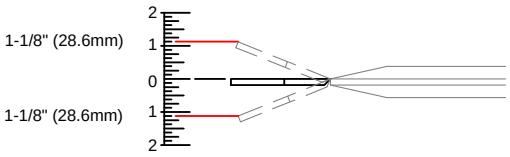
SET YOUR AILERON THROWS TO ABOUT 1-1/4 INCH (25.4mm) UP AND DOWN. MEASURE AT VERY OUTER TIP OF THE CONTROL SURFACE.



HORIZONTAL STAB. SURFACES (ELEVATOR)

RECOMMENDED ELEVATOR THROWS:

SET YOUR ELEVATOR THROWS TO ABOUT 1-1/8 INCH (28.6mm) UP AND DOWN. MEASURE AT VERY OUTER TIP OF THE CONTROL SURFACE.



FF-SUPERNOVA RIGHT VERTICAL STAB. DECAL

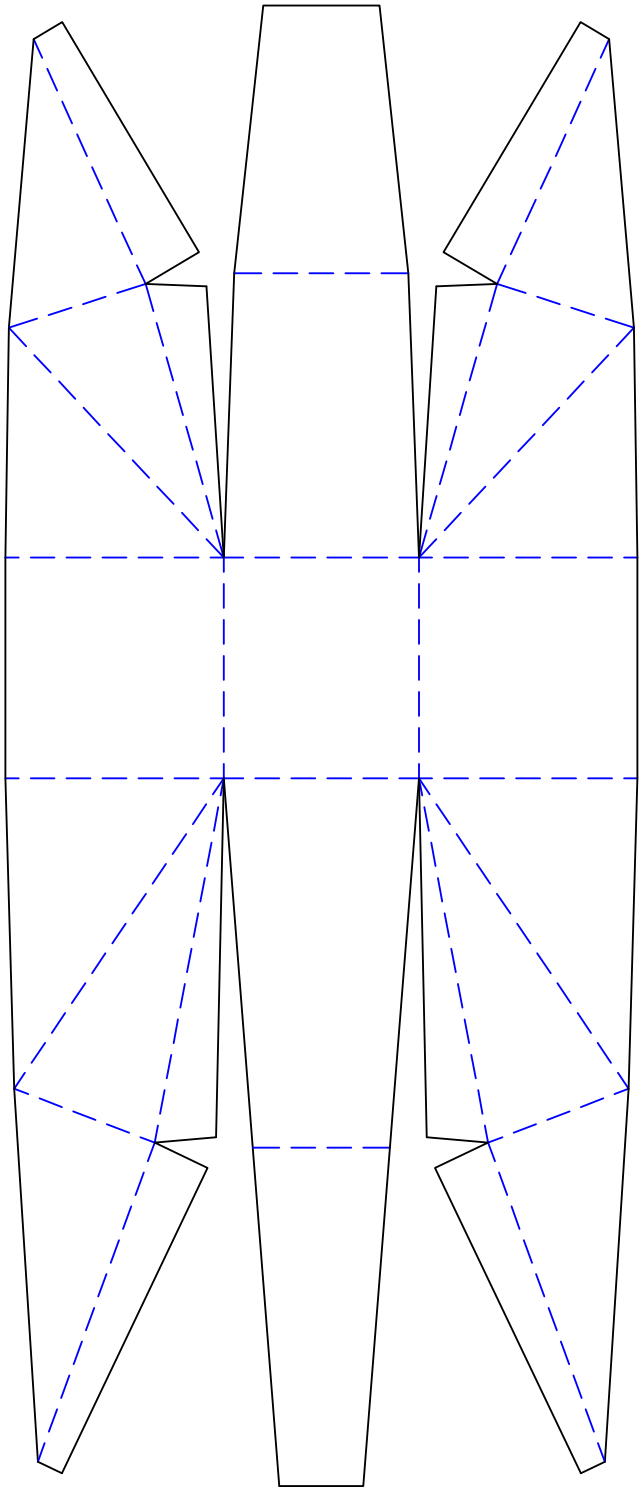
(Print to Avery Sticker Sheet)

FF-SUPERNOVA LEFT VERTICAL STAB. DECAL

(Print to Avery Sticker Sheet)

FF-SUPERNOVA
CANOPY PATTERN
(CUT CANOPY OUT OF BLACK CARDSTOCK)

CUT ALONG BLACK PERIMETER LINES. BLUE DASHED LINES ARE THE FOLD LINES



TILED SHEET TEMPLATE ASSEMBLY KEY PLAN

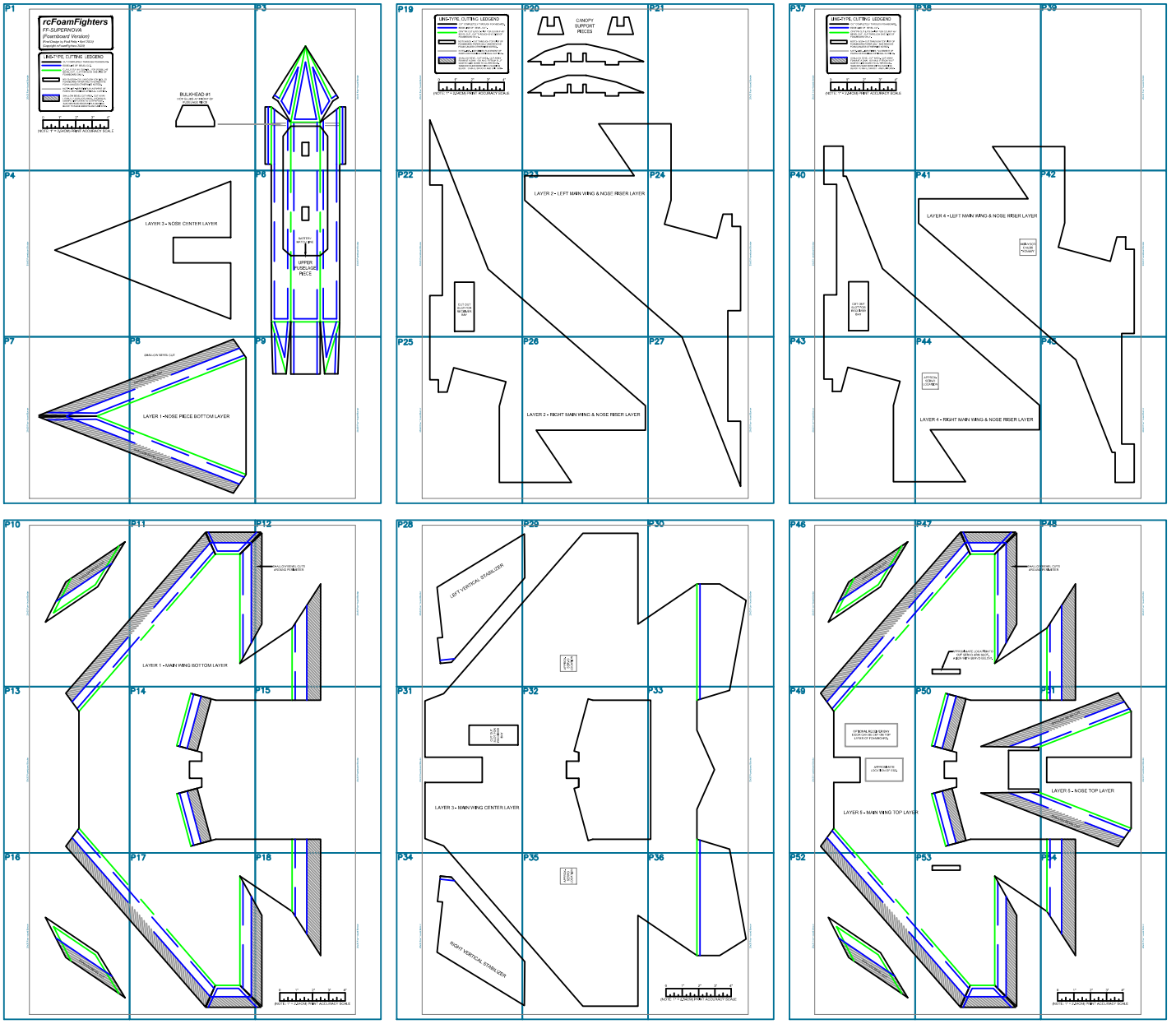
rcFoamFighters

FF-SUPERNOVA (FOAMBOARD VERSION)

(Design by Paul Petty - April 2025)

INSTRUCTIONS:
PRINT ALL TEMPLATE SHEETS. CUT AND ASSEMBLE AS SHOWN BELOW. USE TAPE TO SECURE SHEETS TOGETHER.

GRAY BOX OUTLINE SHOWS TYPICAL 20"X30" FOAMBOARD SIZE.



29-Inch Wingspan Prop Version Template

rcFoamFighters

FF-SUPERNOVA

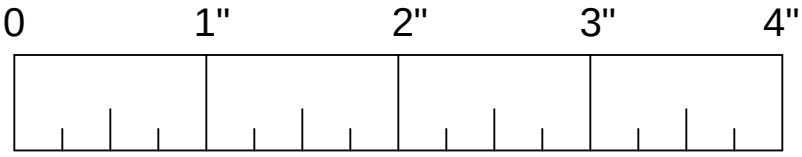
(Foamboard Version)

(Final Design by Paul Petty - April 2025)

20x30 Foamboard Border

LINE-TYPE, CUTTING LEDGEND

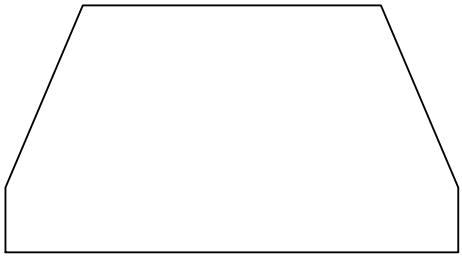
- CUT COMPLETELY THROUGH FOAMBOARD.
- EDGE LINE OF BEVEL CUT.
- CENTER CUT & FOLD-LINE FOR DOUBLE 45° BEVEL CUT , CUT THROUGH ONE SIDE OF FOAMBOARD ONLY.
- NOTCH BOX - CUT THROUGH TOP SIDE OF FOAMBOARD PAPER ONLY AND REMOVE FOAM (UNLESS OTHERWISE NOTED).
- NOTE-LINE - IDENTIFIES PLACEMENT OF PARTS OR POSSIBLE OPTIONAL CUTTING.
- SHALLOW BEVEL CUT AREA. CUT AWAY FOAM AT A SHALLOW ANGLE FROM BLUE DASHED LINE DOWN TO OUTER EDGE. SAND BEVELED EDGE WITH A SANDING BLOCK TO MAKE SMOOTH AND UNIFORM.



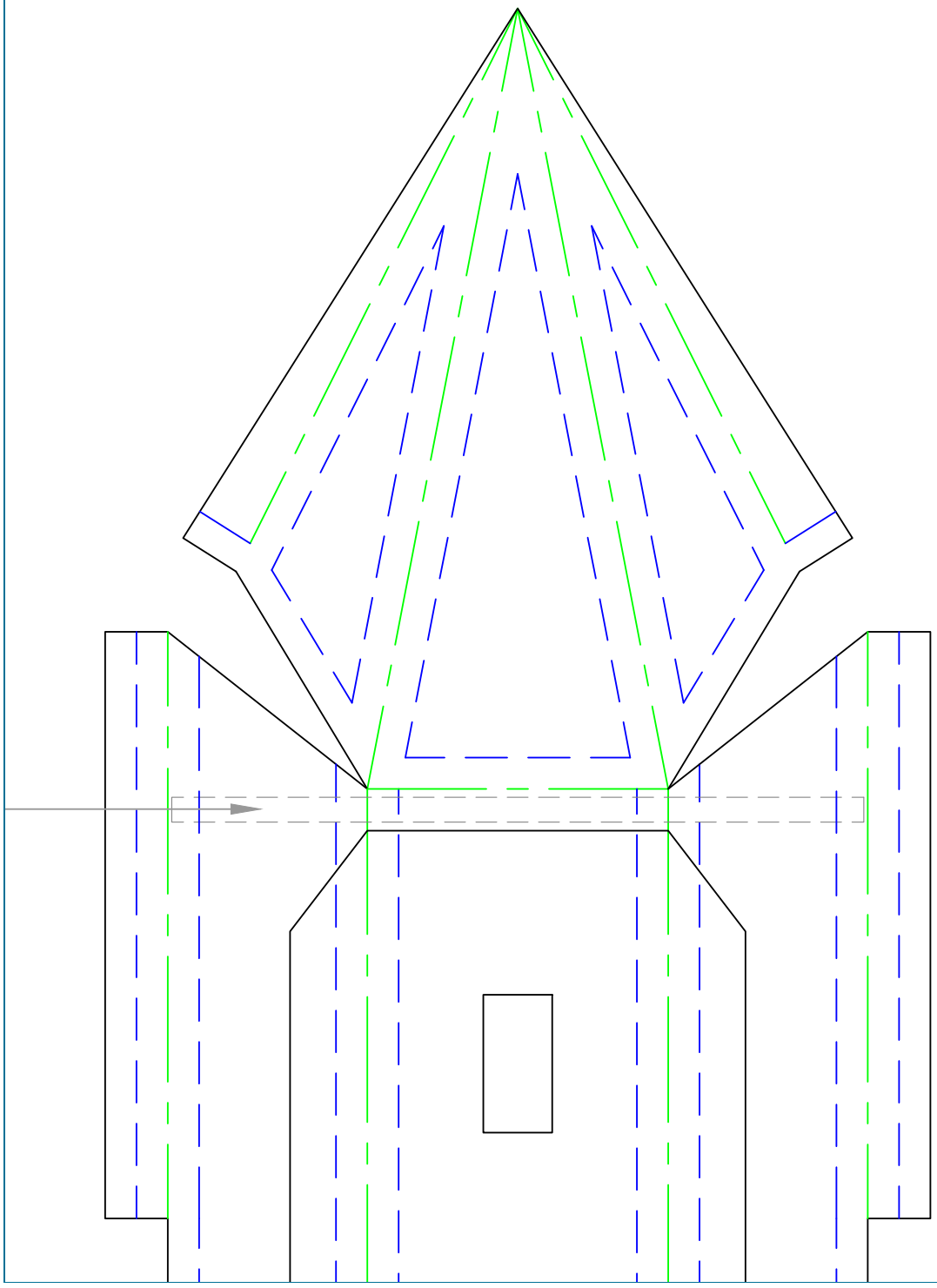
(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

BULKHEAD #1

HOT GLUES AT FRONT OF
FUSELAGE PIECE



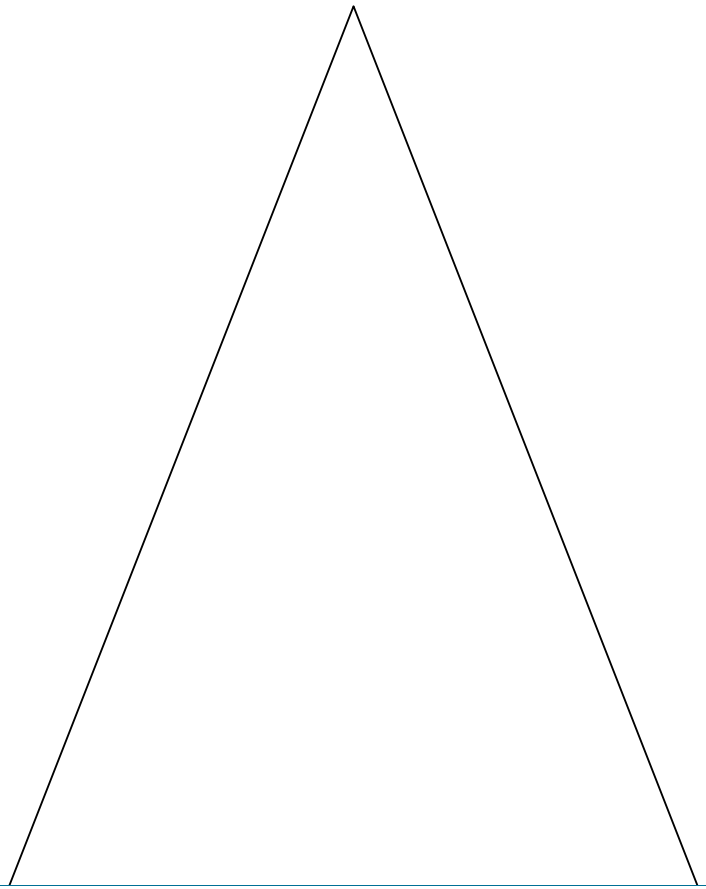
P 3



20x30 Foamboard Border

P4

20x30 Foamboard Border



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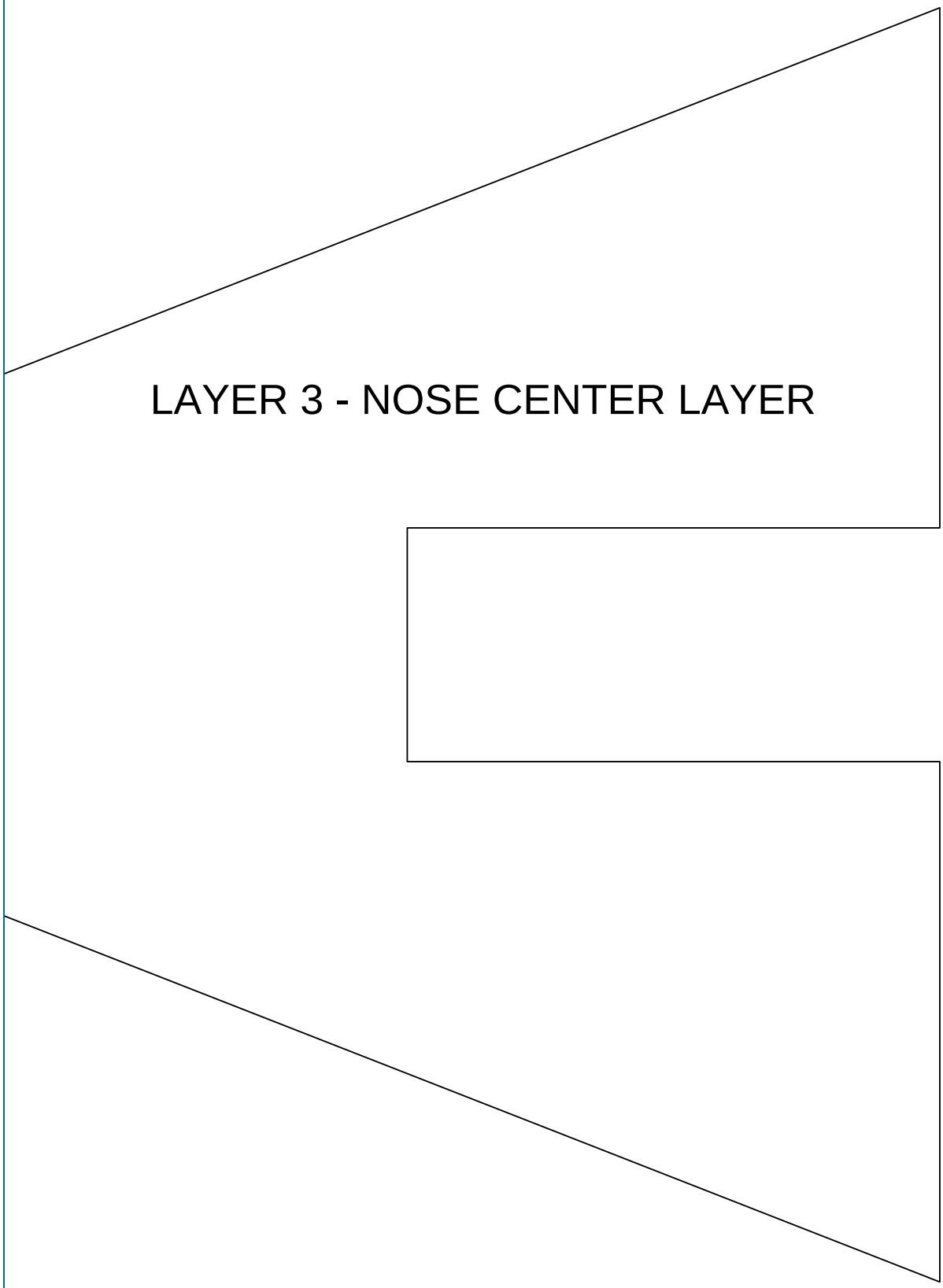
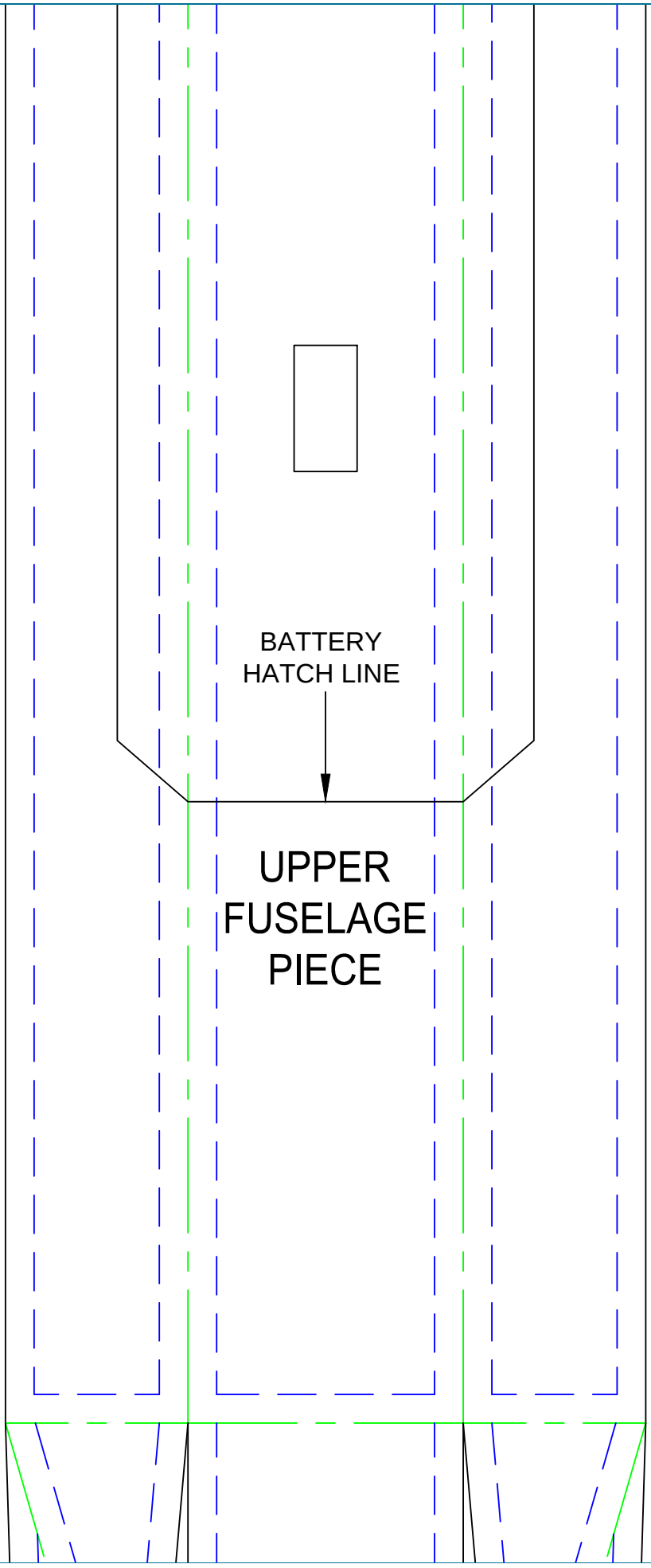


LAYER 3 - NOSE CENTER LAYER

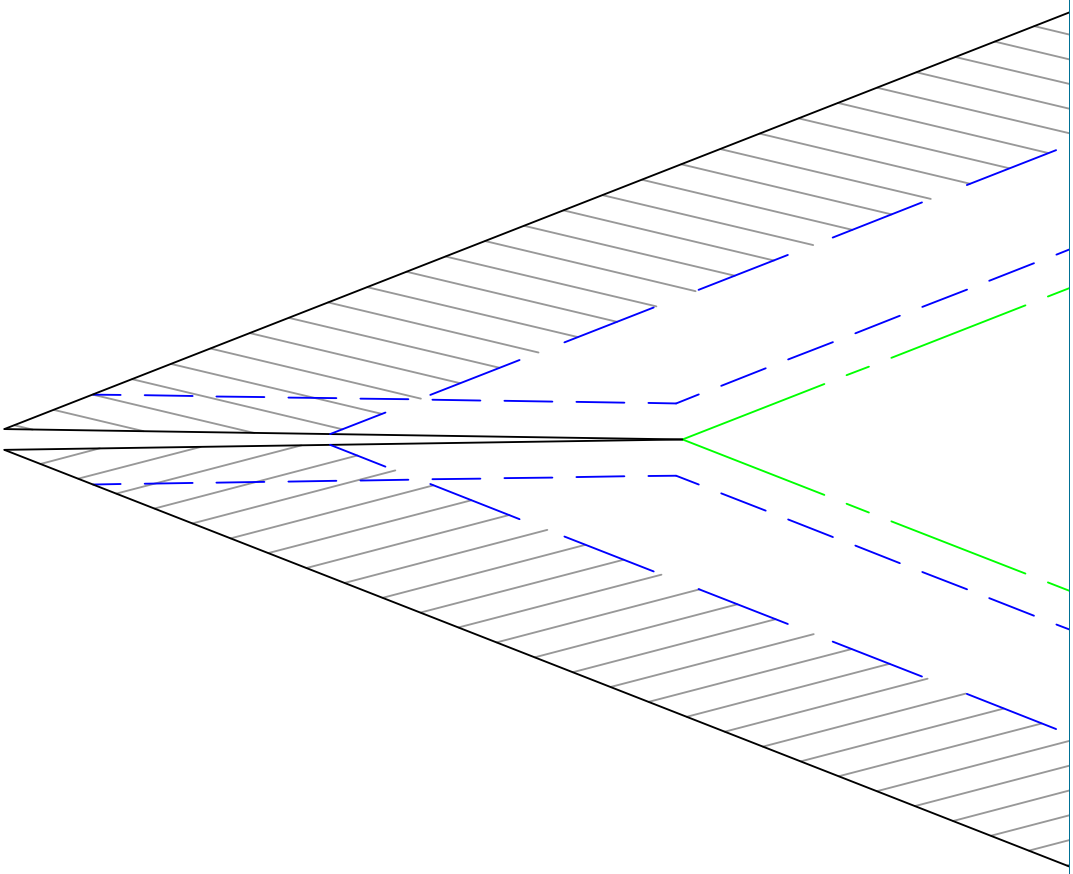
P6

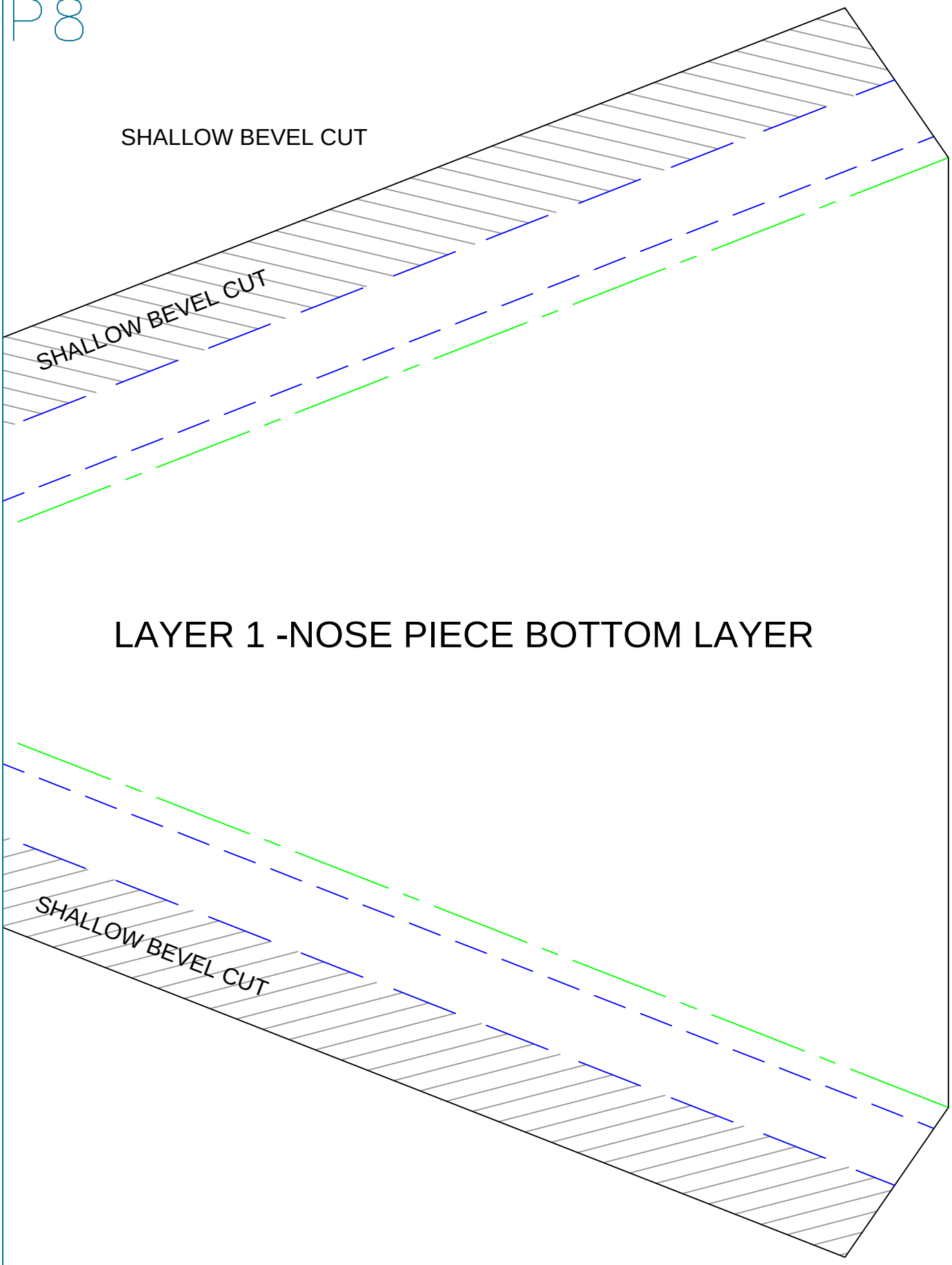


20x30 Foamboard Border

P 7

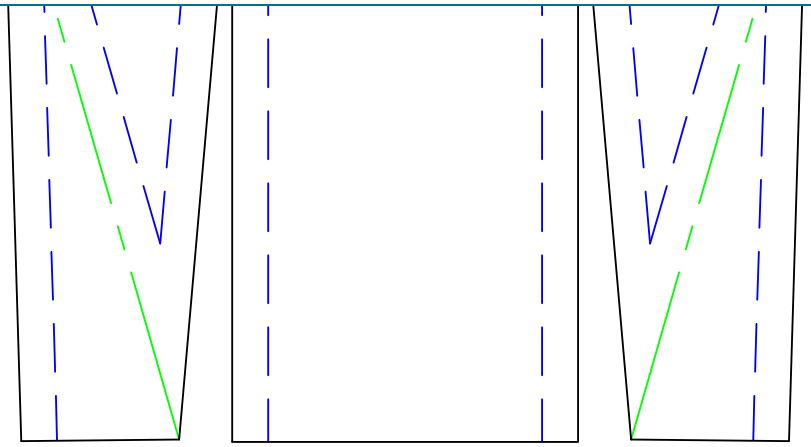
20x30 Foamboard Border





LAYER 1 -NOSE PIECE BOTTOM LAYER

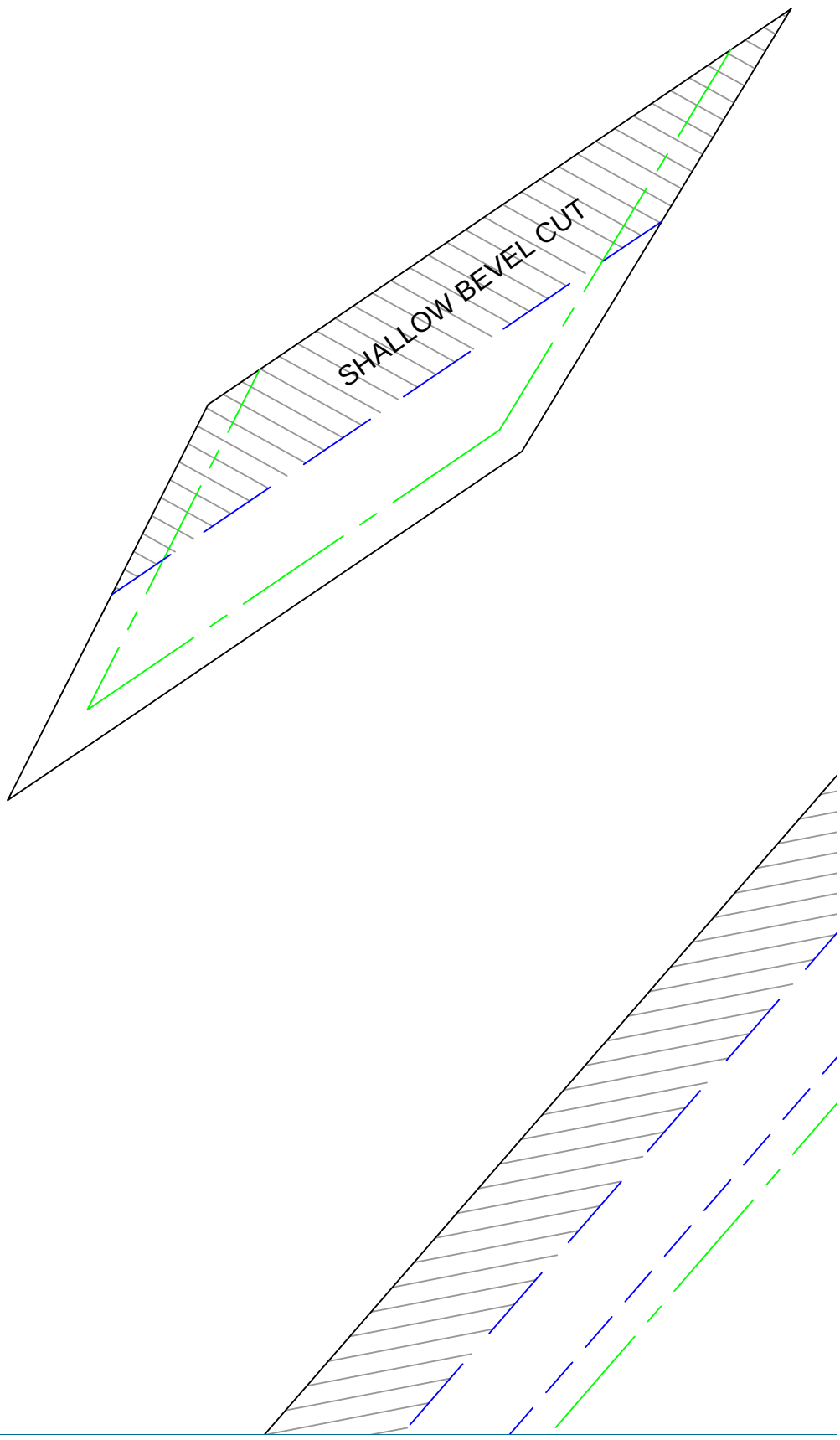
P9

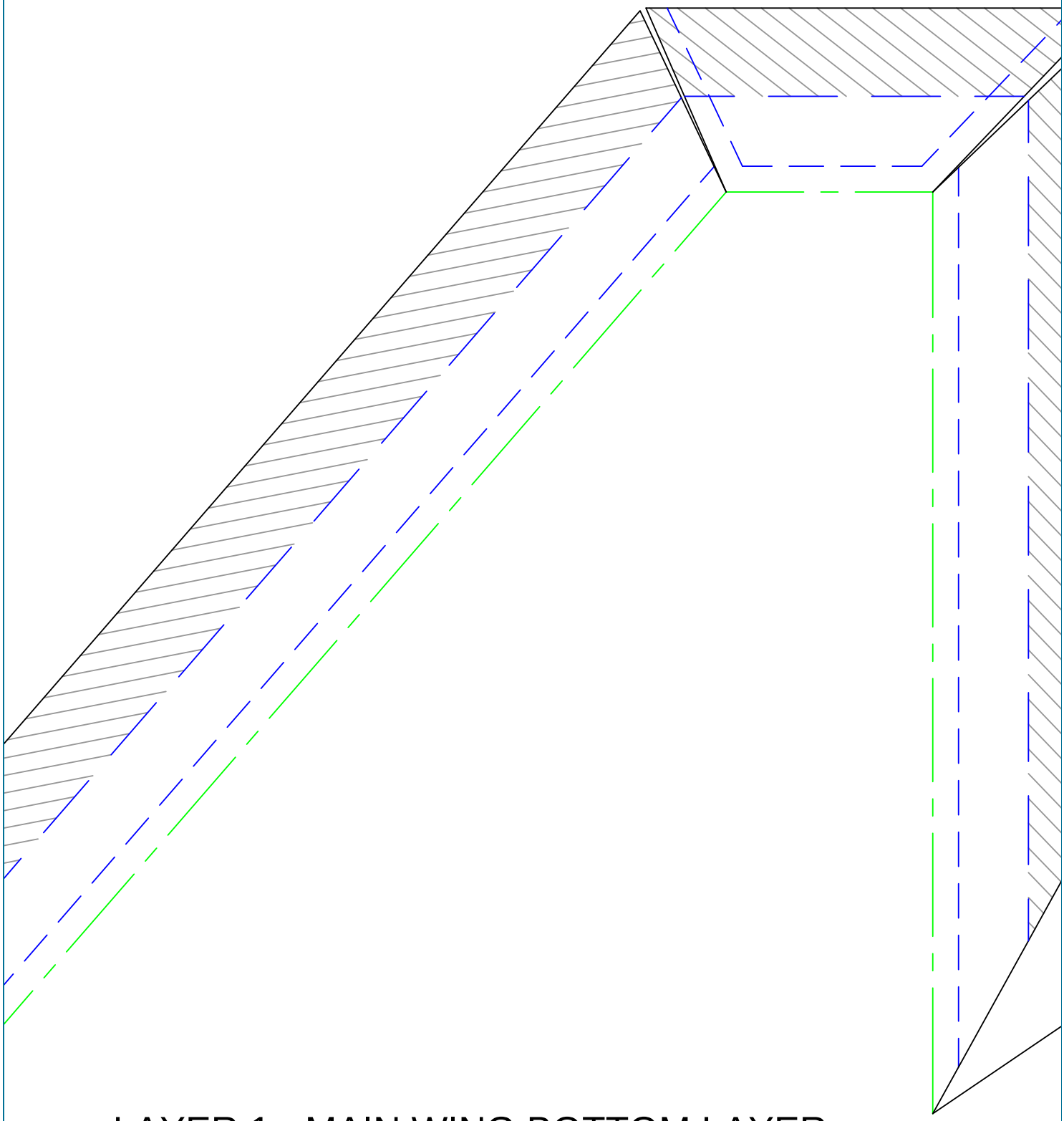


20x30 Foamboard Border

P10

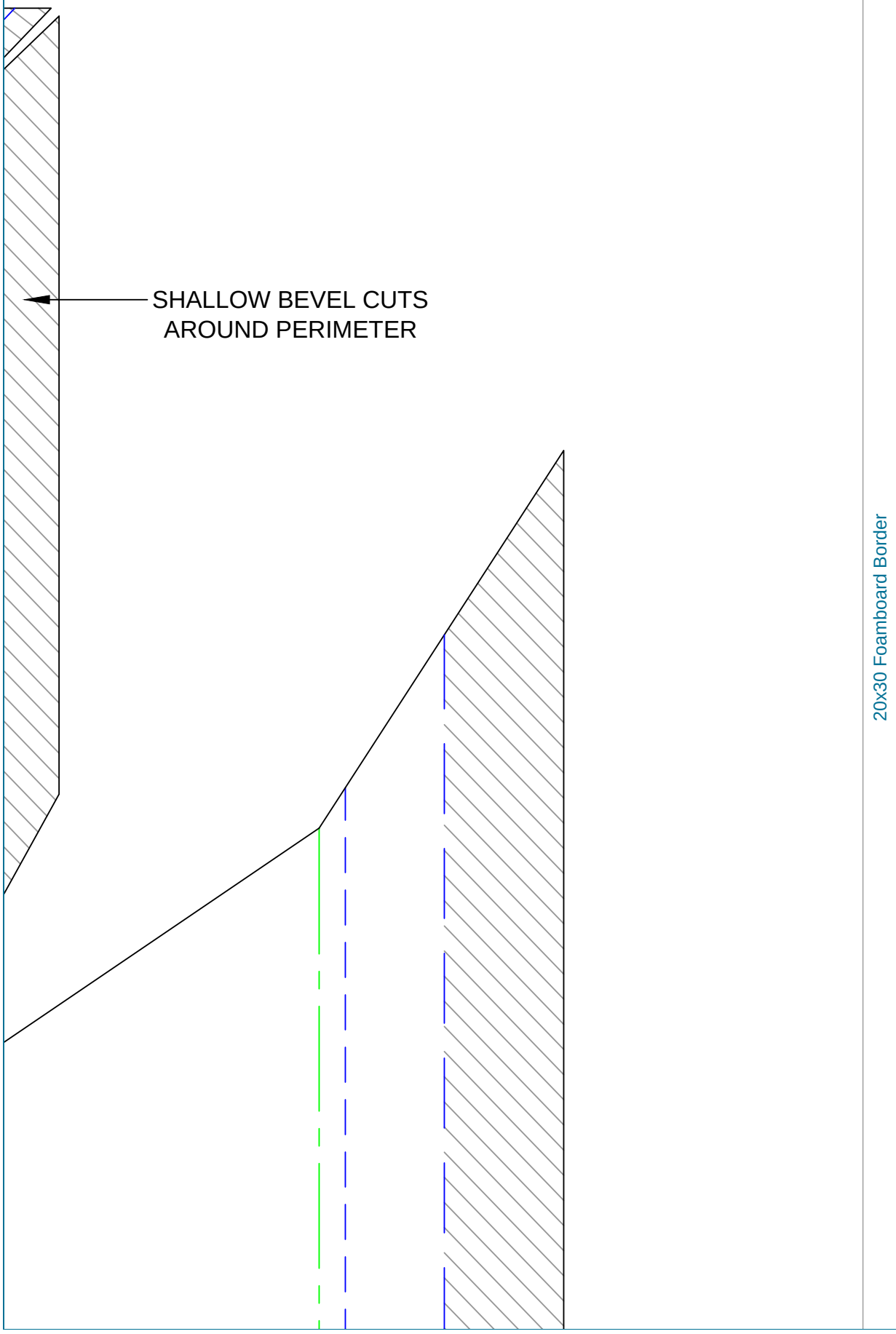
20x30 Foamboard Border





LAYER 1 - MAIN WING BOTTOM LAYER

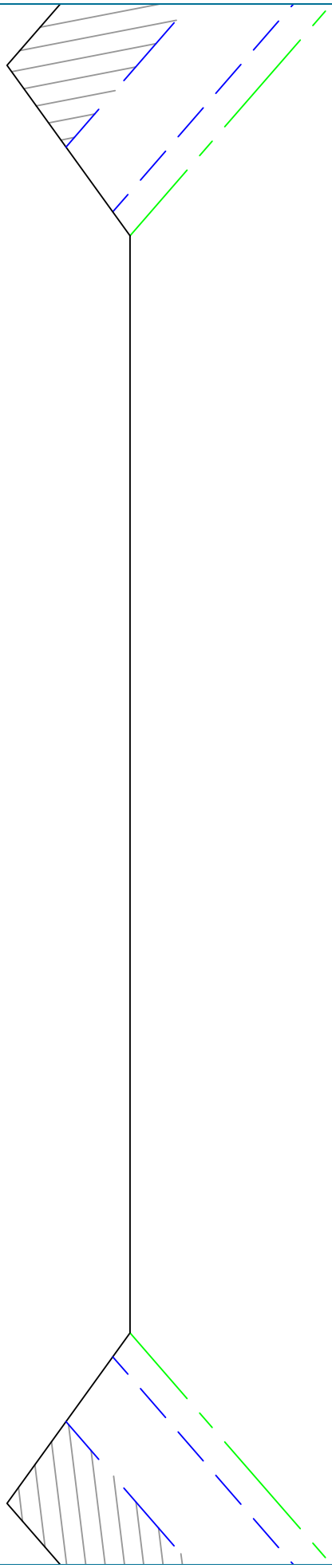
P12



20x30 Foamboard Border

P13

20x30 Foamboard Border



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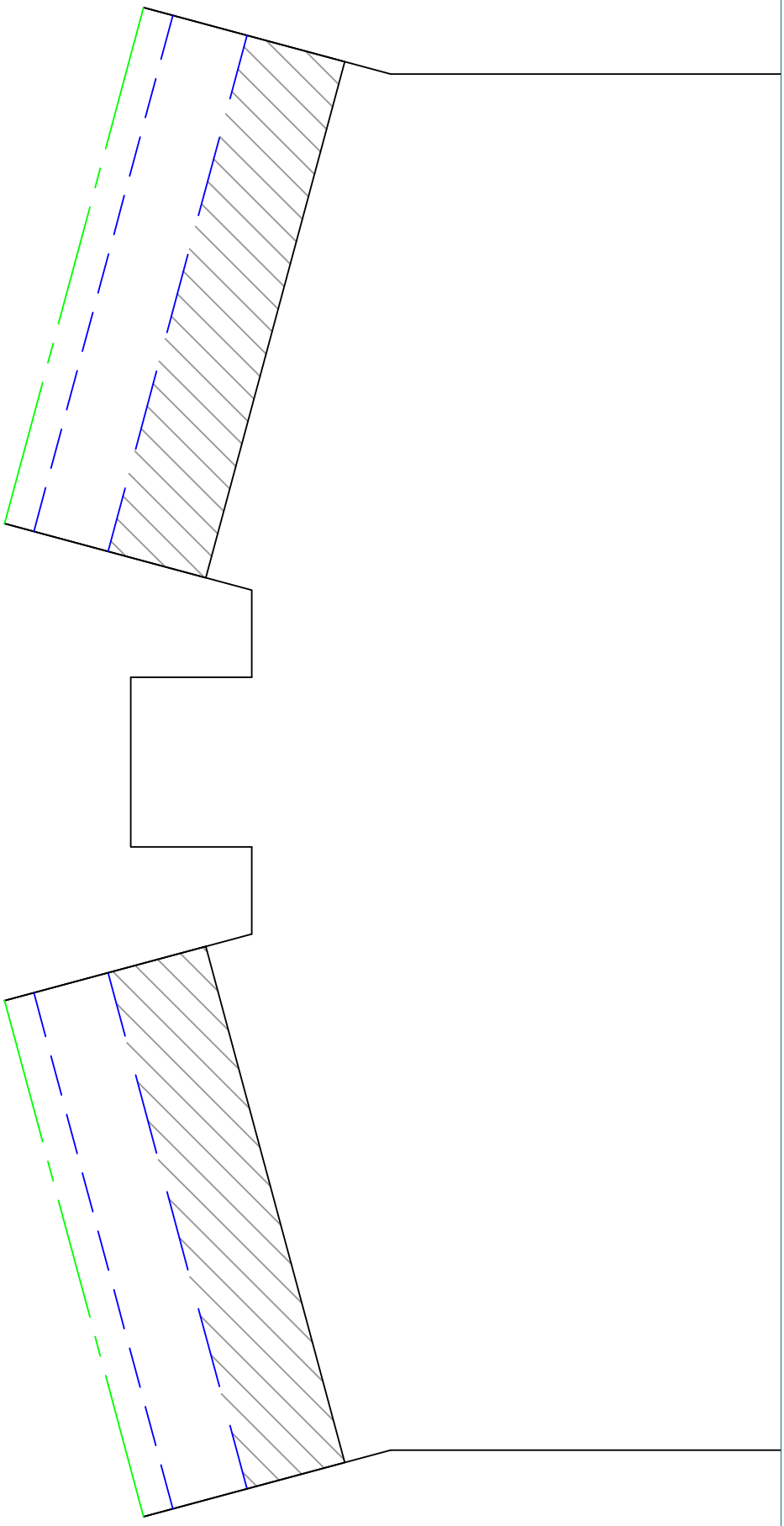
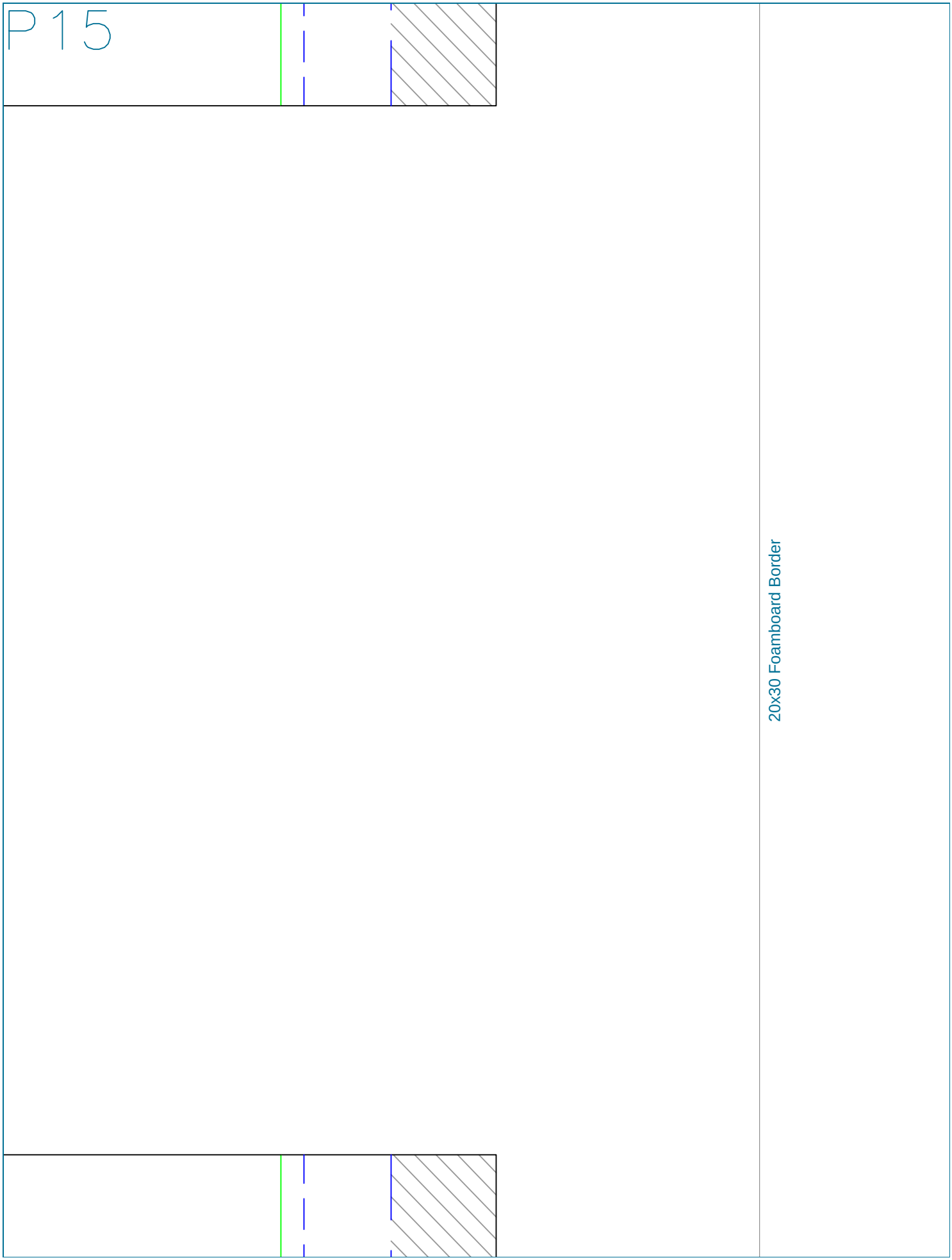
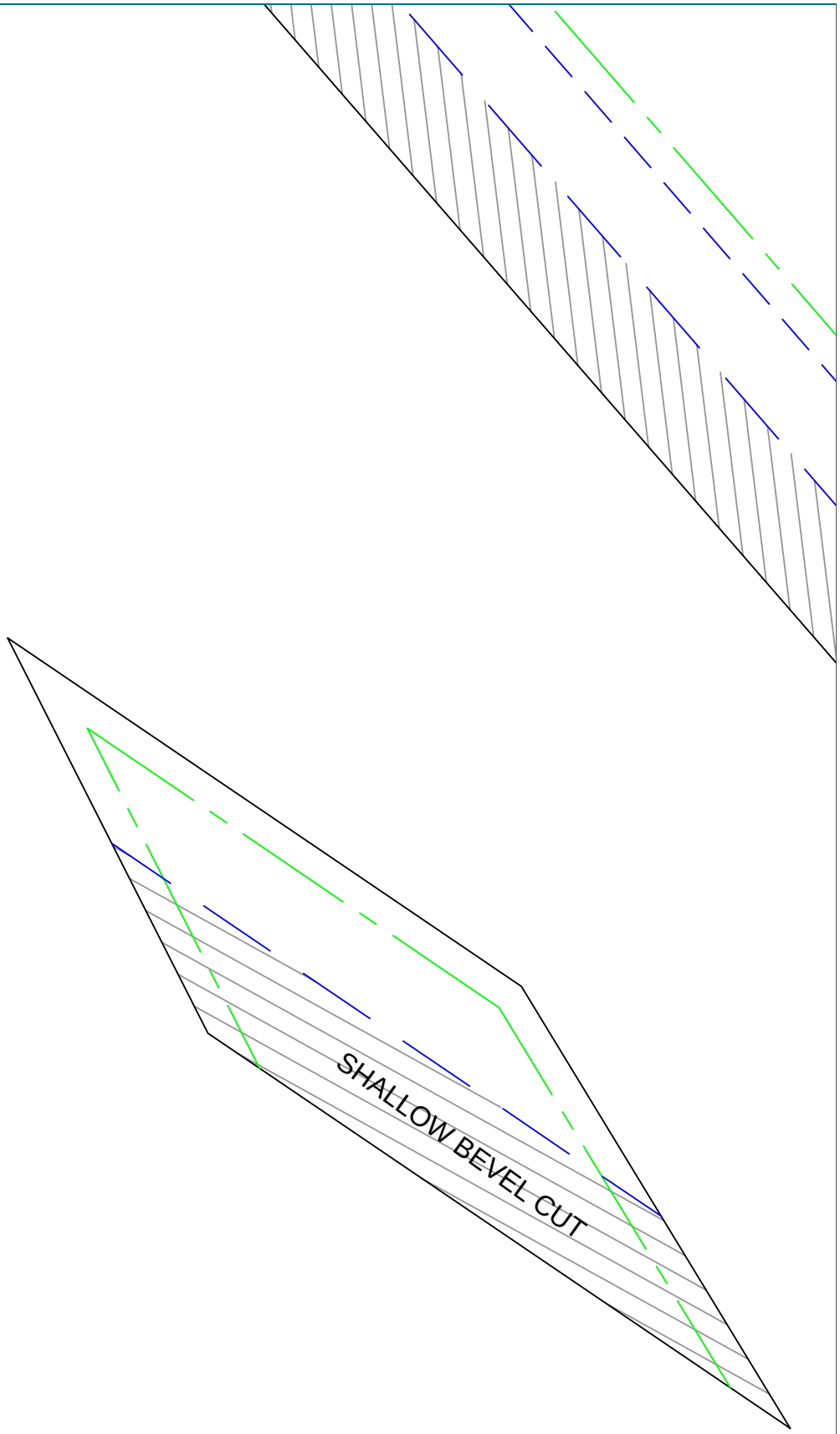



P15
20x30 Foamboard Border

P16

20x30 Foamboard Border



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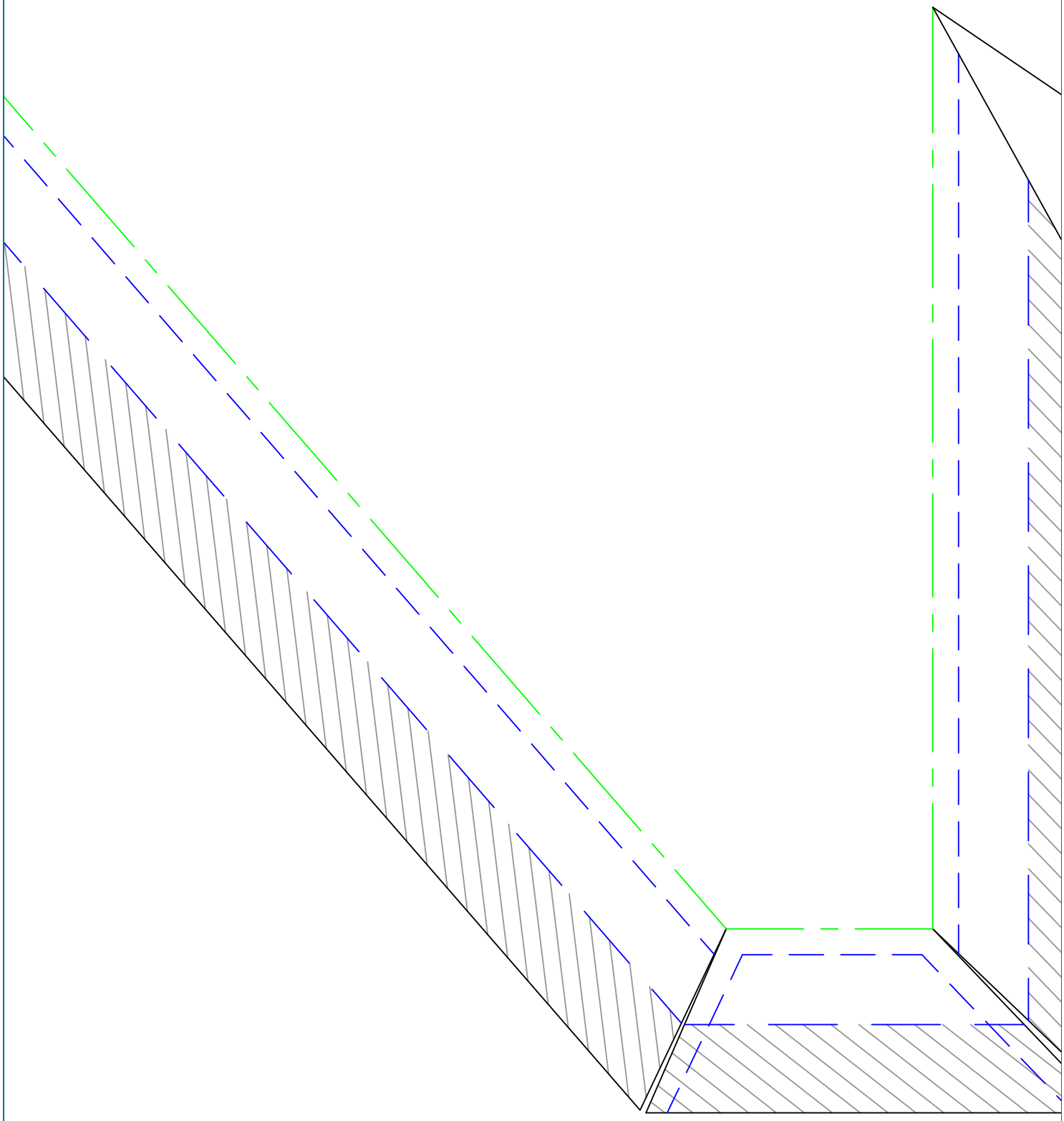

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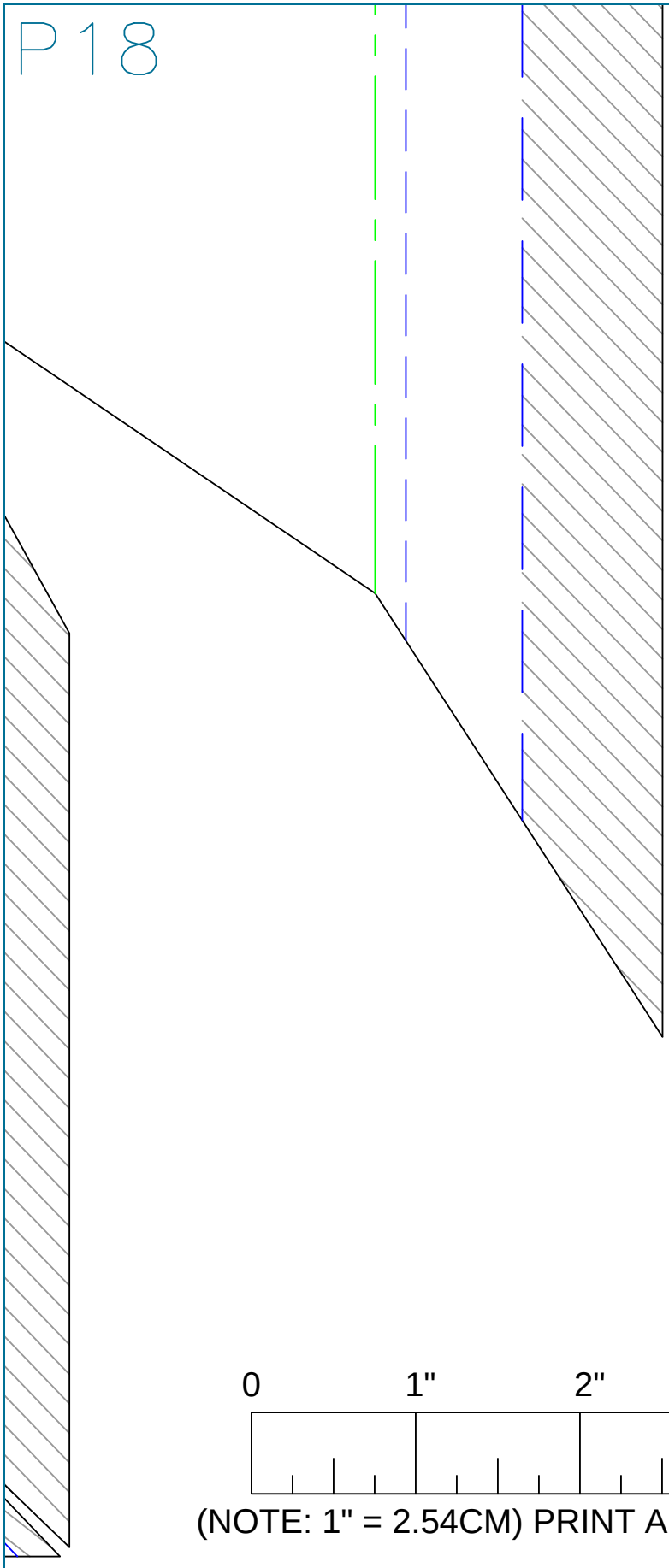

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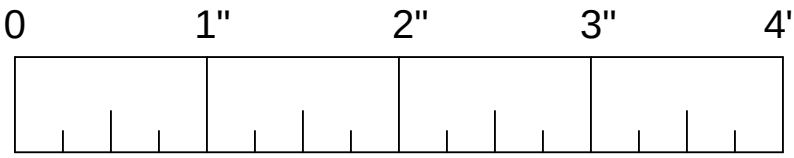

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

20x30 Foamboard Border

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- CUT COMPLETELY THROUGH FOAMBOARD.
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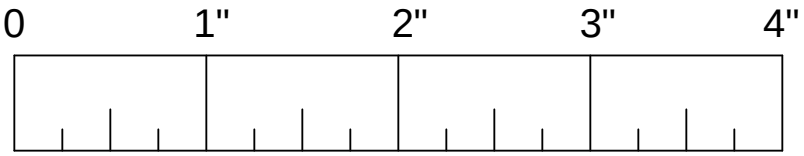

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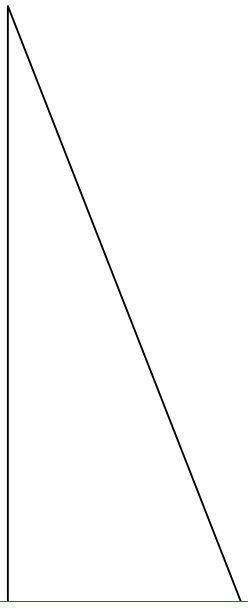
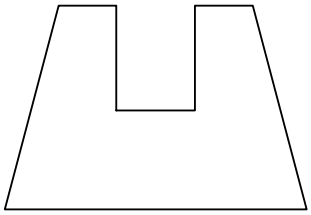
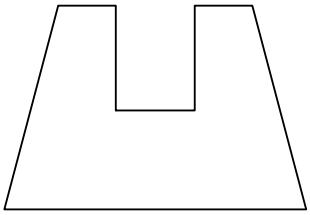
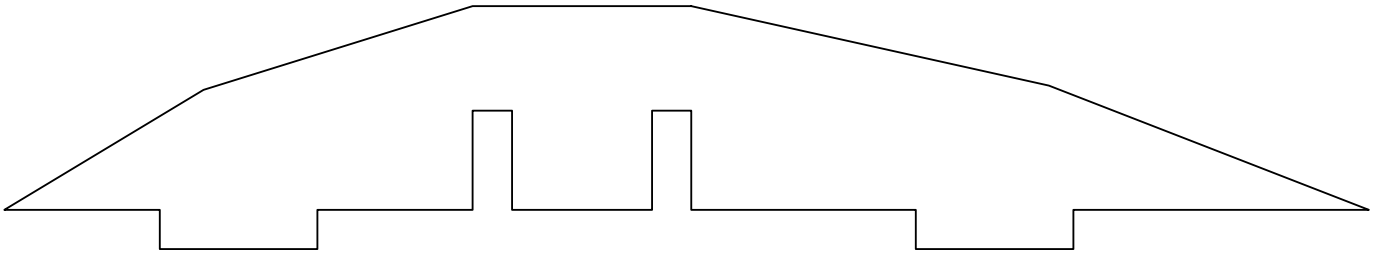
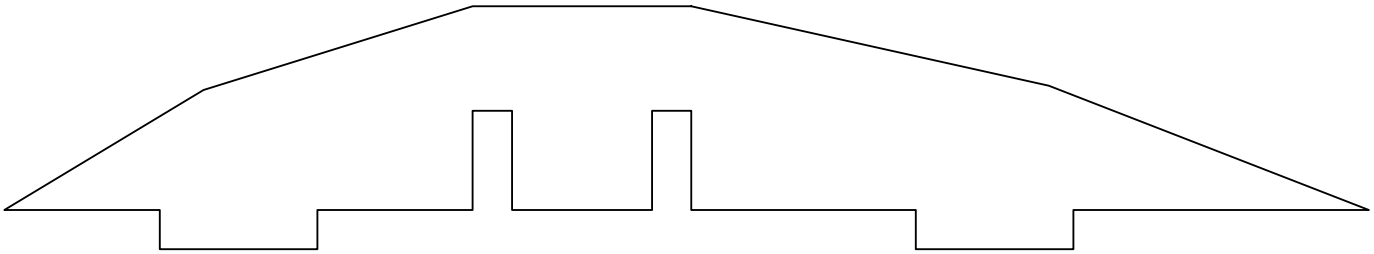


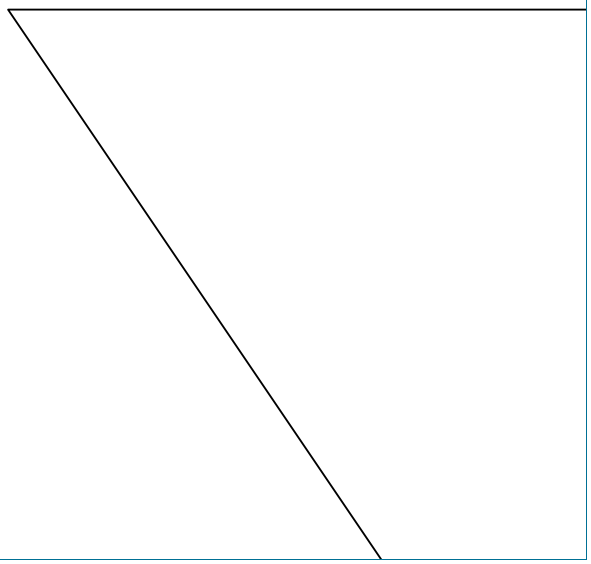


CANOPY SUPPORT PIECES



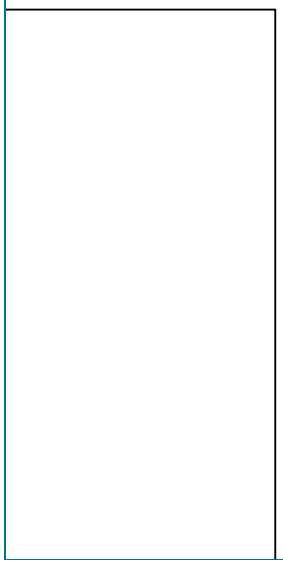






P21

20x30 Foamboard Border



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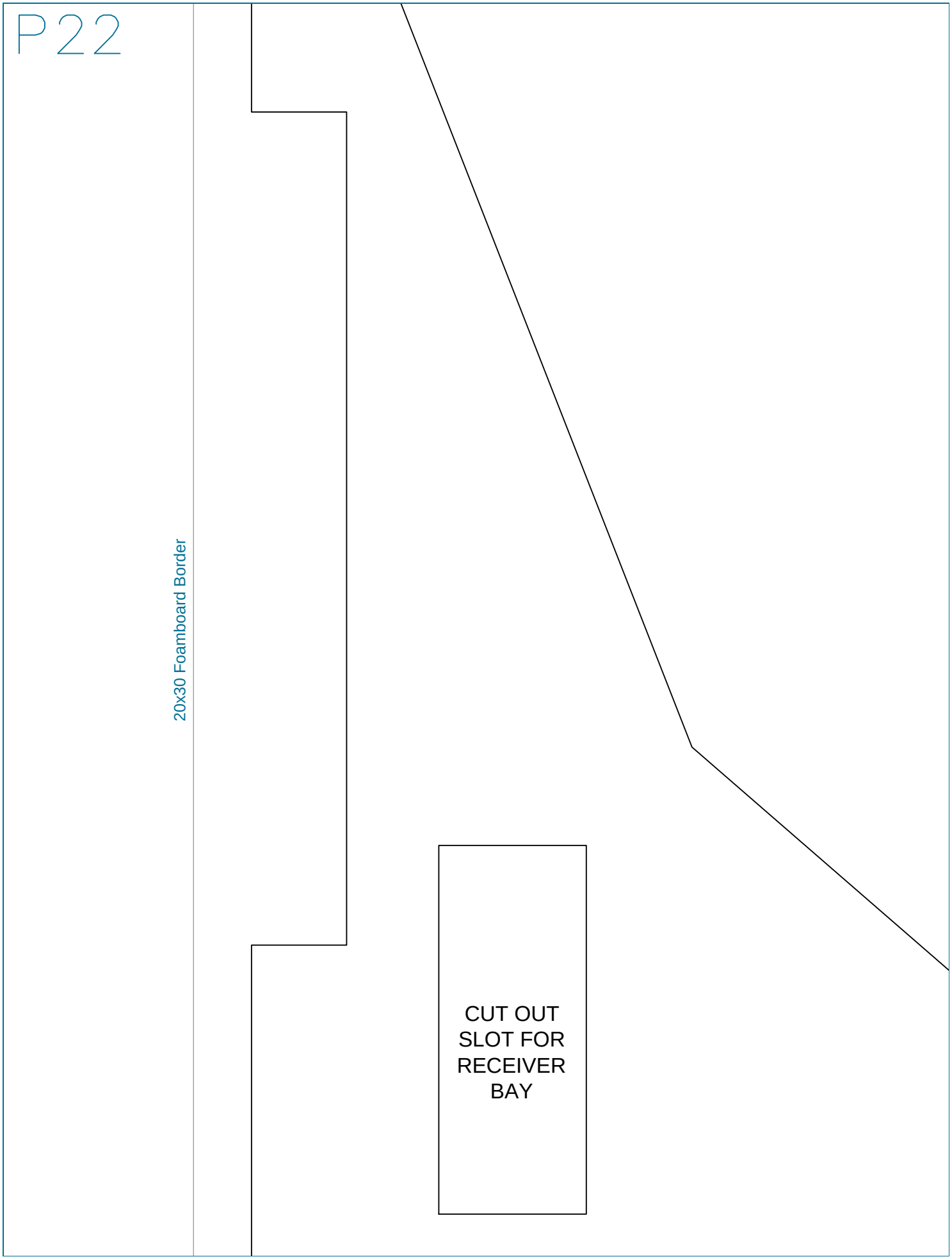
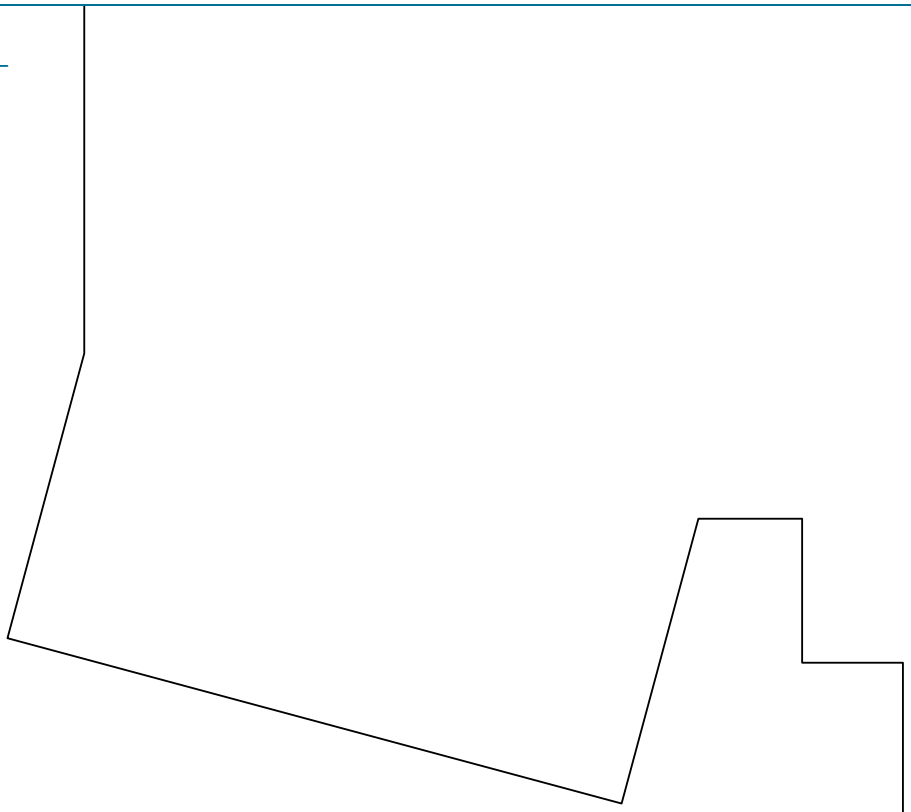
20x30 Foamboard Border



LAYER 2 - LEFT MAIN WING & NOSE RISER LAYER

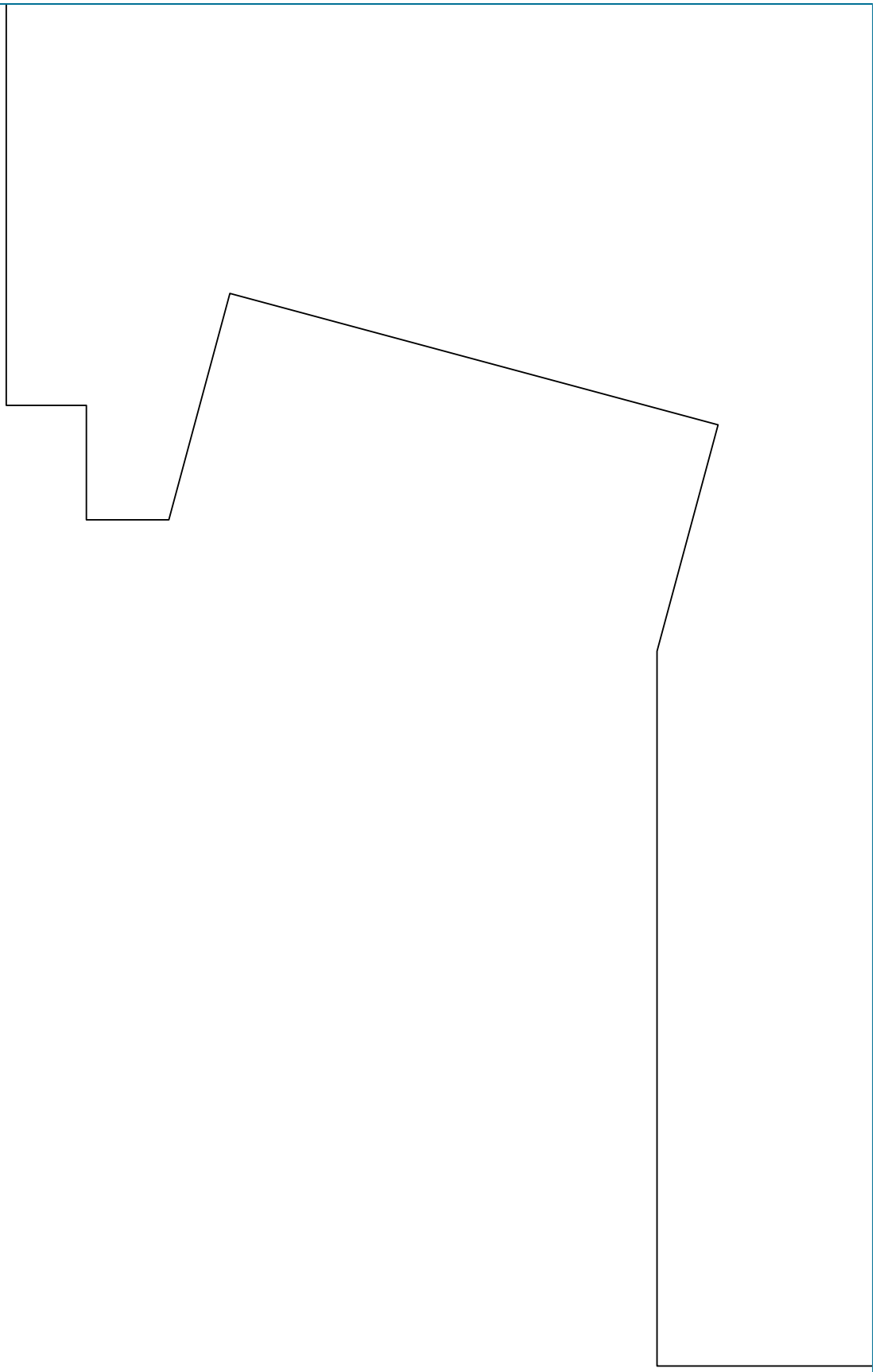
P24



20x30 Foamboard Border

P25

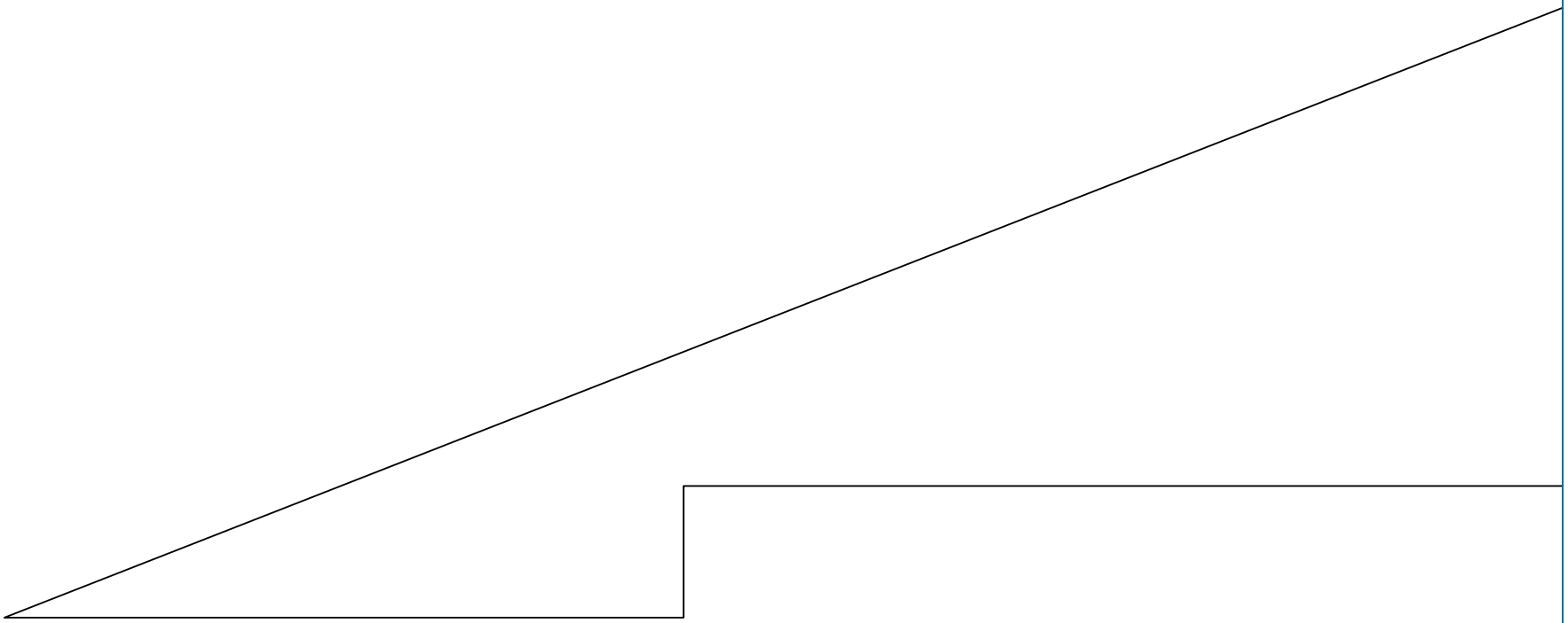
20x30 Foamboard Border



P26

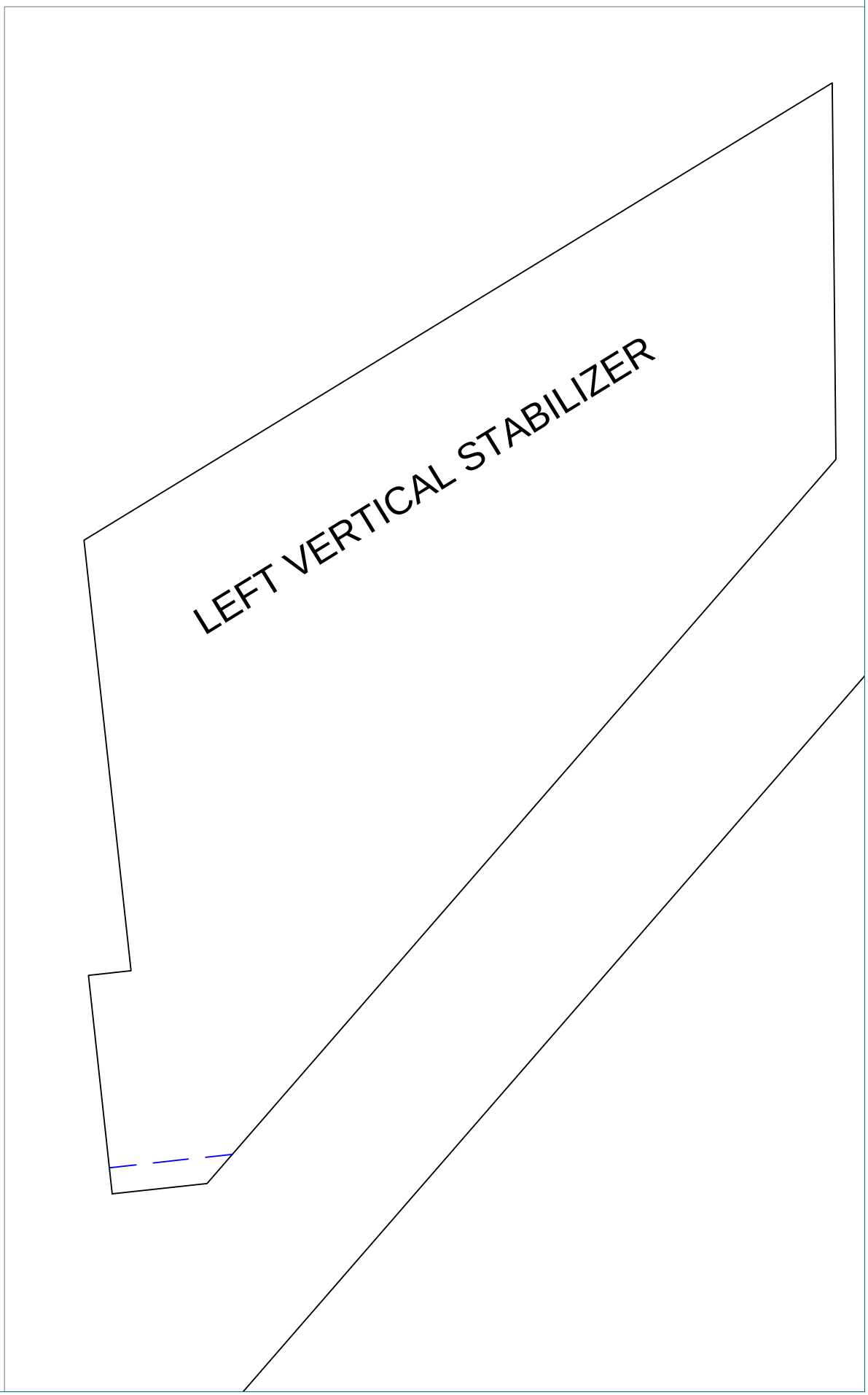
LAYER 2 - RIGHT MAIN WING & NOSE RISER LAYER

P27



20x30 Foamboard Border

P28



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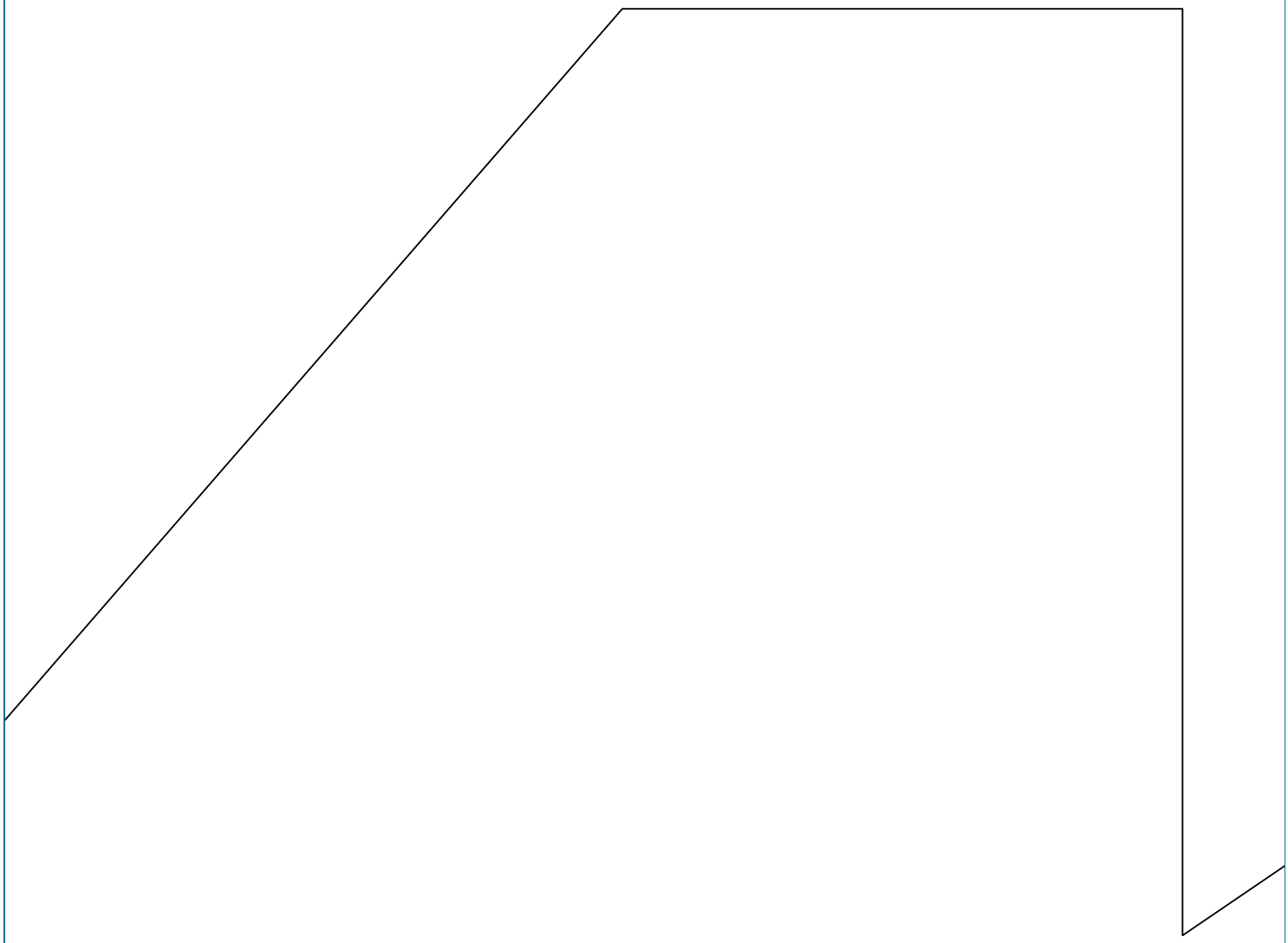
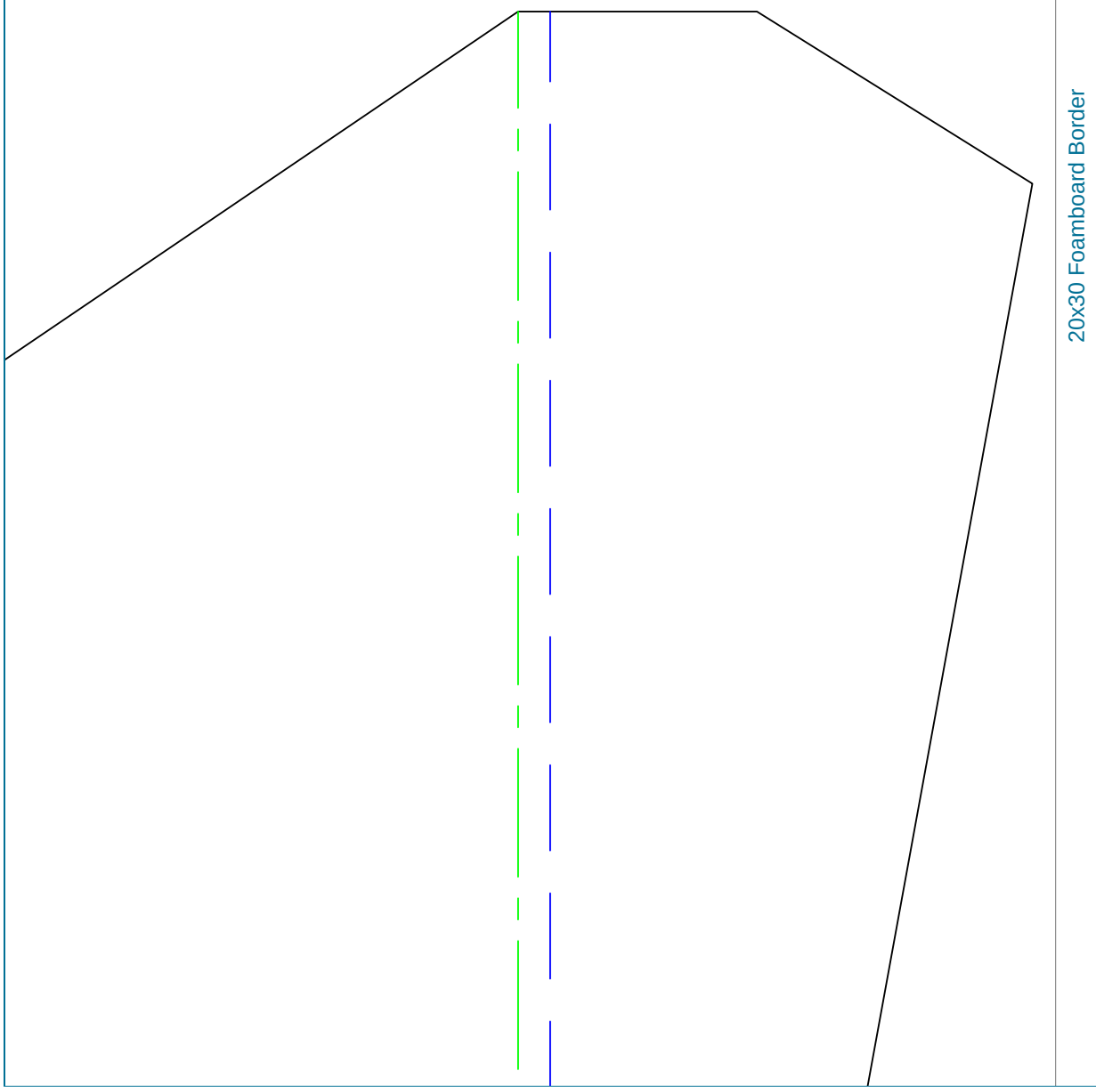


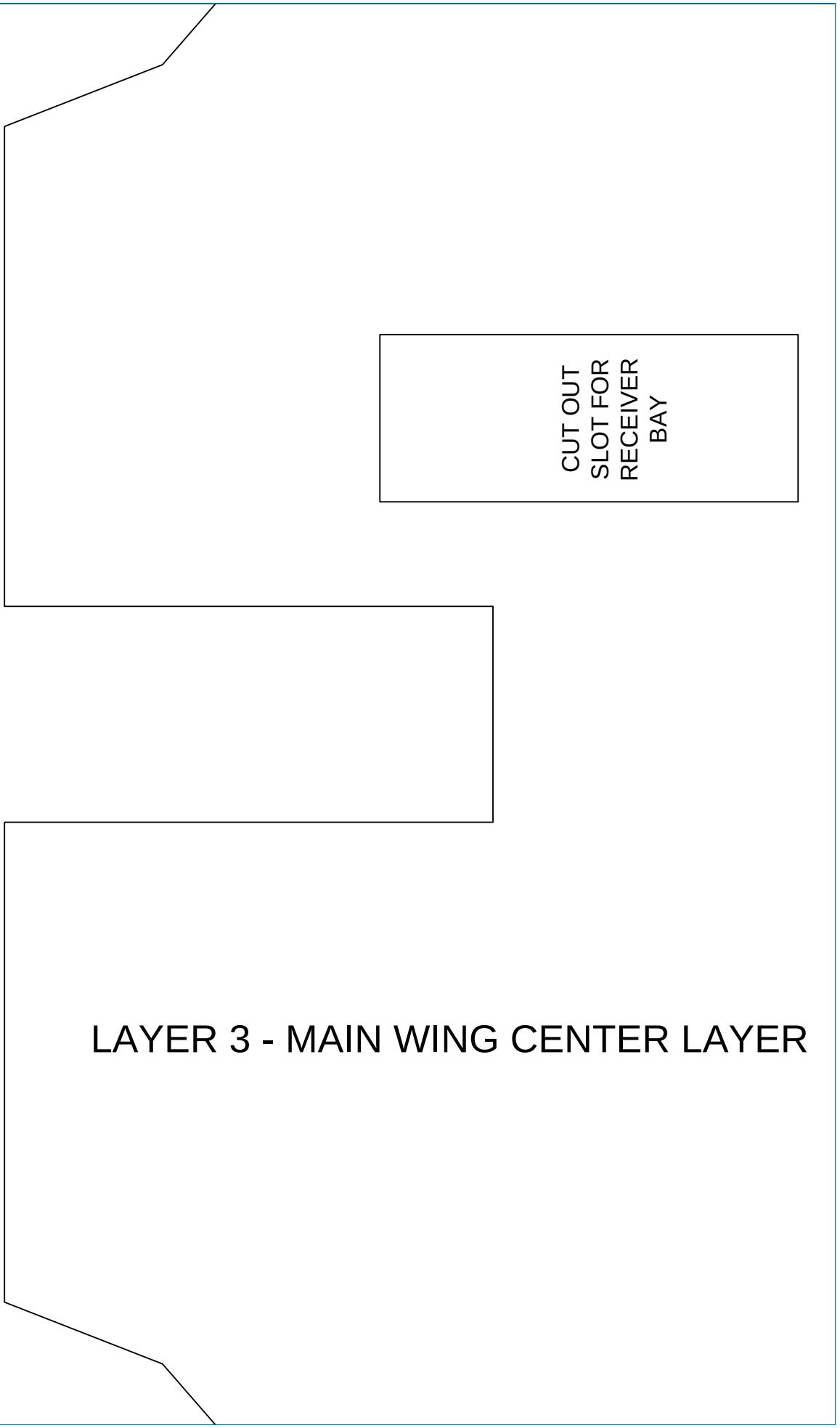
APPROX.
SERVO
LOCATION

P30



20x30 Foamboard Border

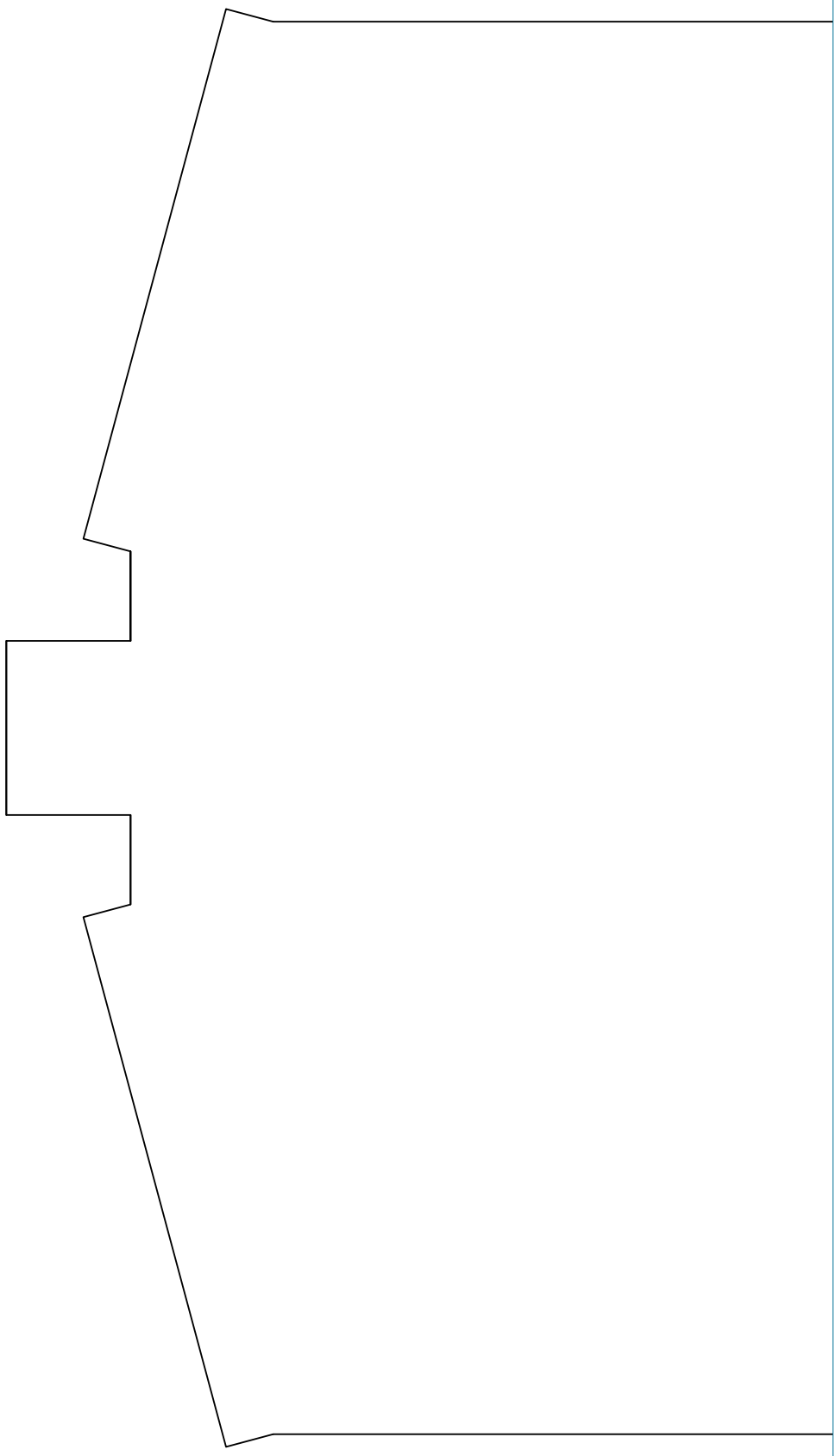
P31



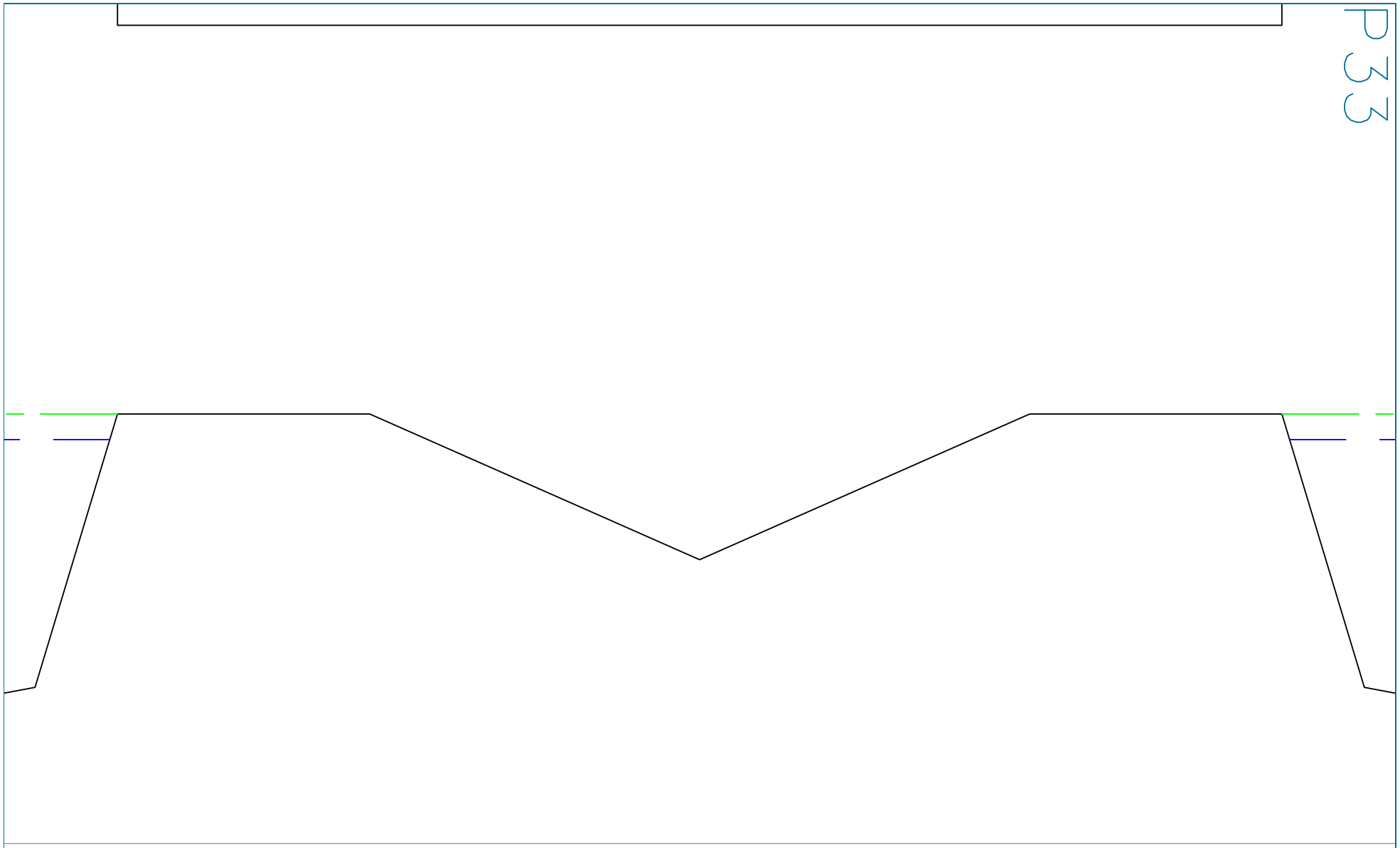
20x30 Foamboard Border

LAYER 3 - MAIN WING CENTER LAYER

P32



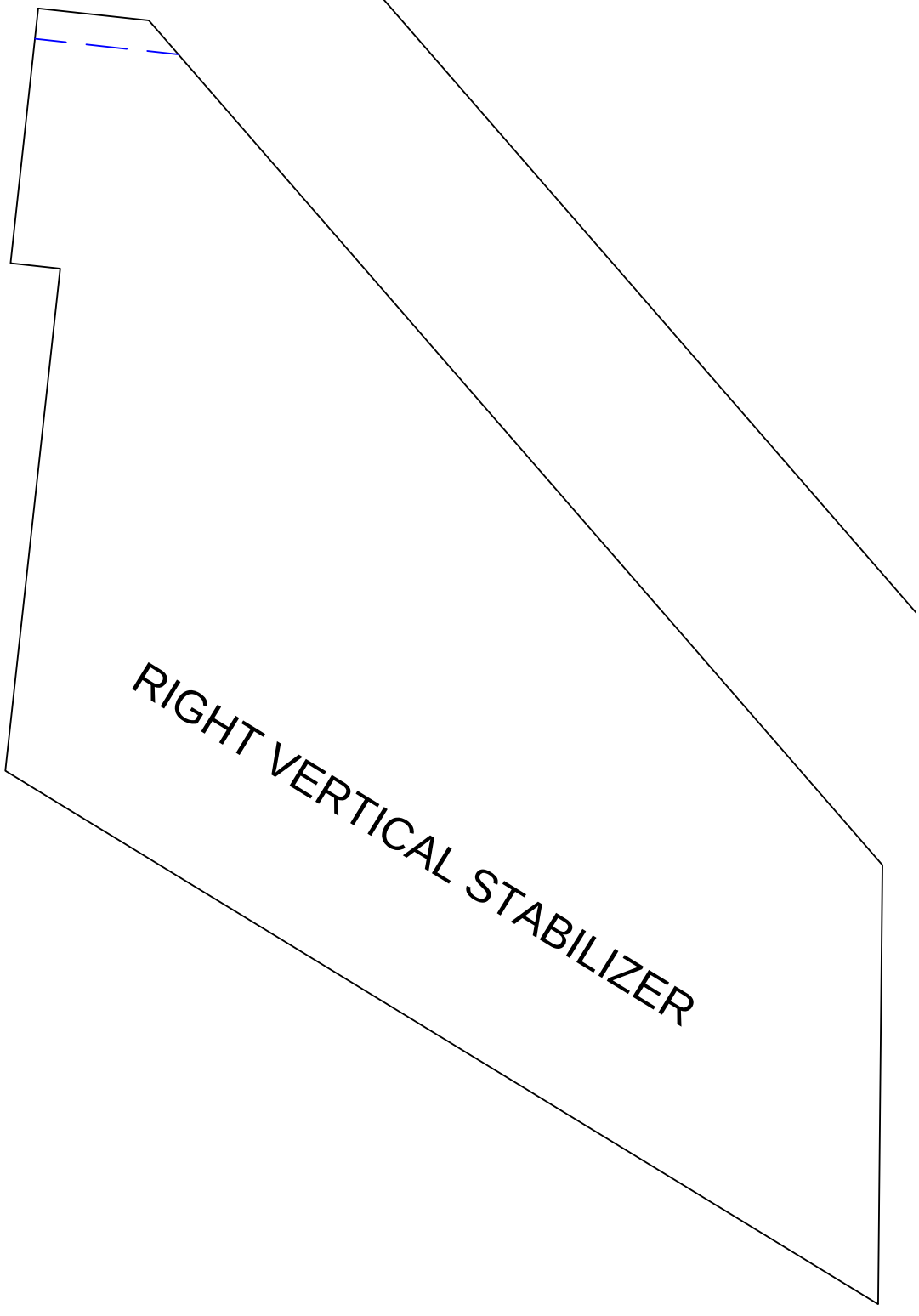
P32



20x30 Foamboard Border

P34

20x30 Foamboard Border



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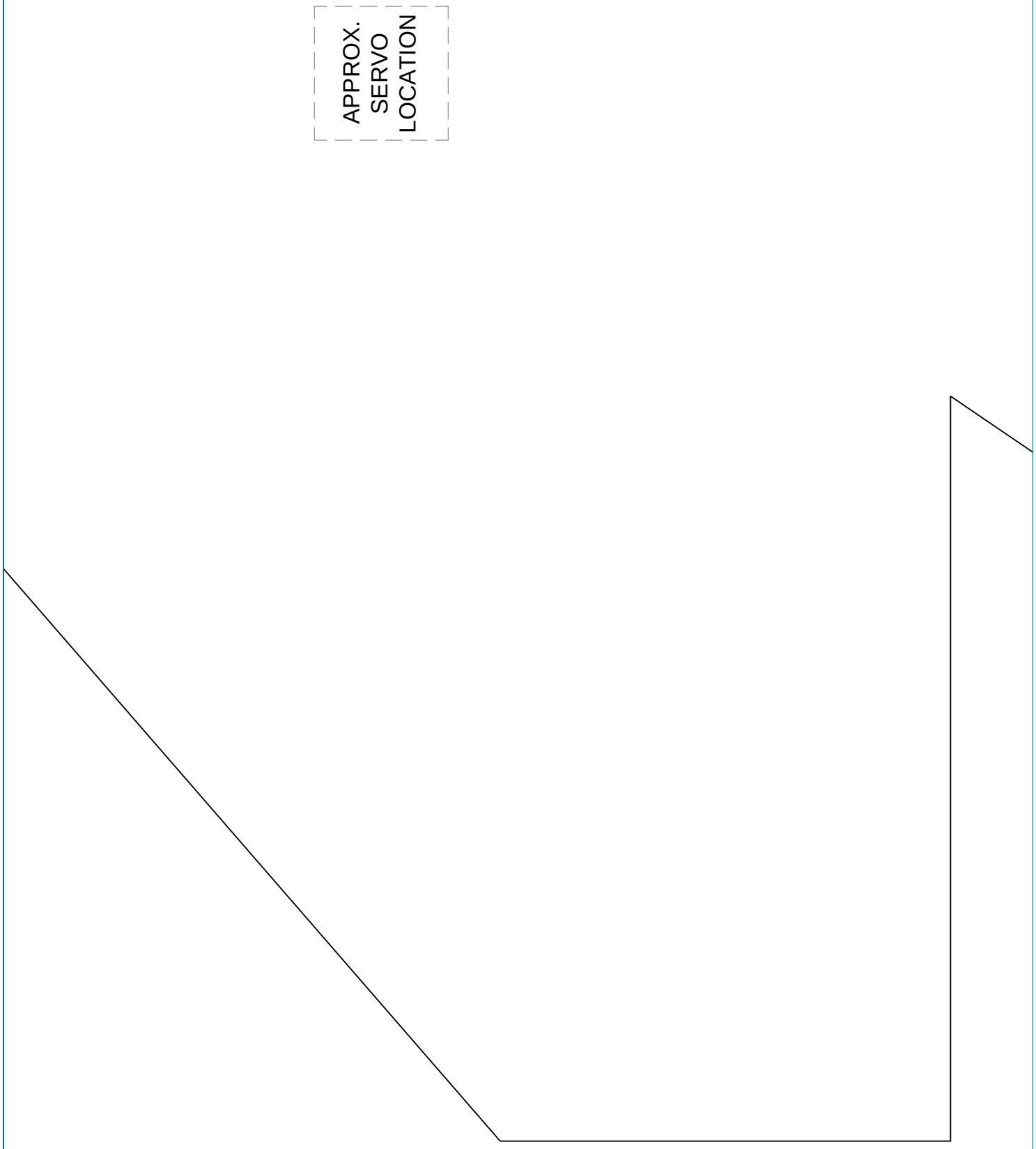

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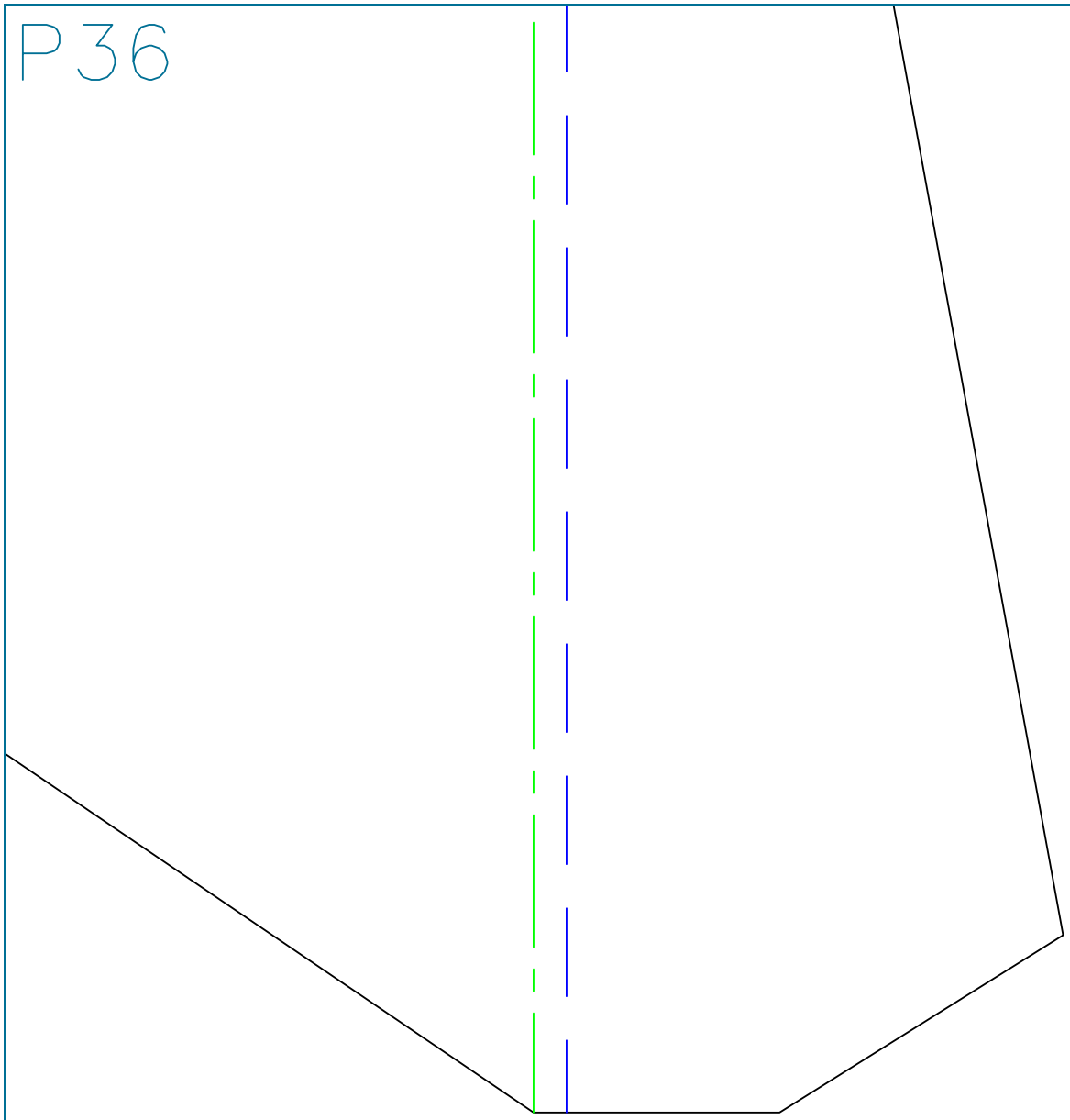
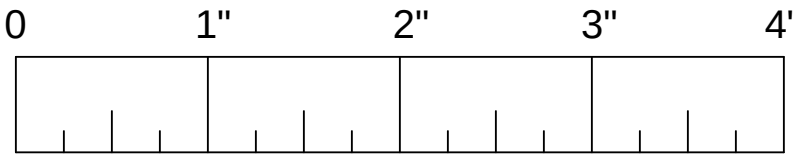


20x30 Foamboard Border



(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

20x30 Foamboard Border

LINE-TYPE, CUTTING LEDGEND

- CUT COMPLETELY THROUGH FOAMBOARD.
- EDGE LINE OF BEVEL CUT.
- CENTER CUT & FOLD-LINE FOR DOUBLE 45° BEVEL CUT , CUT THROUGH ONE SIDE OF FOAMBOARD ONLY.
- NOTCH BOX - CUT THROUGH TOP SIDE OF FOAMBOARD PAPER ONLY AND REMOVE FOAM (UNLESS OTHERWISE NOTED).
- NOTE-LINE - IDENTIFIES PLACEMENT OF PARTS OR POSSIBLE OPTIONAL CUTTING.
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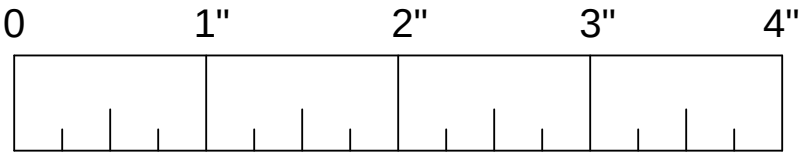
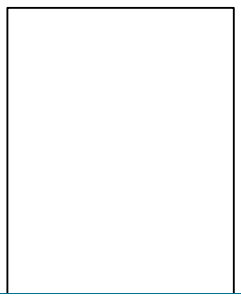


(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

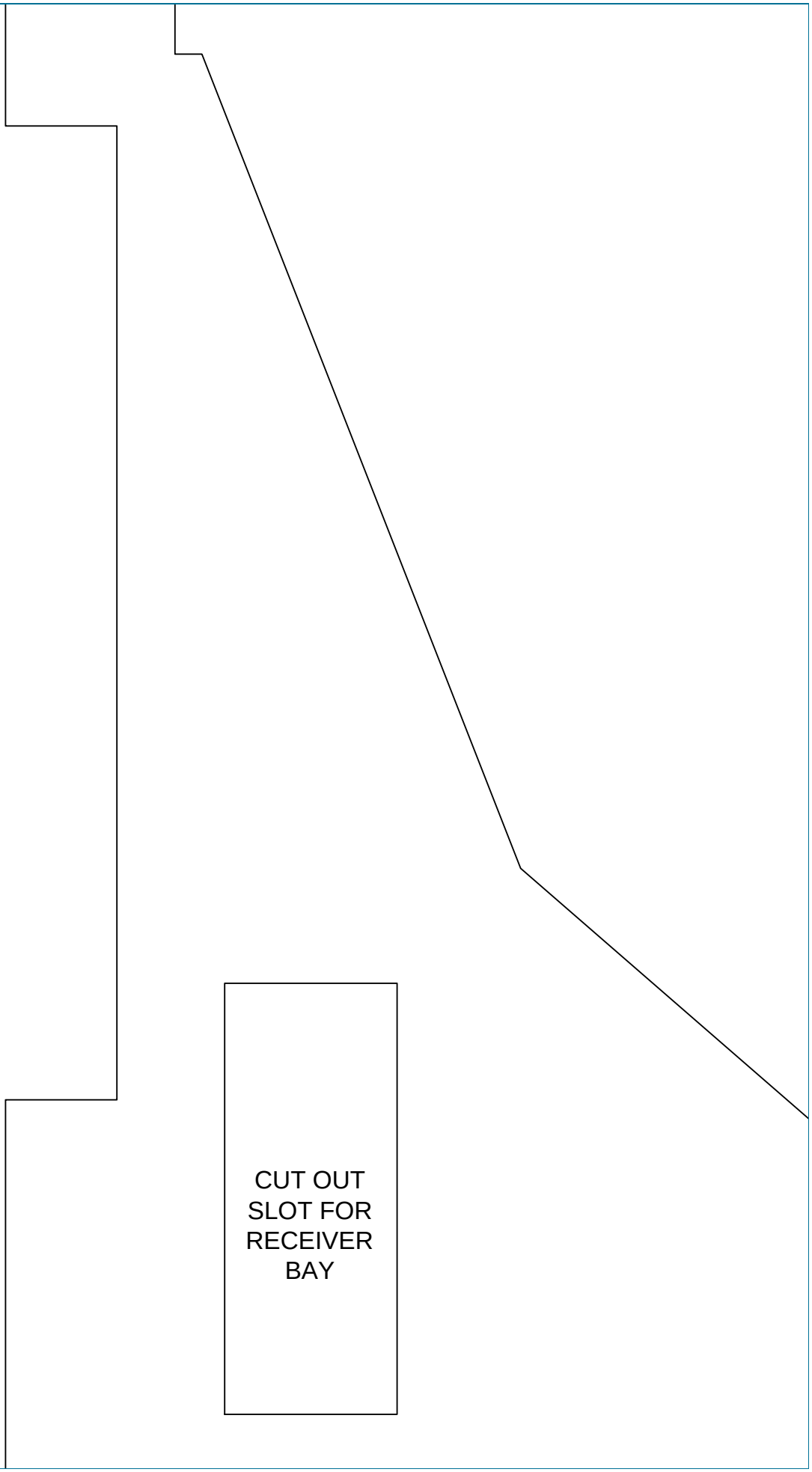


P39

20x30 Foamboard Border

P40

20x30 Foamboard Border

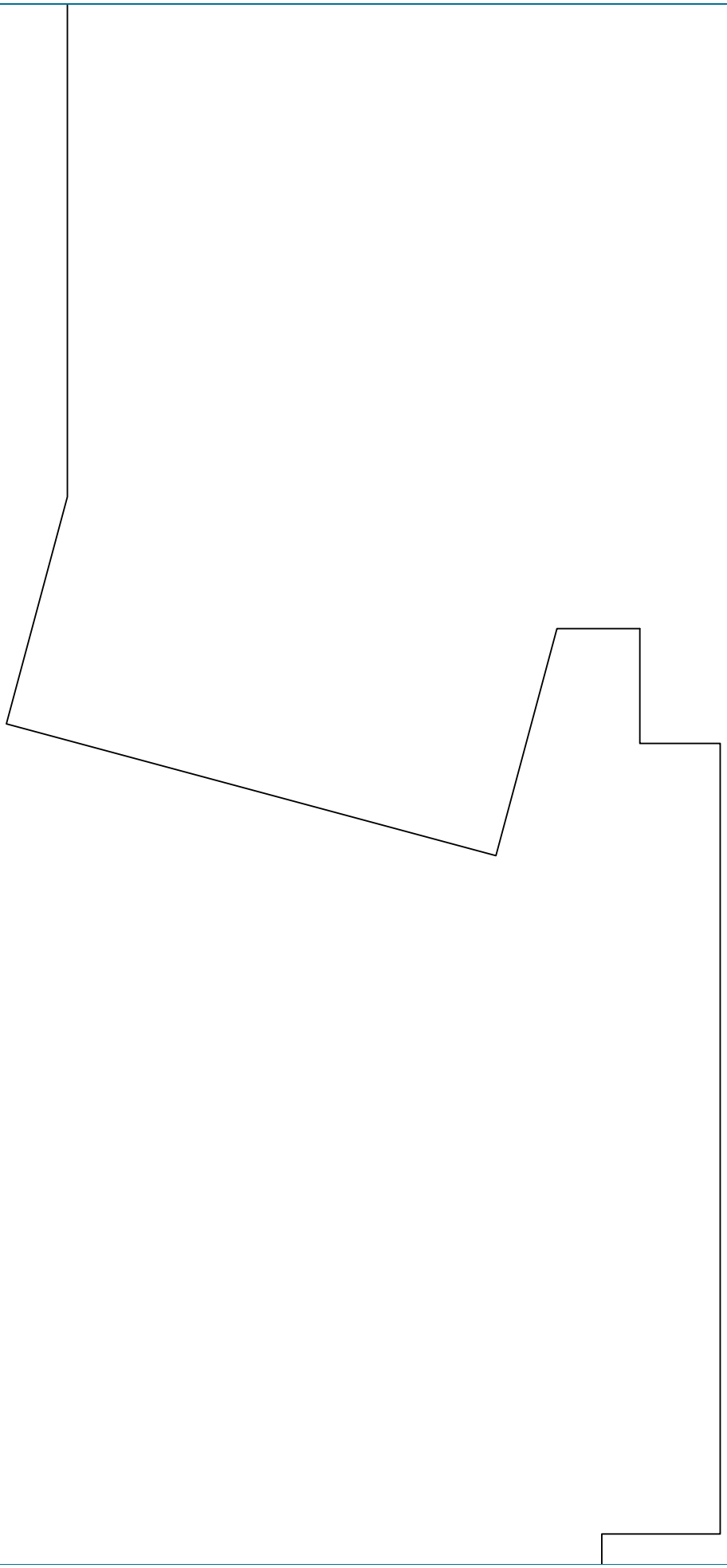


P41

LAYER 4 - LEFT MAIN WING & NOSE RISER LAYER

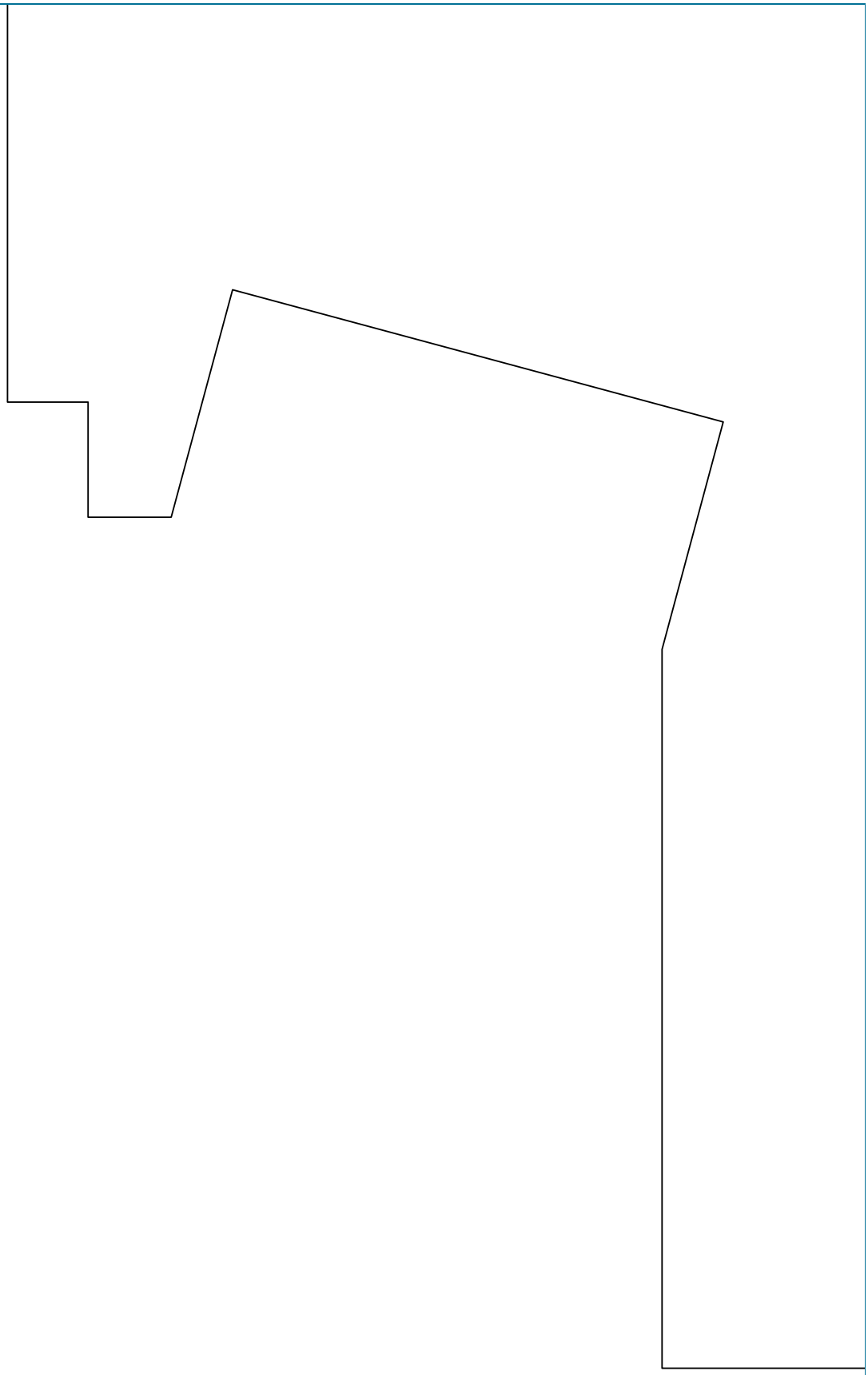
APPROX.
SERVO
LOCATION

P42



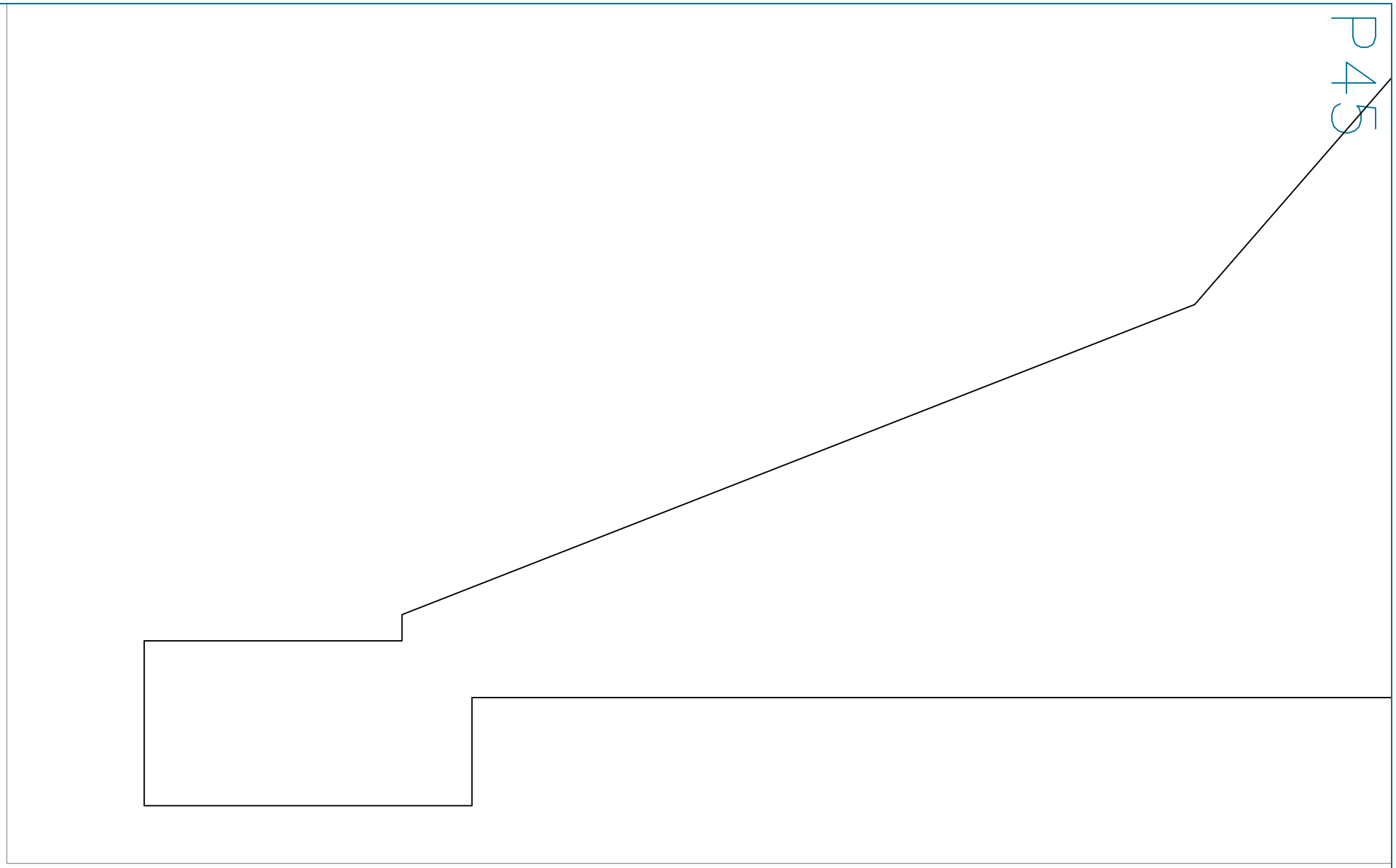
20x30 Foamboard Border

P43



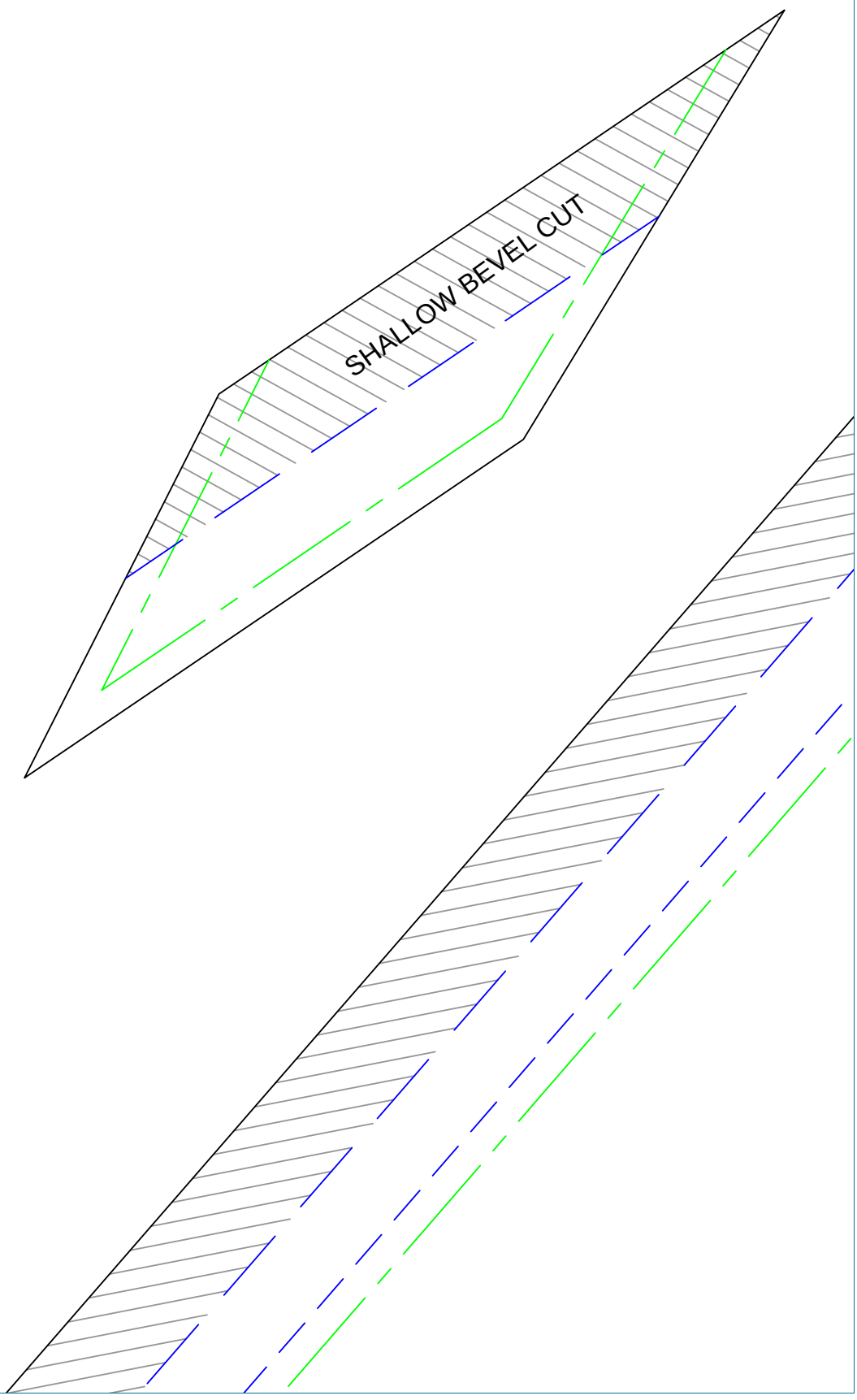
20x30 Foamboard Border

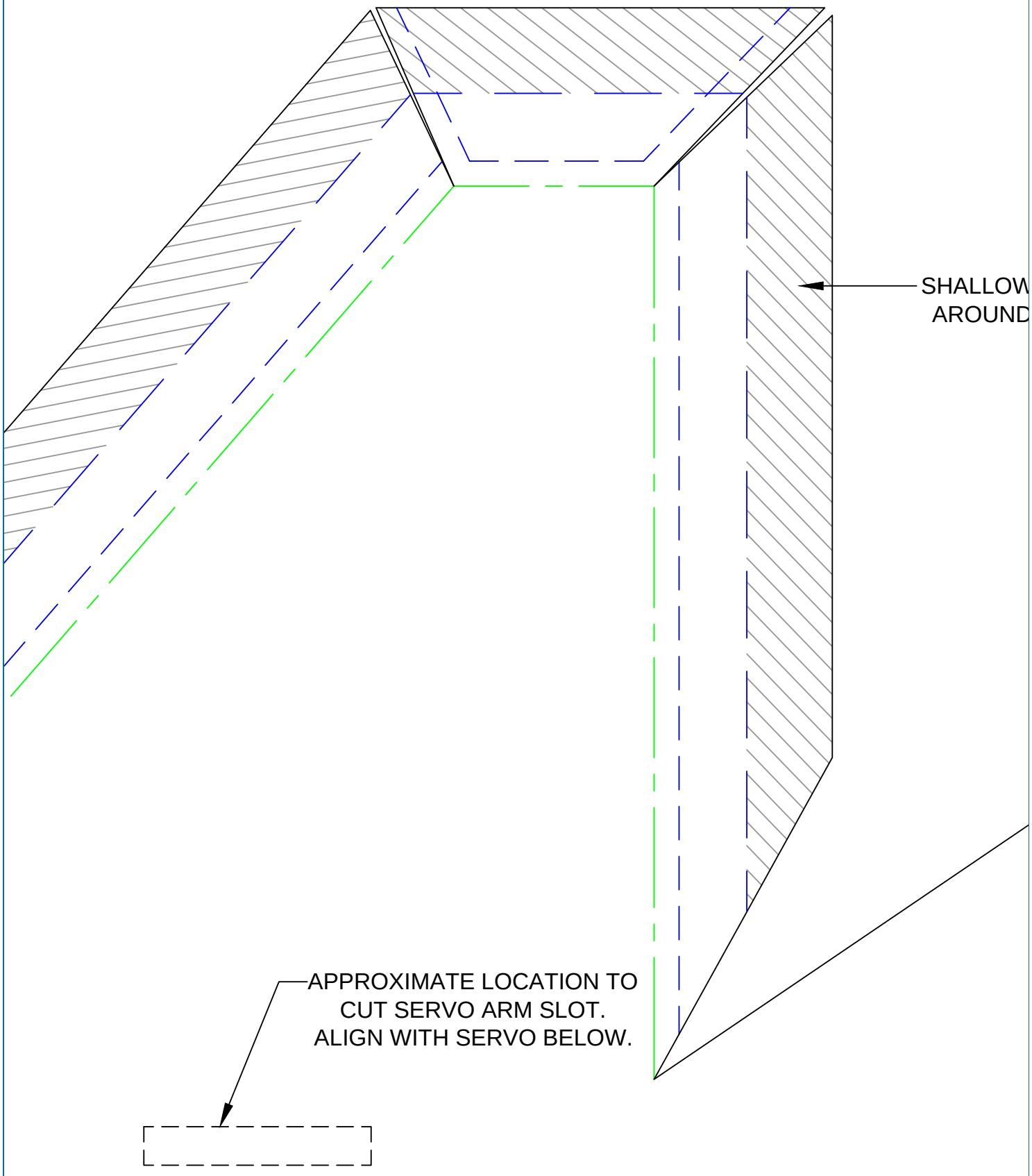
LAYER 4 - RIGHT MAIN WING & NOSE RISER LAYER



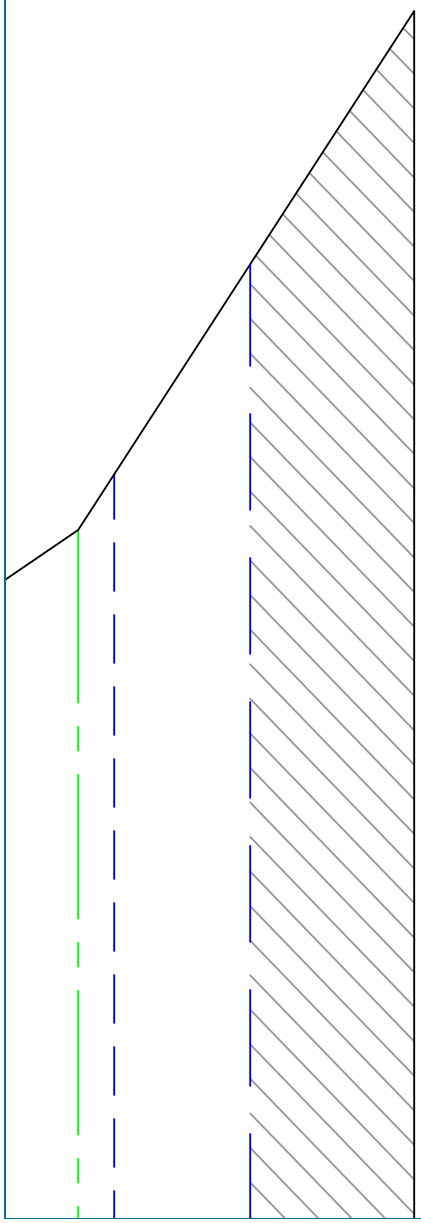
20x30 Foamboard Border

20x30 Foamboard Border



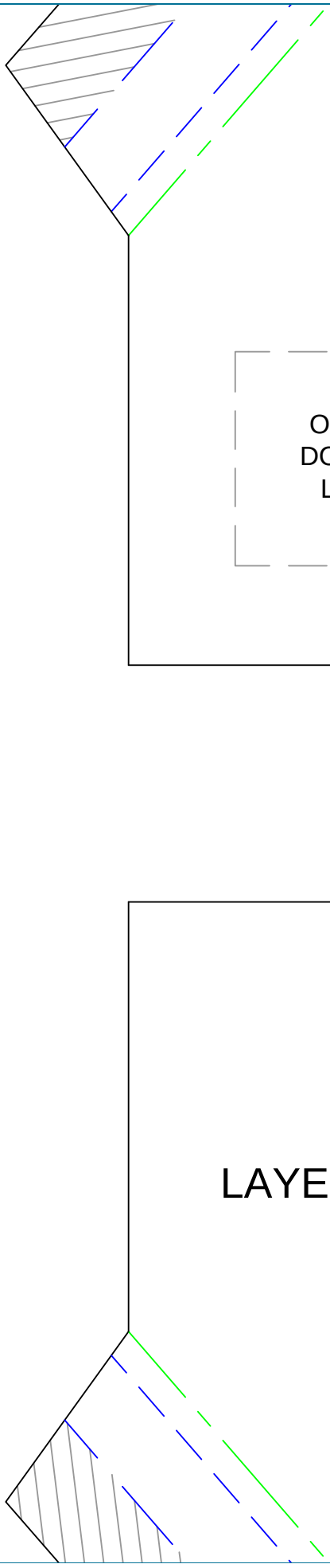

SHALLOW
AROUND
APPROXIMATE LOCATION TO
CUT SERVO ARM SLOT.
ALIGN WITH SERVO BELOW.

V BEVEL CUTS
PERIMETER



20x30 Foamboard Border

P49



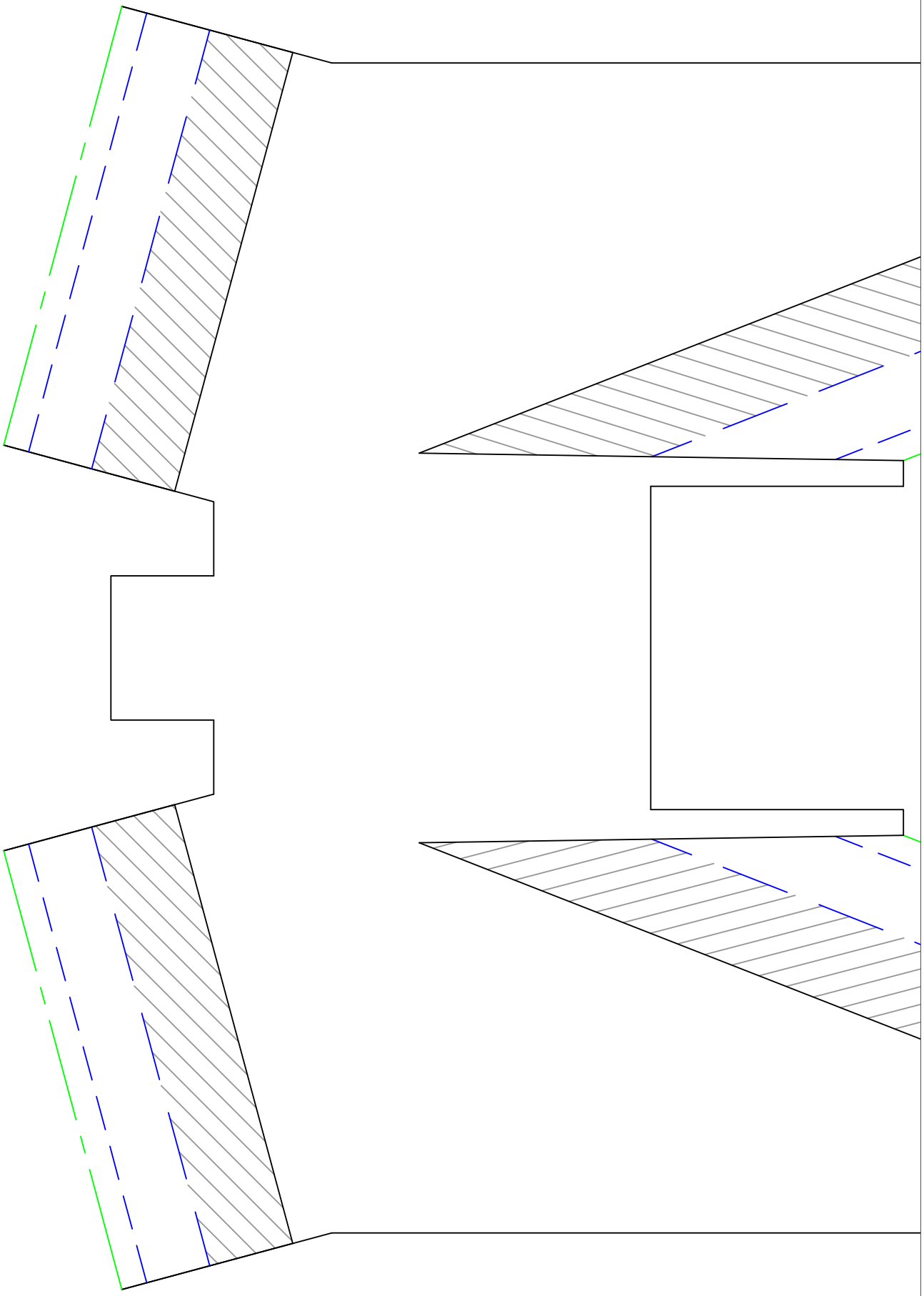
OPTIONAL RECEIVER BAY DOOR CAN BE CUT ON TOP LAYER OF FOAMBOARD.

APPROXIMATE LOCATION OF ESC.

20x30 Foamboard Border

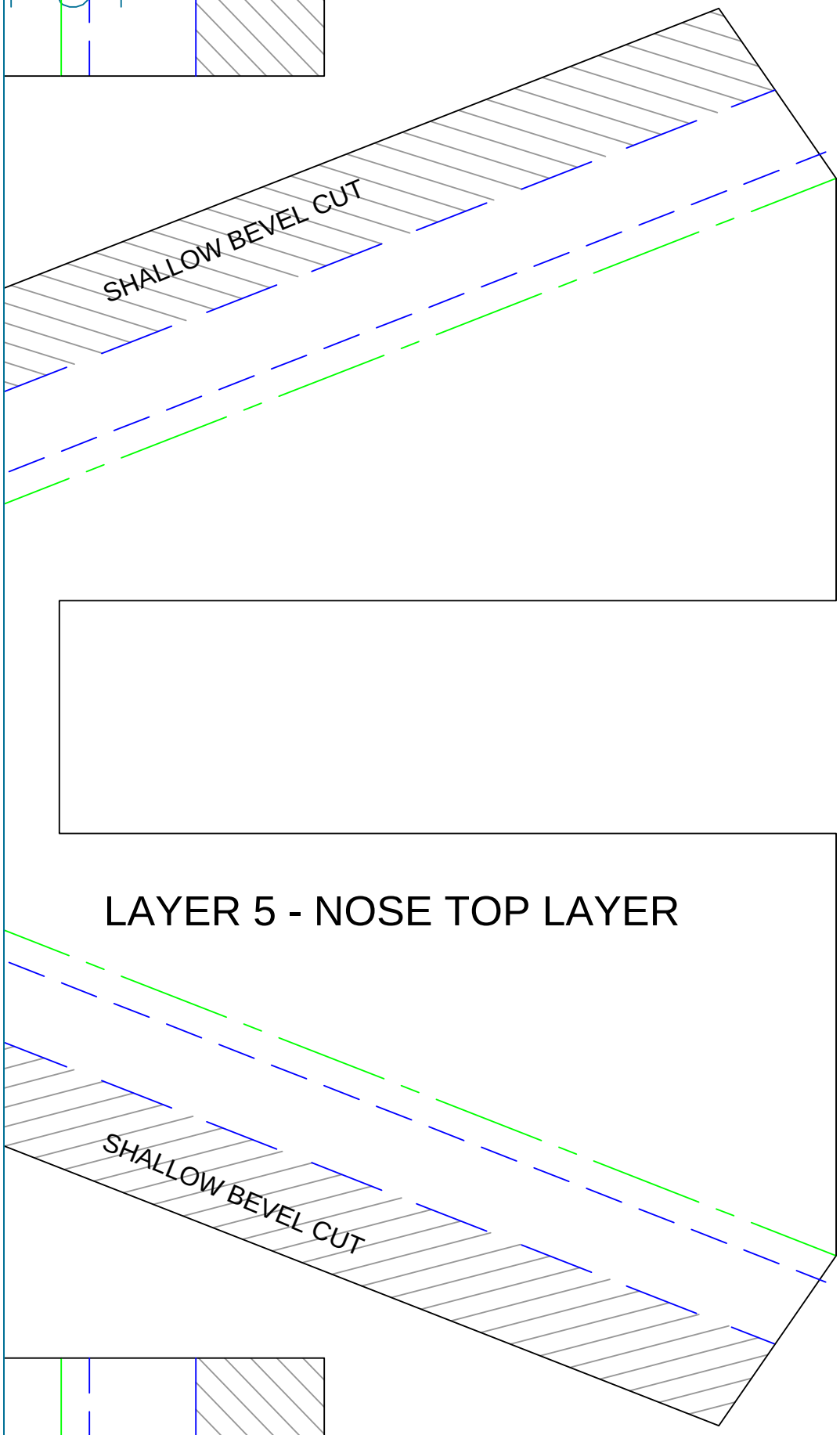
LAYER 5 - MAIN WING TOP LAYE

P50



R

P51

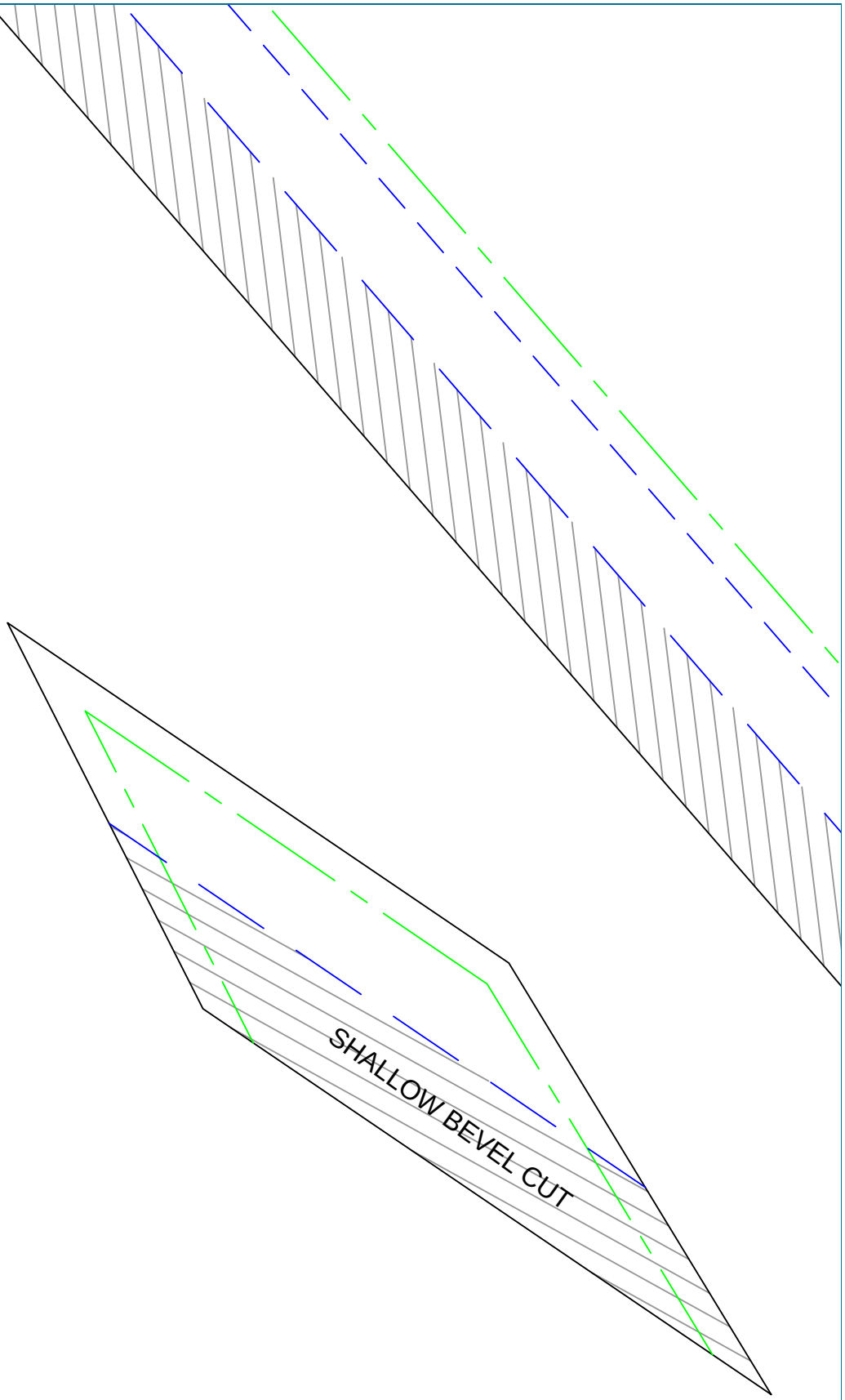


LAYER 5 - NOSE TOP LAYER

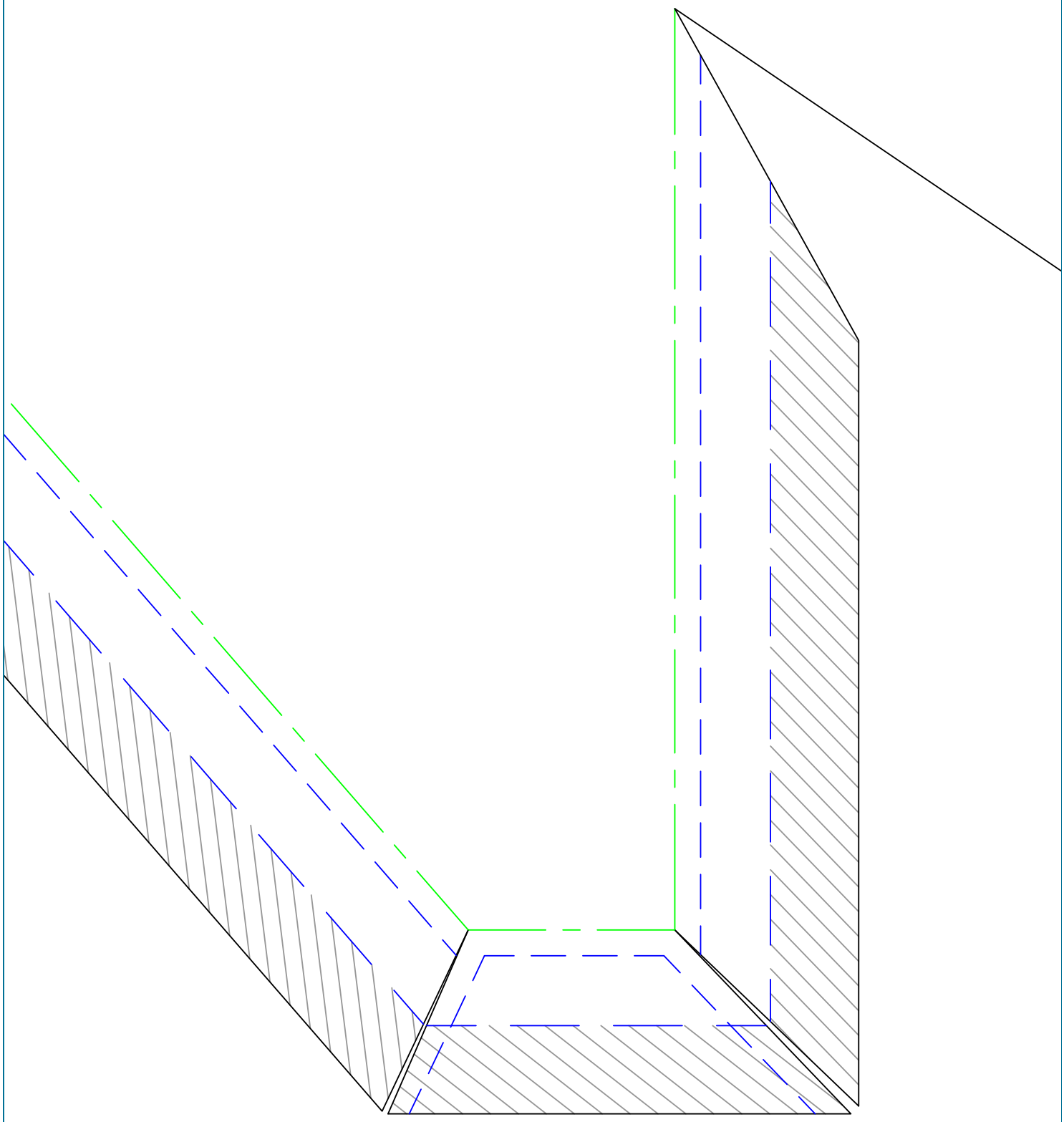
20x30 Foamboard Border

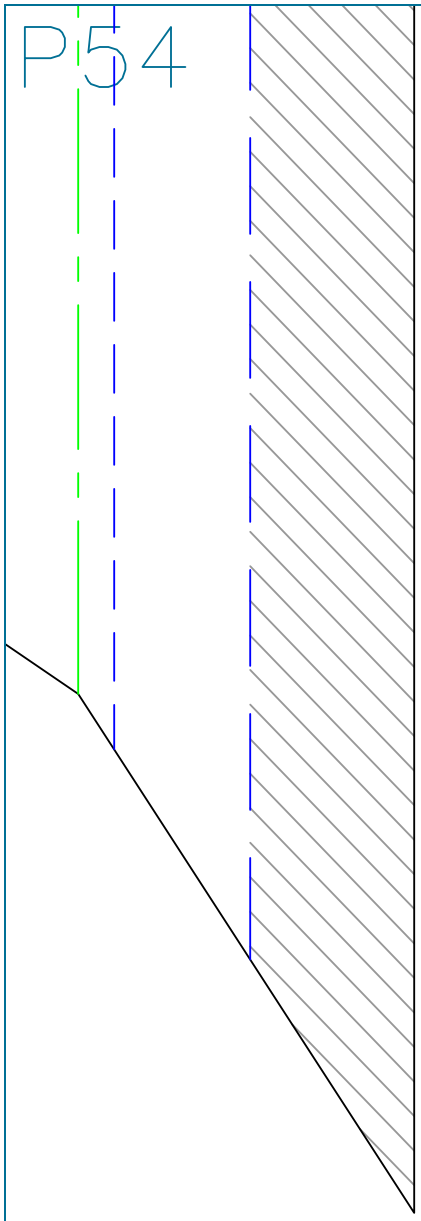
P52

20x30 Foamboard Border

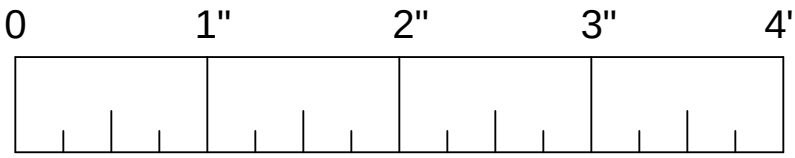


P53





20x30 Foamboard Border



(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

rcFoamFighters

FF-SUPERNOVA

(Foamboard Version)

(Final Design by Paul Petty - April 2025)

LINE-TYPE, CUTTING LEDGEND

- CUT COMPLETELY THROUGH FOAMBOARD.
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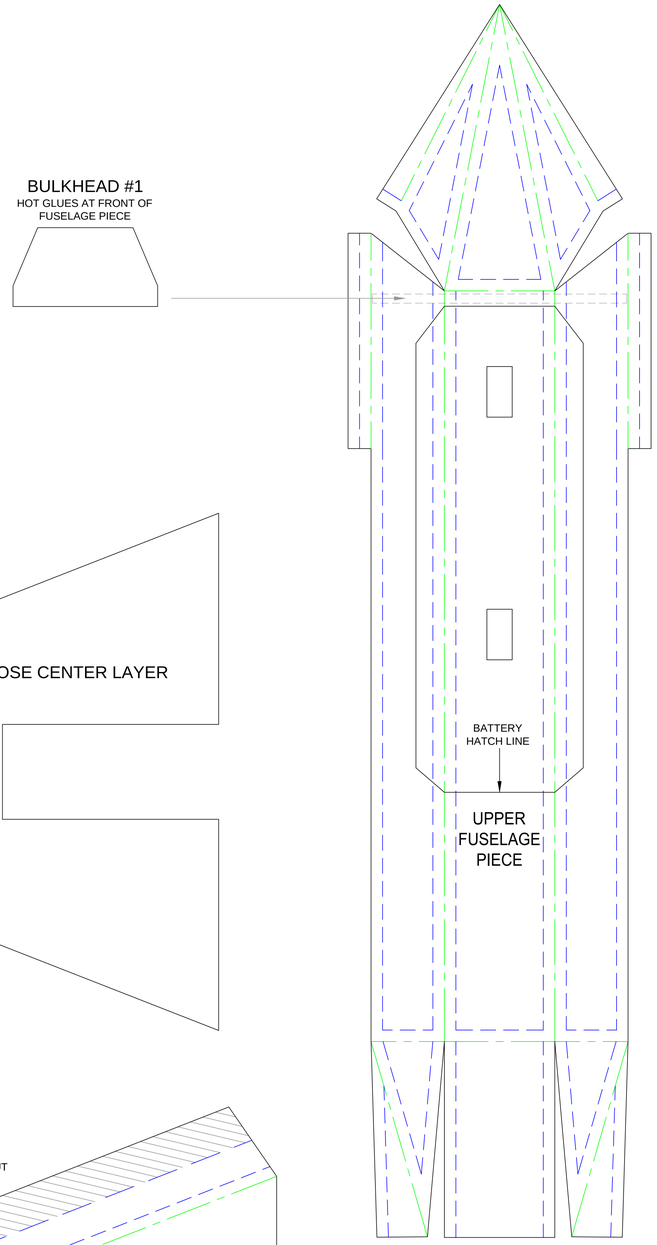
0 1" 2" 3" 4"

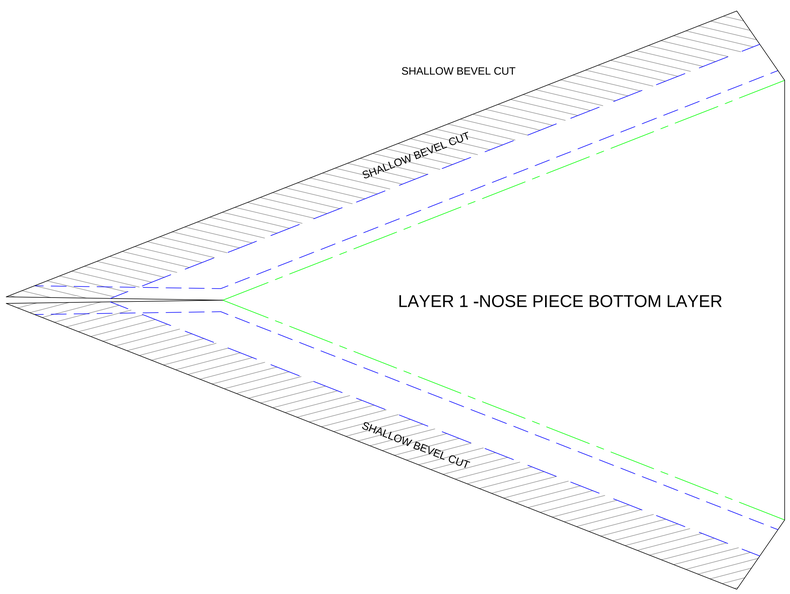
(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

BULKHEAD #1

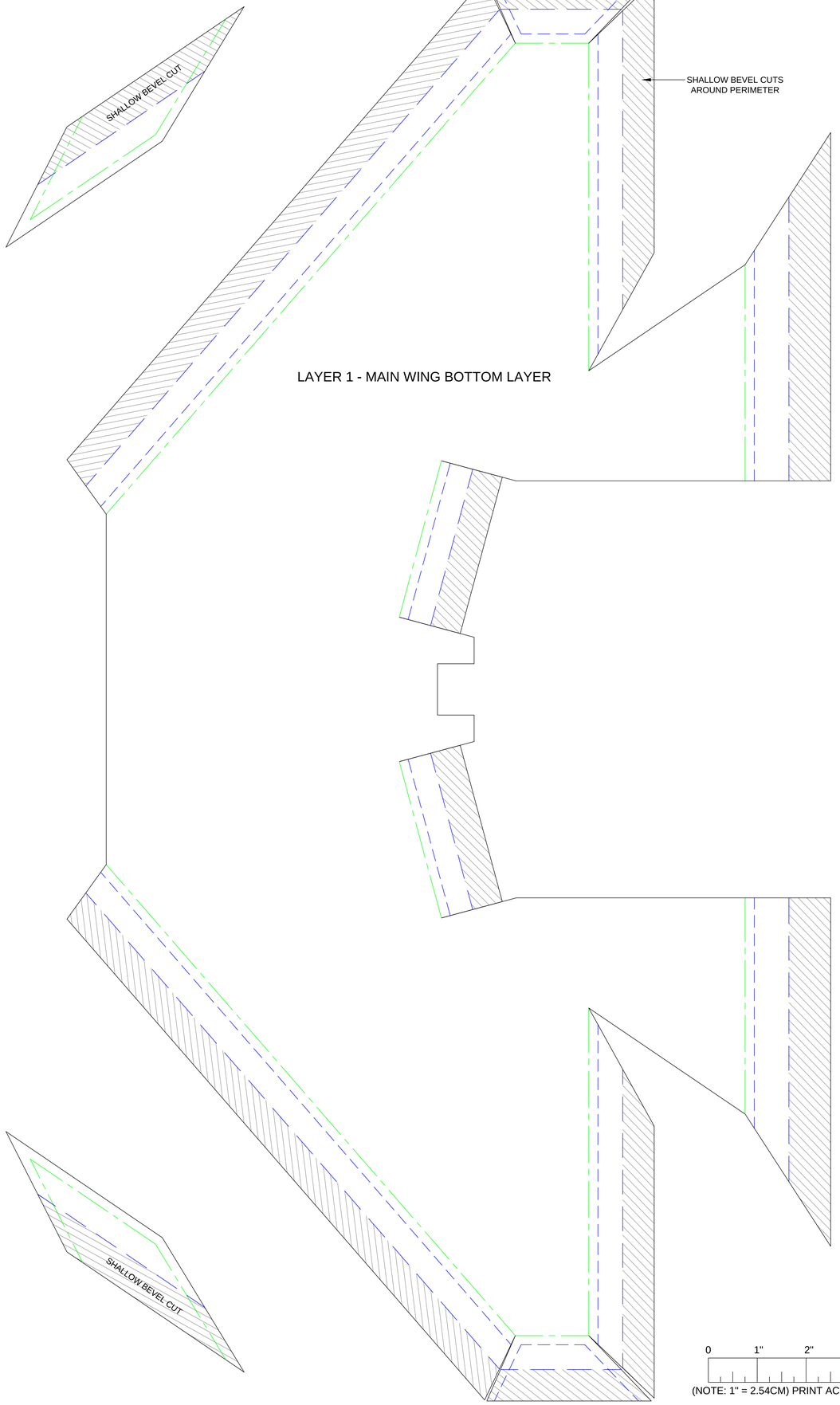
HOT GLUES AT FRONT OF FUSELAGE PIECE



LAYER 3 - NOSE CENTER LAYER



LAYER 1 -NOSE PIECE BOTTOM LAYER



LAYER 1 - MAIN WING BOTTOM LAYER

0 1" 2" 3" 4"

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

20x30 Foamboard Border

20x30 Foamboard Border

20x30 Foamboard Border

20x30 Foamboard Border

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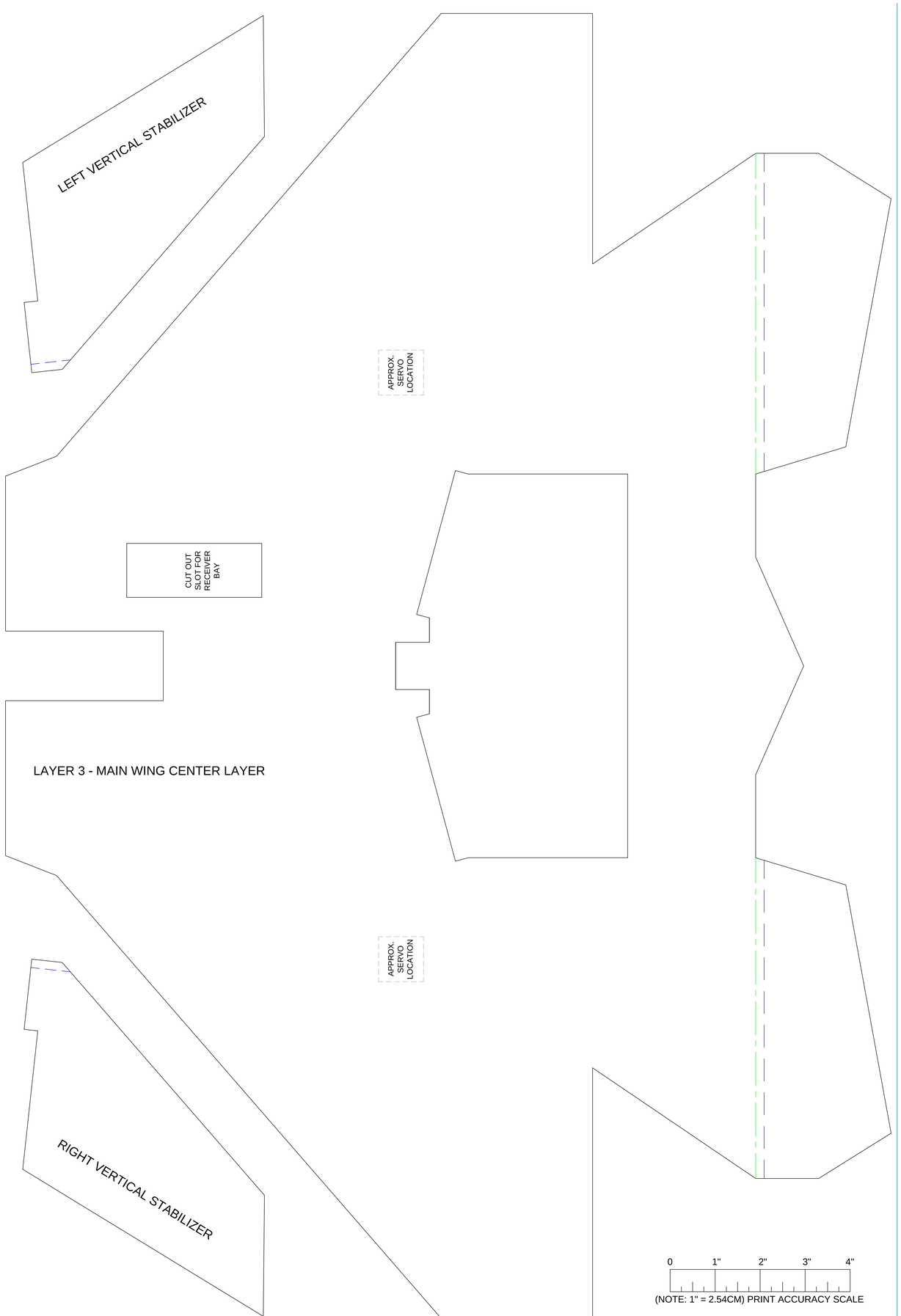
0 1" 2" 3" 4"

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE



0 1" 2" 3" 4"

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

20x30 Foamboard Border

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0 1" 2" 3" 4"

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE

LAYER 4 - LEFT MAIN WING & NOSE RISER LAYER

APPROX. SERVO LOCATION

CUT OUT SLOT FOR RECEIVER BAY

APPROX. SERVO LOCATION

LAYER 4 - RIGHT MAIN WING & NOSE RISER LAYER

SHALLOW BEVEL CUT

SHALLOW BEVEL CUTS AROUND PERIMETER

APPROXIMATE LOCATION TO CUT SERVO ARM SLOT. ALIGN WITH SERVO BELOW.

OPTIONAL RECEIVER BAY DOOR CAN BE CUT ON TOP LAYER OF FOAMBOARD.

APPROXIMATE LOCATION OF ESC.

LAYER 5 - MAIN WING TOP LAYER

SHALLOW BEVEL CUT

SHALLOW BEVEL CUT

LAYER 5 - NOSE TOP LAYER

SHALLOW BEVEL CUT

0 1" 2" 3" 4"

(NOTE: 1" = 2.54CM) PRINT ACCURACY SCALE