

MAIN TOPICS: When a Box Isn't Enough (feeling, tested) → **Curves with Intention** (read the plan first) → **Plan, Wall, and Roof** (three moves).

ARCHITECTURE CONVENTIONS

- A box can be a good building. We go beyond it for **how a space makes a person feel**: a softened edge welcomes, a boundary that pulls in protects. Not to show off.
- **Feeling is not a license**. Test each move against precedent and pattern language: how an entrance transitions, how ceiling height sets a mood, how enclosure creates comfort.
- **Design as an experiment with one concept**, a question in one sentence. Ours: *can softening a domestic boundary change how a room feels and how it is used?*
- **A concept must read everywhere**: plan, section, elevation, and movement, not just one dramatic moment.
- Continuity: the ADU stays **26'-0" × 40'-0" (8 × 12 m)**, at or under **100 m²**, on the **9'-0" (2.7 m)** eave and **15'-3" (4.65 m)** ridge.

ESSENTIAL STEPS

1. **Map the existing logic**. Copy the plan, **Group** it, and copy over the boundary, wall faces, axes, and grid. In Object Properties, color fixed references red, flexible ones blue.
2. **Ask what a curve does**. Start where people gather: kitchen and living. Redirect movement, frame an entry, enclose, pull light in?
3. **Draw a family**. **Arc** **Tangent** to mirrored grid lines at the entrance; **Copy** it toward the bedroom; a larger roof arc with **Circle** **Tangent** to the center axis, then **Trim**.
4. **Reset and transfer**. Copy the last massing and slab, **PushPull** back to the base form, **Project** the curves onto the roof from **Top** view, **Orient3Pt** the openings onto **MASS-LINE**.
5. **Entrance wall**. **PushPull** out the volume, **DupEdge**, then **Sweep2**: rails first, then cross-sections. Close with **PlanarSrf** or **Loft**, **Join**, confirm a **closed polysurface**, **BooleanUnion**.
6. **Bedroom wall**. **PushPull** to where the curve begins, measure the radius with **Distance**, then **FilletEdge** at that distance.
7. **Roof**. In **Ghosted** display, **ProjectToCPlane** the curve and wireframe the boundary, then **Patch** and **RebuildUV**. Replace the old face: **Trim**, **Loft** the open edges, **Join**.
8. **Openings on a curve**. **ExtractSrf** with the window curves, **Scale2D** **1.01** from the arc's center, then **Split**. Review in **Concept** display. Next: refine and evaluate the massing.

KEY COMMANDS

- **Sweep2** | a surface between two rails, shaped by cross-sections
- **FilletEdge** | rounds a solid's edge at a set radius
- **Patch** | fits a surface through boundary curves
- **Project** | drops curves onto a surface
- **ProjectToCPlane** | flattens curves to the CPlane
- **RebuildUV** | rebuilds a surface in U or V only, for cleaner control
- **Scale2D** | uniform scale in two directions
- Also: **Arc** · **Circle** **Tangent** · **DupEdge** · **Loft** · **BooleanUnion** · **PushPull** · **ExtractSrf** · **Split** · **Isolate** / **Show**

QUICK REF: ONE CONCEPT, THREE MOVES

Move	Built with	What it does
Entrance wall	Arc → Sweep2 → BooleanUnion	draws the eye and the body toward the entry
Bedroom wall	Distance → FilletEdge	pulls inward: warmth and enclosure
Roof	Circle Tangent → Patch → RebuildUV	a distinct interior space that lets light in

Two moves in plan, one overhead, all from one family of arcs.
Same geometric origin, different jobs, one design language.

COMMON MISTAKES

- ✗ A curve because it looks good → ✓ a curve that answers the plan
- ✗ Freeform splines → ✓ arcs and circles: a radius you can build
- ✗ Three unrelated curves → ✓ one move repeated as a family
- ✗ Projecting onto a slope in perspective → ✓ confirm in Top view
- ✗ Booleans on an open volume → ✓ confirm a closed polysurface
- ✗ Coincident surfaces flicker → ✓ **Scale2D** **1.01** lifts the panes

EDUCATOR NOTE

Exercise: One Concept, Three Moves (45 minutes). Needs the chosen E3 massing option and its plan.

Deliverable: one Rhino file: the reference plan with fixed and flexible lines colored, a family of three arcs, at least two built into the mass with one reaching the roof, and the concept in one sentence.

Discussion: Can a classmate find your concept in plan, section, and elevation without being told? Which move would you cut first, and what would the project lose?

Watch for: curves placed before the plan was read, freeform splines where an arc would do, and three moves that share no geometry.

