Title: Can we afford affordable housing?

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Abstract

Affordable housing is a key concern of government globally. Construction of that affordable housing is invariable determined by government policy and associated regulations. Policy is an inexact determiner of outcomes and there is often significant variation between the expectations of the policy and actual delivery of outcomes. This paper reports a specific case study of an affordable housing project in an Australian state with the intent to understand the challenges of that project by analysing some of the technical elements integral to it. The research shows that there were a number of challenges for the project and the contracted constructor and that rectification of those was affected by the rigidity of the policy accompanying the source of finance for the project. The analysis reported in this paper demonstrates that with more agile policy and regulation, substantial savings are possible and that this would provide the basis for expanding the amount of affordable housing projects being delivered.

Key Words

Affordable housing, construction, policy agility, construction contracts

Introduction

Over the past few decades, housing affordability at the household level and the affordable housing stock more broadly (Anaker 2019) gradually declined for most low-, very low-, and extremely low-income renters and for some low-income homeowners in many countries, including the United States (McClure, 2019; Richter et al., 2019), Australia (Pawson et al., 2019), Germany, and Sweden (Hansson, 2019). Like other countries, Australia is facing a housing affordability crisis. However, relative to other countries, the cost of housing (either renting or owning) is high in Australia, resulting in classification of their housing as severely unaffordable (the worst category) on international rankings by Demographia (Lacy-Nichols, et al. 2023:1). This paper reports a New South Wales, Australian case study of the development of affordable housing from the perspective of incongruence: between what is necessary to meet affordable housing design legislation and what was done during construction.

Affordable housing is defined as rental housing that is below-market rent and open to a broader range of household incomes than social housing (Czischke and Van Bortel, 2023: 285). Affordable housing differs from social housing. The latter are households implying higher levels of housing subsidy and includes only households in the bottom income quintile (Q1) for Australia and who are in private rental stress, combined with homelessness figures. 'Affordable housing' implies lower levels of housing subsidy which includes households who are assessed as being in housing stress who are in the second income quintile (Q2) for Australia (Troy, et al 2019). Affordable housing specifically in

Australia is defined as having value at 75% of market cost. The Australian experience contrasts to international practice. Ashan (2019) notes that in the US and in Pakistan the population which spends more than 30 % of their household income on expenditures faces the problem of unaffordable housing and argue that solutions have and continue to be found in those countries, mostly precipitated by not for profit and social welfare organisations. The few specific planning mechanisms for affordable housing that have been implemented within local jurisdictions in Australia have been largely divorced from broader national or state housing policy. As a likely consequence, Australia lacks a strong not for profit or for-profit affordable housing development sector. A variety of planning levers for affordable housing are now used within the high value metropolitan context of Sydney (i.e. planning agreements for affordable housing, protective mechanisms, incentives, and limited inclusionary schemes), and to a lesser degree, the other Australian capitals. However, these approaches operate in isolation to capital funding for affordable (social) housing development (Gurran et al 2008).

Research on affordable housing has mainly focussed on the description and causes of the increasing difficulties of different sections of the population to find suitable accommodation in the market (Czischke and Van Bortel, 2023: 284). Those difficulties are argued to be caused by

- continued government withdrawal from public housing (Capp, et al. 2024);
- the low level of private institutional investment in social housing as social housing investments are perceived to be illiquid, high risk, and with low returns (Conteh et al 2020);
- tension between housing for social good and wealth creation which pervades attempts to make changes in this sector (Lacy-Nichols, 2023);
- a lack of land policy reforms targeted at reducing the potential for rent extraction; and
- speculative profits from property ownership (Ryan-Collins 2021).

Whilst there are policy initiatives across all levels of government in Australia, there is no research that has tried to evaluate what happens in individual projects to see how well policy and praxis match. The concern in this paper is an analysis of a new policy on design and delivery of residential buildings in NSW which includes affordable housing implemented in an Australian context. Troy, et al. (2019) previously modelled the costs of provision building in Australia on the Affordable Housing Assessment Tool and centred around a development feasibility model for affordable housing delivery by not-for-profit entities such as CHPs or government housing agencies. Their modelling was a macro model based on cashflow balances over a 4 year period. The case study reported in this paper offers a micro analysis of an affordable housing project focusing on how the construction/engineering policy written to be implemented for these projects relates to project costs. The research then addresses the research question: how well does the policy intent of an affordable housing construction project match the construction process adopted? Through analysis of praxis on the construction site, the paper will highlight variation from efficient practice just to meet policy requirements.

Literature Review

There is some research which has addressed issues with affordable housing construction projects. Invariably this research is grounded an understanding of strategic planning processes and identifying the challenges that resulted. Strategic planning in affordable housing involves a structured approach to addressing the multifaceted challenges of housing affordability and sustainability. This process is crucial for developing effective solutions that align with community needs, urban development goals, and long-term housing objectives (Akinsulire et al 2024)

In summary, this previous research has identified the following challenges:

Regulatory Compliance: Meeting regulatory requirements can be resource-intensive, involving meticulous documentation, regular inspections, and adherence to safety and maintenance standards (Goebel 2007; Cameron et al., 2018). Akinsulire et al (2024) concluded that navigating regulatory environments presents a significant challenge in the strategic planning and investment analysis for affordable housing. Further, they demonstrate through case studies in the USA, Africa and Europe that complex and often inconsistent regulatory frameworks create barriers to development, leading to delays and increased costs. Although affordable housing is legally the responsibility of state and federal governments, local governments lack the necessary resources to effectively contribute to its provision (Morris, 2021).

Construction Costs and Supply Chain Disruptions: Rising construction costs and supply chain disruptions can lead to budget overruns and extended project durations. Fluctuations in material prices, labor shortages, and delays in procurement are common issues (Assaf et al 2010; Spaan and Abraham, 2023). The challenge on unbalanced between affordable housing demand and supply cannot be decoupled from other factor such as demographic shift of population growth. Unbalanced demand and supply of affordable housing also force the price / cost to go up as per nature of market. This makes it unaffordable (Lee et al, 2022). In a detailed study of Build to Rent (BTR) housing in the Australian market Tiwari et al (2025) concluded that escalating costs driven by supply chain disruptions, labour shortages, and inflationary pressures significantly affected the market for BTR construction and that ‘rising construction costs pose a significant challenge for BTR developers, impacting project feasibility and potentially squeezing profit margins.

Financing and High Interest Rates: Securing financing for affordable housing projects can be challenging, especially with high interest rates and financing costs (Goebel 2007; Spaan and Abraham, 2023). Also, the development of sustainable affordable housing has been slowed due to a lack of interest from potential investors in many countries. These housing types are often seen as social goods with minimal profit potential. Consequently, the responsibility for developing sustainable affordable housing has largely fallen to the public sector, non-governmental organizations, and low-profit entities, with the private sector showing little interest (Moghayedi et al 2021).

Land Availability, Location and Costs: Finding affordable land in desirable locations is often difficult, which can limit the feasibility of new projects (Spaan and Abraham, 2023). Haffner and Hulse (2021) used examples from the Netherlands and the USA to show that land cost affects land rent and forces ‘poorer’ potential tenants to the periphery of cities like Amsterdam and to increased transportation costs and less access to ‘the benefits of the city’. In an analysis of Chinese ‘superstar cities’, such as Beijing, Shanghai, Shenzhen, and Xiamen, Li et al (2018) concluded that a serious housing affordability problem has developed, resulting from a shortage of supply in the ‘space market’ and a potential mispricing in the asset market for housing.

Sustainability and Energy Efficiency: Isalou et al (2014) and Gan et al (2014) concluded that incorporating sustainable and energy-efficient practices can increase upfront costs, even though they may lead to long-term savings. Oscilowicz et al (2025:362) in a detailed appraisal of affordable housing and green sustainability adoption in US cities described that ‘three racially and ethnically diverse communities in Boston, Portland, and Washington, DC have all implemented Community Land Trusts (CLTs) as an alternative development and housing model in cooperation with their municipalities in areas undergoing greening in order to direct the development of affordable housing, contribute to the equity growth of existing families, and protect the environmental quality status of a parcel of land’. They argue these projects are using such schemes to deal with the addition costs associated with greening to try and achieve more equity in the housing market and enable better affordability.

Community Opposition: Sometimes, local communities oppose affordable housing projects due to concerns about property values, increased traffic, or changes in neighbourhood character (Spaan and Abraham, 2023). Douglas et al (2024) showed that local public opposition has been identified as one of the main drivers of housing unaffordability through blocking proposed developments and thus limiting the housing supply (Lee et al 2022). In New York research by Scally and Tighe (2015) found that formal and informal negative public comments lead to costly construction delays, design rework, and denied approvals. Opposition from established residents, known as 'NIMBYism' (Not In My Backyard), is a significant factor limiting housing supply and driving up prices. This resistance, often from white middle and upper classes, prioritizes local interests over broader community needs. Critics argue that NIMBYism constrains the development of much-needed affordable housing by advocating for parochial interests and representing only a small subsection of the community. This opposition prolongs the housing crisis by preventing the construction of new housing developments, thereby exacerbating the affordability issue and contributing to the continuous rise in house prices (Lee et al, 2022).

Technical Impediments to Affordable Housing:

Whilst there are recommendations in the research literature about adoption of new materials in constructing affordable housing as a means to manage costs, there is insufficient attention to the actual process of building that type of housing and how the policy and delivery of product mesh. In a detailed analysis of retrofitting tenant housing in Glasgow, Gibb (2022) found that a dialogue methodology of plan/evaluate/rebuildretrofit/evaluate/replan and continue method proved to be successful in improving outcomes across the project. The challenges encountered in undertaking the work in the retrofit were modified after each house was completed based on communications between the stakeholders and improved management of the knowledge accrued throughout the project. This paper will focus on this technical element of the challenges that have been noted but contextualised in their policy and spatial contexts.

These challenges are not independent variables in the affordable housing development process. Rather, the research highlights their interdependency. However, the nature of the interdependencies have not been explored in any research thus far, representing the research gap. Our intent here is to see how these elements come together in a single case study as an initial attempt to understand how they interrelate as a forerunner to many further studies trying to more formally ascertain the interdependencies and how they operationally affect the provision of affordable housing. This analysis will apply these challenges, evident in the extant literature, at a micro-construction on-site level in an attempt to further our knowledge about the affordability and challenges of building affordable housing.

Case Study Methodology

Case study research is ‘an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident’ (Yin 2003:13). Yin (2003) argues that researchers who adopt a case study design are conscious that their findings can be challenged as adopting case studies can be misunderstood as theoretical or case sampling, as opposed to statistical sampling (Andrade 2009). There are no hypotheses to frame the research and no specificity about the types of data to be collected. It can be and in this case is mixed. Case studies are appropriate for studying topics where attitudes and behaviours can best be understood within their setting (Andrade 2009; Yin 2003).

Case study research includes descriptive facts, folk concepts, cultural artefacts, structure arrangements, social processes, and belief systems normally found in the group, process, activity, or situation under study (Given 2008). However, Yin (2003) proposed that adopting a consistent and planned approach to the research process can assure the validity of the data collected and support the interpretations made. The research then needs to be understood as the social construction of ideas in a single case context.

This study adopts a case study as an appropriate tool, providing the researchers with an “insider view” and in-depth perspective of the selected construction project and enhances comprehension of the current project status directly from the project (Fletcher and Plakoyiannaki 2011; Yin 2009). The research process followed the conventional case study pathway. The case study itself emerged from one of the authors participations as a consultant to the project. The data was collected typically from numerous sources and, for compliance with ethical considerations, identification of the project name, builders and sub-contractors involved, and location have been excluded in the description and analysis reported in the paper. The results of the study emerged from an analysis of project documents (policy texts, design drawings) observations of the project construction in situ, and engineering calculations based on the observations).

Research Case Study Description

The project case study comes under policy developed by the NSW Government and supports the development of affordable housing that is targeted to very low, low and moderate income earners. It does this in a range of ways, including:

- Providing floor space incentives for developments which contain affordable housing through the planning mechanism of the State Environmental Planning Policy (Housing) 2021 (Housing SEPP)
- Facilitating other incentives for developments which contain affordable housing via mechanisms such as negotiated/voluntary planning agreements
- Offering financial and other incentives, in partnership with the Commonwealth Government, to build and rent new properties at below market rents, for example via National Rental Affordability Scheme (NRAS)
- Making grants available to assist construction of new affordable rental housing through the Community Housing Innovation Fund and Social and Affordable Housing Fund
- Encouraging partnerships between community housing providers, local government and others, including private developers, on affordable housing projects
- Providing assistance to councils to secure affordable housing.

Relatively recent legislation in NSW was put in place to protect homeowners of newly constructed multistorey residential buildings from design and building defects. The ‘Design and Building Practitioners Act 2020” (DBPA) set out reforms to increase the rigour of design, design certification, construction quality and final building certification. The Act was targeted to Class 2 buildings (Class 2 buildings are apartment buildings. They are typically multi-unit residential buildings where people live above and below each other. The NCC describes the space considered as an apartment as a sole-occupancy unit)(ABCB, 2021). Affordable housing structures are commonly multistorey buildings of Class 2 under the national construction code and therefore fall under this legislation.

The case study project is a two storey, 5-unit development affordable housing building. The design of the structure was done under the DBPA and issued for construction. Under the Act, the design is declared, and the building contractor must follow the design documentation explicitly. If changes are required by the contractor, the contractor must get the design updated and re-declared. As such this transfers design, program and cost risk to the contractor if they chose to alter the design, even it meant a saving in materials.

'Research Findings:

The primary issue the research highlighted was that the site conditions were substantially different to the generic design specification for these affordable housing projects. These generic designs were essentially 'cookie-cutter' designs expected to be implemented universally and be easy to complete. During construction of the case study structure, the set of affordable housing units, site conditions encountered by the contractor were different to those upon which the design was based. Specifically, rock was encountered at shallow depth which meant the ground floor slab and footings that included concrete piles could have been reduced through redesign. The contractor was under pressure as it was on critical program and if they changed the design, they would transfer the design risk to themselves on what was a 'construct-only' contract (In a NSW construct-only contract under the National Construction Code (NCC), the builder's responsibility is limited to constructing the project based on a design provided by the principal or owner, who separately engages a design consultant) (New South Wales Government, 2020).

The ground floor consists of 5 units and is constructed from masonry walls supported by a reinforced concrete slab is shown in Figure 1 below.

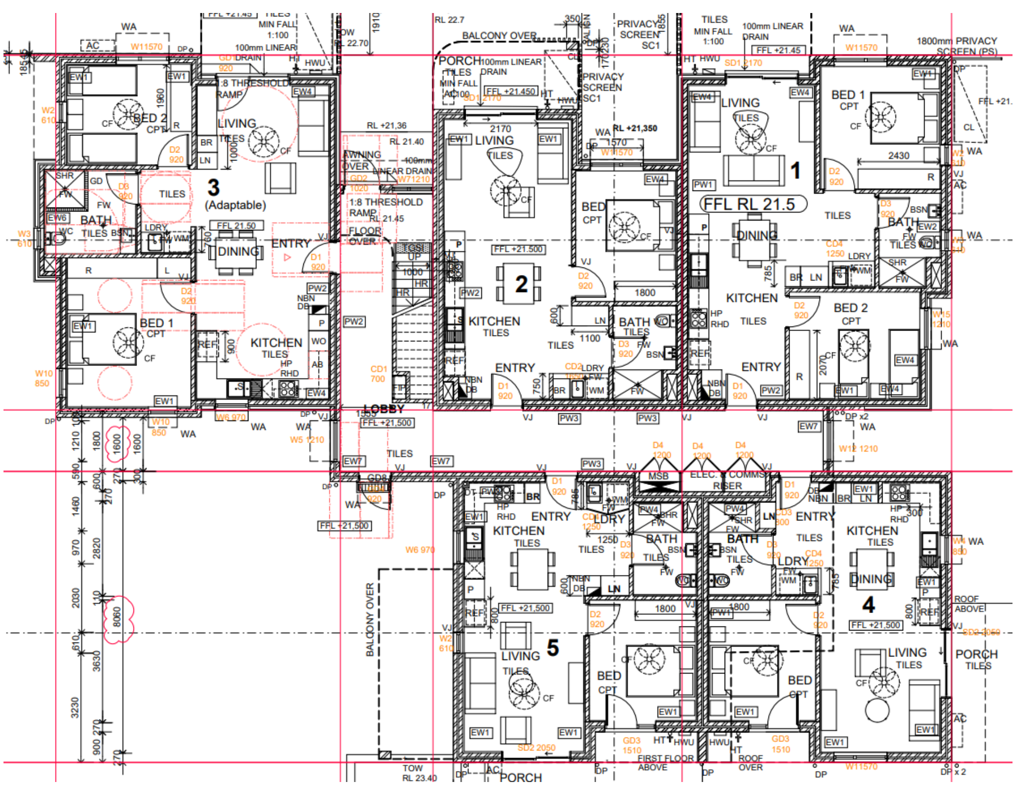

Figure 1 Ground floor plan

The structural drawings for the ground floor are shown in Figures 2 and 3.

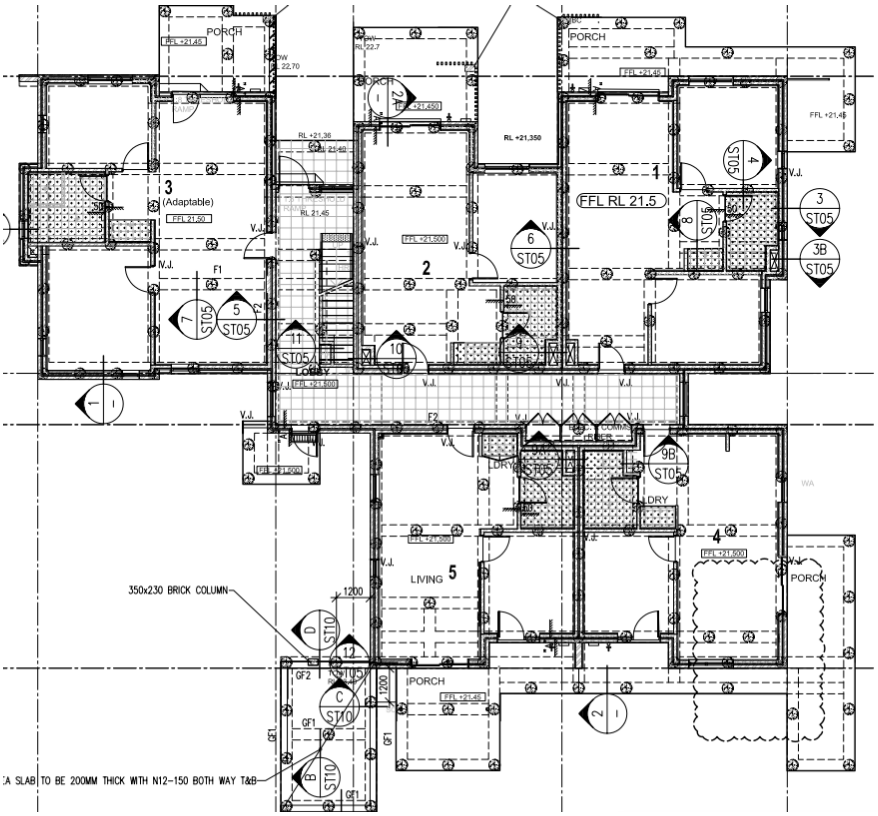

Figure 2 Ground floor slabs and footings.

The original design consisted of concrete slabs designed as suspended slabs and founded on concrete piles.

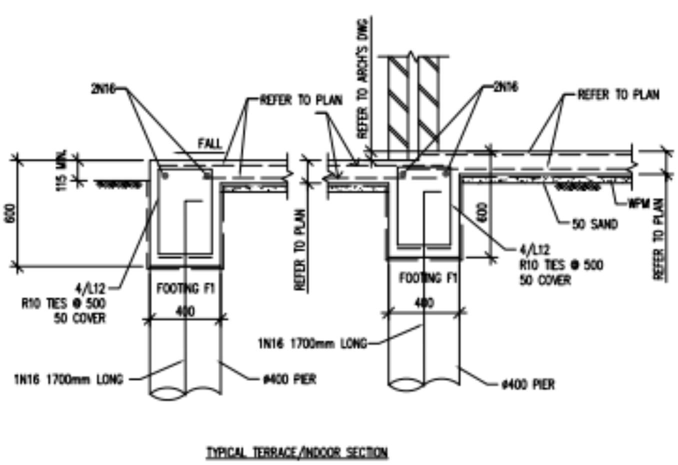

Figure 3 Typical ground floor details

The typical section shown the 2 layers of reinforcement in the slab and the concrete piles. The piles were nominated as being up to 1.5m deep

The ground floor slab prior to placing concrete is shown in Figure 4 and a typical raft slab for a reduced structure founded on rock is shown in Figure 5.

Figure 4 Ground floor construction photos (note the presence of rock exposed and the quantity of reinforcement).

Figure 5 Typical slab for better ground conditions (note the reduction in reinforcement)

These photos show a typical amount or reinforcement for a slab supported on the ground. It has a much-reduced amount of reinforcement.

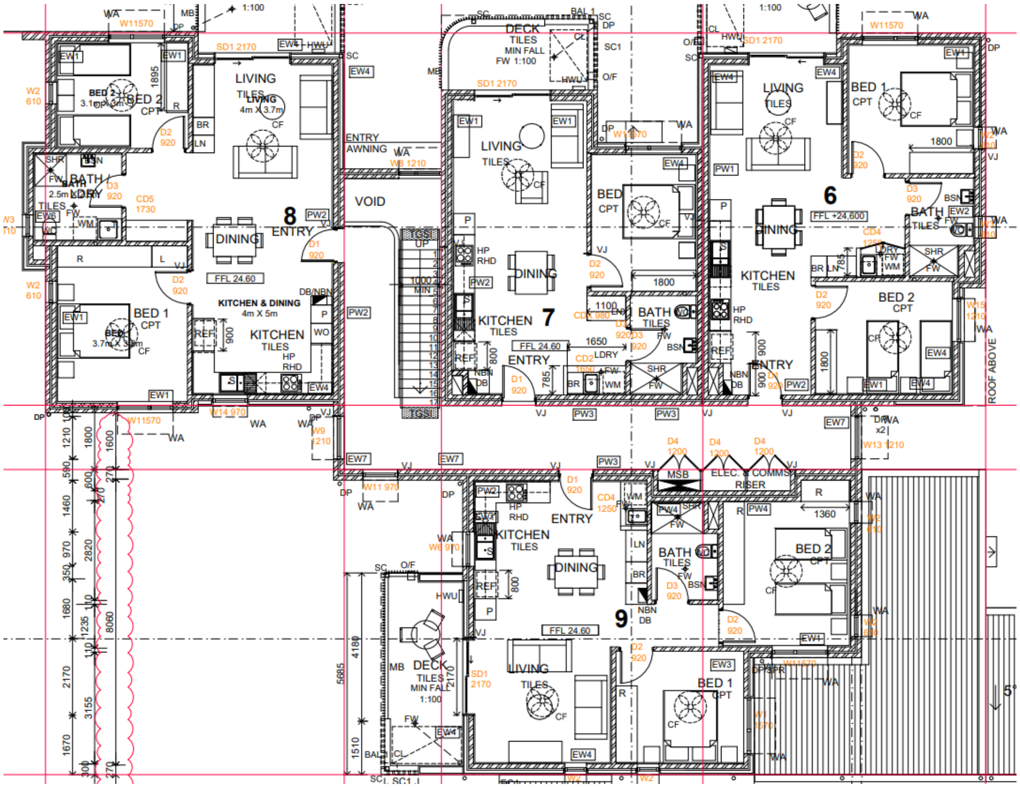

Figure 6 First floor plan: The first floor is of reinforced concrete slabs supported by load bearing masonry walls.

The first floor also consists of 5 units and is of masonry construction supported on a concrete first floor slab

The structural drawing for the first floor is shown in Figures 7 and 8.

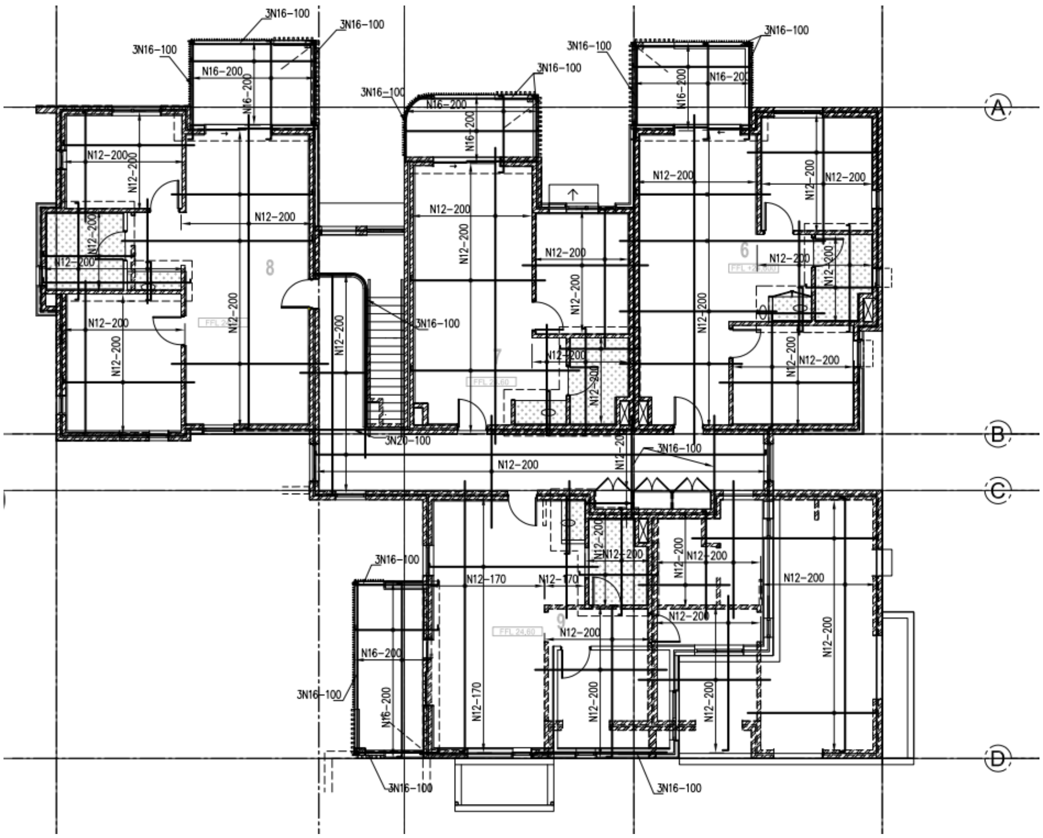

Figure 7 First floor structural drawing

The first floor is reinforced with two layers of reinforcement to then whole slab as well as an extra layer of reinforcing mesh in the top of the slab

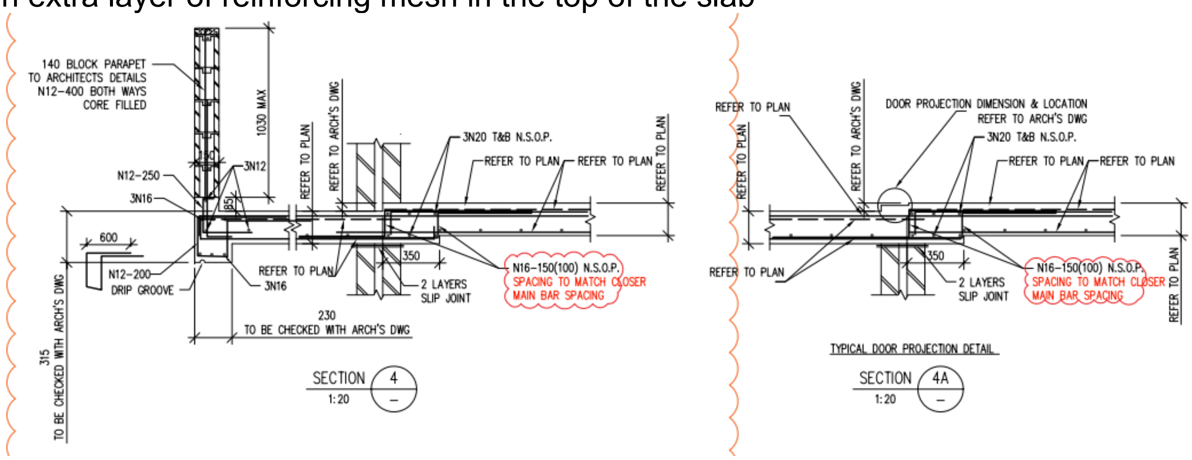

Figure 8 Typical first floor details

The typical first floor details show the reinforcement in cross section. This detail also shows the extra layer of reinforcing mesh in the top of the slab.

Figure 9 First floor construction photos of the first-floor slab prior to placing concrete

The photos (Fig 9) of the first floor prior to placing reinforcement shows the extent of the reinforcement. The amount of reinforcement is at the upper end of normal reinforcement rates. Refined design would reduce this amount of reinforcement

To demonstrate this problem which emerged in this affordable housing project, the researchers undertook an analysis based on variation between design expectations and what should have eventuated in terms of where savings in construction costs could be found. The analysis was undertaken when one of the researchers as a consulting engineer observed that the construct-only design specifications were ‘over designed’, for this site context, probably because of their expected generic application. The data analysis is illustrated below.

As constructed: The quantity of actual concrete and reinforcement used on the ground and first floor of the project was provided by the contractor as follows:

- Ground floor reinforcement: 12 tonnes
- Ground floor concrete: 120 m3
- Reinforcement rate = 12,000/120 = 100kg/m3
- First floor reinforcement: 14.5 tonnes
- First floor concrete: 96m3
- Reinforcement rate – 14,500/96 = 151kg/m3

The researchers propose a reduced design due to rock, rather than sand or clay as in the original design for the ground floor and a refined design for the upper floor

Based on typical footings on rock as required by Australian Standard AS2870 (Fig 10 with the metrics summarised in Table 1 (Standard Australia 2011). The additional layer or reinforcement in the bottom of the slab is therefore not required and the footing beams would be reduced in size.

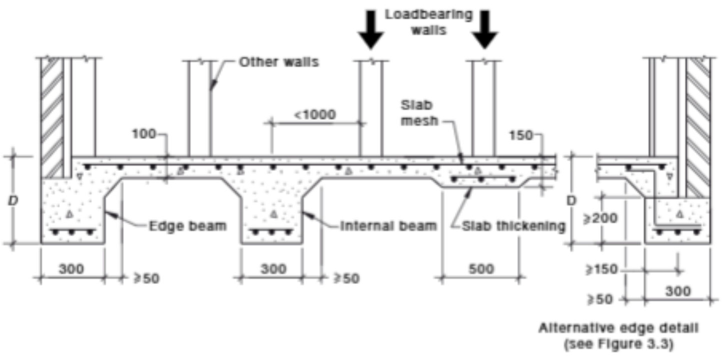

Figure 10 Standard details of stiffened raft design.

Table 1 Standard details for beam size

AS 2870—2011 30

Site class	Type of construction	Edge and internal beams				
		Depth (*D*) mm	Bottom reinforcement: Mesh	Bottom reinforcement: Bar alternative	Top bar reinforce-ment	Max beam spacing cc m
Class A	Clad frame	300	3-L8TM	2N12	—	—
	Articulated masonry veneer	300	3-L8TM	2N12	—	—
	Masonry veneer	300	3-L8TM	2N12	—	—
	Articulated full masonry	400	3-L8TM	2N12	—	—
	Full masonry	500	3-L8TM	2N12	—	—

- Concrete per square metre = 0.122 m3
- Reinforcement per square metre = 6.1 kg
- Reinforcement rate = 6.1/0.122 = 50 kg/m3

Typical first floor slab is 200mm thick to meet NCC (National Construction Code) requirements. Rationalisation of reinforcement yields thefollowing calculations needed for this project.

- Concrete per square metre = 0.2m3
- Reinforcement per square metre = 23kg
- Reinforcement rate = 23/0.2 = 115 kg/m3

Typical reinforcement rates: The typical industry rates are shown below. For a residential building with loadbearing walls aligned and no transfer slabs/beams the lower end of the range is expected.

- Raft slabs to AS2870 50kg/m3 to 80kg/m3
- Suspended slabs to AS3600 110kg/m3 to 160kg/m3

Table 2 illustrates the differences between what was constructed and the refined requirements that emerged from the analysis in this research.

Table 2: Discrepancy between as constructed, refine design and saving of structure reinforcement and concrete

	As constructed	Refined design	Industry typical rates	Saving on reinforcement for the case study
Ground floor	100kg/m3	50kg/m3	50kg/m3 to 80kg/m3	
First floor	152kg/m3	115kg/m3	110kg/m3 to 160kg/m3	
Total reinforcement	25.6 tonnes	17 tonnes	1.4t co2/t to 1,85t co2/t	13.9 tonne Co2e
Total concrete	216m3	180m3	240kg/m3 to 400kg/m3	11.5 tonne Co2e

Table 2 shows the design parameters in terms of reinforcement rate, as constructed, the contractor has implemented for the ground floor slab as specified in the design at 100kg/m3. However, due to the site conditions, where there is shallow rock on the ground, the refined design proposed by the researchers, demonstrates that the reinforcement rate could be reduced by half at 50 kg/m3 and the piles eliminated. It can be seen that the parameters specified in the design contract (as constructed) are over-designed for this specific site condition. The last column depicts the savings of total reinforcement at 13.9 tonne Co2e and 11.5 tonne Co2e for total concrete per 5 unit.

The following are the key outcomes of the project found from the investigation:

- Strict rigour and adherence to declared designs in mandated by the DBPA. The act focuses on quality. This is the key driver of the NSW Building commission.
- Designs are based on site information at the time of preparation. This is sometimes limited and therefore leads to conservative designs
- Documentation in the Construction contract is the declared designs and the contract is a construct-only contract. The contract does allow for the contractor to make changes, however, this then shifts the risk to the contractor with respect to design compliance, program and cost
- Favourably site conditions that could have a positive impact on the design were found to be difficult to implement given the effort to redesign and declare the design. The contractor elected to continue with the original design so as to keep to the contract program. There appeared to be no incentive to change the design.

- Cost reduction and sustainability (reduction of embedded carbon) opportunities were considered not to be the contractor's concern given the client focus on program. They follow the client prepared declared design.
- A review and analysis of the case study project concrete slabs showed a potential reduction of 25% in material (concrete and reinforcement) given the site conditions encountered. This was not pursued.
- The cost per dwelling, given the design, was at high market rates and well above what affordable housing rates would be. If this was a private development this project would not be economically viable. This was masked in any cost analysis because the land component was neutral as the project was on existing client sites.
- The rollout of $6.6B of housing in NSW over the next 5 years will be impacted by lack of focus on sustainability. Focus on reduced embodied energy will also have a positive impact on cost reduction. The case study indicated that this could result in each 7th dwelling being "free" from savings of the first 6 dwellings with good design and sustainability incentives. The $6.6B budget could realise $8.25B in outcome.
- The current preparation of "standard designs" for the role out of affordable housing could reduce or eliminate the opportunity to provide sustainable and affordable housing.

Discussion

In the review of existing research on affordable housing projects above, we noted the issues commonly found in that research based on case studies undertaken across numerous countries. It was noted there that this paper would focus on the technical element of the challenges that have been noted but contextualised in their policy and spatial contexts. These challenges, we argued, were not the independent variables in the affordable housing development process as previous research had noted, but rather, there was interdependency between them.

This particular affordable housing case study analysis, focused on technical issues, highlights that Regulatory compliance prescribed under government authority, determined the nature of the concrete footings and use of concrete in the project. This was part of a specific generic policy designed to frame affordable housing projects in that governments domain. The analysis, reported above, showed that implementation of these regulations had a substantial effect on building costs and highlighted a substantial variation between the cost of what was done and what could have been achieved. This, we argue, represents, an example where a construction policy derived regulations is itself raising costs and the cost of affordable housing in this project. Whilst the government involved is the source of finance for the project, that funding is part of a budget with specified parameters. Explicating this, the costs have been shown to be excessive and thus could lead to an erosion of how many similar projects are not only affected but how many more could have been started with the savings shown. Since the analysis shows that the embodied carbon produced by the actualisation of this project are substantially higher than what could be produced, it affects the expected levels of sustainability possible. This analysis has also shown that compliance with policy/regulation can produce technical difficulties/problems in its implementation, simply by the policy being rigid rather than agile.

The interdependencies of these issues, we argue, probably reflects ‘unintended consequences’ rather than any other motivation. However, this effect of policy and regulation has been highlighted in previous research over and over again. Developing generic policy, even with specific and detail accompanying regulation, has been shown to promote rigid compliance, exclusive of cost savings and exclusive of seeking the most effective, efficient or sustainable outcome. This case study has added further support for this conclusion and suggests that policy needs to be agile rather than rigid, accepting that this is simply one case study. The implications therefore are that these conclusions drawn from this micro-analysis of a single project have application and effects across many more.

Conclusions

Inference of the policy is to make the project housing affordable, but it appears not always to be affordable in reality. ‘Affordable’ is not affordable in this case. The incongruence of the DBPA focused on quality and the policy for affordable housing showed in the case study an increase in cost and embodied carbon. A requirement for focus on sustainability outcomes, while achieving quality and not unfairly shifting risk the contractor is required. The role out of the housing target numbers has the opportunity to have a positive impact on the affordability of the housing and the impact on the environment if this is done correctly. Moreover, discussing specific measures to improve sustainability while aligning with affordability goals would enhance the depth of the analysis, particularly by exploring how sustainability efforts could directly influence affordability and policy efficacy. Including insights on how the findings from this case study could be expanded or validated through additional projects or comparative studies would also strengthen the paper’s relevance and applicability.

This one case study raises a typical problem in public policy projects where singular, rigid designs are implemented to constrain budgets and make project management a more logical process. However, these assumptions are not as universal or homogeneous as such construction policy might suggest. Different geographies have implications that might either increase costs or enable costs to be reduced through more agile adoption. The key issue raised in this paper that there can be incongruence between what designs prescribe and what could be achieved by agile adaptation, highlights again that over-prescription (over-engineering) can on the one hand solve one problem, in this case, the provision of affordable housing, but on the other, create problems for construction sustainability through increased embedded carbon and excessive materials use. The questions raised then are: should construction policy and design be more agile? If so, how can that be achieved, accepting that budgets are deterministic, and costs and outcomes are variable?

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