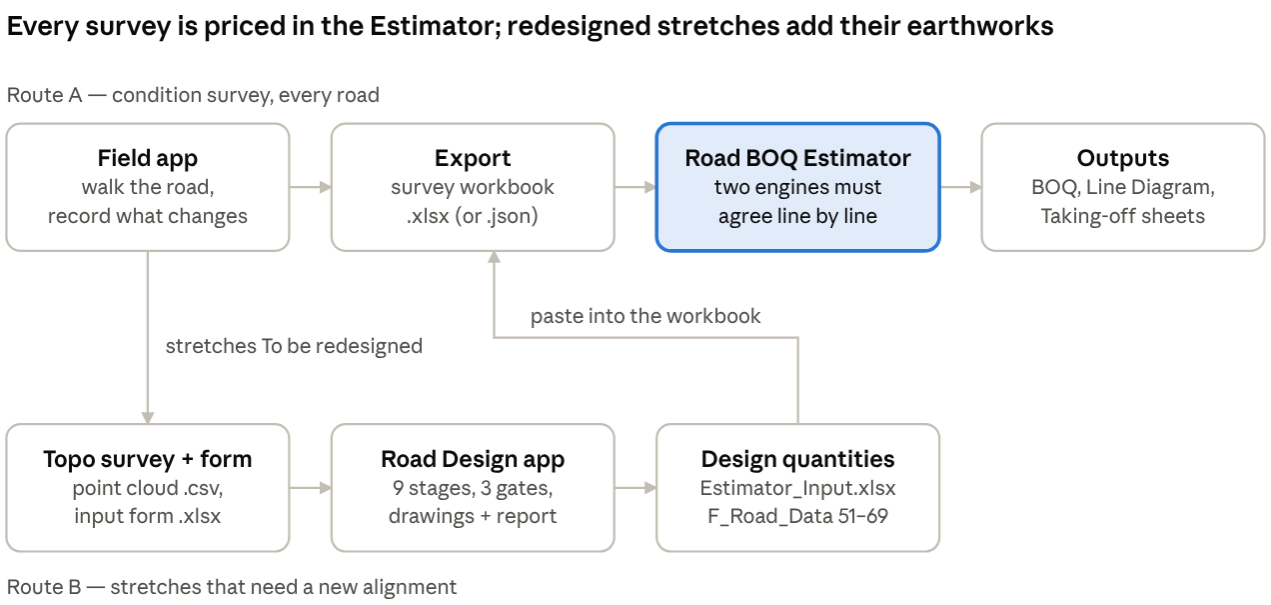
BESPA Road Suite — Quick Guide: How the Apps Work Together

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The two routes at a glance

Every road goes through the field app and the Estimator (Route A). Stretches that need a new alignment also go through Road Design (Route B), and their earthworks join the same bill.



how the apps work together · two routes, one Estimator

When the **whole** road is designed, Road Design prices it in the Estimator itself at its last stage (R9), with no copying.

Route A, step 1 — Collect the data with the field app

The crew walks the road once and records only where something changes; the app stamps the chainage.

1. **Install once.** On the phone, open the field app address in Chrome, choose *Add to Home screen*, and open it once with signal. It then works offline.
2. **Setup.** Enter the road name, code, region and district. Agree Form E (the treatment rule for each surface condition) with the design engineer before you start. Check Form F, the road constants: clear every red **!** you can, especially haul and overhaul distances.

3. **Survey.** Tap **Start survey**. For each item (vegetation, township, ditches, U-drains, trapezoidal drains, kerbs, surface and condition), tap **Start here** where it begins and **End here** where it stops.
4. **Correct the chainage** at every known point (km post, junction, culvert): tap the large chainage and type the true value. Chainages are **metres** — 8 km is 8000.
5. **Points.** Record culverts, bridges, gullies, turnouts and pitching at the current chainage, with a photo. A proposed culvert is picked as **family → cells → size** from the priced list. A box culvert also needs the water table.
6. **Stretches needing a new alignment.** Switch on **To be redesigned** where such a stretch starts and off where it ends. Earthworks are then locked there, because the Road Design app will measure them (Route B). Everything else is still surveyed.
7. **End the survey** at the last chainage. A road longer than 20 km, or a form near 200 rows, is surveyed in sections.

Route A, step 2 — Export from the field app

Export at the end of **every** survey day: the data lives only on the phone until then.

1. Open **Export** and read the checks. Fix anything flagged, such as a culvert in an old size.
2. Save the files:

File	Use
Survey workbook (.xlsx)	Upload to the Estimator. Use this one when part of the road is redesigned (Route B).
Raw data + photos (.json)	Upload to the Estimator, or keep as a backup
Centreline (.kml)	View the road, km markers and culverts in Google Earth or QGIS

3. Copy the files off the phone (email, WhatsApp or USB) to the computer used for pricing.

Route A, step 3 — Upload to the Estimator

Pricing starts by itself once the file is accepted; there is no Price button.

1. Sign in to the Road BOQ Estimator with your licence email and key.
2. Drop the survey workbook (.xlsx) or the .json on **New survey**.

3. Read the result of the upload. Green names the road and its size; amber notes are warnings; a red refusal says exactly what to fix (for example an unpriced culvert size or a form over 200 rows). Fix it in the app, export again and re-upload.
4. Watch the run: *measuring* → *confirming* → **both engines agree**. The two independent calculations must agree line by line before the bill is built.
5. Open the bill on screen. Click any line to see the chainage runs or culvert that produced it.
6. Download the documents (see Outputs below).

Route B, step 1 — Prepare the design inputs

Route B is for stretches that need a new alignment. Do Route A for the whole road first, with those stretches marked **To be redesigned**. Then prepare two files for each stretch.

The survey file — a topographic point cloud of the stretch:

- a .csv or .txt with the columns id, easting, northing, elevation, code (up to 40 MB);
- coordinates in **projected metres** (e.g. UTM). Latitude/longitude alone is refused;
- codes: **CL** centreline, **L1/R1** edges of pavement, **L2, L3 … / R2, R3 …** further out to about 20 m each side, **GL / SH / DRN** ground, spot height, drain, **CUL / CUL-E / CUL-P** culverts, **INV** inverts, **TBM** benchmarks;
- chainage, culvert size and status go in their own columns, never inside the code.

The input form — the Excel template from the app's **1 · Inputs** card:

- Sheet 1: fill the orange cells — project title, road name, road code, region, district, road type (**Feeder Road (DFR)**) and the design data;
- Sheet 2, the estimator supplement: haul distances, and above all the **borrow, topsoil and tip distances**. A blank one holds the bill. Enter the **designed chainages** for the stretch, plus township, vegetation, surface condition and kerbs.

Route B, step 2 — Run the Road Design app

The app designs the stretch in nine stages, checks it at three gates and prices it at the end.

1. Sign in to Road Design with your licence email and key.
2. On **1 · Inputs**, choose the input form and the survey file. Leave **Run to** at **R9** and press **Upload and run**. Note the project id.
3. Watch **2 · Progress**: survey and terrain → horizontal alignment → Gate 1 → vertical alignment → Gate 2 → cross-sections and earthworks → ditches and pavement → Gate 3 → deliverables and estimator.

4. Read each gate. **PASS** is fine. **REVIEW** continues but needs your check. **FAIL** makes the app revise the design. **Referred to the designer** stops the run: change the inputs, or adjust the design in **the editors**, then re-run from the stage named (R2, R4 or R6).
5. **Download everything (ZIP)** before you leave: projects are deleted after 7 days. It holds the drawings, the workbook, the report, the setting-out data and `<code>_Estimator_Input.xlsx`.

Route B, step 3 — Send the design to the Estimator

The design's earthworks replace the survey's over the redesigned stretch; everything else on the road comes from the field survey.

Whole road designed. Nothing to do. At R9 the app prices the design in the Estimator with both engines. The priced bill (BOQ_client.xlsx) comes back in the ZIP, and the run appears in your Estimator account.

Only some stretches designed (the usual case):

1. Open `<code>_Estimator_Input.xlsx` from the Road Design ZIP, sheet **F_Road_Data**.
2. Copy **rows 51 to 69** whole (the design earthworks, haulage, haul distances and speed signs).
3. Paste them into the **same rows** of F_Road_Data in the field app's survey workbook, and save it.
4. Upload that **workbook** (.xlsx, not the .json) to the Estimator, as in Route A step 3.

The field app has already left Form A's earthworks blank over the redesigned stretch, so nothing is billed twice. The design quantities show in the bill's **Re-alignment** column.

Outputs — what you download, and when it can be issued

Once the run reads **both engines agree**, the Documents panel offers two files.

File	Sheet or content	What it is for
`<road>_BOQ.xlsx`	Bill of Quantities	The priced bill. Quantities, rates and General Items can be edited; amounts and totals recalculate
	Line Diagram	The road drawn station by station: vegetation, drains, kerbs, culverts, surface. Ends with the U-drain legend U-1 to U-7

File	Sheet or content	What it is for
	Taking-off Roadworks	Dimension paper for every roadworks and drainage line, by chainage
	Taking-off Culverts	Dimension paper for pipe and U-culverts
	Box culverts (3 sheets)	Taking-off, abstract and bar schedule for each box type used
`<road>_report.txt`	Pricing report	Bill totals, the two-engine result, checks, unpriced items and Form F values the survey did not carry

Route B also gives the design ZIP: A3 drawings, the design workbook, the setting-out workbook and the design report.

Before the bill leaves the office:

- [ ] No red **NOT FOR ISSUE** banner: the two engines agree, all checks pass and nothing measured is unpriced
- [ ] The survey status is **ENDED**, not still recording
- [ ] The Form F red **!** values are confirmed for this road
- [ ] The default rates are replaced with current project rates in the downloaded bill
- [ ] For Route B, the design is checked and sealed by a licensed engineer