Flow State Estimating

Air device and equipment takeoff: 1-page summary

SAMPLE

Synthetic set. Not a client job.

Harrowgate Business Centre (fictional), 3-storey office, 12 mechanical sheets

Document status: DRAFT, 2 red line(s) have no reviewer quantity. Unreviewed engine output, shown as-is.

98	18	14	2	2
Items counted	Lines	Green	Yellow	Red

Status	Tag	Category	Sched.	Plans	Engine	What a reviewer checks
RED	**EG-1**	Exhaust inlets	12	16	16	L1 washrooms drawn on M-101 and again on enlarged plan M-201. Reviewer qty 12.
RED	**SD-1**	Supply outlets	38	33	33	M-103 room 310: 6 diffusers drawn, one tagged SD-1 TYP. with no count. Reviewer qty 38.
YELLOW	**RG-1**	Return inlets	20	18	18	Schedule says 20, plans show 18 on three floors. Plans govern (general note 2). Qty 18.
YELLOW	**VAV-2**	Terminal units	6	5	5	M-102: one tag is a smudged raster paste-in, no text. Box is drawn. Reviewer qty 6.
GREEN	**AHU-1**	AHUs & rooftop units	1 row	1	1	Schedule and plans agree.
GREEN	**EF-1**	Fans	1 row	1	1	Schedule and plans agree.
GREEN	**EF-2**	Fans	1 row	1	1	Schedule and plans agree.
GREEN	**EF-3**	Fans	1 row	1	1	Schedule and plans agree.
GREEN	**FCU-1**	Fan coils & heat pumps	1 row	1	1	Schedule and plans agree.
GREEN	**FCU-2**	Fan coils & heat pumps	1 row	1	1	Schedule and plans agree.
GREEN	**FCU-3**	Fan coils & heat pumps	1 row	1	1	Schedule and plans agree.
GREEN	**HP-1**	Fan coils & heat pumps	1	1	1	Schedule and plans agree.
GREEN	**HP-2**	Fan coils & heat pumps	1	1	1	Schedule and plans agree.
GREEN	**HP-3**	Fan coils & heat pumps	1	1	1	Schedule and plans agree.
GREEN	**RTU-1**	AHUs & rooftop units	1 row	1	1	Schedule and plans agree.
GREEN	**SD-2**	Supply outlets	4	4	4	Schedule and plans agree.
GREEN	**VAV-1**	Terminal units	8	8	8	Schedule and plans agree.
GREEN	**VAV-3**	Terminal units	3	3	3	Schedule and plans agree.

What the traps show

The set was drawn with four problems real sets have, and an answer key counted by hand. The engine matched the key on 15 of 18 lines; all 14 GREEN lines are right. Every line it got wrong, and the schedule error it caught, is YELLOW or RED with the reason, so a reviewer checks 4 lines, not 98 items.

1. Schedule vs plans: RG-1 schedule QTY 20, plans 18. Flagged YELLOW, plan count used.
2. TYP. with no count: SD-1 on M-103. Flagged RED, plan total marked as possibly low.
3. Same devices on two sheets: EG-1 on M-101 and enlarged M-201. Flagged RED (plans 16 vs schedule 12).
4. Unreadable tag: VAV-2 pasted as an image on M-102. Flagged YELLOW (schedule 6, plans 5).

Where every number comes from

The Excel takeoff has an Evidence sheet: one row per counted item with sheet, PDF page and X/Y position in points from the top-left of the page. Counted rows add up to each line's plan count. The Summary sheet records the input file's SHA-256, the engine version and the tolerance used. Final quantities are set by a reviewer before delivery.