

## Meeting 1 – concrete shielding for FETS

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Date: 2<sup>nd</sup> May 2012

### Size

- Enveloping entire HV cage too? If not, how does beamline safely penetrate wall and at which point?
- Pete to make quick first pass layout.
- Mark out on floor of R8 with tape.
- How far downstream to go – a couple of metres passed end of beam dump?
- Allow for Christoph's diagnostics which bends away from partition wall.

### Crane

- What footprint is covered by crane?
- Will not get close enough to partition to lay blocks along that wall.
- What is lifting capacity?
  - 8 tonnes?
- What is height to bottom of hook? – with regard to lifting roof beams.

### Walls

- Do blocks interlock?
  - They can do, Trevor showed several types.
- What are the standard sizes of block?
  - Varies but a common size is 750mm x 750mm x various lengths
  - Trevor will forward drawings for reference
- Where are they ordered from?
- Are there different specifications of concrete?
  - We need RC40 which is standard
- How much do they cost?
  - £1000 to £1500 per tonne
- Density?
  - 2.6 tonnes / m<sup>3</sup>
- How many extra ports required for services and what size?
  - Use trench where possible.
  - Enter at high level through personnel chicane.

## Roof

- Can we lay waveguide and services on the roof?
  - Yes
- Staircase to access roof area?
  - Yes, if frequent access is required. Also, handrail required.
  - If infrequent can make case for access with safety line (attached to crane)
- What do the roof panels look like?
  - Could go for very large panels if you wish.
- Can we remove roof panels for crane access?
  - Yes. Need to think about where they will be placed when removed.

## Environment

- Lighting
- Ventilation
  - Heat from FETS taken out in cooling water
  - Heat from vac pumps will contribute to room temperature.

## Safety

- One entrance?
- Door entry control
- Blue light when beam is ON.
- Personnel access via chicane.
  - Leave sufficient room for two people carrying a stretcher.
- Radiation monitoring?

## General

- Who can erect the blocks into a structure?
  - Heavy gang
- Transition from waveguide to coax outside or inside shielding enclosure?
- Lifting device needed for inside enclosure.
- Floor loading check required.
- Consider shine paths.