

Scrappy Flower Garden Quilt

Complete piecing instructions, applique shapes and actual-size placement maps



DESIGN SIZE

63" x 84"

160.02 x 213.36 cm

ASSEMBLED TOP

63 1/2" x 84 1/2"

161.29 x 214.63 cm

Skill level

Intermediate. Straight piecing, bias stems and small machine or hand appliques.

Included

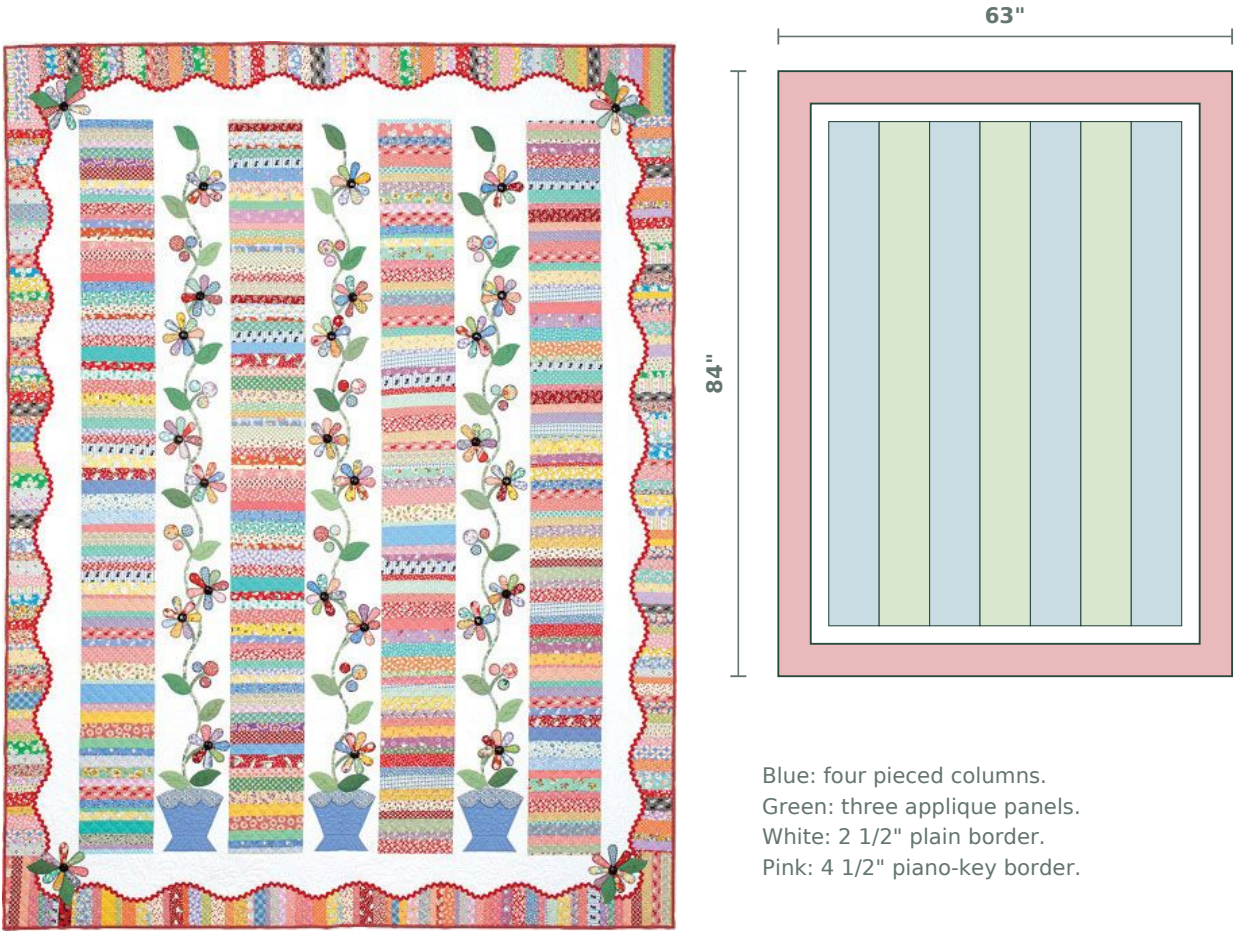
Four strip columns, three floral panels, four corner flowers, a piano-key border and its red-trimmed wavy inner edge.

The outer quilt edge stays rectangular. All measurements are drafted for this version.

About this pattern: a newly drafted adaptation of the supplied photograph, titled Scrappy Flower Garden for this project. The original pattern name, maker and measurements have not been established. Narrow strip heights, small applique contours and border waves have been regularized; this is not an exact tracing of an original pattern. The geometry has been checked digitally, but the project has not been physically test-sewn. Make one strip unit and one sample flower before cutting the full quilt.

Read the quilt structure

The diagram separates the straight construction seams from the decorative wavy border.



SUPPLIED REFERENCE

Stage	Finished design	Unfinished top
Seven-column center	49" x 70"	49 1/2" x 70 1/2"
After plain borders	54" x 75"	54 1/2" x 75 1/2"
After piano-key borders	63" x 84"	63 1/2" x 84 1/2"

Here, finished design means the area between the outer 1/4" sewing lines. The binding wraps the outside allowance, so the bound quilt is approximately the assembled-top size before quilting or washing shrinkage. Do not trim away that allowance to force a smaller dimension.

Fabric & supplies

Yardages assume at least 40 inches of usable width. Allow extra for directional prints or a larger practice sample.

Material	Allow	Purpose
Assorted small prints	5 1/2 yd total	Strip columns, piano keys, 188 petals and 36 berry circles. Alternatively start with 24 fat quarters for more choice.
White background	3 yd	Three oversized applique panels, plain borders and white wavy bands.
Assorted greens	3/4 yd total	41 leaves plus bias stems. Reserve an 18" square for making the stems.
Medium blue	1 fat quarter	Three vase bodies.
Light blue print	1 fat quarter	Three scalloped vase rims.
Black or very dark fabric	1/8 yd	28 flower centers.
Binding fabric	Additional 3/4 yd	Nine 2 1/2" x WOF strips; green is shown.
Backing, regular width	5 1/2 yd	Cut two 37" x 94" panels, join lengthwise and trim to 72" x 94".
Batting	72" x 94"	At least 4" beyond the unquilted top on every side.

Stems: prepare 12 yards of 1/4" finished bias tape from the green allowance, or use an equivalent prepared applique tape.
Red rickrack: allow 9 yards of approximately 1/4"-wide trim. The wavy line length is longer than the rectangular border perimeter.

Also needed: sewable lightweight fusible web (allow about 3 yards at 17" wide for the small motifs), temporary fabric glue, matching piecing and applique threads, a fabric marker, ruler, rotary cutter, fine scissors, pins, iron, printer and paper. The long white bands use turned edges and temporary glue; full-surface fusing is not required.

Cutting chart - pieced sections

Cut sizes include 1/4-inch seams. WOF means usable width of fabric; RST means right sides together.

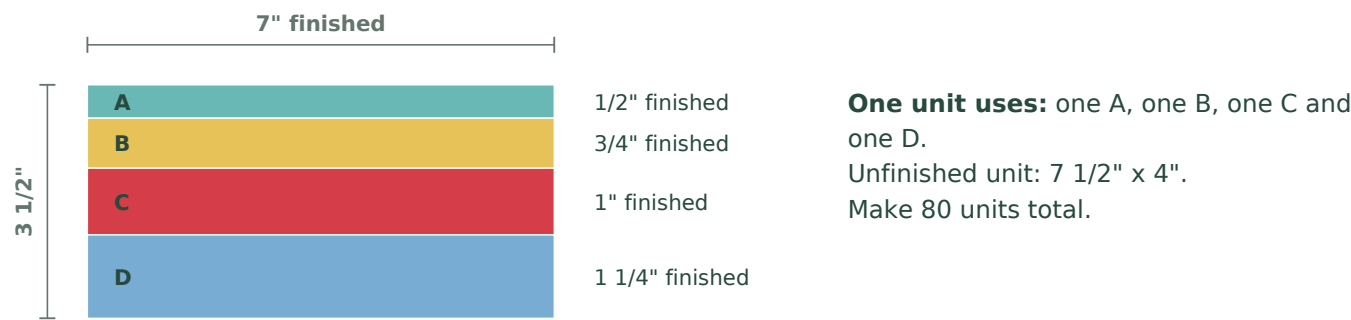
Piece	Cut size	Qty.	Result / note
A - narrow strip	7 1/2" x 1"	80	Finishes 7" x 1/2"
B - strip	7 1/2" x 1 1/4"	80	Finishes 7" x 3/4"
C - strip	7 1/2" x 1 1/2"	80	Finishes 7" x 1"
D - wide strip	7 1/2" x 1 3/4"	80	Finishes 7" x 1 1/4"
White applique panel	8 1/2" x 72"	3	Oversized; trim to 7 1/2" x 70 1/2" after applique
White side border	3" x 70 1/2"	2	Join short strips first if necessary
White top/bottom border	3" x 54 1/2"	2	Join short strips first if necessary
Piano keys	1 1/2" x 5"	276	150 for sides; 126 for top/bottom
Top/bottom wave blank	2 1/2" x 55"	2	Trace 54" design span plus 1/4" end turns
Side wave blank	2 1/2" x 76"	2	Trace 75" design span plus 1/4" end turns
Binding strips	2 1/2" x WOF	9	Additional binding fabric

Long plain strips: when joining WOF lengths for borders or wave blanks, use straight 1/4" seams, press open, then cut the final length. Every join consumes 1/2" of total strip length. The long white panel backgrounds themselves can be cut as one piece along the fabric length.

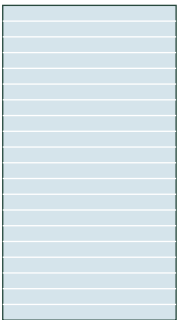
Useful white-fabric layout: from a 72" length, cut three 8 1/2"-wide panels and two 3"-wide strips for the side borders. The remaining width and remaining yardage supply the top/bottom borders and joined wave blanks.

Make the four strip columns

Each column contains 20 four-strip units. Vary the print order while keeping one of each strip size in every unit.



- 1. Sew a four-strip unit.** Place strips RST along their 7 1/2" edges. Sew three 1/4" seams. The sum of the cut heights is 5 1/2"; the three seams reduce the unit to 4" unfinished.
- 2. Press and measure.** Press toward the darker strip or press seams open when that reduces bulk. Confirm a 7 1/2" x 4" rectangle. Correct the seam if the unit is too short; do not stretch it.
- 3. Build a column.** Join 20 units along their 7 1/2" edges. The 19 joins give a column measuring 7 1/2" x 70 1/2" unfinished. Make four columns.
- 4. Vary the fabric order.** The photo uses many narrow, uneven strips. This adaptation keeps four repeatable heights. Shuffle the order A-B-C-D within each unit, and distribute lights, reds, blues and greens throughout the four columns.



20 units = one column
20 x 4" minus 19 x 1/2" = 70 1/2".

Label the completed columns S1, S2, S3 and S4 from left to right. Their color sequences can differ.

Applique cutting inventory

All small-motif templates show the final cut shape for fusible applique. Do not add a turned-edge seam allowance.

Template	Per floral panel	Corners	Total for quilt
P - teardrop petal	56 (8 flowers x 7)	20 (4 clusters x 5)	188
L - leaf	11	8	41
C0 - 5/8" flower center	8	4	28
C1 - 1 1/4" berry circle	4	0	12
C2 - 1" berry circle	4	0	12
C3 - 7/8" berry circle	4	0	12
V - blue vase body	1	0	3
W - light blue rim	1	0	3

Flower construction: each tall vine has eight seven-petal flowers. Each corner cluster uses five petals, two leaves and one dark center. The four berry groups on each vine contain one circle of each size.

Template scale: P is approximately 2" long and 7/8" wide; L is 2 3/4" long and 1 3/8" wide. Use the printed contour, not a rectangle, for the final cut. The vase body is 6" wide x 5 1/2" high; its separate rim overlaps the top.

Orientation: the motifs are symmetrical about their long or vertical axis and can be rotated to the placements shown. The full placement sheets show the fabric front. For an entire design traced onto the paper side of fusible web, the layout would need reversing; use the separate reusable shape masters instead.

Recommended rough blanks: petals 2 1/2" x 1 1/4"; leaves 3 1/4" x 1 3/4"; circles at least 1/4" larger all around than their final diameter. Rough-cut around traced fusible shapes, fuse to the fabric back, then cut accurately on the traced line.

Prepare and sew the appliques

Choose a sewable lightweight fusible and test its bonding and stitching on the actual fabrics.

- 1. Mark each oversized background.** On an 8 1/2" x 72" white panel, center a 7" x 70" finished-design rectangle. Its top-left corner is 3/4" from the left raw edge and 1" below the top raw edge. All placement coordinates start at that finished-design corner.
- 2. Assemble the placement map.** Tape the A master for the left and right panels. For the middle panel, replace A sheets 5 and 6 with B sheets 5 and 6. Transfer the stem centerlines, flower centers and vase position using a removable marker or a lightbox.
- 3. Make the stems.** Prepare 1/4" finished bias tape. For folded tape made by hand, start with 1/2" bias strips and turn each long edge in 1/8". A matching bias-tape maker is helpful. Follow the drawn centerlines, with folded edges underneath. Keep branch ends under flowers, berries or leaves.
- 4. Prepare the small shapes.** Trace the separate masters onto the paper backing of sewable fusible web. Rough-cut with space around each shape, fuse to the wrong side of the chosen fabric according to the product instructions, cool, then cut on the exact shape line and remove the paper.
- 5. Layer the design.** Position stems and branches first, then leaves and berry circles. Add the seven petals of each flower and cover their roots with a dark center. Place the vase body over the lower stem ends, then place the scalloped rim on top of the body.
- 6. Secure every shape.** Fuse in sections after checking placement. Stitch the stems along both folded edges. Sew around the other exposed edges using a small blanket stitch or narrow zigzag, testing its width and tension first. The fusible bond does not replace the stitching in this pattern.
- 7. Trim the completed panel.** Press gently and trim to 7 1/2" x 70 1/2", leaving 1/4" beyond every side of the marked 7" x 70" rectangle. The three panels must match the strip-column dimensions before assembly.

Technique references: Sew4Home - How to Applique Like a Pro; HeatnBond product instructions. Follow the current package for your selected sewable fusible's heat and timing settings.

Two vine maps, three panels

Use A for the left and right applique panels. Use B for the middle panel; fabric colors vary in all three.

VINE A



7" x 70"

VINE B



7" x 70"

The common structure

Each vine has 8 flowers, 11 leaves, 4 berry trios, 1 vase and 1 rim. The stems and most placements are shared.

The middle-panel difference

Flowers F6 and F7 exchange their left/right emphasis and shift slightly vertically. Replacement sheets B5 and B6 show the revised flowers and their branches.

Left / middle / right

A / B / A. Reuse the A placement master for the third panel; change the fabrics using the color suggestions on the next page.

Keep these coordinates

Do not reverse a completed vine to get the other version. The middle panel has its own F6/F7 positions, rather than a full mirror image.

Actual-size assembly

The eight horizontal sheet divisions are paper joins, not fabric seams. Each white background remains one continuous piece.

Flower and berry color guide

R red | P pink | Y yellow | B blue | T turquoise | M mint | L lavender | C cream

Petal 1 is marked on the actual-size placement map. Continue clockwise around the flower, viewing the fabric front. Each sequence contains seven petal colors. These are coordinated suggestions, not identifications of the exact prints in the photograph.

Flower	Left panel A	Middle panel B	Right panel A
F1	M B C T Y R P	C P B M R Y L	P M R B T Y C
F2	R Y M C P L B	P M B Y L R C	Y L R B P T C
F3	Y B M P T R C	L Y T C R P B	L Y B C M R T
F4	C P Y B R L T	M P Y T L C B	C L P T R Y B
F5	T R Y B C M L	Y B C R T P L	C B L M R Y P
F6	Y B L R P T M	P T M B R C Y	P Y L C R B M
F7	B M Y C P L T	P R Y C T M B	C R M T Y P L
F8	M C Y L R B P	L P C M Y T B	Y B R M L C P

Berry colors: the three letters in each entry correspond to circles a, b and c: large C1, medium C2 and small C3.

Group	Left panel A	Middle panel B	Right panel A
G1	R T B	C R T	P Y R
G2	Y B R	R T P	C Y R
G3	R P B	P L C	C P L
G4	T B P	L Y C	R C Y

Leaves: alternate medium and light greens down each vine. Start the left and right panels with medium green at L1, and the middle panel with light green. Use blue for all three vase bodies and a lighter blue print for the rims. Every flower center is dark.

Corner clusters: petals 1-5 on page 20 use R, Y, C, T and P respectively; use one leaf of each green. You may substitute similar-value prints without changing the shape counts.

Placement coordinates

Measure x from the finished panel's left edge and y downward from its top. Values are in inches.

Flower	A: x / y	B: x / y	Leaf root	x / y
F1	4 1/2 / 6	4 1/2 / 6	L1	4 / 2 7/8
F2	4 1/2 / 17	4 1/2 / 17	L2	2 7/8 / 9 1/8
F3	2 1/2 / 20 3/4	2 1/2 / 20 3/4	L3	3 1/2 / 13 7/8
F4	2 1/2 / 30 1/4	2 1/2 / 30 1/4	L4	4 1/8 / 22 1/2
F5	4 3/4 / 34 1/2	4 3/4 / 34 1/2	L5	3 / 27 1/4
F6	4 3/4 / 44 3/4	2 1/4 / 45	L6	3 1/8 / 36 3/4
F7	2 1/2 / 47 1/2	4 3/4 / 48	L7	4 / 41 1/2
F8	4 1/2 / 59 3/4	4 1/2 / 59 3/4	L8	3 1/8 / 54
			L9	4 1/8 / 56 3/4
			L10	3 1/2 / 64
			L11	3 1/2 / 64

The flower coordinates mark its center. Leaf coordinates mark the narrow root end. Use the placement sheets for the leaf angles and the curved stems; their orientation is part of the design.

Berry group	a - large circle	b - medium circle	c - small circle
G1	2 1/4 / 11 3/4	3 1/2 / 11 1/2	2 3/4 / 13
G2	4 3/4 / 25 3/4	3 1/4 / 25 1/2	4 1/4 / 27
G3	1 3/4 / 39	3 1/4 / 38 3/4	2 1/2 / 40 1/4
G4	4 3/4 / 52 1/4	3 1/4 / 52	4 1/4 / 53 1/2

Vase: place the upper-left corner of the body at x = 1/2", y = 64". Its bottom reaches y = 69 1/2". The rim uses the same alignment origin and overlaps the upper body; the placement sheets show the complete outline.

Coordinate check: the panel's finished field is 7" x 70". Add 1/4" outside that field when measuring from a trimmed raw panel edge. Do not add 1/4" to the applique shape itself.

Join the seven-column center

Complete and measure the applique panels before joining the long straight seams.

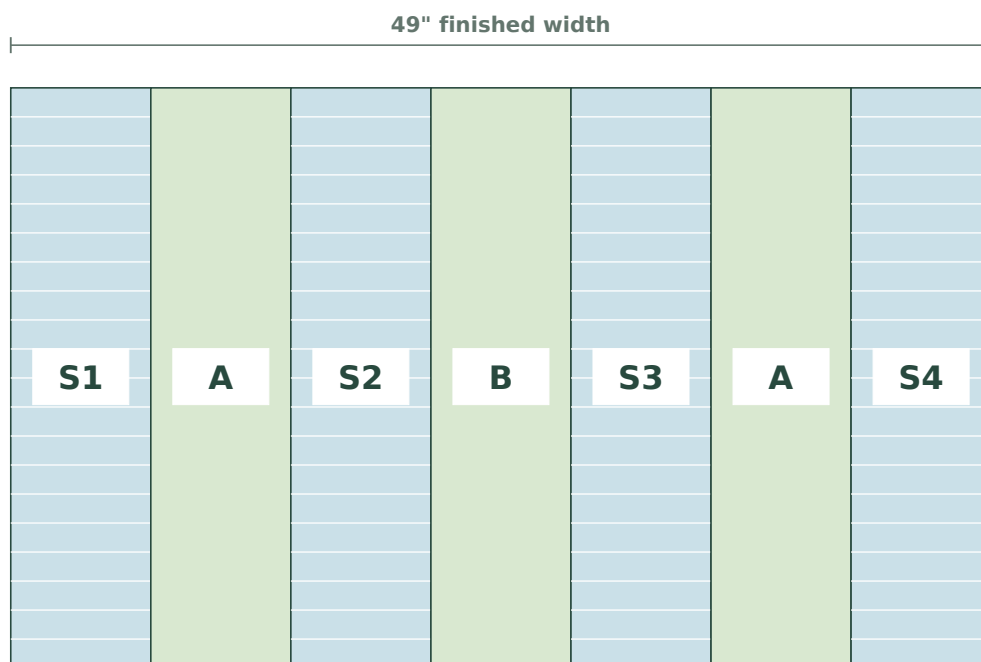


Diagram compressed vertically. Every column is 70" finished high.

1. Arrange the center. Lay out S1 - A - S2 - B - S3 - A - S4 from left to right. Keep the vases at the bottom. Every strip column and trimmed white panel measures 7 1/2" x 70 1/2".

2. Join adjacent columns. Match the top, bottom and midpoint of each pair, then pin along the remaining length. Sew a continuous 1/4" seam without stretching the white panel or the pieced edge.

3. Press and check the width. Press carefully toward the strip columns when practical. After all six joins, the center measures 49 1/2" x 70 1/2". A difference of more than a small seam-accuracy variation should be corrected before adding borders.

4. Support the long top. Keep the bulk supported on a table while handling and pressing it. Avoid letting the top hang from a partly sewn seam, which can distort the long edges.

Build the straight borders

The curved decoration is applied after the rectangular borders are sewn.

Add in this order	Each border before joining	New top size
1. Two white sides	3" x 70 1/2"	54 1/2" x 70 1/2"
2. White top and bottom	3" x 54 1/2"	54 1/2" x 75 1/2"
3. Two piano-key sides	5" x 75 1/2"	63 1/2" x 75 1/2"
4. Piano-key top and bottom	5" x 63 1/2"	63 1/2" x 84 1/2"

Piece each piano-key side: join 75 rectangles, each 1 1/2" x 5", along the 5" edges. Every key finishes 1" along the border. Make two side borders, each 5" x 75 1/2" unfinished.

Piece the top and bottom: join 63 of the same rectangles for each border. Make two borders, each 5" x 63 1/2" unfinished. The top and bottom extend across the side borders, so separate corner squares are not required.



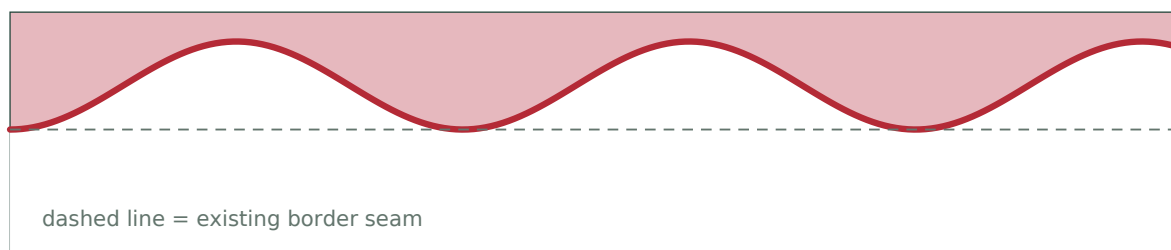
Green: center.
White: plain border.
Pink: pieced border.

Diagram compressed vertically.

Measure the top across the center before attaching each pair of borders. Match the border and top at both ends and the midpoint, then distribute the pins. Use the stated lengths as checks on the preceding piecing, rather than stretching a border to fit.

Add the white waves and red trim

The white bands cover the seam between the plain border and the piano keys. They do not change the quilt size.



1. Prepare the long blanks. Join white strips with straight 1/4" seams if needed. Cut two 2 1/2" x 55" blanks and two 2 1/2" x 76" blanks. Mark an inner fold line 1/4" from one long edge, and a parallel border-seam reference line 3/4" from that same raw edge.

2. Trace the repeats. Use T on page 18 for the top/bottom: seven repeats fill exactly 54". Use S on page 19 for the sides: ten repeats fill exactly 75". Start tracing 1/4" from an end, align the stencil's seam line to the marked reference line, and meet START to END without a gap.

3. Finish the bands. Trim the blank to 54 1/2" or 75 1/2" long. At the ends, keep a 1/4" turn-under tab. Cut the traced wavy outer edge without adding an allowance. Turn the inner straight edge and both short ends under 1/4"; keep the wavy edge raw.

4. Align to the top. Place the printed seam-reference line directly on the seam joining white to piano keys. The turned straight edge lies 1/2" inside the plain white border; the wave extends up to 1 1/2" over the keys. Apply the top and bottom bands first, then the side bands. Their turned ends meet and overlap at the four border-seam corners.

5. Secure the edges and add trim. Use temporary fabric glue to hold the bands flat. Stitch the turned inner edges in matching white thread, then secure the wavy raw edges with a close, small white zigzag. Center red rickrack over that stitched edge and sew it in place with matching red thread. The white zigzag protects the fabric where the trim does not fully cover it. Join the trim ends neatly under a corner flower.

Top/bottom repeat length = 54/7" (about 7.7143"). Side repeat length = 7 1/2". Use the actual-size stencils for the curves; do not round the top/bottom repeat when marking seven copies.

Corner flowers, quilting & binding

Add the four corner clusters after the white bands and red trim are secured.

Corner placement: page 20 shows the top-left corner at actual size. Rotate that layout 90 degrees clockwise for the top-right, 180 degrees for the bottom-right, and 270 degrees for the bottom-left. Keep the same five-petal/two-leaf arrangement; do not make a seven-petal vine flower for these corners.

Flower center	x from finished left edge	y from finished top edge
Top-left	5 1/4"	5 1/4"
Top-right	57 3/4"	5 1/4"
Bottom-right	57 3/4"	78 3/4"
Bottom-left	5 1/4"	78 3/4"

On the unfinished top, these centers are 5 1/2" inward from the two nearest raw outer edges. Place leaves first, then petals, then the dark center. Sew the exposed edges after fusing and keep the existing red trim flat beneath the cluster.

Prepare the sandwich. Join the two 37" x 94" backing panels along a 94" edge with a 1/4" seam. Press open and trim to 72" x 94". Center the top on the batting and backing and baste.

Quilt the top. Stitch around the applique motifs and add quilting between the vines or through the strip columns. Follow your batting's maximum spacing requirement. The photograph's decorative quilting is not supplied as a stitch-by-stitch pattern.

Bind the rectangle. Trim batting and backing even with the top. Join nine 2 1/2" x WOF binding strips with diagonal seams, press the joins open, then fold the binding lengthwise, wrong sides together. Attach with a 1/4" seam, miter the corners and secure the fold to the back.

Binding allowance: the unquilted perimeter is 296". Nine 40" strips provide about 340" after eight diagonal joins, leaving room for corners and the final join. Approximate bound size before shrinkage: 63 1/2" x 84 1/2".

Printing and template checklist

Print actual-size pages single-sided at 100% / Actual Size. Turn off Fit, Shrink and borderless enlargement.

Page	Contents	Use
16	Petal, leaf and circle masters	Reuse to cut the quantities on page 6
17	Vase body and scalloped rim	Cut three of each
18	T - top/bottom wave repeat	Trace seven times per band
19	S - side wave repeat	Trace ten times per band
20	Top-left corner cluster map	Reuse with rotation for all corners
21-28	Vine A sheets 1-8	Tape one continuous A master; reuse for left/right panels
29-30	Vine B replacement sheets 5-6	Swap into the A master for the middle panel

Check both directions: measure the one-inch control square horizontally and vertically. Use centered placement on A4 or US Letter and make sure every cutting line and control square remains visible. The instruction diagrams on pages 1-15 are not actual size.

Join the vine sheets: each sheet advances 8 3/4" down the design. There is a 1/4" image overlap at the top and bottom. Trim one page at its horizontal join guide, align it with the same guide on the next sheet, and tape. Match the centerline and edge crosses. Do not add the overlap to the design length.

Important distinction: the dotted grid and horizontal sheet joins are placement guides only. Do not cut or sew the white background into eight pieces. The finished map must measure 7" wide x 70" high; the final fabric panel includes an additional 1/4" allowance on all four sides.

Work order: trial flower and strip unit; cut and piece columns; applique three panels; join the center; add plain and piano-key borders; add wave bands, trim and corner flowers; quilt and bind.

Small applique masters

P, L and C0-C3 | Final cut outlines | No extra allowance

1 inch

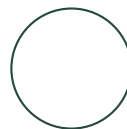
25.4 mm

P - PETAL



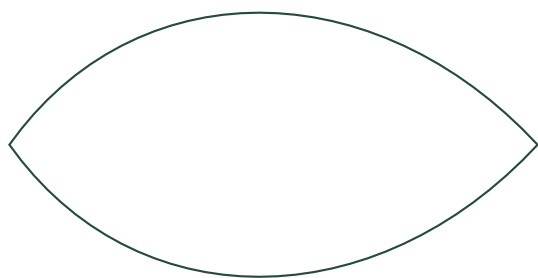
Cut 188 assorted prints

C0 / 5/8"



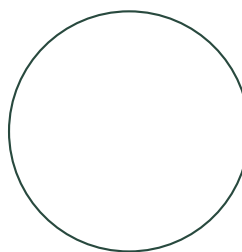
Cut 28

L - LEAF



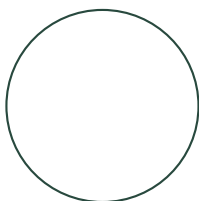
Cut 41 greens

C1 / 1 1/4"



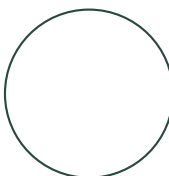
Cut 12

C2 / 1"



Cut 12

C3 / 7/8"



Cut 12

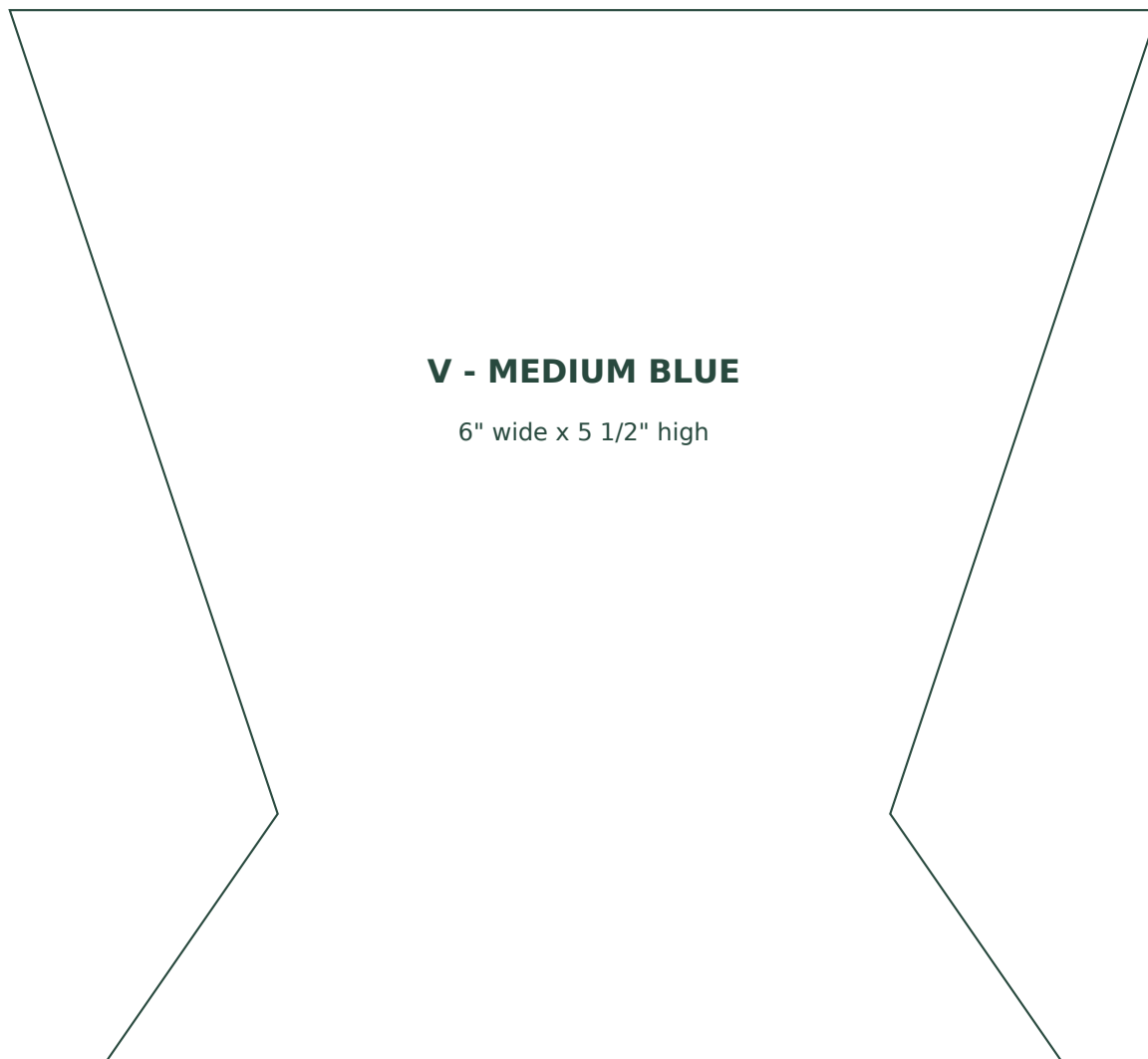
The petal root and leaf root are the narrow ends. Rotate each shape to match the full-size placement map. Use dark fabric for C0; C1-C3 form each group of three colored berry circles.

Vase body and rim

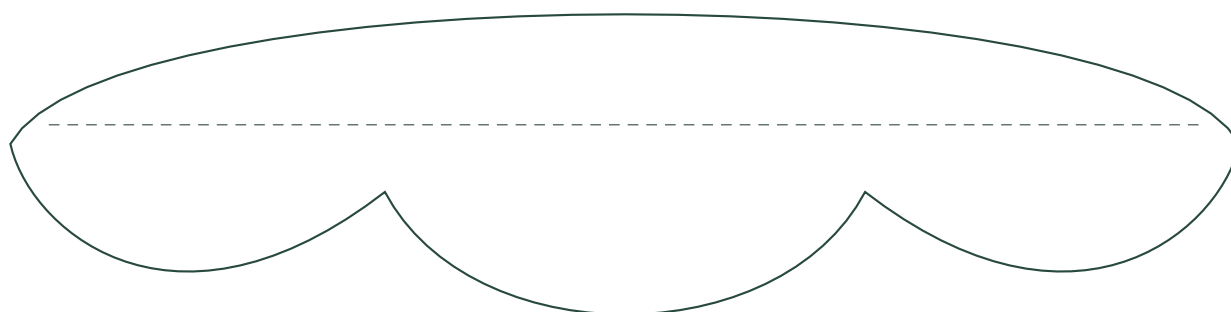
V and W | Cut three of each | Final cut outlines

1 inch

25.4 mm



W - LIGHT BLUE RIM



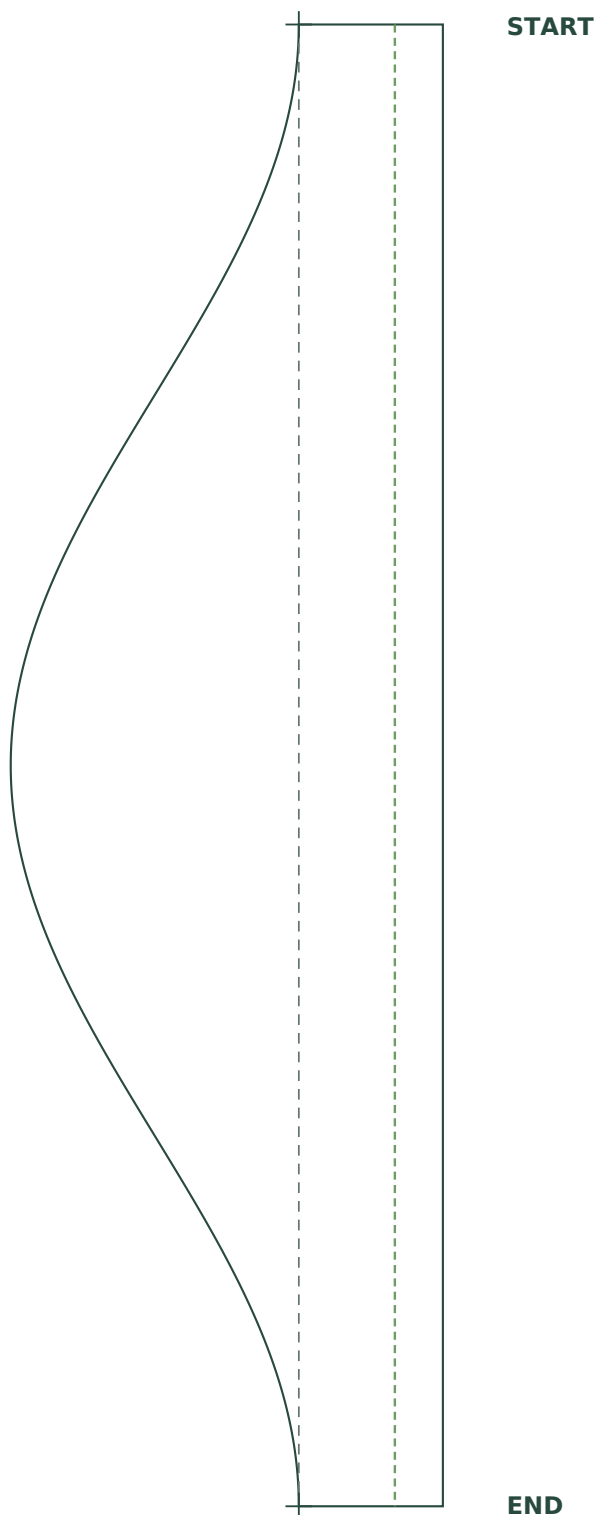
dashed line = align to body top

T - white wave repeat

Top / bottom | Actual-size tracing stencil

1 inch

25.4 mm



START

7 repeats = 54".

The repeat ends meet; no extra seam allowance is added between repeats.

Black dashed line

Align to the existing seam between white and piano keys.

Green dashed line

Inner long-edge fold. Turn the 1/4" allowance underneath before stitching.

Curved solid line

Cut on this line. Center red rickrack over the raw edge after placing the band.

Short end tabs

Add 1/4" only at the two ends of the complete long band, then turn those ends under. Do not add tabs at every repeat.

END

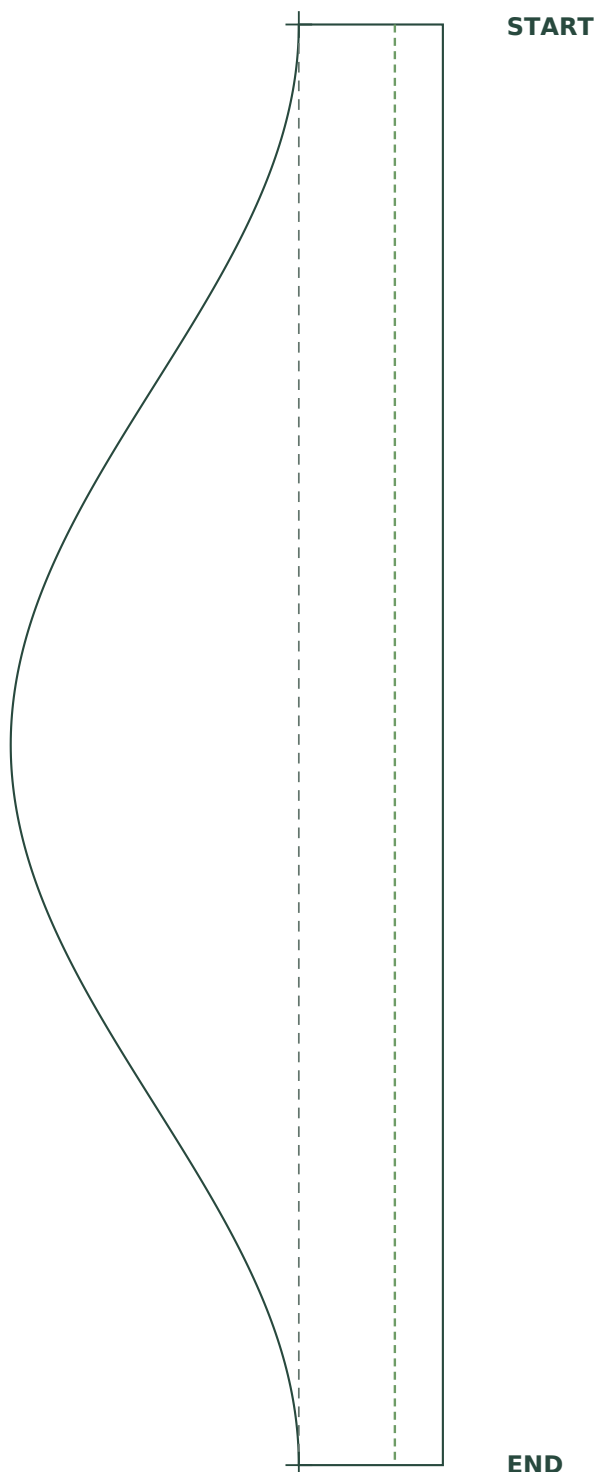
The top/bottom repeat is an exact fraction of 54"; use this printed stencil without rounding.

S - white wave repeat

Side borders | Actual-size tracing stencil

1 inch

25.4 mm



START

10 repeats = 75".

The repeat ends meet; no extra seam allowance is added between repeats.

Black dashed line

Align to the existing seam between white and piano keys.

Green dashed line

Inner long-edge fold. Turn the 1/4" allowance underneath before stitching.

Curved solid line

Cut on this line. Center red rickrack over the raw edge after placing the band.

Short end tabs

Add 1/4" only at the two ends of the complete long band, then turn those ends under. Do not add tabs at every repeat.

END

Use ten copies of this curve along each side band. Keep the same direction for every repeat.

Corner cluster placement

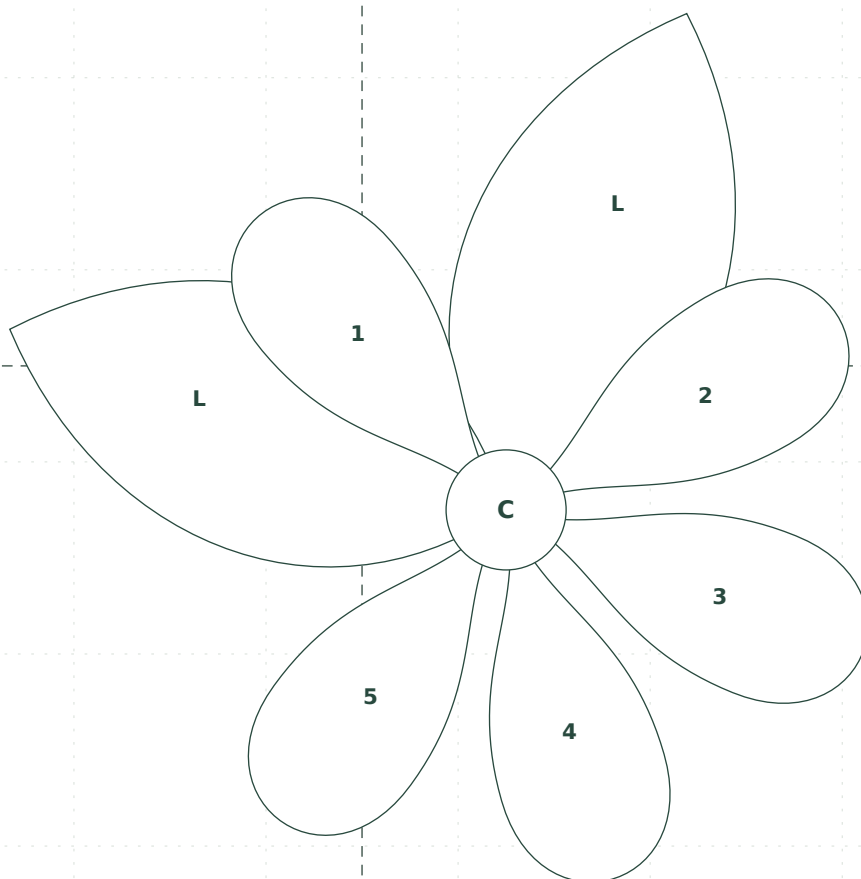
Fabric front | Top-left corner shown | Rotate for the other corners

1 inch

25.4 mm

FINISHED OUTER CORNER

4 1/2" border-seam lines

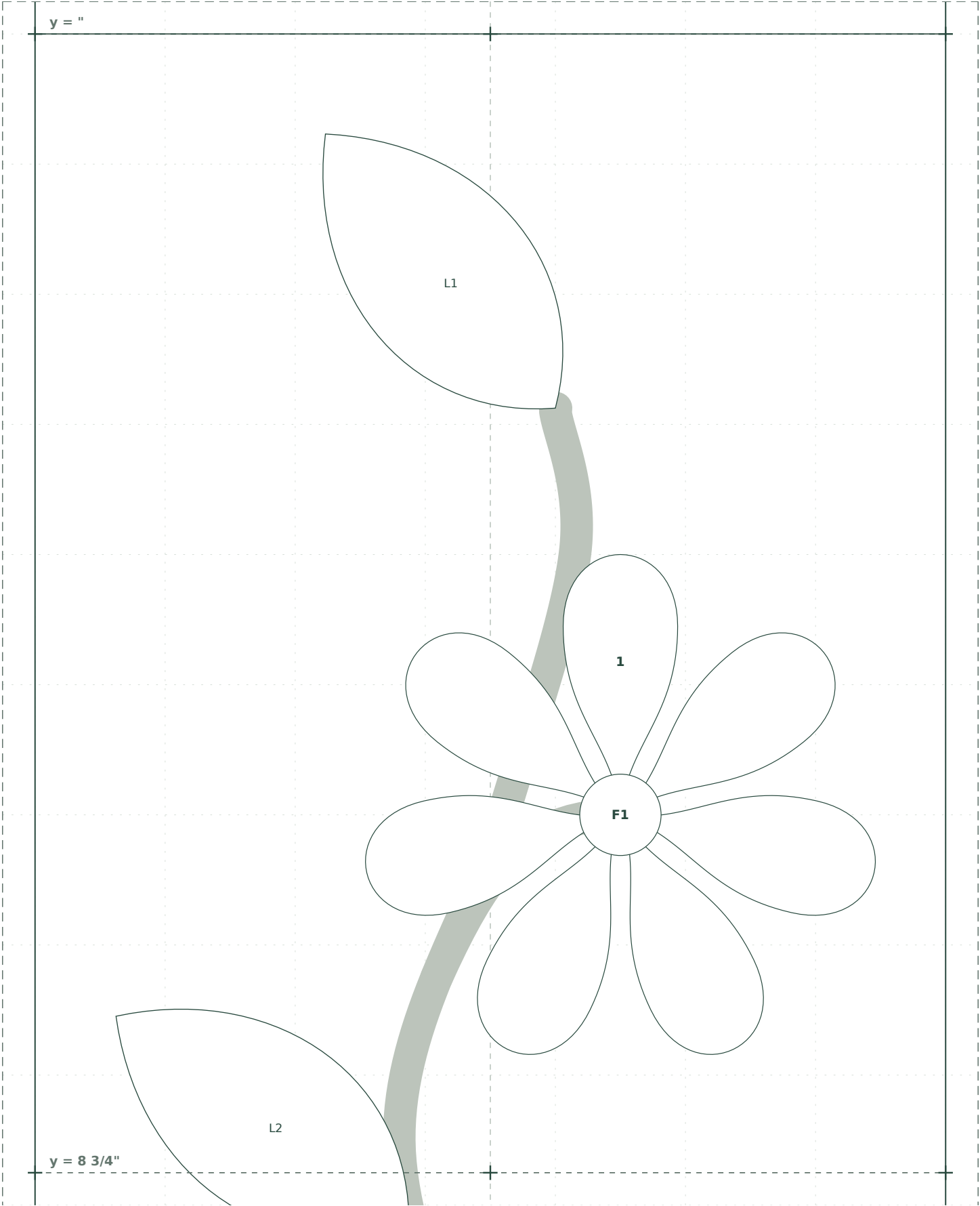


The dark center is 5 1/4" from each finished outer edge (5 1/2" from the unfinished raw edges). The dotted one-inch grid is a positioning aid. Do not cut out this square as a fabric piece.

Vine A - sheet 1 of 8

Fabric front | y = to 8 3/4 inches | Join guides are NOT fabric seams

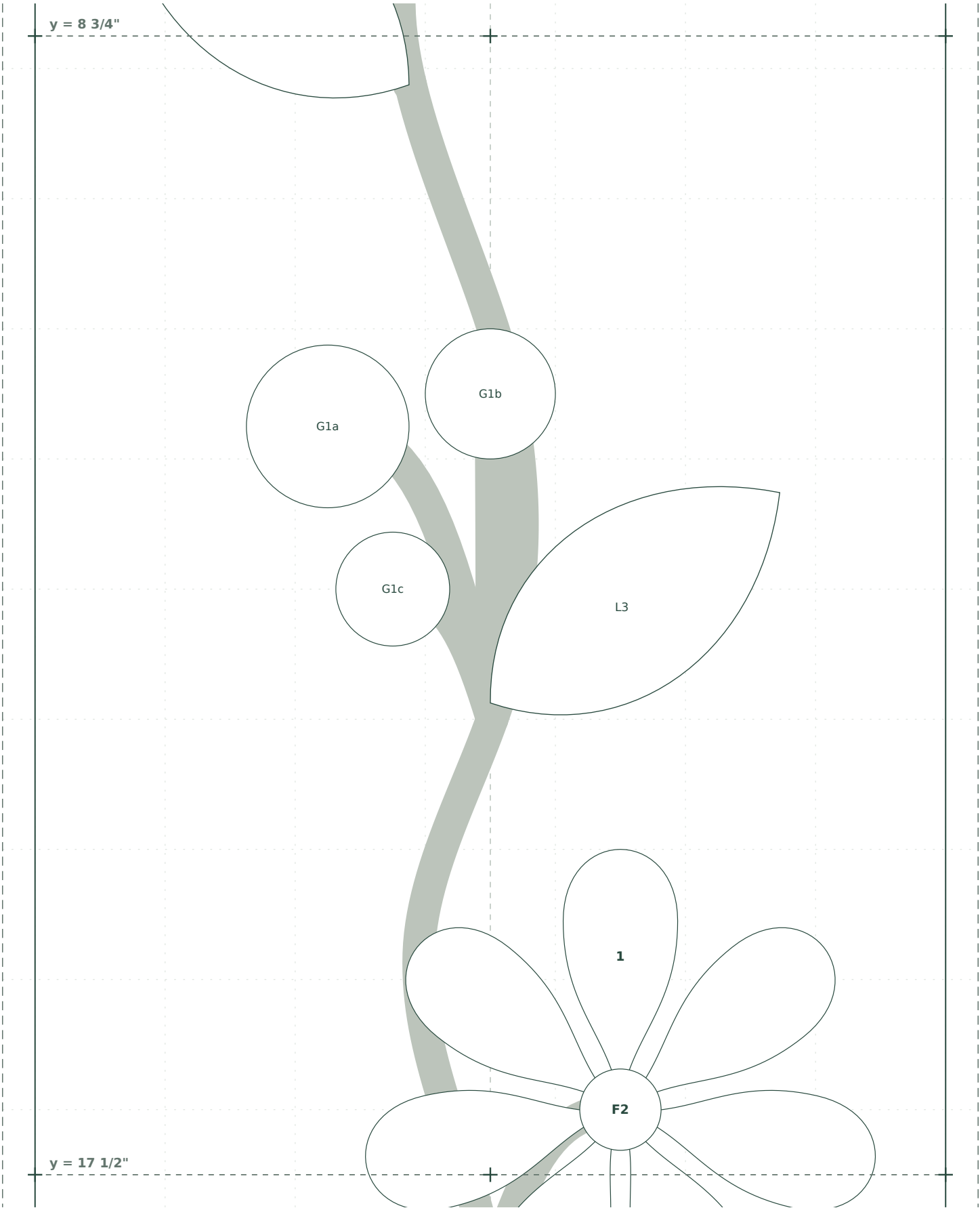
1 inch
25.4 mm



Vine A - sheet 2 of 8

Fabric front | y = 8 3/4 to 17 1/2 inches | Join guides are NOT fabric seams

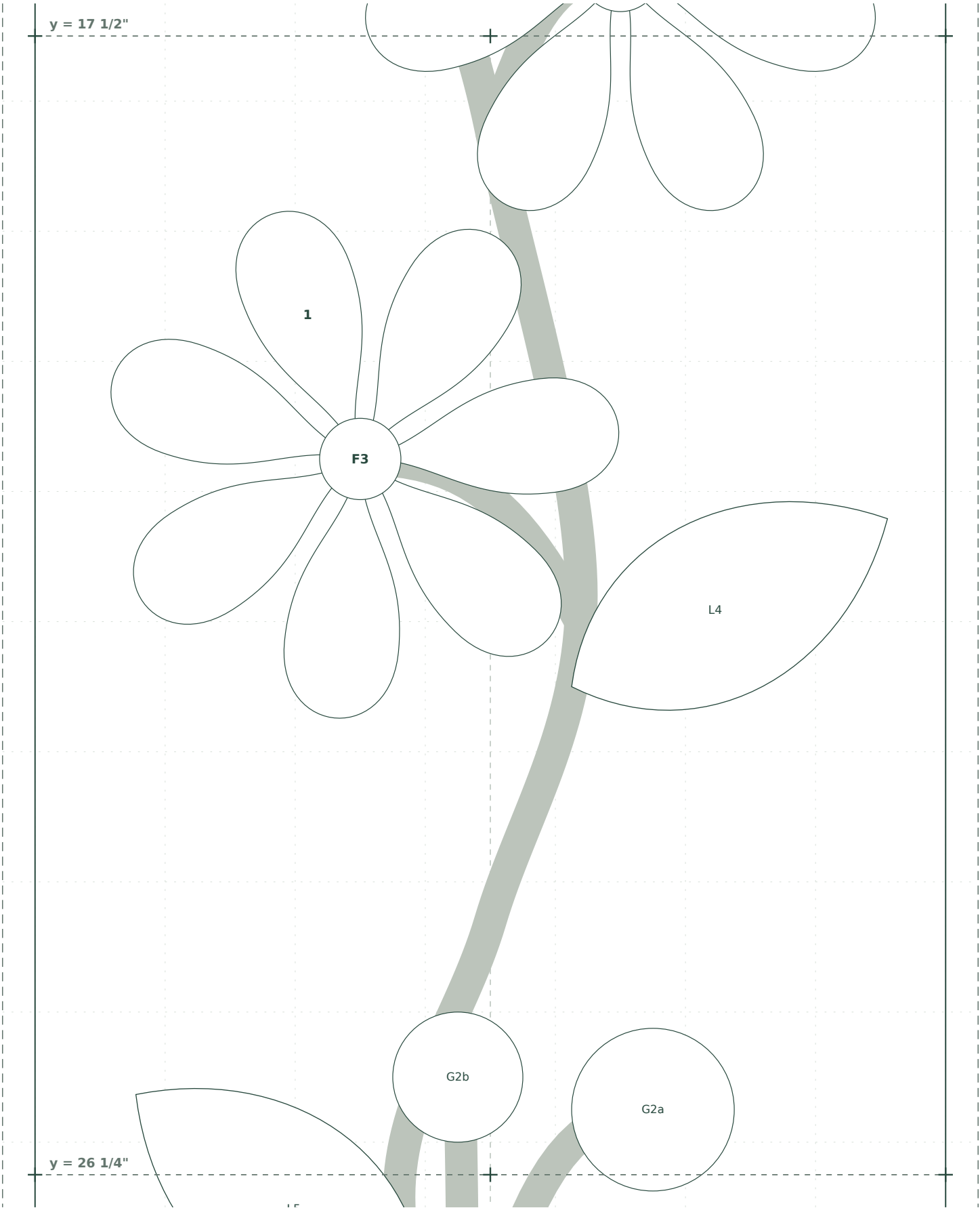
1 inch
25.4 mm



Vine A - sheet 3 of 8

Fabric front | y = 17 1/2 to 26 1/4 inches | Join guides are NOT fabric seams

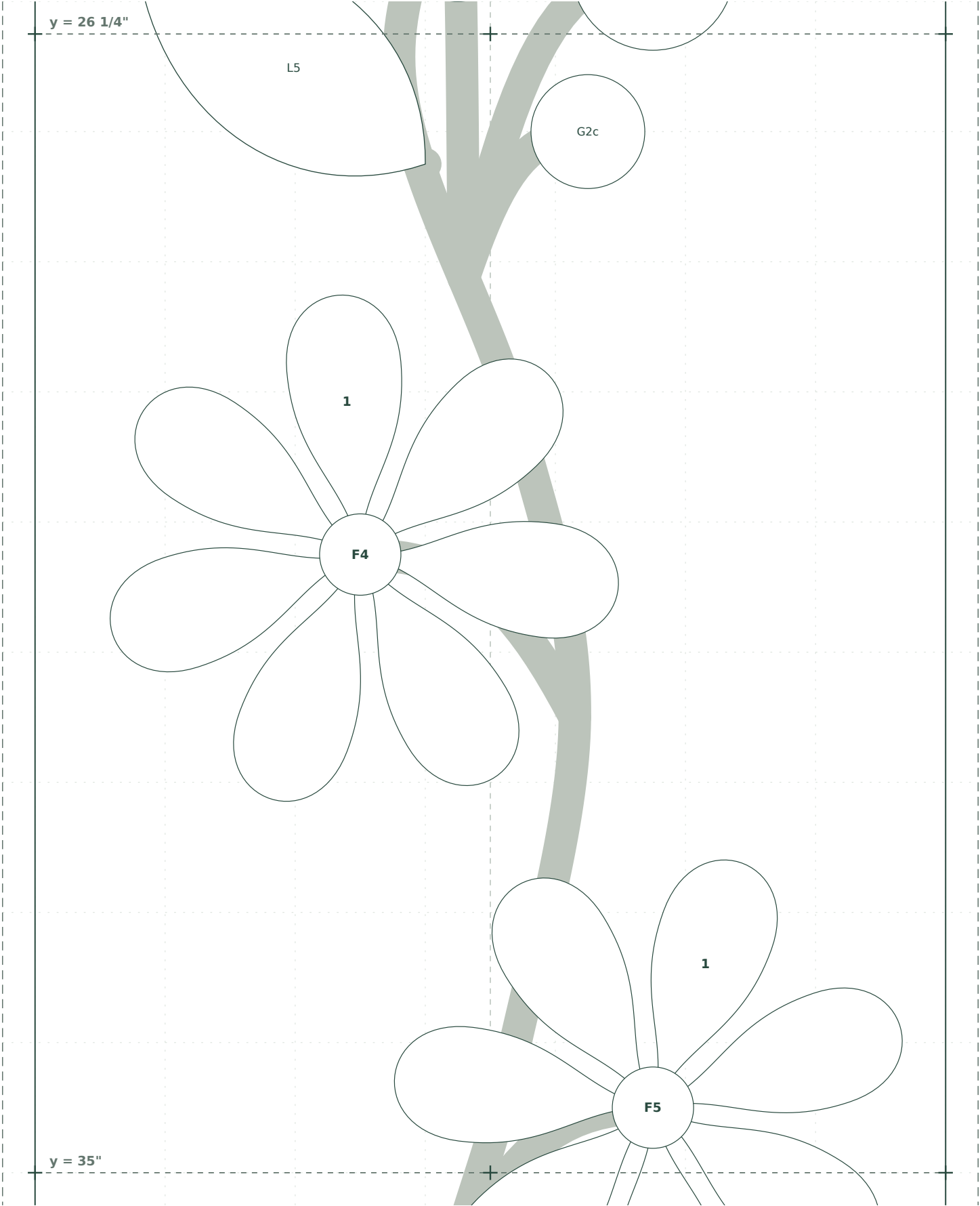
1 inch
25.4 mm



Vine A - sheet 4 of 8

Fabric front | y = 26 1/4 to 35 inches | Join guides are NOT fabric seams

1 inch
25.4 mm

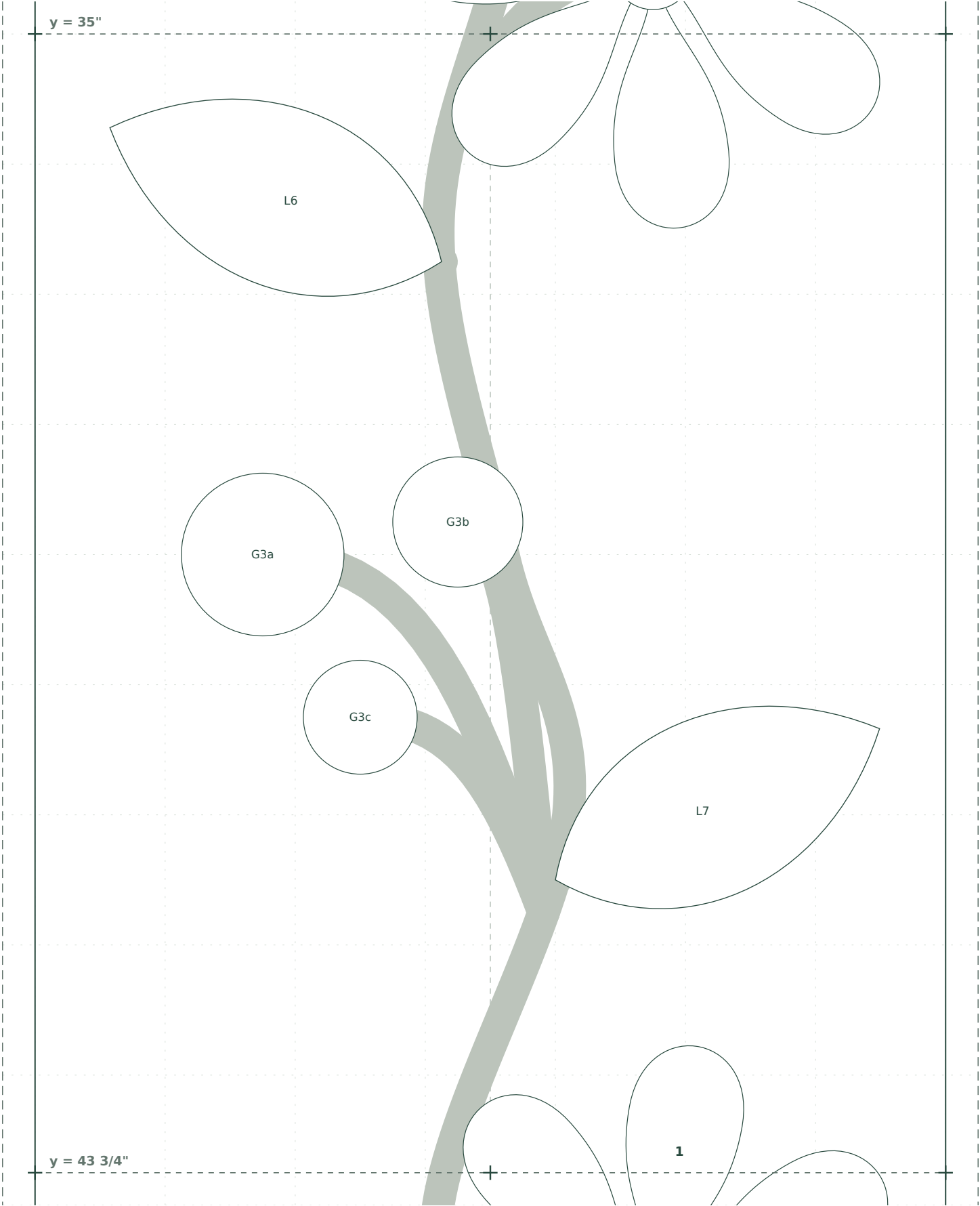


Vine A - sheet 5 of 8

Fabric front | y = 35 to 43 3/4 inches | Join guides are NOT fabric seams

1 inch

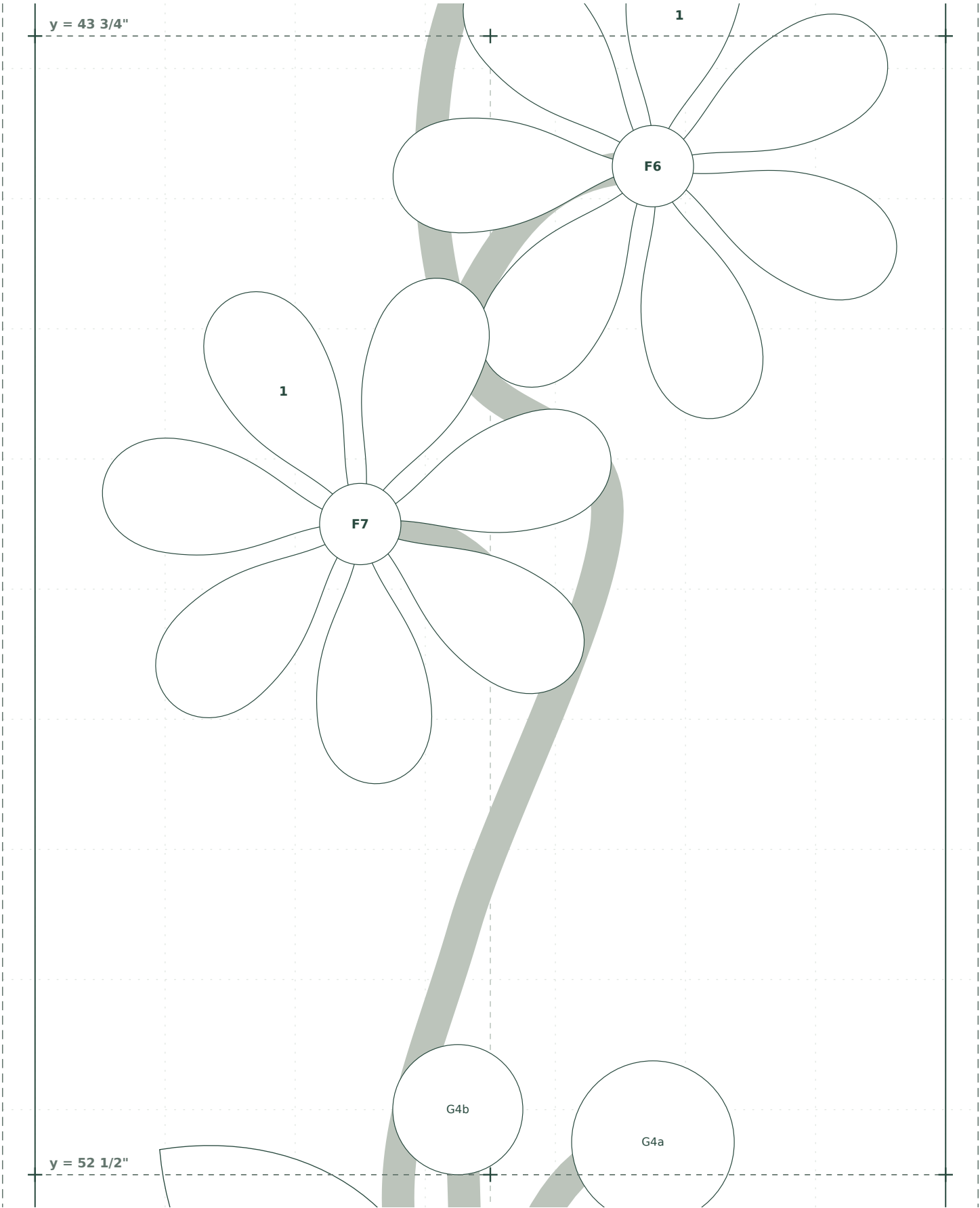
25.4 mm



Vine A - sheet 6 of 8

Fabric front | y = 43 3/4 to 52 1/2 inches | Join guides are NOT fabric seams

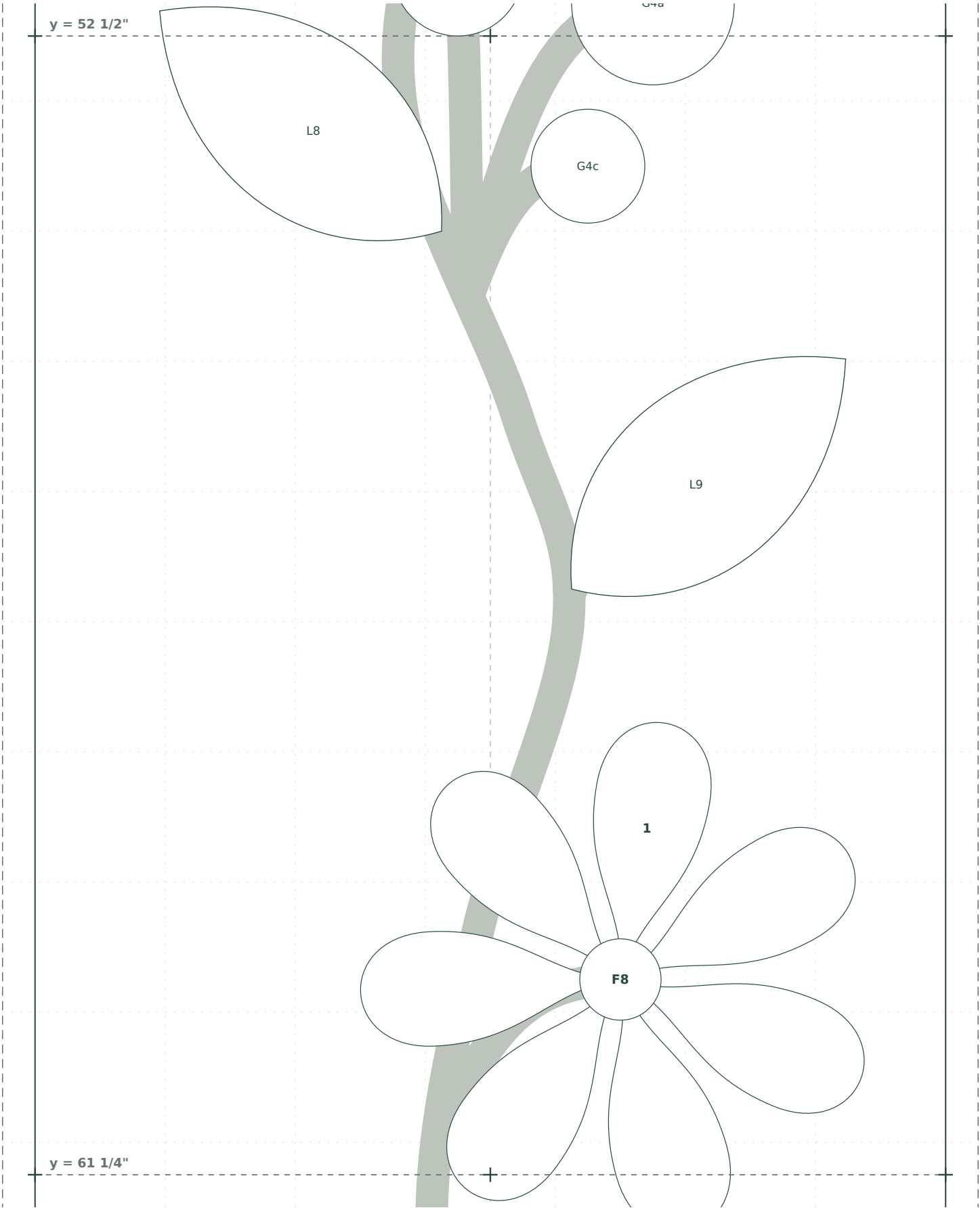
1 inch
25.4 mm



Vine A - sheet 7 of 8

Fabric front | y = 52 1/2 to 61 1/4 inches | Join guides are NOT fabric seams

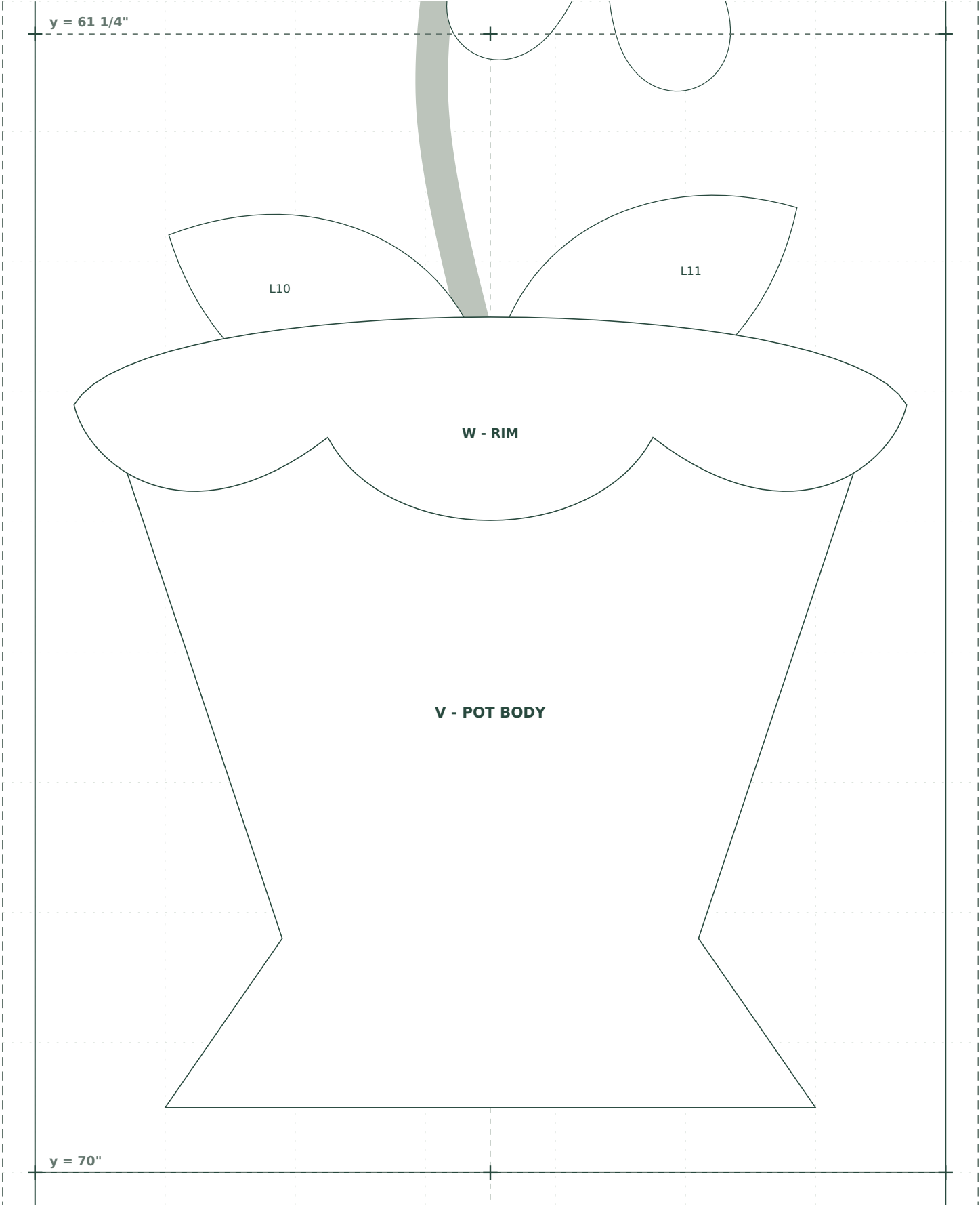
1 inch
25.4 mm



Vine A - sheet 8 of 8

Fabric front | y = 61 1/4 to 70 inches | Join guides are NOT fabric seams

1 inch
25.4 mm

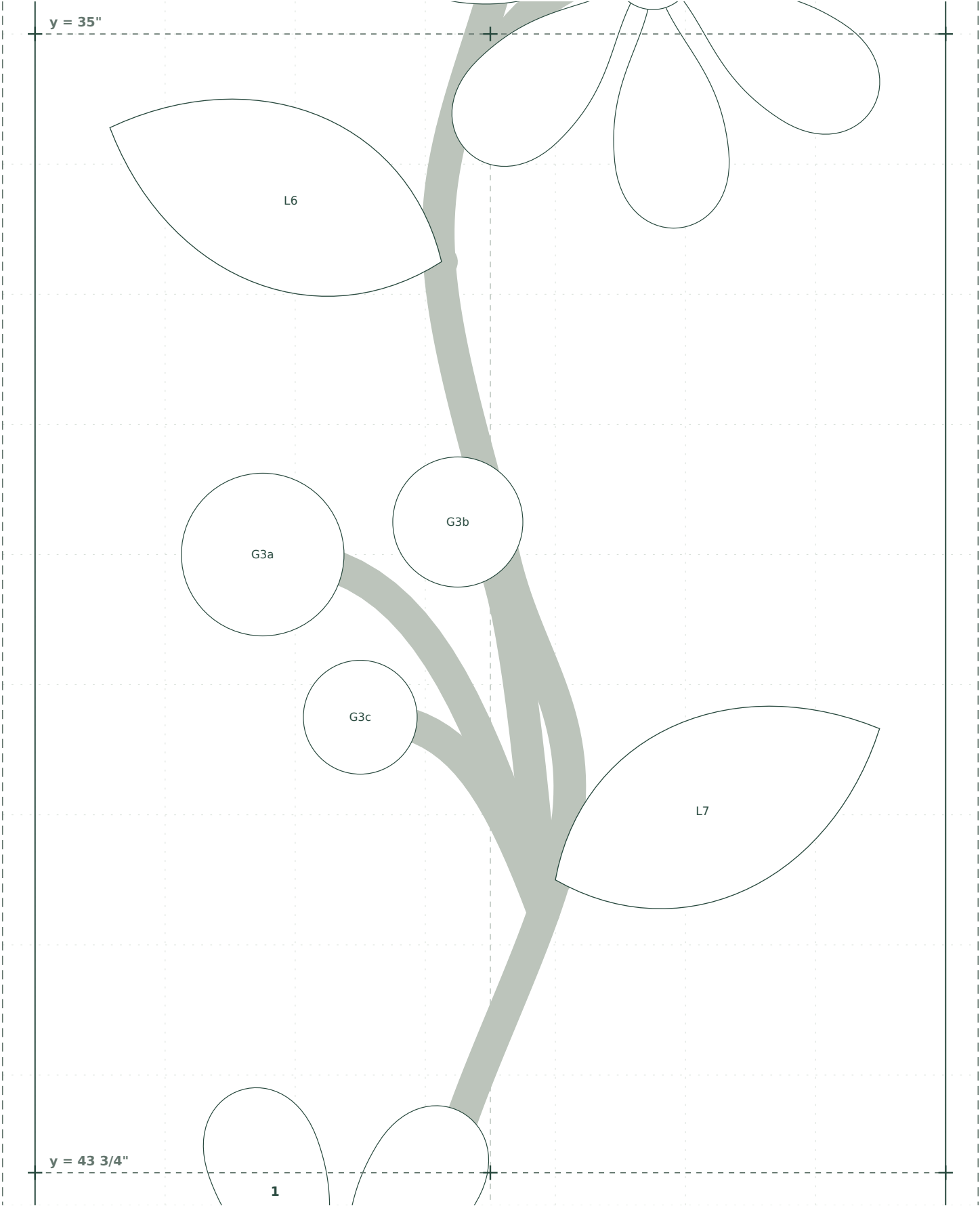


Vine B - sheet 5 of 8

Fabric front | y = 35 to 43 3/4 inches | Join guides are NOT fabric seams

1 inch

25.4 mm



Vine B - sheet 6 of 8

Fabric front | y = 43 3/4 to 52 1/2 inches | Join guides are NOT fabric seams

1 inch
25.4 mm

