

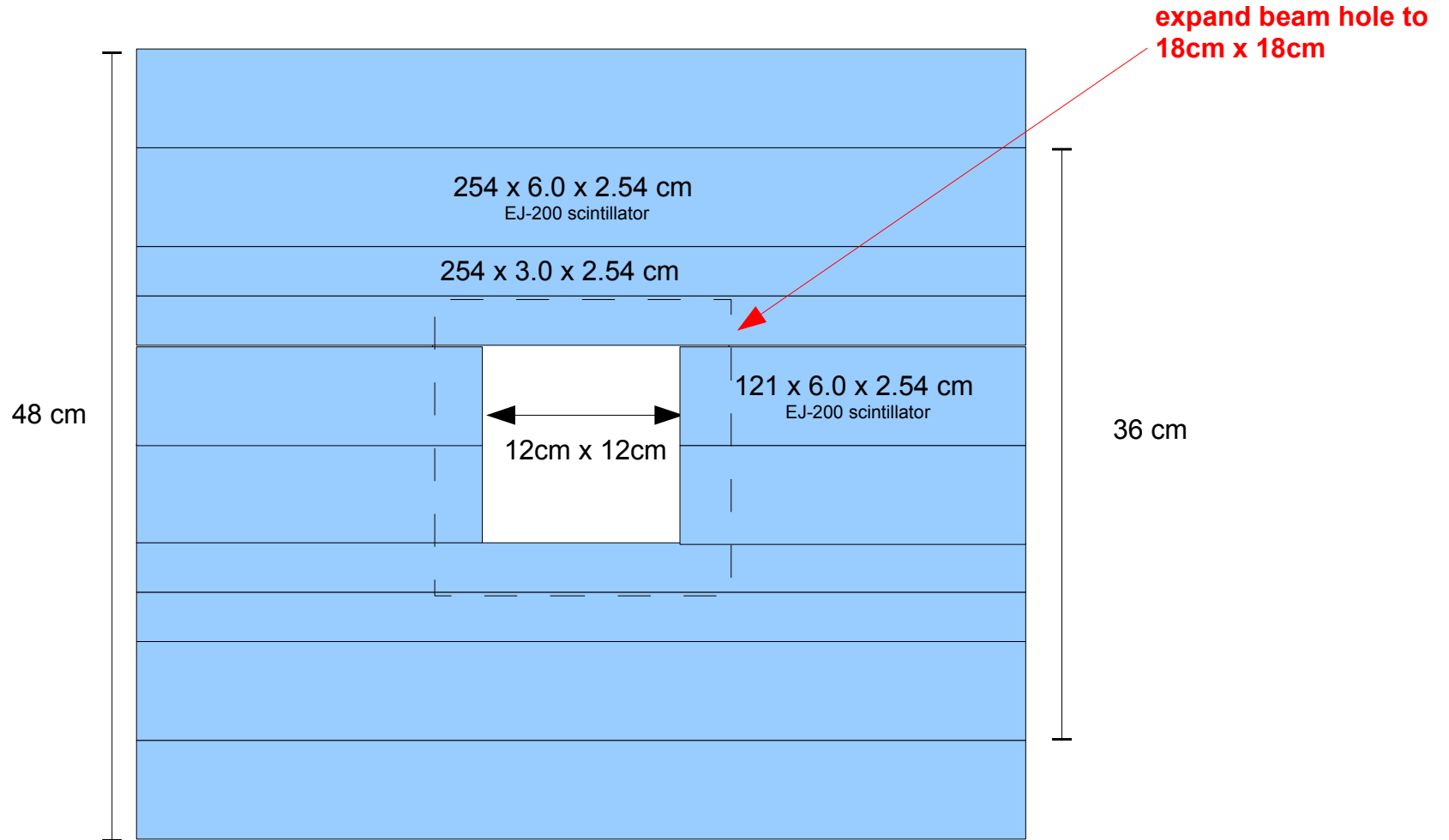
# *TOF Inner Region Upgrade Options*



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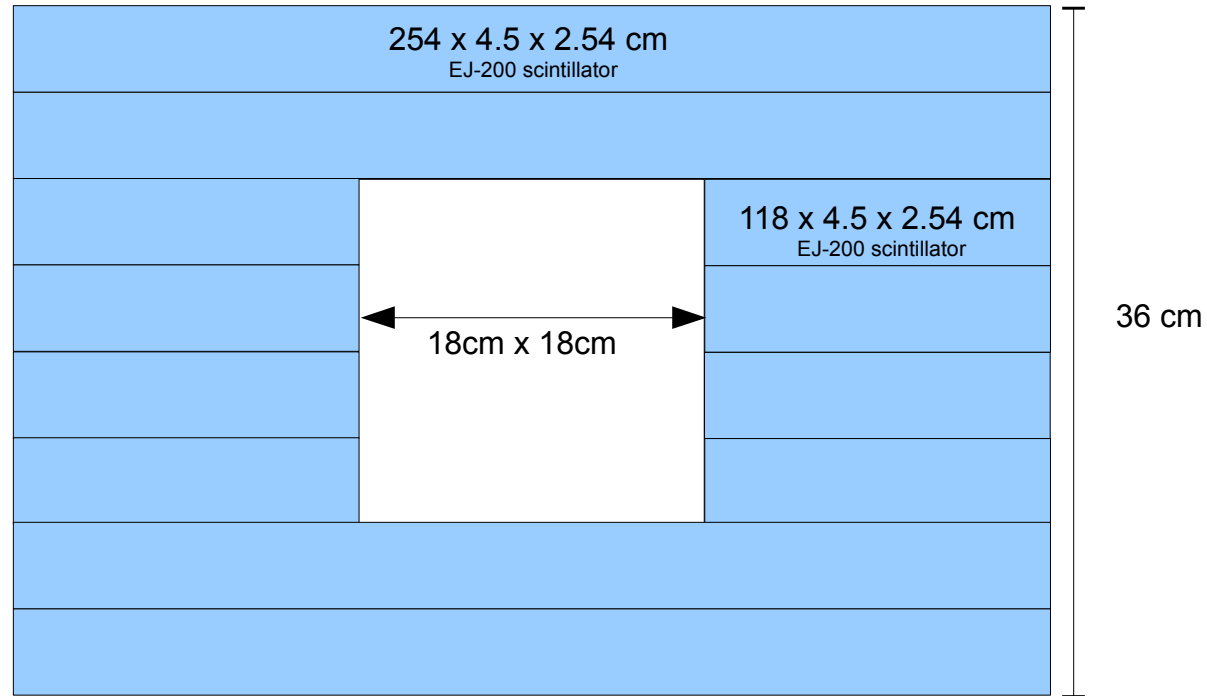
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# Current TOF Plane Inner Region



# TOF Inner Region Upgrade

*inner region segmentation by 4.5 cm wide modules*



## Changes per TOF plane

### Remove existing

10 current modules

2 long 6 cm

4 long 3 cm

4 short 6cm

16 readout channels

### Install new

12 new module

4 long 4.5 cm

8 short 4.5 cm

16 readout channels



# Cost Estimates

## Materials

**Total: ~\$25k**

- Scintillator \$10,400
  - 8 FWFL \$500 each
  - 16 FWSL \$400 each
- Light guide \$4,400
  - 32 units: material 6 UVT 3.5"OD 4' rods (\$400/rod) \$3,600
- Wrapping \$1,200
  - ESR 12"x 160' \$1,200
  - Tedlar \$0
- Misc. materials \$500
- PMTs \$7,000
  - 32 PMTs: 25 already purchased

Readout electronics

**Total: \$0**

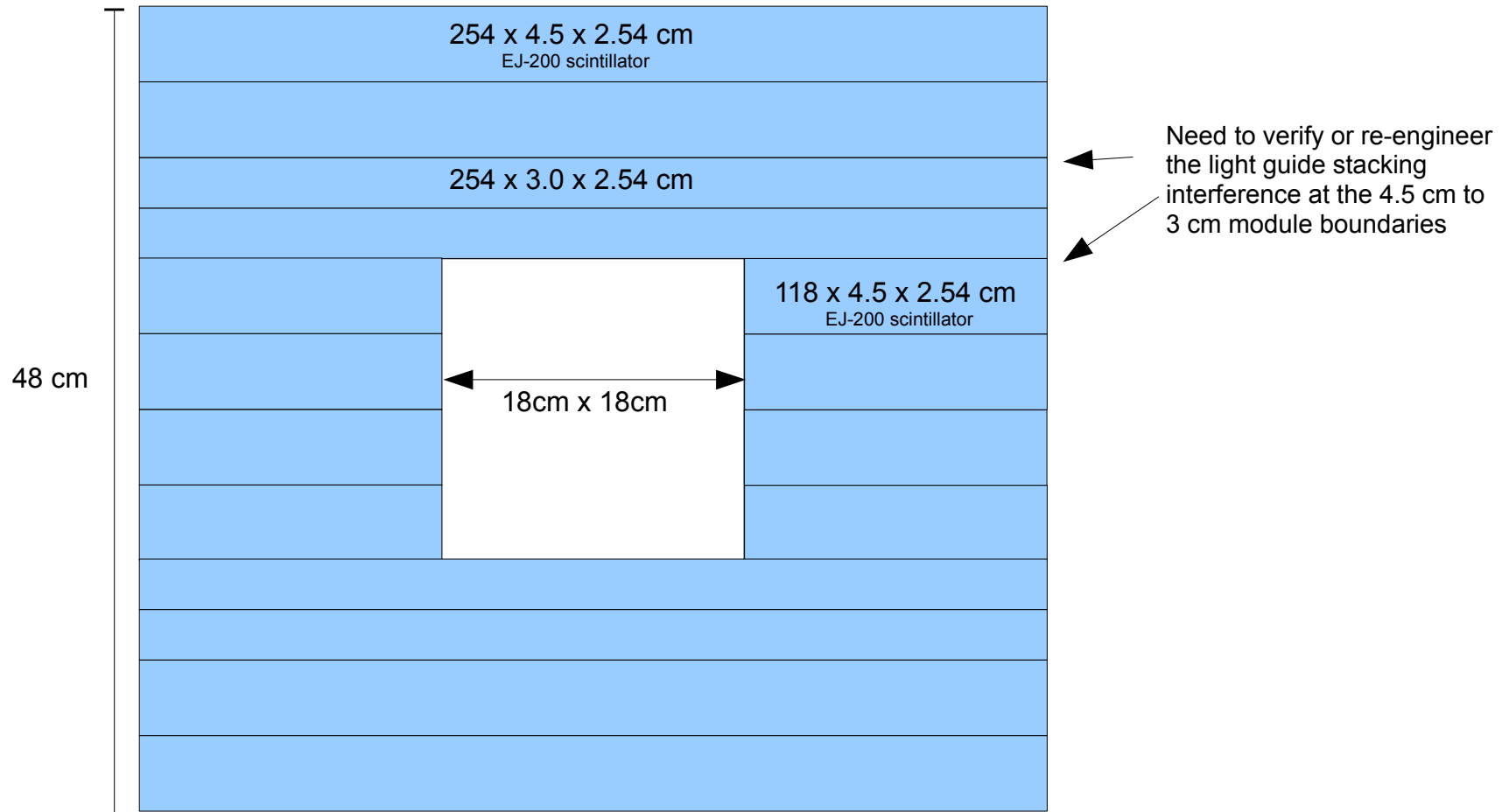
- same number of channels

Support structure ~\$1,000-\$2,000

- 32 new support mounts
  - drill and tap new holes in existing frame

# TOF Inner Region Upgrade

*Extended Segmentation Option with 3 cm and 4.5 cm module widths*



## Changes per TOF plane

### Remove existing:

10 current modules

4 long 6 cm

4 long 3 cm

4 short 6cm

20 readout channels

### Install new:

16 new module

4 long 4.5 cm

4 long 3 cm

8 short 4.5 cm

24 readout channels

# *Cost Estimates for Extended Segmentation*

## Materials

**Total: ~\$45k**

- Scintillator \$14,400
  - 8 FWFL \$500 each
  - 16 FWSL \$400 each
  - 8 FWHL \$500
- Light guide \$5,400
  - 32+16 units: material 6 UVT 3.5"OD 4' rods (\$400/rod) \$5,400
- Wrapping \$2,000
  - ESR 12"x 236' \$1,800
  - Tedlar \$0
- Misc. materials \$500
- PMTs \$23,000
  - 48 PMTs: 25 already purchased

Readout electronics

**Total: \$**

- 8 additional readout channels

Support structure ~\$1,000-\$2,000

- 48 new support mounts
  - drill and tap new holes in existing frame