📐 **Hybrid Scan-to-BIM Workflow Diagram**

To help visualize how these tools connect before you start the checklist, this diagram illustrates the typical data flow from PointCab to Revit.

✅ **Role-Based Standard Operating Procedure (SOP) Checklist**

Project Name: _____

Date: _____

Part 1: BIM Manager / Survey Lead (Setup & Coordination)

Goal: Ensure data integrity, coordinate systems, and software readiness.

Status	Phase	Software	Task Description
☐	1. Processing	PointCab Origins	Import raw scan data (FLS/E57), register scans, and remove noise/ghosting.
☐	1. Processing	PointCab Origins	**Critical:** Create the .pcp project file (saves the coordinate system).
☐	1. Processing	PointCab Origins	Define rough Levels and create the initial Floor Plan view (top-down orthophoto).
☐	1. Processing	PointCab Origins	Export **Clean E57** file (cropped to building envelope) for AI processing.
☐	2. Cloud	PointCab Nebula	Upload project to Nebula and generate the share link for the team.
☐	2. Cloud	aurivus AI	Upload the Clean E57 to aurivus web platform for classification (Architecture + MEP).
☐	3. Setup	Revit + 4Revit	Open Revit template. Connect to .pcp file using **PointCab 4Revit** tab.

Status	Phase	Software	Task Description
☐	**3. Setup**	**Revit + 4Revit**	**Crucial:** Use plugin to "Transfer Levels" and "Align Project Base Point" to match the scan.

Part 2: BIM Modeler (Execution & Modeling)

Goal: Rapid geometry creation and precise verification.

Status	Phase	Software	Task Description
☐	**4. AI Modeling**	**Revit + aurivus**	Open aurivus plugin. Load processed AI data.
☐	**4. AI Modeling**	**Revit + aurivus**	Run "Walls & Doors" detection. **Check:** Verify walls snap to the Levels created by the Manager.
☐	**4. AI Modeling**	**Revit + aurivus**	Run "Speed Drawing" for MEP (Pipes/Ducts). Isolate systems one by one to avoid clutter.
☐	**5. Precision**	**Revit + 4Revit**	Switch to **PointCab 4Revit** tab. Generate Layouts (Orthophotos) to verify AI wall placement.
☐	**5. Precision**	**Revit + 4Revit**	Use **3D Points** tool in the plugin to model complex/custom structural elements the AI missed.
☐	**5. Precision**	**Revit + Nebula**	View unclear areas in **PointCab Nebula** (via browser) to clarify geometry before modeling custom families.

Part 3: Architect / Analyst (Analysis & Context)

Goal: Environmental validation and site context.

Status	Phase	Software	Task Description
☐	**6. Context**	Revit -> Forma	Open 3D View in Revit. Select "Massing & Site" -> "Send to Forma".
☐	**6. Context**	Autodesk Forma	Confirm model geolocation matches the Forma map data (satellite image).
☐	**6. Context**	Autodesk Forma	Run **Wind Analysis** (Comfort/Safety) and **Solar Energy** analysis.
☐	**7. Review**	Revit	Tag any elements that failed analysis for "Retrofit/Demolition" phase.

⚠️ **Critical Handoff Points (The "Gotchas")**

- **Coordinate Disconnect:** If the BIM Manager does *not* set the Levels/Coordinates using **PointCab 4Revit** (Step 3) *before* the Modeler starts using **aurivus** (Step 4), the AI geometry may float at the wrong elevation. **Always set the skeleton first.**

- **File Size Bloat:** If the **E57** exported for aurivus (Step 1) includes trees, cars, or street noise, the AI will waste time classifying garbage. Crop tight to the building in PointCab Origins first.

- **Version Control:** Ensure the **PointCab 4Revit** plugin version matches the installed Revit version (e.g., 2024 to 2024).