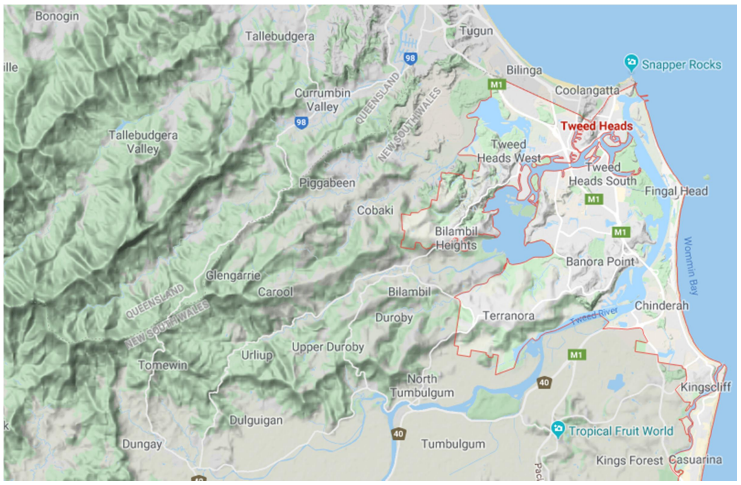
To whom it may concern,

It has come to my attention, that the new Tweed Valley Hospital development has requested public input into the proposed new Hospital. I have only 9 years' experience at a Large Hostel as a facility manager and 15 years as an automotive technician. Which gives me a different prospective into what I believe is an optimized building. I hope at least one of these ideas could help in the project in some way.

Do not just create a hospital, create a hospital village!

- Location has to be easily accessible in all situations. Fire, Floods, High winds, Hurricanes, road traffic, road works.
- Additionally, where is it best suited to serve the highest number of patients?
- Helicopter pad, if it was to be used regularly, is any thoughts been made on noise pollution?

1. My recommendation is further inland well above flood area. If it is in a more rural area, where it will be more protected from natural disasters; additionally land prices are significantly cheaper!
2. With a simple search on google, here is a listing in Piggabeen, which I feel would be better suited after additional roadworks are completed. https://www.realestate.com.au/property-acreage+semi-rural-nsw-piggabeen-132070378



Pollution

- Air Pollution, it has to be away from main sources of all pollution. On the M1 seems ridiculous!
- Noise Pollution, patients require rest for recovery. If it is on the M1, additional sound proofing will be required, which will add to building costs.

1. Rural area, we will have fresh air with a more relaxed atmosphere.

Power

- Where will the hospital be powered from?
- Is there a back-up utilities power source?
  We live in a hostile land, due to all the natural disasters and changing climate. For a good functioning hospital, we require 2 separate power utility sources in case one is interrupted.
- Solar power, to reduce hospital costs and to promote the new green movement.
- Back-up generators, have they been planned in an easily accessible place to allow for maintenance, repair, replacement and fueling?

Water

- How to supply enough water for a hospital? This will be one very tricky situation we will have to think about in a drought affected land.

    1. My thoughts would be for rain water tank, building a reservoir close by, building an additionally water treatment plant. For this we will require additional land and funding. But, if correctly implemented we will save far more over time.

Waste

- Hospitals produce large quantities of waste, we have to minimize this to reduce costs and to be pro-active for the new green movement.

    1. Water treatment plant is required, the sewage, if treated correctly, can be turned into a great fertilizer, producing an income instead of creating an expense.

    2. Separation of bio waste to use for composting and fertilizer

    3. No vending machines! Have a 24 hour canteen, whereby the patient, staff or visitor can eat, reducing all the pre-packaged waste.

    4. Additional furnace for burning bio hazard waste and non-recyclables to generate electricity should be looked into.

Natural Disasters and Global warming

- Hurricanes, stronger and larger will be more prevalent in the future.
- Rising sea levels will increase likelihood of higher floods.
- Flooding can be more server in the future.
- Fires, due to more droughts, bushfires will happen more often.

    1. It has to be further away from the coast for protection, additionally to be accessible even in the case of flooding.
    2. Only artificial grass! We do not want any grassed area due to maintaining, watering and pest control which will save running cost which could be better used.

3. If it is proven to be a low risk area, insurance premiums will decrease, saving more funding for better use.

Parking

- Parking is a key factor in any hospital. Generally this is an area which is outsourced, which is generally overpriced and creating a crippling affect for the families of the patients.

    1. Underground parking is key, if most to all parking is underground, we keep the aesthetics of the building. Using 100% of the space available, above and below ground, will keep the additional land space for future expansion.
    2. Additionally, less distance the patience and visitors have to walk will reduce foot and road traffic blocking the main entrances, which could affect emergency situations.

Accommodation

- For the careers, parents or guardians of the patients have to have easy access to affordable accommodation.

    1. The whole idea is to reduce stress for all during a stressful situation. Additionally, having available affordable accommodation close by, it can help in many ways. For one example, expecting mothers could stay, reducing the chances of complicated emergency births.

Staff accommodation

- To promote high quality doctors, surgeons and nurses, they have to be catered for.
  For example, for staff shortages, natural disasters and emergencies, we require additional accommodation so the employees are properly rested to provide the best quality of service.

    1. Additionally, to have student dorms, for studying doctors, surgeons and nurses, they will be looked after to focus on their studies to become advanced in their profession without having to worry about accommodation and extra expenses.

Building

- Elevators
    1. The use of regenerative elevators.
    2. To have service elevators and customer elevators separate. Which will allow for a higher productivity and efficiency, for staff and personnel?
    3. Please keep in mind, only use one type of elevator model. This will allow for easier maintenance, additionally less spare parts will be required to be kept on hand for emergency repair.

- Therapeutic pool
    1. I am unsure if this concept has been used, but I would propose it to be on one of the top floors, whereby a power outage with a fire, the pool could be drained to be use to contain the fire.
    2. Additionally, there is more than enough supporting evidence, a Therapeutic pool can speed up recovery.

- Separate wings to the building, for example Children unit, Adult unit, Chemotherapy unit, for example.
    1. To separate the units, if a disease does happen within the hospital. My hope would be that it would be easier to isolate and contain. For example the cooling ducts are separate to each wing, so if something like legionella does contaminate the ducts. It could be better contained and treated.

- Child care and play area
    1. We require minimum 2 Children's play areas for indoors and outdoors. One for patients, the second for visitors
    2. Child care facilities, to cater for not only the patients, but for the employees also. This will entice more people into the profession. The design of a stress reducing environment, where the employees can focus on the job at hand, not having to worry about complicated pick up times of their children.
       Additionally, this will reduce stress on the patient worrying about siblings on relatives.
       Thinking more of the single parents, where they can leave the child for short periods. Or working families where there resources are stretched. There are many different scenarios where this is useful and needed.

Know the climate

- Direction and layout of the building needs to be scrutinized. That we allow enough sunlight in, but keeping the heat absorption to a minimum.
    1. Solar power rooftops is the number 1
    2. Secondly green roofs, whereby the roofs are seeded with plants…. Look at Germanys New Laws. It helps reduce heat absorption, additionally adding plants we have the carbon absorption.
    3. Floor to roof glass does not work! High expense, difficult to clean, poor thermal quality. We really need all the windows to have the option to be opened. Which will help in the cleaning process; help ventilate the rooms if required; Aid in fire rescue. Keep in mind, it is highly recommended a master key for the locks, which could be used on all windows. In the design process, the number of different types of windows should ne kept to a minimum, whereby reserve windows could be kept on hand for quick repairs.

Ascetics

- Recessed features inside the hospital. For example, fire extinguishers, Defibrillator, Water fountain etc. To use a clean floor aspect, if everything was mounted in the wall, less surface area to clean, provides wider free floor space for working and movement.
- Door, tap and support hands to be made from brass or copper. This will dramatically reduce bacteria/ disease spread within the hospital.
- Smooth tile policy, if all the flooring is done with tiles, curved corners which extend up the wall min 30cm. This will allow for an easier and complete clean. Additionally if the wall tiles were recessed to finish flush in the wall, there would be less surface for dust collection.
- Smooth door policy, if all door frames finished flush against the walls, there would also be less surface area to clean.
- We need to design a hospital whereby it is easy to maintain and clean!
- With floor drains, they should be of a serviceable nature with hair traps. Which allow for easy maintenance and cleaning.
- Additionally extra electricity earth points on all water pipes and water fixtures could help in preventative maintenance. My experience is, numerous metals are used in the piping, a stray current can then charge the system causing corrosion and degradation of the piping. Most common, sink pipes act as a sacrificial plate, which corrode leading to leaks then replacement.
- Capacitive touch / smart light switches, clean surface policy.
- LED lighting system, LED lighting has so far been retrofitted, if designed from the beginning, will create a more stable system. Additionally know the supplier! There are many shoddy light bulb manufactures which produce sub-standard light bulbs. Paying a little more, could save a lot more!
- Additionally, with the use of facial recognition system and smart algorithms, we could make this a keyless hospital. Where all visitors, employees and patients could be tracked. To aid in emergencies, prevent unauthorized access, to aid in finding a lost patient or visitor.

Last point, ask your employees at numerous hospitals!

- Key questions
    1. What works great
    2. What could be improved
    3. What was a stupid concept
    4. How could we improve your working condition
    5. How can we give the patients a better duty of care
    6. How can we prevent accidences

Thank you for your time and please feel free to contact me if any further questions arise.

Best Regards

Durante