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Silver Thomas Hanley is an international architectural practice that specialises in the design of health care projects. With over 35 years of experience, STH pride themselves on delivering innovative health care solutions that represent exceptional value for money for their clients.



New Royal Adelaide Hospital
 Joint venture with DesignInc



I first joined Silver Thomas Hanley, (STH), in 1996 as the project architect for the now Latrobe Regional Hospital, (LRH). That project was delivered as a Kennett Government BOOT scheme. That procurement method has evolved into today's PPPs. The LRH was innovative in terms of its design, its buildability, its operational legacy, and it was very cost effective to build. It represented a quality design outcome that was more than just about aesthetics.

These principles and the pursuit of design quality in its broadest sense are the hallmark of STH Architects and have set the pattern for my contribution to the practice in the ensuing years.

I became a Director of STH in 2000 and Managing Director in 2012 when my mentor and founding member of the Practice, Peter Thomas, passed away. Through his own actions and wise counsel Peter fostered in me the discipline to always innovate, and in the years that followed LRH as STH bid for and won a string of healthcare projects, to always look for the 'smarts' as he called it that would lift the quality of our concept design bids above all the rest.

It has proven to be a very successful strategy which has seen us deliver leading healthcare projects all around Australia and overseas,

including 2 successful PPP projects in North America, where we were able to demonstrate the value of Aussie innovation to the Americans.

I am pleased to say that today STH Architects is a vibrant and exciting architectural consultancy that specialises in the design and delivery of world class healthcare solutions. We are delivering projects both nationally and internationally, and we remain at the forefront of this challenging field principally because we consistently deliver innovation and value for money. Not surprisingly we lead the field not only in healthcare planning and design, but also in project delivery. The nature of what we do has always relied on the effective management of large project databases. The advent of BIM has been an ideal fit for STH, and as early adopters of this technology we have led the way in the development of its application throughout the industry.

We deliver projects that range in scale from a one-off modality refurbishment – I'm currently designing an MRI suite expansion for the Maroondah Hospital in Melbourne, through to the super hospitals such as the Gold Coast University Hospital at \$1.76B which we delivered in 2013, and the new Royal Adelaide Hospital which is worth \$1.85B and which is due for completion in 2016, and everything in between.

We work for both the public and the private sectors. Whilst these sectors can be very different in outlook, our clients value the cross-pollination of ideas and the lessons learnt from working across both sectors of the industry that our consultancy can bring. Interestingly the lines between the two are becoming increasingly blurred as we see more private groups being encouraged by governments to tender fore and taken on the delivery of public services, particularly across low risk service areas.

We are also seeing market driven expectations for better clinical environments by an increasingly better informed public. As healthcare designers STH are pragmatic and we pride ourselves on delivering efficient and effective planning solutions. Healthcare design however is also about environment. In fact if you found yourself sick, scared and vulnerable you would likely agree.

Add to this the fact that we now live in a "Trip-Advisor" world, where the end consumer has greater expectations in terms of their care pathways, and is prepared to 'shop-around' for both the doctor and healthcare facility that best suits them. Clinicians are increasingly being held to greater account and face growing pressure from consumers to include them as equals in their care plan. This can only be a

positive for the healthcare sector and the consumers who seek out these services.

As healthcare designers we have been responding to this quantum shift by delivering designs that support new clinical pathways. We draw from our own expertise and experience and the growing body of evidence based research to create environments that are focussed towards creating healing environments. These environments are safer, more efficient and consider the needs of all the facility occupants, be they consumers, clinicians, support staff and visitors.

These environments are increasingly supported by complex IT solutions, another game changer, that support efficiency gains by eliminating duplication, avoiding clinical error. Increasingly these clinical systems are also being integrated with building automation and management systems.

A career defining project for me was the development of the \$1.85B new Royal Adelaide Hospital (RAH). As the project director I was proud to lead our involvement in the design and the delivery of this world class facility. In the first instance I must acknowledge the visionary brief of the South Australian Government and its project team as SA Health. I can't stress enough

the importance of developing a facility specification prior to attempting any sort of design activities.

The challenges posed by a project of this scale are numerous and not surprisingly the biggest challenge is achieving and maintaining alignment of the vision for the facility across multiple stakeholders.

These super hospital projects can run for up to a decade from inception through to delivery. In the case of the new RAH, I first began tracking the project in 2008. Our consortium won the PPP bid in 2011, and the project will finally be handed over to the State of South Australia in 2016. Not surprisingly over this period of time, you have a revolving door of individuals joining and leaving these projects. Each individual's contribution pushes and pulls that vision in different directions in response to different opinions and agendas.

I believe that it is a testament to the strength of our original design concept for the RAH that the vision that we first bid to South Australia remains intact. In fact the documented design which is being built, save for some fine tuning arising from the Design Development process, remains identical to our original design concept. This is in spite

of being put under the microscope by the State and local authorities, clinicians, cost managers, systems suppliers and contractors.

The strength of our concept design can be attributed to the quality of the design that we produced. Our vision for the design was multi-layered, but at its core we delivered a physical facility solution that supports sustainable operational principles and effective clinical outcomes in a healing environment. No amount of value engineering has been able to diminish these core values. Taken together with the environmental and humanistic outcomes that we have achieved, I think that we have delivered a design of high quality.

Working on the new RAH project has provided some interesting insights into the state of preparedness of the Australian design and



building 'supply chain'. I would like to share some thoughts and observations based on this and other recent project experiences, and the consequential impact on design quality.

Innovation vs Pattern Book Design

I was amused, and at the same time concerned to read recently that the work of the critically acclaimed architect Zaha Hadid, whose office is currently delivering the Wangjing Soho complex for Beijing, has had the design for that project pirated by another developer who is building a replica of the design in the south-western Chinese city of Chongqing.

This possibly is as much a reflection of the Chinese developer market as it is about how much we value design. It does however underscore the lack of appreciation amongst many project stakeholders for what quality design is all about.

When we design healthcare facilities, the need to manage multiple stakeholders is by far the greatest challenge that we face. Multiple stakeholders who all want to build a hospital, but all with different ideas about how to get there. On large scale projects and even on smaller projects the starting point seems to be the study tour, both local and overseas. Many facility owners and developers embark upon

these initiatives with the best of intentions, and there is certainly value in observing and learning from other built examples. What this approach often fails to acknowledge however is that every project has its own unique set of criteria for success and warrants a unique response to the site and to the brief.

A pattern book copy of the facility that the developer or client saw overseas is not the answer. The fall-out from this type of approach can be an operational legacy that has recurrent cost consequences that border on negligence. The client's effort is always best spent considering and articulating the required Model of Care in the form of a facility specification.

A quality design will respond directly to facility specification and the identified success criteria, be they functional, operational or environmental. Those of us who contemplate these matters acknowledge that each project that we design is a unique prototype.

The reality is that no two healthcare projects are the same. One can be certain that even the Hadid knock-off won't be quite the same as the original. Design quality stems from a detailed analysis and response to a unique set of project parameters. The skill of the architect is to thoughtfully apply his

experience and the vast body of evidence based research that he has at his disposal, to synthesise a prototype that delivers a considered and comprehensive facility solution that responds directly to each of the project success criteria.

Bidding vs Delivering Design Quality

The concept of design quality is often lost on contractors when bidding PPPs. During these bids our focus at STH is on finding that winning edge and coming up with a design solution that addresses the functional and operational objectives posed by the brief. The difference between a successful contractor and an unsuccessful contractor is that the successful contractor provides a framework that supports and indeed contributes to innovation and the creation of a quality design. The unsuccessful contractor is more interested in documenting fire compartments and specifying the door furniture at concept design stage, because he does not have the requisite skill set to make an appropriate cost allowance for these secondary elements.

The various contracting agencies have developed a higher degree of maturity and have become adept at spotting quality designs. These agencies reward innovation and value for money. The working drawings can come

later. If you don't get this, then you're wasting your time bidding PPP's.

Sub-consultants Supporting Quality

The demise in the skill sets of the MEP fraternity is of growing concern. My biggest criticism of MEP engineers today is the growing assumption and even expectation that design is a linear process and that the engineering does not start until the architecture has finished.

At STH we prefer to work with a select group of like-minded quality focussed consulting engineers. We look to individuals rather than brands. Individuals that are passionate about developing engineering solutions that function seamlessly with the architecture. Architecture and Engineering remain service industries. The MEP fraternity must not lose sight of this fact, and the importance of our respective roles in delivering a quality outcome if they are to remain relevant to the facility design process.

Supporting Quality in the Future

I have been watching with interest the growing maturity of the pre-fabrication industry, particularly at a domestic level. Not surprisingly the Germans have mastered this

process, delivering bespoke solutions that are environmentally effective both in terms of the installed product and the fabrication process where even the waste from the fabrication process is recycled and re-used in the pre-fabrication process. China is catching-up and they already appear to have a monopoly on façade prefabrication.

In Australia we are seeing a number of early adopters of this technology now branching out into the broader commercial sector. STH recently completed the addition of a TTR facility to the Wantirna Health campus in Melbourne. Whilst relatively modest in scale, the whole process was instructive and provides a portal to the future of project delivery.

In this scenario the design and build process relies on the application and deployment of a series of complementary, but very specialised skills. There is minimal overlap of effort, which results in a very 'lean' project delivery process. In the case of the Wantirna project STH provided the facility planning and design, and the definition of the general project scope. The pre-fabrication group completed the shop drawing process, fabrication and installation process onsite. The outcome was cost effective and proved to be faster than a conventional build.

The advent of BIM can only serve to accelerate the shift towards the pre-fabrication of components and indeed entire facilities. With BIM software designers today have the tools that enable them to hand-over sophisticated facility geometries supported by comprehensive facility databases.

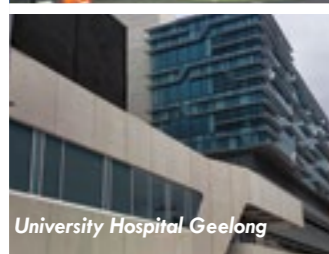
This process ticks a lot of boxes. It is highly efficient, it minimises waste both in terms of human effort and in actual materials and it is therefore environmentally very effective. Added to this are the benefits of manufacturing in a controlled environment where weather is not an issue and the impact of site unions is minimised.

The challenge will be to ensure that these virtual fully visualised schemes continue to meet the design quality parameters that we have set, and that these objectives are not dumbed down by the pre-fabrication process.

Finally I look forward to the challenges and opportunities that designing healthcare facilities will continue to pose for us, and I look forward to the continuing success of STH in delivering those solutions.

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Gold Coast University Hospital
Joint venture with PDT and Hassell Architects



University Hospital Geelong



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