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**From:** Benjamin Teisserenc  
**Sent:** Monday, 15 July 2019 11:38 AM  
**To:** Building Confidence Response  
**Subject:** Building Stronger Foundations discussion paper - Feedback - B.Teisserenc  
**Attachments:** Building Stronger Foundations feedback - B.Teisserenc.pdf  
**Categories:** Red Category

Dear NSW Fair Trading Team,

My name is Benjamin Teisserenc, I am a chartered structural engineer (MIEAust, CPEng, EA member: 4022231) and blockchain advisor. I am contacting you following your email below as I am motivated to contribute to the NSW government consultation about the reforms for regulation of the building sector. Over the last few years and I have been developing strong interest and knowledge about new digital technologies like Blockchain, BIM, IoT and data science.

I believe that the new reforms and regulations of the building sector should utilise new digital technologies in order to be efficient, robust, competitive globally and sustainable.

I have previously reached the NSW minister of housing, planning & environment to mention how the recommendations of the Building Confidence report and Opal Tower final report, could be achieved utilising capabilities offered by latest digital technologies. I kindly received a letter back from the minister's representatives who recommended me to contribute to the present consultation.

I am particularly passionate with distributed ledger technologies and I strongly believe that blockchain technology could contribute to improve the processes implementing the reforms. Indeed, a blockchain ledger would secure sensitive information on a robust distributed network facilitating the interoperability between each members . Additionally blockchain smart contracts operations would automate processes and improve efficiencies drastically.

Per example proposed key functions of registered building designers shown on the Diagram A3.2 of the Building Stronger Foundations discussion paper could be automated with blockchain smart contract to reduce paperwork, record data securely and make the process very efficient.

Additionally, the extract below from the "further concept" paragraph of the recommendation 12 of the Building confidence mentions that emerging distributed ledger technologies such as blockchain should be considered to facilitate the interoperability of jurisdictions databases:

*"Jurisdictions should collaborate with each other on these projects. They need to reach agreement on the types of information collected so that it can be readily shared and analysed on a national basis in order to inform regulatory activity and the work of the BMF.*

*To implement this recommendation, further work could usefully be undertaken by the BMF to identify the most appropriate technology to interface with each jurisdictions data platforms. Emerging technologies, such as blockchain, should be considered for suitability. Potentially, it might provide a virtual ledger of all regulatory transactions in a verifiable and auditable format. It is recommended that further work examine how the Building Information Management (BIM), data procurement frameworks, the Buildoffsite Property Assurance Scheme (BOPAS) and other similar emerging digital solutions could be relevant to the establishment of these databases."*

Additionally, the statutory declarations mentioned in the Building Stronger Foundations: Discussion Paper could be digitalised as smart contracts which would then become immutable data recorded on the blockchain.

I would be very interested to offer my expertise on blockchain and contribute to the development and implementation of some recommendations of the BC report. As an active member of the engineering and blockchain communities, I have been attending over the years several workshops, networking events and meetup groups where I had the opportunity to connect with talented engineers, entrepreneurs and software developers. It would be great to discuss possible solutions and set up a road map with a talented team of passionate people to work on this task.

Let me know your thoughts on the topic and feel free to be in touch over the phone or by email to discuss further or arrange a meeting.

I have also attached to this email my answers to the questions for feedback from building stronger foundations discussion paper.

Looking forward to hearing from you,

Best regards,

Benjamin Teisserenc

## Feedback for NSW Fair Trading - Building Stronger Foundations discussion paper

14/07/19

Answers (in blue) by Benjamin Teisserenc

MIEAust, CPEng, Chartered Structural Engineer & Blockchain Advisor

### Questions for feedback - Summary of questions for comment:

1. What kinds of plans should be signed off and declared by a statutory declaration?

The plans of the building designers: architect, engineers, consultants etc...

2. Could plans be statutorily declared at the CC/CDC stages? If not, why not?

They could but under certain conditions specific to the CC/CDC stages i.e. allowing for potential changes provided that the changes are also statutorily declared.

3. To what extent should changes to plans be submitted to the regulator?

All the changes affecting the building design integrity (architectural, structural, building services, fire, etc...) should be submitted to the regulator. Only minor changes without potential consequences on safety would not need to be submitted like per example changing a non-structural door frame from let's say timber to aluminum.

4. Should a statutory declaration accompany all variations to plans or only major variations?

In analogy to what was answered to question 3. only the changes affecting the building design integrity should be statutory declared. A standard document listing all declarable changes should be produced for each discipline to ensure that there is no possible confusion about what should and should not be declared.

5. Are there any obstacles that would prevent a person from submitting a statutory declaration for variations?

If so, what are those obstacles?

Liability would be the main obstacle preventing someone to submit a statutory declaration. Indeed, one could fear to sign statutory declarations which could make them directly responsible if anything goes wrong. However, this fear of being liable could have good consequences in a sense that there would be less "cowboy" behaviors when it comes to force design changes.

6. What other options could be workable if there are variations to plans?

Consult the regulators, consultants and client-side specialists about the relevance of a variation. The variation approval could be subjected to a vote from the different involved parties (contractor, client, architect, consultants, council). If a variation is approved, the necessary budget should be allocated from the

party requesting the change, and realistic additional time should be allowed for the changes to be executed in accordance with the design standards.

7. How could the modifications process be made simpler and more robust?

The modification process could be automated via a government digital application. Modifications could be recorded on a distributed ledger using the blockchain technology such that information recorded is secure, immutable, time stamped and tamper proof.

8. How should plans be provided to, or accessed by, the Building Commissioner?

Plans should be provided to, or accessed by the Building Commissioner via a digital app linked to a database.

9. What types of documents should 'building designers' provide to the Building Commissioner?

Plans/Drawings, BIM models, reports, specifications, certificates...

10. In what circumstances would it be difficult to document performance solutions and their compliance with the BCA?

The lack of time and budget could be the main causes. Such compliance could be via a compulsory standardized document.

11. Would a performance solution report be valuable as part of this process? If not, why not?

Yes, a report would be valuable. As mentioned in item 10, a standardized template compulsory document could be produced for each discipline.

12. Are there any other methods of documenting performance solutions and their compliance that should be considered?

Digital methods should be considered like a government app.

13. What would the process for declaring that a building complies with its plans look like?

The building compliance to the plans could be quantified in percentage based on site inspection reports and observed defects. Defects could be weighted by importance so that major defects would reduce the percentage of compliance drastically. There could be a percentage limit under which the building is considered as non-compliant (e.g. less than 90% compliance).

14. What kind of role should builders play in declaring final building work?

Builders should declare that the building has been built in accordance with the building designers final as built plans. As built plans should be approved by the building designers.

15. Which builders involved in building work should be responsible for signing off on buildings?

The main contractor should be responsible for the final sign off. Subcontractors also need to sign off their scope of work.

16. Are there any circumstances which would make it difficult for builders to declare that buildings are constructed in accordance with their plans? If so, what are those circumstances?

If there has not been a site inspection of the building designers for a specific element, it would be difficult for the builder to declare that this element has been constructed in accordance with the plans.

17. Are existing licensing regimes appropriate to be accepted as registration for some builders and building designers, such as architects, for the new scheme?

No comment.

18. What occupations or specific activities are involved in 'building design' and should be in scope for the registration scheme?

Training building designers about regulations such as the current reforms to be set in place should become part of the registration scheme. This would ensure that building designers know exactly what is expected from them in terms of compliance to the crucial regulations of the building sector.

19. What should be the minimum requirements for a registration scheme?

There could be various registration scheme based on the level of experience: some for the juniors, the seniors and the associate/director levels. There is no reason why professionals could not be registered if they are too young. A registration scheme gives a form of maturity which should benefit each tranche of age. This would also give more validity to some professional titles.

20. What form of insurance should be mandatory for 'building designers'? Why?

No comment.

21. What kinds of minimum requirements should be prescribed for the insurance policy (for example, value, length of cover, etc.)?

No comment.

22. What skills should be mandatory for 'building designers'?

The mandatory skills should instruct as part of the registration schemes discussed in item 19.

There should always be technical experts to supervise building design.

23. Should specific qualification(s) be required?

No comment.

24. Should there be other pre-requisites for registration?

The reading and understanding of the Australian Standards (AS) relevant to the disciplines should be required to be registered. This should also be extended to the BCA and NCC. Applicant for registration should be tested on these standards to ensure they know the fundamentals relevant to their area of practice.

25. What powers should be provided to the regulator to support and enforce compliance by registered building designers'?

The regulator should check the compliance of the performance solutions presented via the methods discussed on items 11, 12 and 13.

26. Which categories of building practitioners should owe a duty of care?

Builders and building designers.

27. What should be the scope of the duty of care? Should it apply to all or certain types of work? If so, which work?

No comment.

28. How will the duty of care operate across the contract chain?

It could be automated via a blockchain smart contract.

29. What types of consumers should be owed a duty of care?

No comment.

30. On what basis should a particular consumer be afforded the protection?

No comment.