

## GRENFELL TOWER

06 SEPT 2013

## PROPOSALS/QUERIES/DISCUSSION POINTS

### MECHANICAL SERVICES

Item	TMO Comments – Minutes from meeting 10/09/13
<p><b>Boiler Plant:</b></p> <ol style="list-style-type: none"><li>1. Replace existing boiler plant serving the tower with new gas fired modular boilers. The existing boiler plant serving the tower will be disconnected and replaced with the new gas fired boiler plant. It is assumed no further work will be carried out on existing boiler plant.</li><li>2. It is assumed there will be at least three boiler modules to provide back-up if one fails. Any views on how resilient the boiler plant should be in the event of boiler failure/maintenance?</li><li>3. How sophisticated should the controls be? Should there be a BMS link back to TMO's office or just local, stand-alone control?</li><li>4. The existing flue will be used for the new boiler system. The flue will be surveyed to ensure it is clear and also suitable for use with the new boiler plant.</li></ol>	<ol style="list-style-type: none"><li>2.<ul style="list-style-type: none"><li>➤ Agreed three boiler modules with two firing at one time.</li><li>➤ <b>Matt</b> to provide options for back-up boilers along with costs.</li></ul></li><li>3.<ul style="list-style-type: none"><li>➤ TMO like the idea of a BMS link to the office, subject to cost. <b>Matt</b> to make a proposal including an approximation of the associated costs.</li></ul></li></ol> <p><b>Fingerblocks</b> – This will be subject to a separate commission to survey and recommend what to do. <b>David</b> to produce a brief for <b>Matt</b> to price and scope.</p>

# MAX FORDHAM

Item	TMO Comments – Minutes from meeting 10/09/13
<p>5. Ventilation to boiler room? Allow for new boiler plant in calculations. Studio E want to change ground level ventilation arrangements.</p> <p>6. New heating mains will run up through the building to serve the flats.</p> <p>7. The necessity for water treatment will be assessed as the HIU's may be susceptible to untreated water.</p> <p>8. Controls will be provided to ensure that all existing and new boilers cannot fire at the same time to prevent problems due to insufficient gas pressure.</p> <p><b>Heating Mains Distribution</b></p> <p>1. It is proposed to run the main heating pipes vertically through the building with branch connections running through the lift lobby at each floor level. On other projects, significant problems have arisen in the common parts where heat from the pipework has not been dissipated and the heat build-up has resulted in very high temperatures. The best way to limit this is to provide 'super insulation' to reduce the heat emanating from the pipework and then ventilate the space as far as possible. The pipework will be very well insulated, but providing ventilation from the lift lobby will be very difficult. It may be possible to incorporate some passive ventilation into the smoke vent system as</p>	<p>5.</p> <ul style="list-style-type: none"> <li>➤ <b>Bruce</b> to produce drawing of what he wants and <b>Matt</b> to confirm ventilation arrangements.</li> </ul> <p>6.</p> <ul style="list-style-type: none"> <li>➤ <b>Matt</b> to review alternate routes for the mechanical riser and check with Stefano.</li> </ul> <p>7.</p> <ul style="list-style-type: none"> <li>➤ <b>Matt</b> will include a survey of the current status of the water to see if treatment will be necessary.</li> <li>➤ <b>Matt</b> to email a summary of the sequence of works including likely disruption to flats that can then be shared with residents.</li> </ul> <p>1.</p> <ul style="list-style-type: none"> <li>➤ <b>Matt</b> to contact Building Control regarding how to ensure common areas do not overheat. <ul style="list-style-type: none"> <li>○ Best option would be to pass heat through the smoke extractor</li> <li>○ Another option is to encase the heating pipes and extract heat that way. <b>Matt</b> to discuss with Stefano</li> </ul> </li> </ul>

# MAX FORDHAM

Item	TMO Comments – Minutes from meeting 10/09/13
<p>this is being renovated, but there may be objections from the Fire Officer.</p> <p><b>Heating in Flats</b></p> <ol style="list-style-type: none"><li>1. Each flat will have a 'Heat Interface Unit' (HIU) which will be connected to the new heating mains to provide space heating and to heat the hot water supply. The HIU's will be located in the cupboard where the existing Elson tank is located. The HIU's will have two heat exchangers, one for space heating and one for domestic hot water heating. The heating heat exchanger has a primary heating circuit fed from the building's heating system. It also has a secondary circuit which circulates heat to the radiators in the flat. The heat exchanger transfers heat from the primary circuit to the secondary circuit while maintaining complete hydraulic separation between the two circuits.</li></ol>	<ol style="list-style-type: none"><li>1.<ul style="list-style-type: none"><li>➤ <b>Matt</b> to advise on access to the HIU's – possibly by including a removable panel.</li></ul></li></ol>
<p><b>Cold Water Services:</b></p> <ol style="list-style-type: none"><li>1. The existing booster pump sets and break tanks located in the basement plant room will be retained.</li><li>2. The existing water tanks on the roof will be surveyed and depending on</li></ol>	

# MAX FORDHAM

Item	TMO Comments – Minutes from meeting 10/09/13
<p>condition, will be considered for re-use. The existing tanks are divided into ‘potable’ and ‘non-potable’ categories. The cost and amount of work required to upgrade from ‘non-potable’ to ‘potable’ will be assessed in relation to the increased length of storage time provided by the additional capacity. Calculations carried out to date indicate that in the event of electrical/pump failure, there is approximately 9 hours of storage while in the event of mains water supply failure, there is approximately 11 hours of storage. The difference is due to the additional water storage in the basement break-tank which would not be available in the event of electrical/pump failure. Should it not be viable/economic to re-use the existing tanks, new tanks will be provided. The ‘optimum’ size of new tanks will be assessed should they prove to be necessary. Tank(s) will require draining down for inspection.</p> <p>3. The new system will provide increased pressure so tenants will be able to have a ‘decent’ shower.</p> <p>4. A small additional booster pump set will be required to serve the flats on the top floors as the pressure from the gravity head of the roof storage tanks will be insufficient for the correct operation of the HIU’s.</p> <p>5. An alternative to providing roof storage tanks would be to serve all of the flats from the boosted water supply. This would have the advantage of doing away with the roof tanks, but has the disadvantage</p>	<p>➤ <b>Storage – Matt</b> to detail different options for storage, specifically including how much each option will cost. <b>Matt</b> to liaise with Alex Bosman on this (he is away for two weeks from the end of this week).</p> <p>3.</p> <p>➤ <b>Matt</b> to create a fact sheet outlying the benefits of the new water system. This will include water temperature as well as the increase in pressure.</p> <p>4.</p> <p>➤ <b>Matt</b> to provide a marked up plan of previous costs and different alternatives to be costed by <b>Chweechen</b>.</p> <p>➤ <b>David</b> to advise if require electricity to be centrally provided.</p>



# MAX FORDHAM

Item	TMO Comments – Minutes from meeting 10/09/13
<p>of providing no back-up storage in the event of a power supply failure.</p> <p>6. Cold water distribution pipework will be kept as far away as possible from the heating mains in order to avoid heat pick-up.</p> <p>7. Sterilisation of new pipework will be required. Building Control to confirm whether it would be adequate to sterilise just the main CWDS and ignore the branches.</p>	<p>7.</p> <p>➤ <b>Matt</b> to check with Building Control to confirm whether sterilisation will be needed in the branches or not.</p>
<p><b>Hot Water Services:</b></p> <p>1. Hot water would be provided by the HIU's in each flat. As described above, the HIU's have two heat exchangers, one for space heating and one for domestic hot water heating. The domestic hot water heating heat exchanger has a primary heating circuit fed from the building's heating system. It also has a secondary circuit which is fed from the cold water supply. The heat exchanger transfers heat from the primary heating circuit to the cold water thereby providing domestic hot water for the flat. Again, complete hydraulic separation is maintained between the two circuits.</p> <p>2. It should be noted that the temperature of the hot water may not be as hot as tenants have previously had available from their Elson tanks. The HIU's are similar in principle to 'Combi' boilers which generate instantaneous hot water and are extensively used in new housing</p>	

# MAX FORDHAM

Item	TMO Comments – Minutes from meeting 10/09/13
developments with little complaint from the users.	

<b>Structural Impact</b> <ol style="list-style-type: none"> <li>1. The current intention is to install the new heating and cold water pipes in a new vertical riser within the lift lobby area. This will require openings to be cut in the floor slab at all levels.</li> <li>2. At each lift lobby level, the new heating and cold water pipes will branch off to serve each of the flats. These branches will need holes cut in the walls separating the flats and the lift lobby.</li> </ol>	<ol style="list-style-type: none"> <li>1. <ul style="list-style-type: none"> <li>➤ <b>Matt</b> to check viability with Stefano.</li> </ul> </li> </ol>
<b>Metering</b> <ol style="list-style-type: none"> <li>1. This will be a key issue for TMO. It is anticipated that meters will be provided on the heating system to each flat. Will they also be required on the cold water supplies to the flats? Will they be required to incorporate electricity readings? Presumably, meters will be located</li> </ol>	<ol style="list-style-type: none"> <li>1. <ul style="list-style-type: none"> <li>➤ <b>Matt</b> to give more details to <b>TMO</b> so that they can make an informed decision. Provide cost details for both energy use and installation costs. <ul style="list-style-type: none"> <li>○ <b>Chweechen</b> to help providing capital costs.</li> </ul> </li> </ul> </li> </ol>

# MAX FORDHAM

<p>locally with remote data connection? Will meters be required to have a 'Pay as you Go' feature?</p> <p>2. Assumed metering is to all flats, boxing club, nursery and office space.</p>	<p>2.</p> <ul style="list-style-type: none"> <li>➤ Metering agreed for flats, boxing club and nursery.</li> <li>➤ Agreed not to meter the office but to have a branch so it could be added at a later date.</li> </ul>
<p><b>Existing Services at Podium Level Survey</b></p> <p>1. A detailed survey of all M&amp;E services in the Podium area is required. This especially applies to the soil/waste pipework which is likely to be the least flexible service in this area. As there are a number of mains services rising from the basement plant room, there will be implications for the residents when diversion work is carried out.</p> <p>2. It has been suggested that the heating mains serving the 'Finger Blocks' need to be diverted. At first glance, this looks like a fairly major piece of work and will require further consideration as to how this might be best achieved.</p> <p>3. When will the Podium area be available for a detailed survey?</p>	<p>1.</p> <ul style="list-style-type: none"> <li>➤ <b>Matt</b> to liaise with Bruce and provide Claire the details of when and where they want to survey. The nursery and boxing club were agreed to be a priority at the moment.</li> <li>➤ <b>Philip</b> to check on the status of asbestos checks.</li> </ul> <p>2.</p> <ul style="list-style-type: none"> <li>➤ Agreed to separate the 'Finger Blocks' from the 'Grenfell Tower Project' scope. <ul style="list-style-type: none"> <li>○ <b>TMO</b> to give Max Fordham a separate brief for this new project.</li> </ul> </li> </ul>

# MAX FORDHAM

Ideally w/c 16/09.	
<b>M+E Overview for New Podium Levels</b>  <ol style="list-style-type: none"><li>1. HIUs are proposed for new flats, same system as that proposed for tower flats.</li><li>2. HIUs are also proposed for office and nursery spaces. Boxing club will have an HIU with integrated hot water storage cylinder.</li><li>3. All spaces will be naturally ventilated.</li><li>4. No gas services to be installed in these areas.</li></ol>	<p>➤ Provisionally agreed on natural ventilation in all areas with <b>Claire</b> to find out why there is currently air conditioning in the office.</p>

## ELECTRICAL SERVICES

<b>General</b>  <ol style="list-style-type: none"><li>1. Generally confined to podium areas, but full scope to be defined as design develops.</li><li>2. Previous Stage D CCTV provision still acceptable?</li><li>3. Previous Stage D TV system proposals still acceptable?</li><li>4. Lightning protection to be surveyed and retained. Are there any recent test certificates available?</li></ol>	<ol style="list-style-type: none"><li>2. <p>➤ Agreed</p></li><li>3. <p>➤ Agreed</p></li><li>4. <p>➤ <b>Claire</b> to check whether there are any recent lightning test certificates</p></li></ol>
---	---



# MAX FORDHAM

5. Access control system needs to be defined by TMO.

- **Claire** to investigate if door entry system is being upgraded as a separate project or should remain in this project

## FIRE STRATEGY

### General

1. Are Exova updating their Stage D report? There are discrepancies between Stage D report and earlier drawing mark-ups regarding dry riser provision.
2. Building Control need to be engaged to review aspects of the design. E.g. extension of the dry riser and use of the smoke extract vent for general lobby ventilation purposes.

1.
  - **Bruce** to talk to Exova to see where they are with this.
2.
  - **Philip** to investigate building control application.

# MAX FORDHAM

## Additional Points

- Max Fordham's fee proposal agreed up to Stage E.
- **TMO** to look through the Studio E contract and discuss with Philip this week if there are any queries. Studio E fee drawdown schedule was agreed.
- **Bruce** to chase up getting a window mock-up. It needs to be decided whether the service for this mock-up should be paid for or not.
- **Refurbishment of void flat:**
  - **Matt** to create a spec for pipe runs within the flat to use as a demonstration
  - TMO to make the flat habitable
- **Everyone to look through the document outlining the planned surveys. Get back to Matt by Friday with any comments.**
- **Claire to arrange follow up meeting in two weeks' time**
  - First choice for the date would be 24/09 and 23/09 if that is not possible (depending on the availability of the meeting room).
  - This meeting will then be rolled on to occur fortnightly.
- **Phillip** to update risk register and agenda for review at the next meeting.